

# GENDERED AND RACIAL IMPACTS OF THE FOSSIL FUEL INDUSTRY IN NORTH AMERICA AND COMPLICIT FINANCIAL INSTITUTIONS

Fourth Edition | September 2024



## WE CAN

Women's Earth & Climate Action Network, International



Freeport was pure and clean, now we are no longer able to live on the land, the water is no longer clean or drinkable. The animals are not even safe. What do financial institutions hope to accomplish? How can they look their children and grandchildren in the face? All they did was put money in their own pockets and kill people.

**Gwendolyn Jones**

FOUNDER OF CLIMATE CONVERSATION<sup>1</sup>



We are tossed aside and not regarded when it comes to public health. Without women, there is no life, we give life. If the women are suffering, so are the children, so are the men, so is everyone, we are all connected. Public health is more important than any amount of profits these financial institutions will make.

**Maricruz Ramirez (she/her)**

COMMUNITY ORGANIZER FOR THE CENTER FOR POVERTY, RACE, & THE ENVIRONMENT<sup>2</sup>



The correlation between the contributing factors of the Missing/Murdered Indigenous Women and Relatives (MMIW/R) crisis and pipeline construction is well known and documented. The increased presence of oil industries in and around tribal communities and lands directly corresponds with the significant increase of violence against Indigenous & tribal peoples, specifically and majoritively women & girls. The influx of pipeline workers and the creation of “man-camps” only exacerbates community drug use and the epidemic of sex trafficking in our communities.

**Rene Ann Goodrich (Bad River Ojibwe)**

NATIVE LIVES MATTER COALITION AND WISCONSIN DEPARTMENT OF JUSTICE MMIW TASK FORCE MEMBER<sup>3</sup>

1 Jones, G. (2024). WECAN Interview  
2 Ramirez, M. (2024). WECAN Interview  
3 Goodrich, R. (2024). WECAN Interview.

## Fourth Edition

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# EXECUTIVE SUMMARY



Woman at the Reveille Town Cemetery in Plaquemine, Louisiana in front of Westlake Chemical protesting the petrochemical buildout in region of Louisiana deemed "Cancer Alley." (Julie Dermansky)

## Executive Summary

It is a well-known truth that the climate crisis does not and will not affect everyone equally, as factors such as gender, race, and socio-economic status make certain communities significantly more vulnerable to the increasing threats of climate change.<sup>4</sup> Global inequalities, rooted in structural patriarchy, colonialism, white supremacy, and capitalism, continue to place people of the global majority, and specifically women, at risk. In particular, African American/Black/African Diaspora, Indigenous, Latina, and low-income women and their communities experience disproportionate harm<sup>5</sup> due to the consequences from pollution, environmental degradation, and the climate crisis.<sup>6</sup>

Fossil fuel activity results in the pollution and degradation of air, water, and land.<sup>7</sup> The essential nature of the fossil fuel industry is extractive and is not possible without the contamination of the Earth and destruction of marginalized communities. Due to foundational and systemic racism, unabated capitalism based on endless material growth on a finite planet, and ongoing settler-colonial policies, fossil fuel activity occurs disproportionately in communities of color and on or near Indigenous lands.<sup>8</sup> Due to institutional patriarchy and male dominated power structures, sexism, and traditional capitalist labor valuations<sup>9</sup>, the pollution and destruction from fossil fuel extraction and infrastructure disproportionately impacts women in communities of color and low-income communities.<sup>10</sup>

The report addresses the gender and race-specific health and safety impacts as well as human and Indigenous rights issues of fossil fuel extraction and infrastructure in the United States and selected parts of Canada; issues that have been sorely neglected in the discourse regarding fossil fuel extraction impacts in the past. The report also exposes the role that financial institutions, including banks, asset managers, and insurance companies, play in preserving and perpetuating negative gender and racial impacts due to the financing, insuring, and investing in fossil fuel companies. Based on analysis and evidence that links fossil fuel activity to women's health, safety, and rights, this report advocates for financial institutions to divest from and cease insuring fossil fuel companies.

Through an examination of peer-reviewed scientific articles, published news and reports, and first-hand accounts from women in frontline communities (i.e., communities living in, or in proximity to, concentrated fossil fuel activity), the report finds an indisputable connection between the fossil fuel industry's practices and negative impacts to African American/Black/African Diaspora, Indigenous, Latina, and low-income women's health, safety, and human rights

4 World Health Organization. (2014). *Gender, Climate Change and Health*. [\[LINK\]](#)

5 United Nations Women Watch. *Fact Sheet: Women, Gender Equality and Climate Change*. [\[LINK\]](#)

6 National Association for the Advancement of Colored People (NAACP). (2022). *Environmental and Climate Justice*. [\[LINK\]](#)

7 U.S. Environmental Protection Agency. (2022, January 31). *Nutrient Pollution*. [\[LINK\]](#)

8 Newkirk II, V.R. (2018, February 28). A New EPA Report Shows that Environmental Racism is Real. *The Atlantic*. [\[LINK\]](#); Tessum, C. (2021, April 28). PM2.5 pollutants disproportionately and systemically affect people of color in the United States. *Science Advances*. [\[LINK\]](#)

9 Volcovici, V. (2016, December 5). Trump advisors aim to privatize oil-rich Indian reservations. *Reuters*. [\[LINK\]](#)

10 Cushing, L.J., et al. (2020, July 15). Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas. *Environmental Health Perspectives*. [\[LINK\]](#)

in the U.S. and parts of Canada. Specifically, fossil fuel derived air, water, and soil pollution impact women’s fertility, health to pregnant persons and fetuses, mental health, and daily work and responsibilities.<sup>11</sup> The negative impact of fossil fuel activity—including extraction, storage and transportation of coal, oil, and gas often in the form of liquefied natural gas (LNG)—stem from direct pollution of communities and through the role fossil fuel companies play as the biggest contributors of industrial carbon dioxide and methane.<sup>12</sup> Compounding these harms are temporary housing sites for male workers used for fossil fuel pipeline construction and oil field work, referred to as Man Camps, which have been extensively linked to increased levels of exposure to and experience of abuse and safety threats<sup>13</sup> to Indigenous women, girls, and two-spirit people,<sup>14</sup> contributing to the Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2S) epidemic.<sup>15</sup>

The sexual violence against women and girls near Man Camps is a clear violation of human rights. Companies constructing pipelines along Indigenous territories (e.g. Enbridge) are also violating Indigenous rights, including Indigenous sovereignty, the right to Free, Prior and Informed Consent (FPIC), and numerous treaties. This further impacts Indigenous women because of their deep cultural ties to the land and water.<sup>16</sup> Kendra Pinto (Diné), Four Corners Indigenous Community Field Advocate at Earthworks, describes this connection and the pain she experiences watching the land be taken over by fossil fuel infrastructure in New Mexico:

**“As a Diné woman, it is sort of my responsibility to take care of the land that I’m living on. So when you have these outside corporations that come in and talk to my neighbors and tell the story about you know we’ll help your family get out of poverty, we’ll drill here on your allotment land... that’s really disheartening... since I live here, I see it all the time and it’s really hurtful and morbid because when I see these well sites popping up, I’m not seeing money popping up I’m seeing lives dying, like that’s how it affects me mentally...So it’s very taxing on the physical self but also the emotional self like the mental side takes a big hit when you’re living on the land and you see everything changing but there’s really no major benefit for everyone being affected by it...As creatures who can birth the next future generations, it’s pretty wild that these companies still think they can tell [women] what to do.”<sup>17</sup>**



Kendra Pinto holding an infrared camera. (Kendra Pinto | Earthworks)

11 Canipari, R., Et al. (2020, November 26). Female Fertility and Environmental Pollution. *International Journal of Environmental Research and Public Health*. [\[LINK\]](#); Boslett, A. Hill., Et al. (2021, May). Rural light pollution from shale gas development and associated sleep and subjective well-being. *Resource and Energy Economics*. [\[LINK\]](#); Perera, F. (2016, June 21). Multiple Threats to Child Health from Fossil Fuel Combustion: Impacts of Air Pollution and Climate Change. *Environmental Health Perspectives*. [\[LINK\]](#); Lann, B. (2014, October 28). Who Stays Home When the Kids Are Sick? *The Atlantic*. [\[LINK\]](#)

12 Ekwurzel, B., Et al. (2017). The rise in global atmospheric CO<sub>2</sub>, surface temperature, and sea level from emissions traced to major carbon producers. *Climatic Change*. [\[LINK\]](#)

13 Jayasundara, D.S., Et al. (2014). Drilling Down: An Examination of the Boom-Crime Relationship in Resource-Based Boom Counties. *Western Criminology Review*. [\[LINK\]](#)

14 See Section 3, Definitions and Scope, for definition of Two-Spirit.

15 C-Span. (2020, September 23). *Human Trafficking in the U.S.* [\[LINK\]](#); Chase, M. (2023, July 31). Oil extraction and Indigenous women: Examining the necropolitics of the settler state in the Bakken region. *Institute of Human Geography*. [\[LINK\]](#)

16 Indian Country Today. (2015, May 12). *Native American and Women’s Organizations Request UN Help on Sexual Violence*. [\[LINK\]](#)

17 Pinto, K. (2023, June). WECAN Interview.

Christa Mancias-Zapata (Esto’k Gna), Executive Director of the Carrizo/Comecrudo Tribe of Texas, explains how fossil fuel extraction has impacted her community’s health and spirit, stating:

“When I say that we are tied to land because our ancestors are here, my ancestors died here. They’re buried in this earth. And to me, the extractive industry is just pulling out my ancestors again, unburying my relatives...[A] lot of us have asthma. I know right now there’s a lot of children who have RSV, and that’s going around right now. And that’s because of what is being put in the air and what has continued to stay in the air...Young children from young ages, like my stepson passed away from cancer that none of their families have had. I had a friend die from a rare cancer that they knew once he was diagnosed, it was just a matter of time. People are dying with cancer at a rapid rate and at younger ages...If we’re not looking to the future, even for our own children or grandchildren, then what do we have left today?”<sup>18</sup>

In the face of an escalating climate crisis and harm to women and their communities, new fossil fuel projects continue to develop and persist across the U.S. and Canada. Although this report concentrates on the U.S., several parts of Canada have been included because of the tar sands mega project in Alberta and “Chemical Valley” in Ontario. The scope of the report does not cover the entirety of fossil fuel expansion, but rather focuses on some of the most extreme projects and regions with concentrated fossil fuel extraction and infrastructure. For example, the proposed and rigorously approved (over the sustained objection of community) Mountain Valley Pipeline (MVP) project poses disproportionate threats to Indigenous women, women of color, and low-income women. In 2021, the Virginia Air Pollution Control Board for the first time in its history denied an air permit on environmental justice grounds; the permit was for a compressor station at the end of MVP mainline/beginning of MVP Southgate extension that would pump particulate pollution into a predominantly African American/Black/African Diaspora community in Pittsylvania County, Virginia.<sup>19</sup> Compressor plants release particulate pollution, including formaldehyde, which places pregnant women at higher risk of fetal neurodevelopmental deficits and other reproductive health problems.<sup>20</sup> While the Pittsylvania compressor plant was removed from the MVP plan, construction along other parts of the pipeline has already led to significant environmental issues, including water pollution, soil disturbances, and two pipeline ruptures, both of which occurred during pressure testing.<sup>21</sup> Because women continue to unequally shoulder the burden of family caretaking,<sup>22</sup> and children are more vulnerable to pollution and formaldehyde poisoning,<sup>23</sup> when contamination and illness spawn from MVP facilities, African American/Black/African Diaspora, Latina, Indigenous, and low-income women, will be disproportionately harmed.

At the same time, in the Gulf Coast region, numerous LNG facilities and petrochemical plants are threatening Black, Latine, Indigenous, and low-income communities; LNG sites opening

18 Lewis, M. (2022, October). Life in the Oilfields – Fossil Fuels and Indigenous Populations. *Environment Texas*. [\[LINK\]](#)

19 Southern Environmental Law Center (2021, December 6). *Victory for Environmental Justice Mountain Valley Pipeline Compressor Station Permit Denied*. [\[LINK\]](#)

20 Agency for Toxic Substances and Disease Registry (2022). Medical Management Guidelines for Formaldehyde. *Centers for Disease Control*. [\[LINK\]](#)

21 Paullin, C. (2024, May 8). Mountain Valley Pipeline segment ruptures during test. *Virginia Mercury*. [\[LINK\]](#); Tate, C. (2024, June 27). Report: Mountain Valley Pipeline Testing Released Water Again. *West Virginia Public Broadcasting*. [\[LINK\]](#)

22 Schieder, J., Et al. (2016, July 20). “Women’s work” and the gender pay gap. *Economic Policy Institute*. [\[LINK\]](#)

23 Agency for Toxic Substances and Disease Registry (2022). Medical Management Guidelines for Formaldehyde. *Centers for Disease Control*. [\[LINK\]](#)



or expanding in 2024 and beyond could emit an additional 90 million tons of greenhouse gases per year.<sup>24</sup> One example is Venture Global’s Calcasieu Pass 2 LNG (CP2), a \$10 billion LNG terminal project slated for Cameron Parish.<sup>25</sup> If completed, CP2 would become the largest LNG terminal in the Gulf South, exporting 20 million tons of gas annually.<sup>26</sup> CP2 is sited for a community where the proportion of low-income residents is higher than 88% of the country.<sup>27</sup> LNG terminals release numerous pollutants, including volatile organic compounds, nitrogen oxides, benzene, and particulate matter,<sup>28</sup> all of which pose risks to pregnant women and maternal and fetal health, as well as a myriad of other health risks for children and the elderly. Financing LNG expansion disproportionately harms low-income and African American/Black/African Diaspora, Latine, and Indigenous women, exposing them to harmful pollutants, exacerbating caretaking responsibilities for ill family members, and furthering environmental injustices [see Section 5a for more details]. Numerous other fossil fuel extraction and infrastructure projects are proposed across Appalachia, Colorado, California, Louisiana, the Gulf South, Texas, Wisconsin, Michigan, and Canada, posing inordinate biophysical threats to Indigenous women, women of color, and low-income women, in addition to related threats to their mental well-being and safety.

Furthermore, the report highlights the role that financial institutions play as drivers of climate change and injustice via their financing, insuring, and investing in the fossil fuel industry and the aforementioned projects. Based on an examination of hundreds of manufacturing and fossil fuel projects, this report identifies eight financial actors backing companies with many of the most egregious health impacts on low-income women, Indigenous, African American/Black/African Diaspora, and Latine women. Thirty-two companies are identified as some of the worst actors in terms of pollution emissions, industry accidents (e.g. oil spills), current expansion of fossil fuel related projects/permits, overall detrimental harm to local communities, and frontline testimonials. Eight of the leading financial institutions backing these specific companies in the United States and Canada, and other fossil fuel companies across the world are Vanguard, BlackRock, Capital Group, JPMorgan Chase, Citigroup, Royal Bank of Canada, Bank of America, and Liberty Mutual.

Financial support of coal, oil, gas (LNG), and petrochemical companies occurs through multiple forms:

- Direct project-level financing
- General corporate financing: including underwriting bonds and share issuances, loans, and insurance services

Whether a financial institution finances or invests in a company at the corporate or project level, the institution is responsible for its business relationship with that company and the

<sup>24</sup> Environmental Integrity Project. (2022, June 9). *Boom in LNG Could Add More Than 90 Million Tons of Greenhouse Gases a Year*. [\[LINK\]](#)

<sup>25</sup> Deaville, P. (2024, June 27). Venture Global receives approval from FERC for second facility on Cameron Coast. *KPLC*. [\[LINK\]](#)

<sup>26</sup> Nilsen, E. (2024, January 24). Biden administration considers overhaul of natural gas export approval process... *CNN*. [\[LINK\]](#)

<sup>27</sup> Hoessen, S. (2024, June 27). FERC Approves Massive, Disastrous Gas Export Facility CP2. *Sierra Club*. [\[LINK\]](#)

<sup>28</sup> Environmental Integrity Project. (2023, October 5). *Troubled Waters for LNG: The COVID-19 Recession and Overproduction Derail Dramatic Expansion of Liquefied Natural Gas Terminals*. [\[LINK\]](#)

company's activities and projects. Additionally, asset managers and other institutional investors also hold sway and influence over fossil fuel companies as major shareholders.

The table below presents the report's seven identified financial institutions and the fossil fuel companies these financial institutions finance, insure, or invest in. The graph highlights some of the most critical projects financed by these companies, which will be discussed in Section 6.

### Financial Institutions Highlighted in the Report and Selected or Pertinent Regions and Selected Projects They Finance, Invest in, or Insure

Financial Actor	Classification	Companies Financed	Partial List of Projects
Vanguard	Asset Manager	<ul style="list-style-type: none"> <li>• Apache Corporation</li> <li>• Aramco</li> <li>• Cheniere Energy Inc</li> <li>• Chevron</li> <li>• Civitas Resources, Inc</li> <li>• ConocoPhillips</li> <li>• Crescent Energy Company</li> <li>• Diamondback Energy</li> <li>• Dow Inc.</li> <li>• Duke Energy Corporation</li> <li>• DuPont de Nemours Inc</li> <li>• Enbridge</li> <li>• EQT Corporation</li> <li>• ExxonMobil</li> <li>• Formosa Plastic Corporation</li> <li>• Glenfarne Group</li> <li>• Huntsman Corporation</li> <li>• Marathon Petroleum</li> <li>• NextDecade</li> <li>• Occidental Petroleum</li> <li>• Oneok</li> <li>• Phillips 66</li> <li>• Suncor</li> <li>• Valero</li> <li>• Westlake Chemical</li> <li>• Williams Companies, Inc.</li> </ul>	<ul style="list-style-type: none"> <li>• Annova LNG: Liquefied Natural Gas fracked gas export terminal</li> <li>• Argo Hidalgo natural gas processing plant</li> <li>• Baton Rouge Oil Refinery</li> <li>• Bill Greehey Refinery</li> <li>• Commerce City Refinery</li> <li>• Denka Petrochemical Plant</li> <li>• Dawn Corunna Hub: natural gas storage hub</li> <li>• Dow Chemical Co. Freeport Facility</li> <li>• Enbridge Line 3 Replacement Project</li> <li>• Enbridge Line 5</li> <li>• Galveston Bay Refinery, Texas City</li> <li>• Golden Pass LNG Project</li> <li>• Hawkins Fi Oil &amp; Gas Property</li> <li>• Line 1 (Rocky Mountain Pipeline Project)</li> <li>• Mariner East LNG Pipeline System</li> <li>• Mariner West LNG Pipeline System</li> <li>• Mountain Valley Pipeline</li> <li>• Port Arthur Refinery</li> <li>• Rio Bravo Pipeline</li> <li>• Rio Grande LNG</li> <li>• Sea Port Oil Terminal</li> <li>• Sea Robin Gas Processing Plant</li> <li>• Sempra Energy's Port Arthur LNG</li> <li>• Southeast Supply Header</li> <li>• St. James Parish Chemical Plant</li> <li>• Sugarloaf gathering system pipeline</li> <li>• Surmont Bitumen Recovery Facility</li> <li>• TransMountain Expansion Project</li> <li>• Union Carbide Corp Seadrift Plant</li> <li>• Wapiti Gas Facility</li> <li>• Wattenberg Gas Field</li> <li>• Wells Ranch Oil &amp; Gas Property</li> <li>• Westlake Petrochemical Plant</li> <li>• The Willow Project</li> <li>• "The Sunshine Project" Ethane Cracker</li> </ul>

<p><b>BlackRock</b></p>	<p>Asset Manager</p>	<ul style="list-style-type: none"> <li>• Apache Corporation</li> <li>• Aramco</li> <li>• Cheniere Energy Inc</li> <li>• Chevron</li> <li>• Civitas Resources, Inc.</li> <li>• ConocoPhillips</li> <li>• Crescent Energy Company</li> <li>• Diamondback Energy</li> <li>• Dow Inc.</li> <li>• DuPont de Nemours Inc</li> <li>• Duke Energy Corporation</li> <li>• EQT Corporation</li> <li>• ExxonMobil</li> <li>• Formosa Plastic Corporation</li> <li>• Glenfarne Group</li> <li>• Huntsman Corporation</li> <li>• Marathon Petroleum</li> <li>• NextDecade</li> <li>• Occidental Petroleum</li> <li>• Oneok</li> <li>• Phillips 66</li> <li>• Shell</li> <li>• Suncor</li> <li>• Total Energies</li> <li>• Valero</li> <li>• Westlake Chemical</li> <li>• Williams Companies, Inc.</li> </ul>	<ul style="list-style-type: none"> <li>• Anderson-Fitzgerald Oil &amp; Gas Property</li> <li>• Argo Hidalgo Natural Gas Processing Plant</li> <li>• Athabasca Oil Sands Project</li> <li>• Baton Rouge Oil Refinery</li> <li>• Bill Greehey Refinery</li> <li>• Commerce City Refinery</li> <li>• Deer Park Petrochemical Plant</li> <li>• Denka Petrochemical Plant</li> <li>• Dow Chemical Co. Freeport Facility</li> <li>• DuPont Pontchartrain Works</li> <li>• Eagle Ford Oil &amp; Gas Field</li> <li>• Ethylene/Polyethylene Integrated Complex on Sabine River</li> <li>• Garyville Refinery</li> <li>• Galveston Bay Refinery Texas City</li> <li>• Geismar Petrochemical Plant</li> <li>• Golden Pass LNG Project</li> <li>• Hawkins Fi Oil &amp; Gas Property</li> <li>• Huntsman Petrochemical LLC Port Neches Facility</li> <li>• Lake Charles Refinery</li> <li>• Lost Hills Oil &amp; Gas Property</li> <li>• Marcellus &amp; Utica Shale LNG Well Pad</li> <li>• Marietta Petrochemical Plant</li> <li>• Motiva Port Arthur Refinery</li> <li>• Mountain Valley Pipeline</li> <li>• Occidental Chemical Corporation Ingleside Plant</li> <li>• Permian Basin Oil &amp; Gas Field</li> <li>• Plaquemine Petrochemical Plant</li> <li>• Rio Grande LNG</li> <li>• San Quentin Oil &amp; Gas Property</li> <li>• Shell Deer Park</li> <li>• Shell Polymers Petrochemical Complex (Beaver County, PA)</li> <li>• Sempra Energy's Port Arthur LNG</li> <li>• St. Charles Refinery</li> <li>• Sugarloaf Gathering System Pipeline</li> <li>• Sweeny Refinery</li> <li>• The Dow Chemical Co. - Louisiana Operations</li> <li>• The Sunshine Project Ethane Cracker</li> <li>• The Willow Project</li> <li>• TOTAL Port Arthur Refinery</li> <li>• Texas City Refinery</li> <li>• Wattenberg Oil Field</li> <li>• Wilmington Refinery</li> </ul>
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Capital Group	Asset Manager		
		<ul style="list-style-type: none"> <li>• Cheniere Energy Inc</li> <li>• Chevron</li> <li>• ConocoPhillips</li> <li>• Diamondback Energy</li> <li>• Dow Inc.</li> <li>• Duke Energy Corporation</li> <li>• EQT Corporation</li> <li>• ExxonMobil</li> <li>• Total Energies</li> <li>• Westlake Chemical</li> </ul>	<ul style="list-style-type: none"> <li>• Anderson-Fitzgerald Oil &amp; Gas Property</li> <li>• Argo Hidalgo Natural Gas Processing Plant</li> <li>• Athabasca Oil Sands Project</li> <li>• Base Mine Extension</li> <li>• Baton Rouge Oil Refinery</li> <li>• Belridge Producing Complex</li> <li>• Benicia Refinery</li> <li>• Bill Greehey Refinery</li> <li>• Commerce City Refinery</li> <li>• Coalinga Oil Field</li> <li>• Cummings 19 Oil &amp; Gas Property</li> <li>• Denver Unit Oil &amp; Gas Property</li> <li>• Deer Park Petrochemical Plant</li> <li>• Denka Petrochemical Plant</li> <li>• Dow Chemical Co. Freeport Facility</li> <li>• Eagle Ford Oil &amp; Gas Field</li> <li>• Ethylene/Polyethylene Integrated Complex on Sabine River</li> <li>• Garyville Refinery</li> <li>• Hawkins Fi Oil &amp; Gas Property</li> <li>• Hydrogen/CCS Facility in Baytown Complex</li> <li>• Leola Petrochemical Plant</li> <li>• Marcellus &amp; Utica Shale LNG Well Pad</li> <li>• Motiva Port Arthur Refinery</li> <li>• Mountain Valley Pipeline</li> <li>• Novealis Holdings LLC, Port Arthur</li> <li>• Occidental Chemical Corporation Ingleside Plant</li> <li>• Piedmont Natural Gas</li> <li>• Port Arthur Refinery</li> <li>• Rio Grande LNG</li> <li>• Rosenberg Oil &amp; Gas Property</li> <li>• San Quentin Oil &amp; Gas Property</li> <li>• Shell Deer Park</li> <li>• Sempra Energy's Port Arthur LNG</li> <li>• St. Charles Operations (Taft/Star) Union Carbide Corp</li> <li>• St. James Parish Chemical Plant</li> <li>• Sugarloaf Gathering System Pipeline</li> <li>• Surmont Bitumen Recovery Facility</li> <li>• Sweeny Refinery</li> <li>• Stage 3 Liquefaction Project</li> <li>• The Sunshine Project Ethane Cracker</li> <li>• The Willow Project</li> <li>• TOTAL Port Arthur Refinery</li> <li>• Wattenberg Oil Field</li> <li>• Wink to Webster Pipeline</li> </ul>

<p><b>JPMorgan Chase</b></p>	<p><b>Investment Bank</b></p>	<ul style="list-style-type: none"> <li>• Apache Corporation</li> <li>• Canadian Government</li> <li>• Cheniere Energy Inc</li> <li>• Chevron</li> <li>• Citivas Resources, Inc.</li> <li>• ConocoPhillips</li> <li>• Diamondback Energy</li> <li>• Dow Inc.</li> <li>• Duke Energy Corporation</li> <li>• Energy Transfer</li> <li>• Enbridge</li> <li>• EQT Corporation</li> <li>• ExxonMobil</li> <li>• Marathon Petroleum</li> <li>• NextDecade</li> <li>• Occidental Petroleum</li> <li>• Oneok</li> <li>• Phillips 66</li> <li>• Total Energies</li> <li>• Williams Companies, Inc.</li> </ul>	<ul style="list-style-type: none"> <li>• Annova LNG: Liquefied Natural Gas fracked gas export terminal</li> <li>• Baton Rouge Oil Refinery</li> <li>• Coalinga Oil Field</li> <li>• Commerce City Refinery</li> <li>• Dawn Corunna Hub: natural gas storage hub</li> <li>• Elk Hills Gas Field</li> <li>• El Paso Refinery</li> <li>• Enbridge Ingleside Energy Center (EIEC) CCS/Hydrogen Plant</li> <li>• Enbridge Line 3 Replacement Project</li> <li>• Enbridge Line 5</li> <li>• ExxonMobil/SABIC Gulf Coast Plastic Manufacturing Facility</li> <li>• Galveston Bay Refinery, Texas City</li> <li>• Garyville Refinery</li> <li>• Geismar Plant</li> <li>• Golden Pass LNG Project</li> <li>• Line 1 (Rocky Mountain Pipeline Project)</li> <li>• Marcellus &amp; Utica Shale LNG well pad</li> <li>• Mariner West LNG Pipeline System</li> <li>• Meraux Refinery</li> <li>• Motiva Port Arthur</li> <li>• Nederland Facility Expansion</li> <li>• Orradre Oil &amp; Gas Property</li> <li>• Pasadena Refining</li> <li>• Piedmont natural gas</li> <li>• Rio Bravo Pipeline</li> <li>• Rio Grande LNG</li> <li>• Sea Robin Gas Processing Plant</li> <li>• Shell Deer Park</li> <li>• Sugarloaf gathering system pipeline</li> <li>• Surmont Bitumen Recovery Facility</li> <li>• TOTAL Port Arthur Refinery</li> <li>• TransMountain Expansion Project</li> <li>• Union Carbide Corp Seadrift Plant</li> <li>• Valley Crossing Pipeline</li> <li>• Wapiti Gas Facility</li> <li>• West Fox Creek Plant</li> <li>• Wilmington Refinery</li> </ul>
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<p><b>Royal Bank of Canada</b></p>	<p>Bank</p>	<ul style="list-style-type: none"> <li>• Canadian Government</li> <li>• Chevron</li> <li>• Diamondback Energy</li> <li>• Duke Energy Corporation</li> <li>• Enbridge</li> <li>• Energy Transfer</li> <li>• ExxonMobil</li> <li>• Marathon Petroleum</li> <li>• Shell</li> <li>• Suncor</li> <li>• TotalEnergies</li> <li>• Valero</li> <li>• Williams Companies, Inc.</li> <li>• ConocoPhillips</li> </ul>	<ul style="list-style-type: none"> <li>• Anderson-Fitzgerald Oil &amp; Gas Property</li> <li>• Annova LNG: Liquefied Natural Gas fracked gas export terminal</li> <li>• Argo Hidalgo natural gas processing plant</li> <li>• Bill Greehey Refinery</li> <li>• Commerce City Refinery</li> <li>• Darkstar Unit Oil &amp; Gas Property</li> <li>• Dawn Corunna Hub: natural gas storage hub</li> <li>• Eagle Ford Oil &amp; Gas Field</li> <li>• Enbridge Ingleside Energy Center (EIEC) CCS/Hydrogen Plant</li> <li>• Enbridge Line 3 Replacement Project</li> <li>• Enbridge Line 5</li> <li>• ExxonMobil/SABIC Gulf Coast Plastic Manufacturing Facility</li> <li>• Hawkins Fi Oil &amp; Gas Property</li> <li>• Line 1 (Rocky Mountain Pipeline Project)</li> <li>• Meraux Refinery</li> <li>• Motiva Port Arthur</li> <li>• Norco Manufacturing Unit</li> <li>• Novealis Holdings LLC, Port Arthur</li> <li>• Permian Basin Oil &amp; Gas Field</li> <li>• Preston Oil &amp; Gas Property</li> <li>• Rio Bravo Pipeline</li> <li>• Rio Grande LNG</li> <li>• Rover Natural Gas Pipeline</li> <li>• Shell Polymers Petrochemical Complex (Beaver County, PA)</li> <li>• St. Charles Refinery</li> <li>• Sugarloaf gathering system pipeline</li> <li>• Surmont Bitumen Recovery Facility</li> <li>• TOTAL Port Arthur Refinery</li> <li>• TransMountain Expansion Project</li> <li>• Wapiti Gas Facility</li> <li>• Wattenberg Gas Field</li> <li>• Wilmington Refinery</li> </ul>
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<b>Bank of America</b>	Investment Bank	<ul style="list-style-type: none"> <li>• Apache Corporation</li> <li>• Chevron</li> <li>• ConocoPhillips</li> <li>• Diamondback Energy</li> <li>• Dow Inc.</li> <li>• DuPont de Nemours Inc</li> <li>• Duke Energy Corporation</li> <li>• Energy Transfer</li> <li>• Enbridge</li> <li>• EQT Corporation</li> <li>• ExxonMobil</li> <li>• Cheniere Energy Inc</li> <li>• Huntsman Corporation</li> <li>• Marathon Petroleum</li> <li>• NextDecade</li> <li>• Occidental Petroleum</li> <li>• Oneok</li> <li>• Phillips 66</li> <li>• Shell</li> <li>• TotalEnergies</li> <li>• Valero</li> <li>• Williams Companies, Inc.</li> </ul>	<ul style="list-style-type: none"> <li>• Annova LNG</li> <li>• Blue Marlin Pipeline, Port Arthur</li> <li>• Baton Rouge Oil Refinery</li> <li>• Bill Greehey Refinery</li> <li>• Denka Petrochemical Plant</li> <li>• Dawn Corunna Hub: natural gas storage hub</li> <li>• Dow Chemical Co. Freeport Facility</li> <li>• Enbridge Line 3 Replacement Project</li> <li>• Galveston Bay Refinery, Texas City</li> <li>• Hawkins Fi Oil &amp; Gas Property</li> <li>• Lone Star Express LNG Pipeline</li> <li>• Marcellus &amp; Utica Shale LNG well pad</li> <li>• Mariner East LNG Pipeline System</li> <li>• Mariner West LNG Pipeline System</li> <li>• Norco Manufacturing Unit</li> <li>• Permian Basin Oil &amp; Gas Field</li> <li>• Port Arthur Coker Project</li> <li>• Port Arthur Refinery</li> <li>• Rio Bravo Pipeline</li> <li>• Rio Grande LNG</li> <li>• Saguaro Connector Pipeline</li> <li>• Shell Deer Park</li> <li>• Sempra Energy's Port Arthur LNG</li> <li>• Stage 3 Liquefaction Project</li> <li>• Union Carbide Corp</li> <li>• St. Charles Refinery</li> <li>• Sugarloaf gathering system pipeline</li> <li>• Surmont Bitumen Recovery Facility</li> <li>• The Willow Project</li> <li>• TOTAL Port Arthur Refinery</li> <li>• TransMountain Expansion Project</li> <li>• Union Carbide Corp Seadrift Plant</li> <li>• Valley Crossing Pipeline</li> <li>• Wapiti Gas Facility</li> <li>• Wattenberg Gas Field</li> </ul>
<b>Citigroup</b>	Investment Bank	<ul style="list-style-type: none"> <li>• Energy Transfer</li> <li>• Huntsman Corporation</li> <li>• NextDecade</li> </ul>	<ul style="list-style-type: none"> <li>• Blue Marlin Pipeline, Port Arthur</li> <li>• Crescent Gas Plant</li> <li>• Cushing South Pipeline</li> <li>• Eastern Refined Products Pipeline</li> <li>• Enable Gas Transmission System</li> <li>• Godley Gas Plant</li> <li>• Gulf Run Pipeline</li> <li>• Huntsman Petrochemical LLC Houston Facility</li> <li>• Inland Refined Products Pipeline</li> <li>• Mariner East LNG Pipeline System</li> <li>• Mariner West LNG Pipeline System</li> <li>• Mid-Continent Refined Products Pipeline</li> <li>• Mississippi River Transmission Underground Natural Gas Storage Facility</li> <li>• Mountain Valley Pipeline</li> <li>• Patterson Creek Plant</li> <li>• Revolution Pipeline</li> <li>• Rio Grande LNG</li> <li>• Rover Natural Gas Pipeline</li> <li>• Sea Robin Gas Processing Plant</li> <li>• Southeast Supply Header</li> <li>• Wapiti Gas Facility</li> <li>• West Fox Creek Plant</li> <li>• West Texas Gateway LNG Pipeline</li> <li>• West Whitecourt (Windfall) Plant</li> </ul>

<p><b>Liberty Mutual</b></p>	<p>Insurance Company</p>	<ul style="list-style-type: none"> <li>• Aramco</li> <li>• Canadian Government</li> <li>• Energy Transfer</li> <li>• Exxon Mobil</li> <li>• Freeport LNG</li> <li>• NextDecade</li> </ul>	<ul style="list-style-type: none"> <li>• Darkstar Unit Oil &amp; Gas Property</li> <li>• Freeport LNG Texas Export Facility</li> <li>• Hawkins Fi Oil &amp; Gas Property</li> <li>• Mariner East LNG Pipeline System</li> <li>• Motiva Port Arthur</li> <li>• Permian Basin Oil &amp; Gas Field</li> <li>• Preston Oil &amp; Gas Property</li> <li>• Rio Grande LNG</li> <li>• San Quentin Oil &amp; Gas Property</li> <li>• Texas Ten Oil &amp; Gas Property</li> <li>• TransMountain Expansion Project</li> <li>• Wink to Webster Pipeline</li> </ul>
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\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor

\*\*Shareholder/institutional investor, ownership of stock

\*\*\*N/A due to lack of transparency

Throughout the report, we will be referring to the Paris Climate Agreement, a global climate accord, which aims to facilitate a multi-party response to climate change and keep global warming below a 2° Celsius increase above pre-industrial levels, with the target of 1.5°C (further defined in Section 3).<sup>29</sup> Financial institutions that are financing, insuring, and investing in the fossil fuel industry are contributing to the hazardous pollution of the environment and atmosphere. Nevertheless, all eight of the financial institutions identified in this report have directly or indirectly expressed some commitments to align to the goals set by the Paris Agreement. By continuing to finance, insure, and invest in fossil fuel companies, which are collectively the largest greenhouse gas emitters in the world, the financial institutions displayed in the table above are failing to adhere to this global climate agreement. By contributing to climate destruction, these financial institutions are not only threatening the health and safety of frontline communities, but risking the long-term existence of a habitable planet, which will eventually prevent their clients, stakeholders, and the institutions themselves from continuing to operate and profit.

Moreover, all of the eight financial institutions identified in this report, including Vanguard, BlackRock, Capital Group, Royal Bank of Canada, JPMorgan Chase, Bank of America, Citigroup, and Liberty Mutual, have committed to environmental and human rights standards as formal signatories and participants of national and international frameworks and initiatives, as well as through their own internal policies and statements. Several of the eight financial institutions, including Vanguard, BlackRock, Capital Group, Royal Bank of Canada, and Liberty Mutual, are confirmed signatories of the Principles for Responsible Investment (PRI),<sup>30</sup> which assesses participants’ Environmental, Social and Corporate Governance (ESG) performances, and requests that companies adhere to international initiatives, including global human rights standards,<sup>31</sup> the right to FPIC as outlined by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),<sup>32</sup> and the UN Global Compact.<sup>33</sup> As a significant shareholder of Suncor and

29 Intergovernmental Panel on Climate Change. (2018, October). Special Report: Global Warming of 1.5 °C. *United Nations*. [\[LINK\]](#)

30 Principles for Responsible Investment. *About the PRI*. [\[LINK\]](#)

31 Principles for Responsible Investment (UNPRI). (2022). *Principles For Responsible Investment Sets New Human Rights Expectations For Investors*. [\[LINK\]](#)

32 First Peoples Worldwide. *Investors and Indigenous Peoples: Trends in Sustainable and Responsible Investment and Free, Prior, and Informed Consent*. [\[LINK\]](#)

33 Principles for Responsible Investment (UNPRI). *What are the Principles for Responsible Investment?* [\[LINK\]](#)



Exxon Mobil,<sup>34</sup> whose refining plants are contributing to the flaring, noise pollution, and benzene emissions near Aamjiwnaang First Nation (AFN), damaging AFN women’s mental health and burdening AFN mothers’ caretaking roles,<sup>35</sup> Vanguard is not in accordance with the PRI. Similarly, there is an alignment issue with Royal Bank of Canada, simultaneously a financier of Enbridge’s (owner of Line 5)<sup>36</sup> and a signatory of the the Equator Principles (EP),<sup>37</sup> which “support the objectives of the 2015 Paris Agreement and recognize that Equator Principles Financial Institutions (EPFIs) have a role to play in improving the availability of climate-related information” and recognize that “all projects affecting Indigenous Peoples will be subject to a process of Informed Consultation and Participation.”<sup>38</sup> RBC’s committed financing to Enbridge,<sup>39</sup> owner of Line 5, which is opposed by local Indigenous communities,<sup>40</sup> undermines state and federal goals for carbon reduction,<sup>41</sup> and is inconsistent with RBC’s own commitment to the EP. In 2024, several banks, including JPMorgan Chase, Bank of America, and Citigroup, exited the Equator Principles,<sup>42</sup> weakening their own commitments and accountability to climate and human rights goals.

Even though JPMorgan Chase, Bank of America, and Citigroup are no longer signatories of the EP, they still have internally mentioned responsibilities to reducing emissions in line with the Paris Climate Agreement and mitigating biodiversity loss, as well as adhering to FPIC through the International Finance Corporation Performance Standard 7 and human rights standards through the United Nations Guiding Principles on Business and Human Rights and the United Nations Universal Declaration of Human Rights.<sup>43</sup> JPMorgan Chase has committed financing to ConocoPhillips, the company developing the Willow Project, an oil and gas project with a pipeline, airstrips, a gravel mine, and processing facilities, being developed in Alaska’s western Arctic near Nuiqsut and other Indigenous communities’ land.<sup>44</sup> The Willow Project was approved in March 2023, and will be the largest oil and gas project in the U.S.<sup>45</sup> It will add 239 million metric tons of carbon dioxide into the atmosphere over the 30-year lifetime of the project, exacerbating an already warming Arctic.<sup>46</sup> The project places nearby Indigenous communities and villages, including the Nuiqsut, Utqiagvik, Anaktuvuk Pass, Atqasuk, Point Lay, and Wainwright, at risk of losing their land, lifeways, and culture. For example, the project would impact critical caribou habitat, integral for sustenance and spiritual well-being, as well as fish and other essential food sources that impact Indigenous women’s food security.<sup>47</sup> Additionally, the Willow Project will add to the airborne pollutants already existing in the area, including volatile organic compounds (VOCs), ozone, and black carbon, all of which uniquely

34 NASDAQ. (2024, August 19). *Suncor Energy Inc. Common Stock (SU)*. [\[LINK\]](#); NASDAQ. (2024, August 19). *Exxon Mobil Corporation Common Stock (XOM) Institutional Holdings*. [\[LINK\]](#)

35 Cribb, R., Et al. (2017, October 14). In Sarnia’s Chemical Valley, is ‘toxic soup’ making people sick? *Toronto Star*. [\[LINK\]](#); Behmanesh F., Et al. (2017, December 25). Evaluation of anxiety and depression in mothers of children with asthma. *Electron Physician*. [\[LINK\]](#)

36 Rainforest Action Network. (2024). *Financing By Year & Sector*. [\[LINK\]](#)

37 Equator Principles. *The Equator Principles*. [\[LINK\]](#)

38 Equator Principles. (2020, July). *The Equator Principles July 2020 A Financial Industry Benchmark For Determining, Assessing And Managing Environmental And Social Risk In Projects*. [\[LINK\]](#)

39 Rainforest Action Network. (2024). *Financing By Year & Sector*. [\[LINK\]](#)

40 Native American Rights Fund. (2024, April 12). *Michigan Tribes ask court to overturn Line 5 Tunnel Project*. [\[LINK\]](#)

41 Michigan Climate Action Network. (2024). *Shutdown Line 5 - No tunnel*. [\[LINK\]](#)

42 Lakhani, N. (2024, March 5). US banks abandon ‘bare minimum’ environmental standards project, alarming climate groups. *The Guardian*. [\[LINK\]](#)

43 JPMorgan Chase & Co. (2023). *Climate Report*. [\[LINK\]](#); JPMorgan Chase & Co. (2023). *Environmental Social Governance Report*. [\[LINK\]](#); Citi. (2024, July). *Environmental and Social Policy Framework*. [\[LINK\]](#); Citi. (2023). *Citi Climate Report*. [\[LINK\]](#); Bank of America. (2023, December). *Environmental and Social Policy Framework*. [\[LINK\]](#); Bank of America. (2023). *Annual Report*. [\[LINK\]](#)

44 Union of Concerned Scientists. (2023, April 13). *Memo to JPMorgan Chase Shareholders: Stop Banking on Climate Chaos*. [\[LINK\]](#)

45 Puko, T. (2023, April 22). What is Willow? How an Alaska oil project could affect the environment. *The Washington Post*. [\[LINK\]](#)

46 Brown, M. (2023, March 14). Alaska oil project approval adds yet another climate concern. *AP*. [\[LINK\]](#)

47 Lambden, J., Et al. (2012, March 18). Traditional and market food access in Arctic Canada is affected by economic factors. *International Journal of Circumpolar Health*. [\[LINK\]](#)

impact women’s mental and physical health.<sup>48</sup> With construction underway, and 800 employees already working in the area, an influx of Man Camps is inevitable.<sup>49</sup> This development poses a significant threat to the safety and well-being of Indigenous women throughout the region [see Section 5e for more details].<sup>50</sup> Importantly, local Indigenous community members have not given consent and have publicly opposed ConocoPhillips’ project.<sup>51</sup>

By committing financing to ConocoPhillips, JPMorgan Chase demonstrates that the bank’s social risk assessments do not stop it from indirectly supporting harm. Financing fossil fuel companies, which incur detrimental impacts on women and pollute the environment, does not align with the bank’s efforts “to respect and promote human rights with [its] employees, suppliers and clients, as guided by the United Nations Universal Declaration of Human Rights and the UN Guiding Principles on Business and Human Rights” and “promote sustainable development, and support the transition to a low-carbon economy.”<sup>52</sup>

All financial institutions are tied to the United Nations Guiding Principles on Business and Human Rights enacted by the United Nations Human Rights High Commission.<sup>53</sup> The Guiding Principles explicitly apply “to all business enterprises, both transnational and others, regardless of their size, sector, location, ownership and structure.”<sup>54</sup> The impacts from fossil fuel activity on women of color, Indigenous women, and low-income women violate these human rights standards. For example, the threats to Indigenous women’s and Latine women’s safety posed by Man Camps along the Trans Mountain Expansion Project in Alberta, Canada [see Section 6h.ii], Willow Project in the Western Arctic [see Section 6b], and the proposed Saguaro Connector Pipeline in the Permian Basin [see Section 6c] are a threat to human rights. In addition to posing safety threats, fossil fuel companies fail to acknowledge existing land and cultural rights. Next Decade’s Rio Grande LNG terminal, for instance, is under construction in Brownsville, Texas, where 94.7% of the population is Latine,<sup>55</sup> and slated to cross sacred sites of the Carrizo/Comecrudo Tribe.<sup>56</sup> In this way, NextDecade, which in 2024 both Citigroup and BlackRock have invested in, is simultaneously posing disproportionate health and safety threats to Latinas, while threatening the Carrizo/Comecrudo Tribe’s cultural identity. As another example, the Line 5 pipeline owned by Enbridge—of which Bank of America is a significant investor<sup>57</sup>—is operating 20 years past its engineered lifespan and is trespassing on Indigenous territories without their consent.<sup>58</sup> Enbridge’s reroute construction and proposed tunnel project also threatens Indigenous territories and their watersheds,<sup>59</sup> all of these projects place communities at risk of further environmental and cultural injustice. As knowledge holders and mothers,

48 Shankman, S. (2018, August 2). Surrounded by Oil Fields, an Alaska Village Fears for Its Health. *InsideClimateNews*. [\[LINK\]](#)

49 Rosen, Y. (2023, December 22). ConocoPhillips announces official go-ahead for huge Willow oil project in Alaska. *Alaska Beacon*. [\[LINK\]](#); Hulac, B. (2023, February 15). As Willow project decision nears, Alaska ponders ties to oil. *Roll Call*. [\[LINK\]](#)

50 Eyes, T. (2023, March 27). The Willow Project: Inevitable Disaster for People and Planet. *Lakota People’s Law Project*. [\[LINK\]](#)

51 Baswan, M. The Willow Project and its impacts on Indigenous communities. *The Indigenous Foundation*. [\[LINK\]](#)

52 JPMorgan Chase & Co. (2023). *Environmental Social Governance Report*. [\[LINK\]](#); UHCHR. *The UN Guiding Principles on Business and Human Rights*. [\[LINK\]](#)

53 UHCHR. *The UN Guiding Principles on Business and Human Rights*. [\[LINK\]](#)

54 OHCHR. *Financial Sector*. [\[LINK\]](#); OHCHR. (2011). *Guiding Principles on Business and Human Rights*. [\[LINK\]](#)

55 U.S. Census Bureau. (2022). *QuickFacts: Brownsville city, Texas*. [\[LINK\]](#)

56 Baddour, D. (2022, October 18). Texas Indigenous leaders target banks in fight against natural gas export terminals in Rio Grande Valley. *Texas Tribune*. [\[LINK\]](#)

57 Nasdaq. (2024, July 15). *Enbridge Inc Common Stock*. [\[LINK\]](#)

58 Reuters. *Wisconsin judge rules Enbridge oil pipeline trespassing on indigenous land*. [\[LINK\]](#)

59 Michigan Climate Action Network. (2021). *Shut Down Line 5—No Tunnel*. [\[LINK\]](#); Native American Rights Fund. (2023). *Enbridge’s Line 5 Pipeline (Bay Mills Indian Community)*. [\[LINK\]](#)

women will be particularly affected by these developments.<sup>60</sup> The financial institutions backing Enbridge and NextDecade are violating Indigenous rights, FPIC, and their obligations to the United Nations Guiding Principles on Business and Human Rights. There are also a myriad of risks to financial institutions associated with financing and insuring fossil fuel companies, such as credit and regulation risks, stranded asset risks, insurance risks, and reputational risks.

In order to align with the Paris Agreement and their own internal commitments regarding climate change and international human rights laws, this report recommends that financial institutions conduct an immediate managed phase-out from financing, insuring, and investing in the fossil fuel industry. Asset managers, banks, and insurance companies must act in their fiduciary interest<sup>61</sup> to protect against risks and outline clear transparent goals explaining how they will achieve this phase-out and provide public progress updates. Financial institutions must focus on a rapid investment in a Just Transition to a decentralized, renewable energy futures that support communities, human and Indigenous rights, and workers who have been dependent on the fossil fuel industry.

Divesting from fossil fuel extraction and infrastructure is a necessary step to mitigate the climate crisis and allow frontline communities to regenerate after decades of devastation incurred by fossil fuel activity. Environmental degradation and the warming of Earth's atmosphere is occurring because corporations continue to sacrifice the health and safety of women in vulnerable communities—the extractive fossil fuel-based economy depends on expendable people and sacrificial lands and zip codes. This is unacceptable, and there must be accountability, justice, and remedies for these harms.



Activist using megaphone at a Women for Climate Justice protest. (Lisa Weatherbee | WECAN International)

By continuing to finance, insure, and invest in the fossil fuel industry, financial institutions, namely those listed in the table above, are perpetuating environmental racism and gender-based violence through the continuous health and safety threats affecting African American/Black/African Diaspora, Indigenous, Latina, and low-income women. Divestment will not bring back the dead, reverse childhood asthma, nor give women back years spent fighting systems of injustice, but it will allow the Earth and communities to begin to heal from the devastation. Financial institutions must immediately divest and commit to limiting the global temperature rise to 1.5°C, and must respect all human rights, including those of Indigenous Peoples.<sup>62</sup>

Combating climate change and transitioning to a renewable energy economy must place frontline women and their wisdom at the forefront of decision-making. Studies and data across the world have shown that when women are leading and given agency, societies experience

<sup>60</sup> United Nations Department of Economic and Social Affairs. *Environment*. [\[LINK\]](#)

<sup>61</sup> FDIC Banker Resource Center. *Trust/Fiduciary Activities*. [\[LINK\]](#)

<sup>62</sup> Rainforest Action Network (RAN), Et al. (2020, September 16). *Principles for Paris-Aligned Financial Institutions: Climate Impact, Fossil Fuels and Deforestation*. [\[LINK\]](#)

immense benefits. Research indicates that involving women in environmental management and decision-making leads to more successful outcomes and improvements in conservation.<sup>63</sup> One study which used panel data from a sample of 72 countries between 1971-2012, found that a one unit increase in a country's score on the women's political empowerment index was associated with an 11.51% decrease in the country's carbon emissions.<sup>64</sup> Additionally, when allowed to actively participate in disaster planning and response, women show a unique and vital knowledge base and skill set for effective community rescue, support, rebuilding, and conflict management.<sup>65</sup> In many countries, women improve environmental and social legislation when they are elected to public office.<sup>66</sup> Women who are active in movements in their communities have an abundance of resources that function on a local level at a minimum. When these resources are harnessed collectively, they have the power to generate substantial, far-reaching impacts. For further information, we suggest referring to resources developed by communities, including Women Speak, a web-based database sharing thousands of stories of women leading solutions to address the climate crisis.<sup>67</sup>

This report serves to primarily elevate frontline women's hard work, to acknowledge their numerous achievements, and to honor their vital efforts. There are countless women living in frontline locations who are dedicating their lives to their communities. Although some are well known and others not, all of their voices are important to a healthy world that centers on justice and well-being for all. We would particularly like to recognize the women and people quoted and interviewed for this report (named in order of their appearance in the report): Gwendolyn Jones, Founder of Climate Conversation; Maricruz Ramirez, Community Organizer for the Center for Poverty, Race, and the Environment; Rene Ann Goodrich (Bad River Ojibwe) Native Lives Matter Coalition, and Wisconsin Department of Justice MMIW Task Force Member; Kendra Pinto, (Diné, Navajo Nation) Four Corners Indigenous Community Field Advocate at Earthworks; Christa Mancias-Zapata (Esto'k Gna) Executive Director of the Carrizo/Comecrudo Tribe of Texas; Judith Enck, Former EPA Director and a Founder of Beyond Plastics; Roishetta Ozane, Founder of The Vessel Project; Jacqueline Patterson, Founder and Executive Director of The Chisholm Legacy Project: A Resource Hub for Black Frontline Climate Justice Leadership; Dr. Jill Johnston, Associate Professor of Environmental Health at the University of Southern California (USC); Whitney Gravelle (Anishinaabe) President of the Bay Mills Indian Community; Dianne Rocheleau, Feminist Scholar; Patricia Garcia-Nelson (Oraricha Tribes of Mexico and the Chichimeca) Colorado Fossil Fuel Just Transition Advocate for Green Latinos; Rosanna Esparza, Community Organizer and Environmental Researcher in Kern County; Vanessa Gray (Anishinaabe Kwe and Bear Clan) Co-Founder of The Land and The Refinery, and Member of AFN; Barbara Washington, Member of RISE St. James in St. James Parish, Louisiana; Elida Castillo, Program Director of Chispa Texas, and Daughter of the Coastal Bend; Elizabeth Perez, Community Organizer at the Central California Environmental Justice Network (CCEJN); Denali

<sup>63</sup> Reid Bell, A. (2023, February 8). Financial incentives often fail to reconcile agricultural productivity and pro-conservation behavior. *Communications Earth & Environment*. [\[LINK\]](#)

<sup>64</sup> Lv, Z., Et al. (2019, January 3). Does women's political empowerment matter for improving the environment? A heterogeneous dynamic panel analysis. *Sustainable Development*. [\[LINK\]](#)

<sup>65</sup> Habtezion, S. (2013). Gender and disaster risk reduction. *Global Gender and Climate Alliance: United Nations Development Programme*. [\[LINK\]](#)

<sup>66</sup> OECD (2008). *Gender and Sustainable Development: Maximising the Economic, Social and Environmental Role of Women*. [\[LINK\]](#)

<sup>67</sup> WECAN. *Women Speak*. [\[LINK\]](#)

Nalamalapu, the Co-director of POWHR Coalition; Dr. Crystal Cavalier-Keck (Occaneechi Band of the Saponi Nation), Co-Founder of Seven Directions of Service and Chair of Environmental Justice Committee for the NAACP; Rupa Basu, Chief of Air and Climate Epidemiology Section at the Office of Environmental Health Hazard Assessment for the California EPA; Kelly Davis, Chief Equity Officer at the National Birth Equity Collaborative (NBEC); Mimi Bingham, Doula and Student midwife with Mimi Birth Services; Joan Casey, environmental health scientist at the Columbia University Mailman School of Public Health and researcher; Heidi Heitkamp, Former U.S. Senator; Melina Laboucan-Massimo (Lubicon Cree Nation), Founder of Sacred Earth Solar and Director of Healing Justice at Indigenous Climate Action; Joye Braun (Cheyenne River Sioux), Former Organizer with the Indigenous Environmental Network and Leader of the Wakpa Waste Camp; Shamyra Lavigne, Member of RISE St. James; Sharon Wilson, Director at Oilfield Witness; Emma Guevara, Organizer in Brownsville; Rebekah Hinojosa, Gulf Coast Campaign Representative at the Sierra Club; Nauri Simmonds (Iñupiaq), Executive Director for Sovereign Impact for a Living Arctic (SILA); Siqiniq Maupin (Iñupiaq); Nutaaq “Doreen” Simmonds (Utqiagvik), on the Advisory Board of SILA; Hilda Villegas, Founder of Familias Unidas del Chamizal; Yolanda Carmona, Tourism Director of Van Horn; Sister Joan Brown, Executive Director of the New Mexico Interfaith Power and Light; Genevieve Butler, Member of the Humanitarian Enterprise of Loving People Association and Resident of St. James Parish; Jo Banner, Co-Founder and Co-Director of the Descendants Project; Liz Gordon, Activist in Baton Rouge; Adrienne Bloch, an attorney at Earthjustice; Nalleli Cobo, Founder of People not Pozos; Magali Sanchez-Hall, Environmental Justice Advocate and Wilmington Resident; Gabriela Ojeda, Arvin Resident in Kern County, California; Dr. Stephanie Malin, an Environmental Sociologist at Colorado State University; Lucy Molina, Frontline Organizer with Colorado 350; Beze Gray (Anishinaabe), Two-Spirit Land and Water Defender from AFN; Christine Rogers, Environment Worker at AFN; Elaine MacDonald, Director of the Healthy Communities Program at Ecojustice; Jean L’Hommecourt, Member of the Fort McKay First Nation; April Wiberg, Member of Mikisew Cree First Nation; Carrie Chesnik (Oneida Nation Wisconsin), Executive Assistant RISE Coalition; Julie Goodwin, Earthjustice Attorney; Miranda Dick (Secwépemc) Matriarch; Helen Sandy (Secwépemc) Williams Lake First Nation Elder; Abby Tennant, resident of Knob Fork, West Virginia; Terri Baumgardner, Member of the Beaver County Marcellus Awareness Community; Anita Royston, President of the Pittsylvania County NAACP; Michelle Cook, (Diné/Navajo) Human Rights Lawyer and Founder of Divest Invest Protect; Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change; Kristal Hansley, Founder of WeSolar; Wahleah Johns (Diné), Director of the U.S. Department of Energy Office of Indian Energy Policy and Programs; Kate Raworth, Economist and Co-founder of Doughnut Economics Action Lab; Rauna Kuokkanen (Sápmi), Research Professor of Arctic Indigenous Studies at the University of Lapland; and Freda Huson (Unist’ot’en – Wet’suwet’en People), Leader and Spokesperson for the Unist’ot’en Camps.

# INTRODUCTION



Views of Shell's petrochemical complex in Beaver County, PA from nearby residential houses. (Julie Dermansky)

# Introduction

This report aims to expose the disproportionate impacts fossil fuel activity has on the health and safety of African American/Black/African Diaspora, Indigenous, Latina, and low income women, and to spotlight specific financial institutions that are complicit in these injustices. Through an analysis of epidemiological studies, published reports, first-hand accounts from women in frontline communities, and testimonials from health experts, the document draws attention to this underreported problem and advocates for financial institutions to divest from fossil fuels.

The layout of the report is as follows:

**Section 3** defines relevant terms and vocabulary used in the report.

**Section 4** describes the report's research methodology, including selection criteria of critical financial actors and regions of interest.

**Section 5** extrapolates on the specific links between fossil fuel infrastructure and threats to the health and safety of African American/Black/African Diaspora, Indigenous, Latina and low-income women. The gender-based and race-specific effects will cover: environmental racism and breaches to Indigenous rights; air pollution; water pollution; soil pollution; heat islands; fertility issues; Man Camps; and mental health issues. These issues will all involve the unequal caretaking role that women play across the U.S. and Canada.<sup>68</sup> For example, according to the National Oceanic and Atmospheric Administration (NOAA) and National Centers for Environmental Information (NCEI), there is a 59% chance that 2024 will rank as the warmest year on record.<sup>69</sup> Fossil fuel projects significantly contribute to climate change, intensifying heatwaves and extreme weather events.<sup>70</sup> According to the Adrienne Arsht-Rockefeller Foundation Resilience Center, high temperatures cost women \$120 billion annually, primarily due to missed work hours.<sup>71</sup> When unpaid domestic work is factored, women's financial losses due to extreme heat increase by 260%, compared to 76% for men.<sup>72</sup> Additionally, rising temperatures have negative impacts on women's health: extreme heat has been linked to lower birth weights, preterm births, stillbirths, gestational diabetes, hypertensive disorders,<sup>73</sup> and endocrine dysfunction.<sup>74</sup>

**Section 6** presents nine regions exemplifying the severity and degree of health injustices that are perpetuated by fossil fuel development. These regions include: Texas Gulf Coast (Section 6a.); The Willow Project (Section 6b.); Permian Basin and Eagle Ford Shale (Section 6c.);

<sup>68</sup> Schieder, J., Et al. (2016, July 20). "Women's work" and the gender pay gap. *Economic Policy Institute*. [\[LINK\]](#)

<sup>69</sup> NOAA. (2024, June). *Global Annual Temperature Rankings Outlook*. [\[LINK\]](#)

<sup>70</sup> Adrienne- Arsht-Rockefeller Foundation Resilience Center (2023, July 26). *The Scorching Divide: How Extreme Heat Inflames Gender Inequalities in Health and Income*. [\[LINK\]](#)

<sup>71</sup> Ibid.

<sup>72</sup> Ibid.

<sup>73</sup> Mao, Y, Gao, Q, Zhang, Y, et. al. (2023). Associations between extreme temperature exposure and hypertensive disorders in pregnancy: a systematic review and meta-analysis. *Hypertens Pregnancy*. [\[LINK\]](#)

<sup>74</sup> Ibid.

“Cancer Alley” and Louisiana LNG (Section 6d.); California’s Kern County and surrounding areas (Section 6e.); Northern Colorado’s Broomfield and Weld County (Section 6f.); “Chemical Valley”, Canada (Section 6g.); Alberta Tar Sands Pipeline System (Section 6h.); and Appalachia (Section 6i.).



Oil derricks near houses in Los Angeles County. (SerrNovik | iStockPhotos)

African American/Black/African Diaspora and Latina women in frontline communities in Louisiana,<sup>75</sup> Texas, Colorado, and California have experience and witness their families suffer from cancer and asthma due to the proximity of barely monitored oil refineries and petrochemical plants,<sup>76</sup> and have been forced, by resource deprivation, to send their children to schools near fossil fuel operations exceeding safe levels of benzene and other chemical emissions.<sup>77</sup> This results in higher levels of psychosocial and physical stress<sup>78</sup> and increases the severity and intensity of caretaking responsibilities for mothers.<sup>79</sup>

Pipelines in Appalachia, tar sands projects in Alberta, Canada, and petrochemical plants in Sarnia, Ontario have had unconscionable and devastating impacts on Indigenous women and girls in their homelands. Fracking in the Marcellus, Utica, and Barnett Shales threatens the physical

75 Baurick, T., Et al. (2019, October 30). Polluter's Paradise: Welcome to "Cancer Alley," Where Toxic Air Is About to Get Worse. *ProPublica*. [\[LINK\]](#)

76 Fleischman, L., Et. al. (2016, August). Gasping for Breath: An analysis of the health effects from ozone pollution from the oil and gas industry. *Clean Air Task Force*. [\[LINK\]](#)

77 Garcia-Nelson, P. (2023, June 2). WECAN Interview.

78 Kondo, M., Et al. (2014, July). Place-based stressors associated with industry and air pollution. *Health & Place*. [\[LINK\]](#)

79 *ibid.*



and mental health of lower income women from rural areas of Pennsylvania, West Virginia, Virginia, North Carolina, Ohio, and Texas.<sup>80</sup> This list only scratches the surface of fossil fuel projects throughout the United States and Canada that threaten the health and safety of women.

**Section 7** elaborates on the specific financial institutions identified by the report's analysis (Vanguard, BlackRock, JPMorgan Chase, Royal Bank of Canada, Bank of America, Citigroup, Capital Group, and Liberty Mutual). This section presents the frameworks intended to set standards and norms on environmental and social impacts signed by these institutions, including the Principles for Responsible Investment (PRI) and the UN Global Compact, as well as the companies' own internal commitments to greenhouse gas reduction targets and social risk management policies. Financial institutions are also tied to human rights duties encompassed in frameworks such as the UN Guiding Principles on Business and Human Rights. Such mechanisms call for alignment to the targets set forth by the 2015 Paris Agreement and respect for human and Indigenous rights. By prioritizing short-term profits over the present and long-term health and stability of our planet, the report's identified financial institutions are neglecting objectives set by international guidelines and their own environmental and human rights policies.

**Section 8** catalogs the various regulatory, credit, insurance, and reputational risks incurred by continued financial support of fossil fuel organizations. As the climate crisis worsens, bringing increased harm to communities, and as the world transitions to a renewable energy economy, financial institutions supporting fossil fuel companies are exposed to physical and transitional risks, including regulatory, reputational, financial (i.e. credit risks and stranded assets), legal (incurred through the violation of formal climate pledges), and insurance risks. This section also aims to broaden the narrow and conventional definition of risks. By continuing to finance an industry that is the number one contributor to climate destruction, these financial institutions are also placing their clients, stakeholders, and their own profits at risk: no financing can take place without a habitable planet upon which to operate.

**Section 9** puts forth a list of recommendations for all financial institutions to adopt immediately. These recommendations call on top financial institutions to adopt comprehensive internal guidelines and implementation standards on climate and human and Indigenous rights issues to be in line with both national and international climate goals and human rights standards. Specifically, financial institutions must adhere to the goals of the Paris Agreement, particularly the 1.5°C guardrail.

**Section 10** describes, in brief, solutions led by women in all of their diversity promulgated by climate justice advocates, community members, and frontline community leaders with decades of experience fighting the injustices caused by fossil fuel extraction and infrastructure. Based on this examination, the report ultimately advocates for a Just Transition<sup>81</sup> to a renew-

80 Whitworth, K.W., Et al. (2018, March 20). Drilling and Production Activity Related to Unconventional Gas Development and Severity of Preterm Birth. *Environmental Health Perspective*, 126(3). [\[LINK\]](#); Sangaramoorthy T., Et. al. (2016, January 6). Place-based perceptions of the impacts of fracking along the Marcellus Shale. *Social Science Medicine*. [\[LINK\]](#)

81 See Section 3, Definitions and Scope, for a definition of A Just Transition.

able, regenerative energy economy that uplifts communities most impacted by environmental degradation, pollution, and the climate crisis.

African American/Black/African Diaspora, Indigenous, Latina, and all women of color are most often leading the intergenerational fight for climate and environmental justice. It is critical to address the interlocking issues of violence against the land and violence against women, particularly women of color and Indigenous women, when approaching climate justice. The fossil fuel industry's destruction towards the Earth is directly linked to harms against women in all of their diversity, and this abuse must be brought to light in order to reckon with accountability and remedy for injustices. The report serves to begin to fill this knowledge gap, advocate for divestment and human rights, and highlight the need for more scientific studies investigating the disproportionate impact fossil fuel extraction, infrastructure, and activity has on frontline women.

# DEFINITIONS AND SCOPE



Civil society in action, demanding that governments hold the line on a fossil fuel phaseout at the end of negotiations at COP28 in Dubai, 2023. (Katherine Quaid | WECAN International)

## Definitions and Scope

The report focuses on existing, developing, and proposed fossil fuel extraction and infrastructure projects; specifically, projects relating to hydraulic fracturing, petrochemical manufacturing, tar sands extraction, coal mining, and fossil fuel refining. The report is by no means exhaustive, but rather serves to highlight some of the most notorious fossil fuel companies and their projects, key financial institutions financing, investing in and insuring these companies, and the impacts from these operations on African American/Black/African Diaspora, Indigenous, Latina, and low-income women in the United States, and two regions in Canada.

### Key Terminology:

**African American/Black/African Diaspora:** The term African American became popular in the early 1900s in an effort to acknowledge the cultural heritage of individuals with ancestral ties to Africa, as well as to acknowledge the construction of the U.S. through the enslavement and forced, uncompensated labor of African peoples.<sup>82</sup> However, the specificity of the terminology “African American” does not necessarily incorporate the entire Black community living in the U.S. today since Haitian Americans, Virgin Island Americans, and other Caribbeans, as well as immigrants from Africa or of African descent, who migrated to the U.S. (especially after the 1960s), do not all identify as African American.<sup>83</sup> The term Black rose to prominence with sociologists and activists like W.E.B. Du Bois,<sup>84</sup> Stokely Carmichael,<sup>85</sup> and the Black Panthers, among others, recontextualizing the term. For many, identifying as Black is a term of empowerment, especially during the Black Power Movement in the 1960s.<sup>86</sup> Black most often refers to the lived experiences of people in a system of institutionalized racism and white supremacy. The term African Diaspora refers to the “millions of peoples of African descent living in various societies who are united by a past based significantly but not exclusively upon ‘racial’ oppression and the struggles against it...”<sup>87</sup> The term reflects the cultural and political heterogeneity within peoples of African descent, but also the common “emotional bond with one another and with their ancestral continent.”<sup>88</sup>

The report uses African American/Black/African Diaspora in order to be inclusive towards various peoples, and to encompass peoples born inside and outside the U.S. territory of African or Caribbean descent, and the lived experience of institutional racism and white supremacy.

**Bitumen:** Also called “asphalt” in some regions, bitumen is a petroleum-based hydrocarbon found in oil tar sands or as a residue from crude oil distillation. Bitumen is universally used as

82 Eligon, J. (2020, June 26). A Debate Over Identity and Race Asks, Are African-Americans 'Black' or 'black'? *The New York Times*. [\[LINK\]](#)

83 Ibid.

84 NAACP. *NAACP History: W.E.B. Du Bois*. [\[LINK\]](#)

85 Public Broadcasting Station. *Stokely Carmichael*. [\[LINK\]](#)

86 Quander, M., Et. al. (2019, May 30). Black vs. African-American: The complex conversation Black Americans are having about identity. *WUSA9* [\[LINK\]](#)

87 Palmer, C. (2000). Defining and Studying the Modern African Diaspora. *The Journal of Negro History*. [\[LINK\]](#)

88 Ibid.

a material in road paving.<sup>89</sup> In the Alberta Tar Sands (Section 6h.), bitumen is extracted from a mixture of clay, sand, water, and bitumen through open-pit mining. Open-pit mining produces toxins and contaminants that can impact local water supplies (Section 5c.ii.). Extracted bitumen is then refined and mixed with lighter oils to produce synthetic crude oil that can be refined again to be used similarly to crude oil.<sup>90</sup> This lengthy refining process requires immense amounts of water and energy and is very expensive. ABC called bitumen “the world’s dirtiest oil.”<sup>91</sup>

**Buen Vivir:** In English, Buen Vivir roughly translates to “good living” and has roots in the Quechua term, Sumak Kawsay.<sup>92</sup> The Ecuadorian definition, operating as part of and originating from Indigenous knowledge systems, encompasses the wellbeing of the individual within their environmental and social context. This sense of wellbeing relies on harmony between human beings, and between human beings and nature. The needs of the individual are held in balance to the needs of peoples, communities, and nature.<sup>93</sup>

**Circular Economy:** Circular economies involve industrial and economic practices that are restorative and/or regenerative, enable resources used in human activities to maintain their highest value for as long as possible, and eliminate waste through durable product, material and business design. This diverges from current economic models in which resources are mined, transformed into products, and then become waste. Instead, a circular economy would aim to reduce material use, redesign materials to be less resource intensive, and recapture waste as a resource for other products or activities.<sup>94</sup>

**Ethane Crackers:** Plastic manufacturing facilities, or “ethane crackers,” are another form of fossil fuel infrastructure that create the building blocks for plastic by extracting ethane, a component of natural gas, and processing it into ethylene, the most commonly used petrochemical in plastic water bottles, plastic bags, food wrappers, resins, and other polluting single-use plastic items.<sup>95</sup> The International Energy Agency (IEA) reports that plastics and other petrochemical products are expected to account for more than one-third of global oil demand growth by 2030 and nearly half of demand growth by 2050.<sup>96</sup> Amidst an energy transition to renewable power and changing public attitudes on fossil fuels, new petrochemical projects are being constructed and increasingly proposed across the United States and Canada. This is in part due to the fossil fuel industry actively transitioning to petrochemical products to secure profits and its future.<sup>97</sup> New and proposed plastic manufacturing refineries are concentrated in Appalachia, “Cancer Alley” in Louisiana, the Texas Gulf South, and “Chemical Valley” in Canada—all areas with communities that have already been devastated by the recent fracking boom. The urgency required to curb plastic pollution is clear: without commitments from government

89 The Editors of Encyclopedia. (2017, December 19). “Bitumen”. *Encyclopedia Britannica*. [\[LINK\]](#)

90 American Geosciences Institute. (2022). “What are Tar Sands?” [\[LINK\]](#)

91 ABC Nightline. (2021, October 9). *Battle over massive oil pipeline snaking through water of indigenous lands*. [\[LINK\]](#)

92 Villalba, U. (2013). *Buen Vivir Vs Development: A Paradigm Shift in the Andes?* Routledge Taylor and Francis Group. [\[LINK\]](#)

93 Balch, O. (2013, February 4). *Buen vivir: the social philosophy inspiring movements in South America*. *The Guardian*. [\[LINK\]](#)

94 United States Environmental Protection Agency (EPA). *What is a Circular Economy?* [\[LINK\]](#)

95 Moms Clean Air Force. (2019, November 4). *Ethane Cracker Plants: Threatening Our Air, Our Climate, and Our Health*. [\[LINK\]](#)

96 Webb, S. (2024, February 28). *Why the oil industry may thrive without gasoline*. *E&E Politico News*. [\[LINK\]](#)

97 Gardiner, B. (2019, December 19). *The Plastics Pipeline: A Surge of New Production Is on the Way*. *Yale E360*. [\[LINK\]](#); Brigham, K. (2022, February 1). *How the fossil fuel industry is pushing plastics on the world*. *CNBC*. [\[LINK\]](#); Schonhardt, S. (2023, June 1). *Fossil-Fuel Interests Try to Weaken Global Plastics Treaty*. *Scientific American*. [\[LINK\]](#)

and industry, at least 300 million tons of plastic waste will end up in the ocean by 2030.<sup>98</sup> The former EPA Director and a founder of Beyond Plastics, Judith Enck, specified that 2020 was an essential year because many plastic production projects were still in the permitting phase: “If even a quarter of these ethane cracking facilities are built,” she said, “It’s locking us into a plastic future<sup>99</sup> that is going to be hard to recover from.”<sup>100</sup> Many of these projects were underway at the beginning of 2021.<sup>101</sup> Formosa’s giant petrochemical complex slotted for St. James Parish in Louisiana is a notable exception to that; the facility’s permit was suspended by the U.S. Army Corps of Engineers in November 2020.<sup>102</sup> This decision was later reversed in 2022 following a court appeal by Formosa.<sup>103</sup> Despite local communities rejecting the petrochemical facility due to disparate health impacts, as of January 2024, Formosa Plastics has the permits needed to begin construction and operation of the largest petrochemical facility of its kind.<sup>104</sup>

**Eminent Domain:** Eminent Domain refers to a legal principle that allows the government to seize private property for public use.<sup>105</sup> This practice often forces families out of their homes, as their property and land are used for projects to develop infrastructure or public facilities.<sup>106</sup> For example, the construction of many new LNG projects takes advantage of eminent domain, displacing homes, churches, and businesses.<sup>107</sup>

**False Solutions:** False solutions to the climate crisis include carbon capture and offset schemes as well as all energy production that continues to harm the health of people and ecosystems. Carbon capture, offset schemes, and Nature-based Solutions (NbS) fail to address ambient pollution occurring from fossil fuel facilities and in some cases have even allowed fossil companies to increase their greenhouse gasses.<sup>108</sup> Because fossil fuel infrastructure is disproportionately in low-income areas and communities of color, false solutions further harm these communities.

False solutions “offset” the pollution produced in sacrificed communities with carbon capture technologies or other NbS, entrenching pollution sources where they are and transferring pollution from one place to another.<sup>109</sup> The following are descriptions of categories of false solutions and how they fail to prevent climate chaos:

1. **Carbon Offsets:** Categorically, these can include hydroelectric projects, biomass plants, mine methane capture, fuel switching or efficiency projects, “forest management,” animal agriculture methane digesters, and nature-based offsets.<sup>110</sup> Carbon offsets, intended to create a marketplace mechanism to mitigate climate change, have been found to

98 Sexton, C. (2020, January 25). By 2030, there could be 300 million tons of plastic in the oceans. *Earth.com*. [\[LINK\]](#)

99 Cocklin, J. (2020, September 29). Work on Shell’s Pennsylvania Ethane Cracker Progressing, but Schedule Clouded by Covid-19. *NGI*. [\[LINK\]](#)

100 Gardiner, B. (2019, December 19). The Plastics Pipeline: A Surge of New Production Is on the Way. *Yale E360*. [\[LINK\]](#)

101 Crowley, K., Et. al. (2019, June 13). Exxon, Saudis Bet on Plastics Growth in Giant Gulf Coast Plant. *Bloomberg*. [\[LINK\]](#)

102 Muller, W. (2020, November 9). Formosa Plastics permit suspended by Army Corps. *The Louisiana Weekly*. [\[LINK\]](#)

103 Muller, W. (2024, January 26). Appeals court rules in favor of Formosa Plastics facility in St. James. *Louisiana Illuminator*. [\[LINK\]](#)

104 Trimble, A. (2024, January 19). Louisiana Court Ruling Reverses Lower Court Decision and Upholds Air Permits for Formosa Plastics’ Massive Petrochemical Complex in Cancer Alley. *Earth Justice*. [\[LINK\]](#)

105 Cornell Law School. Eminent Domain. [\[LINK\]](#)

106 The Alliance for Innovation and Infrastructure. (2024). Eminent Domain. [\[LINK\]](#); Institute for Justice. (2024). Kelo Eminent Domain. [\[LINK\]](#)

107 Hagerty, C. (2022, March 24). ‘Everything’s going to pieces’: how a port took over a Black US neighborhood. *The Guardian*. [\[LINK\]](#)

108 Brown, A. (2020, December 23). Landmark Climate Policy Faces Growing Claims of Environmental Racism. *Pew Trusts*. [\[LINK\]](#)

109 Ibid.

110 Climate False Solutions (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

be ineffective and lacking credibility.<sup>111</sup> For example, in 2023, new research revealed that over 90% of Verra’s (the world’s leading carbon standard) rainforest offset credits are “phantom credits”, carbon offsets that can be bought, but do not reflect genuine carbon reductions.<sup>112</sup> As such, carbon offsets should not be used to delay emission reductions. Additionally, carbon offset schemes rely on elaborate mechanisms which enable corporations to pollute at source and beyond.<sup>113</sup>

2. *Nature-based Solutions (NbS)*: Land-based offsets purport to offset fossil fuel emissions with emissions reductions from land use practices (“forest management”), despite scientific evidence that fossil fuel carbon and land-based carbon cannot be treated as the same.<sup>114</sup> Additionally, carbon offsets are not in alignment with successful forest management practices of Indigenous Peoples.<sup>115</sup> While protecting carbon stored in ecosystems is essential, if we do not reduce emissions rapidly and immediately, climate chaos (e.g., fires, droughts, disease, earthquakes) will cause the destruction and carbon release of protected ecosystems regardless.<sup>116</sup> The effectiveness of NbS is influenced by various ecological and social factors. For example, forests hold a multitude of ecological benefits aside from carbon storage; they can influence local climates by regulating temperature, precipitation, wind, and radiation levels, all of which are dependent on the composition and structure of each forest.<sup>117</sup>
3. *Carbon Pricing/Taxes*: Carbon pricing and taxes are fees imposed on polluters for their emissions. Carbon pricing and taxing have not historically deterred corporations from polluting, since companies can recoup carbon tax losses by passing the cost to consumers, cutting workers’ wages, busting unions, avoiding taxes, lobbying for more subsidies, and establishing lawsuit immunity.<sup>118</sup>
4. *Carbon Capture and Storage (CCS)*: Carbon dioxide is collected from industrial smokestacks, compressed into a liquid, and transported via pipeline to a site where it can be pumped underground into oil and gas reservoirs, saline aquifers, or beneath the ocean. There is no scientific evidence that the carbon dioxide will remain underground permanently.<sup>119</sup> In fact, 95% of CCS capacity in the United States is for a practice known as “enhanced oil recovery” which involves injecting carbon into oil fields to facilitate increased oil drilling, resulting in *increased* emissions.<sup>120</sup> In the process of removing and storing carbon, CCS technology also adds back carbon emissions so that the practice only reduces, rather than eliminates, emissions.<sup>121</sup> Economic research also reveals that there “are no significant market ends” for CCS and that “scaling of CCS is not economi-

111 Global Witness. (2022, May 24). *Carbon trading continues: What’s wrong with the voluntary market.* [\[LINK\]](#)

112 Greenfield, P. (2023, January 18). Revealed: more than 90% of rainforest carbon offsets by biggest certifier are worthless, analysis shows. *The Guardian.* [\[LINK\]](#)

113 Axelsson, K. Et al. (2023, June). Net Zero Stocktake 2023. *Net Zero Tracker.* [\[LINK\]](#); Climate False Solutions. *Hoodwinked in the Hothouse.* [\[LINK\]](#)

114 University of Oxford. (2021, April 7). On the misuse of nature-based carbon ‘offsets.’ *University of Oxford Nature-based Solutions Initiative.* [\[LINK\]](#)

115 Drissi S. (2020, June 8). Indigenous Peoples and the nature they protect. *UN Environment Programme.* [\[LINK\]](#)

116 Seddon, N. Et al., (2021). Getting the message right on nature-based solutions to climate change. *Global Change Biology.* [\[LINK\]](#)

117 Ibid.

118 Zero Project. (2014, June 11). *Nothing about us without us.* [\[LINK\]](#)

119 Rochon, E. Et al. (2008). False Hope: Why carbon capture and storage won’t save the climate. *Greenpeace.* [\[LINK\]](#)

120 Douglas, L. (2021, December 13). U.S. lawmaker introduces bill to eliminate carbon credits for oil recovery. *Reuters.* [\[LINK\]](#)

121 Ibid.

cally viable.”<sup>122</sup> Projected CCS infrastructure exacerbates particulate and toxin exposure to frontline communities.<sup>123</sup> These carbon offset mechanisms will disproportionately affect low-income communities of color and Indigenous communities.

5. *Net Zero Pledges*: Net Zero approaches seek to balance out produced greenhouse gases and carbon removal via land and market based methods.<sup>124</sup> Net Zero was not necessarily unsound as a scientific concept, but rather has become unreliable due to trends that reduce emission reduction to numerical target setting, delayed timelines, reliance on Carbon Dioxide Removal, and overall separation from the local social/ecological contexts.<sup>125</sup> Net Zero allows industries and governments to continue to pollute by promising that they will remove emitted carbon later. There is no standardized method of calculating emissions,<sup>126</sup> Net Zero pledges are generally not legally binding, and many states do not have detailed annual schedules describing their path to Net Zero.<sup>127</sup> For a full analysis on the challenges of Net Zero, please see *The Need for Real Zero Not Net Zero: Shifting from False Solutions to Real Solutions and a Just Transition*.<sup>128</sup>

**Feminist Care Economy:** Feminist care economies focus on frameworks that accurately value the social and economic contributions of caregivers and integrate care labor into macroeconomic policy making. Care services provide physical, social, and emotional support for groups in need of assistance. These groups include the elderly, children, and disabled/ill individuals. Care services include paid and unpaid work. Paid care work includes health and social services, education, and domestic workers. According to the International Labor Organization (ILO), the global care workforce represents 11.5% of total global employment.<sup>129</sup> Two-thirds of the global care workforce is women, suggesting that care work is a significant source of work for women throughout the world.<sup>130</sup> Unpaid care work includes all unpaid services provided within the household, such as cooking, cleaning, and child-rearing.<sup>131</sup> This unpaid work is a critical part of the care economy; the ILO estimates that 2 billion people do full-time unpaid care work, and this workforce is 75% women.<sup>132</sup> To learn more about the Feminist Care Economy, please see *Prioritizing Care Work Can Unlock a Just Transition for All*.<sup>133</sup>

**Fossil Fuel:** A subcategory of non-renewable resources, fossil fuels refer to coal, liquified natural gas, and crude oil. Crude oil is primarily used to produce gasoline, diesel fuel, and for plastic manufacturing. Natural gas is commonly used for cooking and heating buildings. Natural gas and crude oil are often pumped through the same wells. Coal is mined and used for heating homes and generating energy in power plants. Fossil fuels are made from dead organic matter (i.e., fossils) which are pressurized and heated to create carbon-based fuels. As the future of fossil fuels looks increasingly unstable in the face of accelerating climate chaos, fossil fuel

122 Feit, S. (2021, August 8). Too Many Loopholes in the Net: “Net-Zero” Promises Ring Hollow Without “Zero Fossil Fuel” Pledges. *Center for International Environmental Law (CIEL)*. [\[LINK\]](#)

123 Indigenous Environmental Network. *#CarbonCapture and storage (#CCS) Will Not Work*. [\[LINK\]](#)

124 Climate False Solutions (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

125 Khosla, Radhika, et al. Can “net zero” still be an instrument of climate justice? *Environmental Research Letters*, 2023. [\[LINK\]](#)

126 Lindwall C. (2022, February 3). The Promise and Pitfalls of Net-Zero Pledges. *Natural Resources Defense Council*. [\[LINK\]](#)

127 Irfan U. (2021, October 29). Are “net-zero” climate targets just hot air? *Vox*. [\[LINK\]](#)

128 Estrada, M. Et al. *The Need for Real Zero Not Net Zero: Shifting from False Solutions to Real Solutions and a Just Transition*. *WECAN*. [\[LINK\]](#)

129 International Labor Organization (ILO). *Care Work and Care Jobs for the Future of Decent Work*. [\[LINK\]](#)

130 Ibid.

131 Elson, D. (2000). UNIFEM Biennial Report: Progress of the World’s Women 2000. *United Nations Development Fund for Women*, New York. [\[LINK\]](#)

132 Bilecik N. (2020, July 21). Feminist Economics Perspectives on Covid-19: Caring Labor, Care Economy and Gender Equality. *Columbia Global Centers*. [\[LINK\]](#)

133 Lake, O., Et al. (2023, September). *Prioritizing Care Work Can Unlock a Just Transition for All*. *WECAN*. [\[LINK\]](#)



companies are turning to plastics and petrochemicals as a source of continued revenue.<sup>134</sup> Plastic begins as a fossil fuel, and greenhouse gasses and/or pollutants are produced at every stage of its life cycle:

1. fossil fuel extraction and transport
2. plastic refining and manufacturing
3. managing plastic waste, including recycling
4. plastic's ongoing impact once it reaches our waterways, land, and bodies (microplastics)

**Free, Prior and Informed Consent (FPIC):** FPIC is a right that specifically pertains to Indigenous Peoples and is recognized in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP).<sup>135</sup> FPIC requires that any activities by any actors that occur in Indigenous territory guarantees Indigenous Peoples the right to give or withhold consent to a project that may affect them or their territories. If consent is given, it may be withdrawn at any time. Furthermore, FPIC enables Indigenous Peoples to negotiate the conditions under which the project will be designed, implemented, monitored, and evaluated.<sup>136</sup>

#### Gender/ Sex:

- “Sex” refers to biological attributes, including physical and physiological features such as hormone levels, gene expression, chromosomes, etc.<sup>137</sup> Sex is commonly categorized as male or female, but because biological attributes are expressed at varying levels, sex is not a binary term.
- “Gender” refers to socially constructed roles, behaviors, expressions, and self perceptions of women, men, agender, bigender, gender non-binary, and other gender identities.<sup>138</sup>

Because epidemiological studies and scientific research often conflate sex and gender, the majority of studies presented in the report refer to individuals with biological female organs and/or who identify as women. This report was limited by the problematic scientific gendered dichotomy, which does not encompass nonbinary individuals and people across the broad spectrum of sexual orientation and gender identity.

This is especially true for studies looking at the biological effects from fossil fuel pollution, such as fertility issues, breast cancer, and toxicological exposure. An exception to this limited lens is the literature on the Missing and Murdered Indigenous Women and Girls (MMIWG2S) epidemic, which incorporates two-spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex, non-binary, and 2SLGBTQQIA+ peoples. Two-spirit refers to someone who “[identifies] as having both a masculine and a feminine spirit, and is used by some Indigenous

<sup>134</sup> Tilsted, J. Et al. (2023, June 16). Ending fossil-based growth: Confronting the political economy of petrochemical plastics. *CellPress*. [\[LINK\]](#)

<sup>135</sup> Food and Agriculture Organization (2022). Indigenous Peoples. *Food and Agriculture Organization of the United Nations*. [\[LINK\]](#)

<sup>136</sup> United Nations (2016, October 14). Free Prior and Informed Consent – An Indigenous Peoples' right and a good practice for local communities. *United Nations Department of Economic and Social Affairs; Indigenous Peoples*. [\[LINK\]](#)

<sup>137</sup> Tseng, J. (2008, July). Sex, Gender, and Why the Differences Matter. *AMA Journal of Ethics*. [\[LINK\]](#)

<sup>138</sup> Ibid.

People to describe their sexual, gender and/or spiritual identity.”<sup>139</sup> In order to fully understand the impacts of fossil fuel extraction, infrastructure, and climate change on communities, it is essential for future studies to incorporate nonbinary populations, and differentiate between gender and sex. This report advocates for the scientific community to include people across the gender spectrum in future research. For instance, it is necessary to recognize the diversity of experiences of pregnancy, as not all pregnant people are women or identify as women.

**Hydraulic Fracturing (“Fracking”):** Throughout the report, the term “fracking” is used to describe hydraulic fracturing because of its recognizability and pervasive use in dominant literature. Fracking is a technique that involves injecting water, sand, and chemicals into bedrock to access oil and/or gas from geothermal reservoirs,<sup>140</sup> which has been increasingly used from the 2000’s onwards. This method of extracting oil pollutes groundwater, contaminates surface water, and destroys species’ habitats.<sup>141</sup> Although classified as a new, or unconventional method of extraction in the past, fracking is now being used in 95% of new wells.<sup>142</sup> As of 2022, approximately 17.6 million people live within one mile of a fracking well in the U.S.<sup>143</sup> This technique is used extensively in areas of the U.S., including Texas and California. Fracking is a method of unconventional oil gas development (UOGD), which describes the use of advanced methods of fracking coupled with directional drilling<sup>144</sup> The report focuses on case studies that detail fracking expansion and its impacts on communities in the Central Valley in California, the Permian Basin in Texas, and the Niobrara shale rock in Northern Colorado.

**Indigenous/Native American/First Nation:** In the history of relations between U.S. and Canadian institutions and Indigenous Peoples, terminology has often been used in harmful and damaging ways. There are over a thousand distinct Indigenous communities in the U.S. and Canada, and there is no single lexicon to describe Indigenous Peoples and communities. When discussing Indigenous Peoples and communities in the U.S., this report will use the term “Native American” or “Indigenous Peoples.” If the communities are in Canada, the report will use the term “First Nations.” When speaking generally, the report will also use the term “Indigenous.” When quoting individuals, the report uses their specific tribes, nations, or communities. The report acknowledges that the U.S. and Canada, which, together with Mexico, are known as “Turtle Island” by Indigenous Peoples, exist within Indigenous lands. Throughout colonial history, the territories of Indigenous communities have been divided and portioned off. The report uses the term “Indigenous territories” to describe current and traditional geographical areas where Indigenous communities reside. Additionally, the report occasionally uses the term “reservation” or “reserve” because specific studies referenced in the report employ this language. A reservation is a legally defined geographical area set apart by the U.S. government for the use and occupation of Native American communities, while the term reserve is used in Canada.

139 University of Toronto Dalla Lana School of Public Health (2022). *Two-Spirit Community*. [\[LINK\]](#)

140 US Geological Survey. *What is hydraulic fracturing?* [\[LINK\]](#)

141 Soeder, D.J. (2018, July 10). Groundwater Quality and Hydraulic Fracturing: Current Understanding and Science Needs. *The Groundwater Association*. [\[LINK\]](#)

142 Macfarlane, R., Et al. (2020, January). Fractures in the Bridge: Unconventional (Fracked) Natural Gas, Climate Change and Human Health. *Canadian Association of Physicians for the Environment (CAPE)*. [\[LINK\]](#)

143 Hurdle, J. (2022, November 17). As Evidence Mounts, New Concerns About Fracking and Health. *YaleEnvironment360*. [\[LINK\]](#)

144 IRGC. *Unconventional Gas Development (2013-2014)*. [\[LINK\]](#); EPA. (2023, February 14). *The Process of Unconventional Natural Gas Production*. [\[LINK\]](#); Schenk, O., Et al. (2014). Unconventional Gas Development in the U.S. States: Exploring the Variation. *European Journal of Risk Regulation*. [\[LINK\]](#)

**A Just Transition:** A framework originally developed by the trade union movement in the 2010's to address the social interventions needed to secure workers' rights and livelihoods when economies shift to sustainable production to combat climate chaos, this framework includes principles, strategies, and practices that move society away from polluting, extractive economies to local, healthy, and sharing economies.<sup>145</sup> The transition centers frontline communities and workers to envision and build new economies that are aligned with local communities and ecosystems in the present moment.<sup>146</sup> For example, continued financing of coal expansion projects fail to address current needs of renewable energy infrastructure, and these projects will eventually become stranded assets in the future.<sup>147</sup> Additionally, a Just Transition includes (but is not limited to) a regenerative economy that promotes ecological resilience and restoration, a reduction of resource consumption and waste, and an ending of extractive industries promoted by capitalism. This movement will require centering Indigenous and other frontline communities that steward land and building global solidarity with these communities. For further analysis on a Just Transition, we suggest the Climate Justice Alliance analysis titled "Just Transition: A Framework for Change."<sup>148</sup>

**Latine:** WECAN is an organization working across all gender spectrums and uses the word "Latine" to respect non-binary individuals and the entire spectrum of gender in the Latine community. In the case of this report, the women interviewed requested to be identified as Latina so this will be the language used throughout the report when referring to Latine women-identifying individuals. When referring to population data or any community that includes non-women identifying individuals, the report will use the term "Latine." "Hispanic women" also appears in the report because several of the studies presented employ this language. Additionally, when citing Census Bureau data, the term "Hispanic" is used to align with the official terminology provided by the Census. This usage ensures accurate representation of the standard language used in demographic data collection and reporting.

People who are native of, or who have ancestors from Spanish speaking countries (excluding Spain), and live in the U.S., use various terms to identify themselves, which can depend on region, generation, etc.<sup>149</sup> Hispanic usually refers to someone who is a native of, or descends from a Spanish-speaking country; the term was used by the U.S. government to incorporate all Spanish-speaking groups in the U.S.<sup>150</sup> The report uses the term Latine in order to be inclusive; Latine refers to anyone born with ancestors from Latin America, including Central and South America, Mexico, and islands of the Caribbean, who speak a Romance language.<sup>151</sup> Latine is a description of culture, and a Latine identifying individual can be of any race or color.<sup>152</sup>

145 International Trade Union Confederation. (2015, March). *Climate Frontlines Briefing - No Jobs on a Dead Planet*. [\[LINK\]](#)

146 Climate False Solutions. (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

147 Sarma, N. (2020, October 9). Future of Coal: The stranded asset problem. *Observer Research Foundation*. [\[LINK\]](#)

148 Climate Justice Alliance. *Just Transition: A Framework for Change*. [\[LINK\]](#)

149 Exploratorium: GENIAL. *Is it Hispanic, Chicano/Chicana, Latino/Latina, or Latinx?* [\[LINK\]](#)

150 Ibid.

151 Britannica. *List of countries in Latin America*. [\[LINK\]](#)

152 Ibid.

**Net Zero Emission Goals:** Net Zero approaches seek to balance out produced greenhouse gasses with carbon removal via land and market based methods (e.g., bioengineering, Carbon Capture and Storage (CCS), carbon pricing, among others).<sup>153</sup> Net Zero is “achieved” when the carbon emitted is equal to the carbon removed. Net Zero allows industries to continue polluting in the current moment by promising that they will remove emitted carbon later. There is no standardized method of calculating emissions, leaving what is considered as a “reduction in emissions” to the discretion of heads of state and company leaders (which often vary widely).<sup>154</sup> Net Zero pledges are also generally not legally binding, providing little accountability that these pledges will be upheld, and many states do not have detailed annual schedules describing the path to Net Zero.<sup>155</sup>

Even when Net Zero pledges are carried out responsibly, global emissions are still ecologically unsustainable, and Net Zero land and market-based methods discriminate against poor, low-emitting countries in the Global South and Indigenous lands in the Global North.<sup>156</sup> These communities are burdened with harmful CCS infrastructure, experience land theft, and become further disenfranchised. CCS infrastructure is most likely to be located in communities with existing fossil fuel infrastructure (e.g., ExxonMobil’s hydrogen/CCS facility in Beaumont, Texas), and companies can justify concentrating areas of fossil fuel harms by “offsetting” these sacrifice zones by preserving another, unrelated ecosystem.<sup>157</sup> Cumulatively, Net Zero approaches greenwash climate action by creating the impression that Net Zero climate policies are more productive than they really are.<sup>158</sup>

**Noise Pollution:** Noise pollution can originate from a wide range of sources and is typically characterized as loud, disturbing sound(s) that have physical and mental impacts on people and animals.<sup>159</sup> Noise pollution caused by fossil fuels includes blaring sounds that originate from machinery or activities such as drilling, fracking, well pumps, flaring, and compressors.<sup>160</sup> Health effects that can result from prolonged noise pollution include hearing loss, high blood pressure, headaches, tinnitus, sleep disturbances, stress, and other cognitive problems.<sup>161</sup>

**Paris Climate Agreement:** In 2015, world governments signed onto an unprecedented global climate accord, which aimed for a multinational commitment to combat climate change and keep global warming well below a 2° Celsius increase above pre-industrial levels, with the target of 1.5°C.<sup>162</sup> While WECAN acknowledges this groundbreaking effort, which sends critical signals concerning the end of the fossil fuel era, the Paris Accord falls short of addressing the root causes of the climate crisis and the structures of injustice that perpetuate the extreme inequities of its impacts. Furthermore, since the Paris Agreement was signed, the IPCC report

153 Climate False Solutions. (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

154 Lindwall, C. (2022, February 3). The Promise and Pitfalls of Net-Zero Pledges. *Natural Resources Defense Council*. [\[LINK\]](#)

155 Irfan U. (2021, October 29). Are “net-zero” climate targets just hot air? *Vox*. [\[LINK\]](#)

156 Tongia, R. (2021, October 25). Net zero carbon pledges have good intentions. But they are not enough. *Brookings*. [\[LINK\]](#)

157 Ibid.

158 Ibid.

159 Arcangeli, G. Et al. (2023, January). Neurobehavioral Alterations from Noise Exposure in Animals: A Systematic Review. *PubMed Central*. [\[LINK\]](#)

160 Singh, K. Et al. (2020, July). Air and Noise Pollution in Oil and Gas Industry. *International Research Journal of Engineering and Technology*. [\[LINK\]](#)

161 Ibid.

162 Intergovernmental Panel on Climate Change (2018, October). Special Report: Global Warming of 1.5 °C. *United Nations*. [\[LINK\]](#)

on 1.5°C was released, and scientists made it clear that there must be deeper cuts in global carbon emission reduction targets to avoid the worst impacts of climate disruption.<sup>163</sup> As scientists have pointed out, the current commitments for CO<sub>2</sub> reductions are far from sufficient. International scientists state that if we are to halt the worst effects of the mounting climate crisis, institutions must contend with the Paris Agreement.<sup>164</sup> In March 2023, the IPCC released the Synthesis Report to provide crucial information for the 2023 Global Stocktake, conducted under the United Nations Framework Convention on Climate Change (UNFCCC).<sup>165</sup>

**Post-Growth Economy:** A post-growth economic mindset notes that economic growth, when driven solely based on a country's gross domestic product (GDP), will lead to unceasing extraction where finite resources continue to be overconsumed for the pursuit of wealth accumulation. A post-growth economy eschews capitalist systems and instead calls for widespread adherence to economic justice, social well-being, and ecological regeneration as an intervention to avoid social and ecological collapse.<sup>166</sup>

**Pyrolysis Plant:** Plastic pyrolysis is a process in which plastic is fed through a machine, broken down into smaller pieces, melted in a furnace, and processed through a catalytic tower that breaks down the long-chain polymers into smaller molecules where it is converted into oil.<sup>167</sup> The final product—known as a biofuel—is considered a raw material that is used as fuel for various industries.<sup>168</sup> Although advertised as a circular solution to plastic waste that can reduce the need for oil extraction, in fact the process itself is extremely harmful for both people and the planet. The EPA has acknowledged that plastic-based biofuels pose an “unreasonable risk” to human and environmental health: according to EPA records, when exposed over a lifetime to the toxic emissions released during pyrolysis, 1 out of 4 people could get cancer.<sup>169</sup> NOVA Chemicals, a company with plastic manufacturing projects in Sarnia, proposed a pyrolysis plant in June 2023.<sup>170</sup> This report underscores the gendered and racial health ramifications of plastic processing facilities such as NOVA's polyethylene facility, Formosa Sunshine Project, and Dow Inc.'s petrochemical complex.

**Renewable Energy:** Renewable energy solutions are fundamental to addressing the climate crisis, as they provide sustainable, clean, and equitable energy access for all communities. Genuine renewable energy sources, including localized solar power and wind energy, as well as geothermal energy, play a crucial role in reducing greenhouse gas emissions and mitigating climate change.<sup>171</sup> These solutions are more likely to be environmentally friendly and socially inclusive. By prioritizing renewable energy, we can create job opportunities, promote local

163 Ibid.

164 Verkuil C., Et al. (2018, March). Aligning fossil fuel production with the Paris Agreement: Insights for the UNFCCC Talanoa Dialogue. *Stockholm Environment Institute*. [\[LINK\]](#)

165 IPCC. (2023). *AR6 Synthesis Report: Climate Change 2023*. [\[LINK\]](#)

166 Post Growth Institute. (2018). *What is post-growth economics, and why is it necessary?* [\[LINK\]](#)

167 What is the Plastic Pyrolysis Process? (2024). *Beston Group*. [\[LINK\]](#)

168 Ibid.

169 Lerner, S. (2023, February 23). This “Climate-Friendly” Fuel Comes With an Astronomical Cancer Risk. *ProPublica*. [\[LINK\]](#)

170 Paben, J. (2023, July 17). NOVA considers huge pyrolysis plant in Canada. *Resource Recycling*. [\[LINK\]](#)

171 United Nations. *Renewable energy - powering a safer future*. [\[LINK\]](#)

economic development, and enhance energy security, while also protecting communities and the planet for future generations.<sup>172</sup>

In contrast, false solutions such as large-scale hydropower, biofuels from food production, nuclear energy, carbon capture and storage (CCS), and geoengineering, often fail to address the root causes of climate change and can exacerbate social and environmental injustices.<sup>173</sup> These approaches can lead to displacement of communities, food insecurity, ecological damage, and long-term safety risks, which diverts attention and resources away from truly sustainable paths forward.<sup>174</sup> To ensure climate justice solutions, it is essential to focus on authentic renewable energy solutions that uphold the rights and well-being of all communities, particularly those most vulnerable to climate impacts, while protecting ecological integrity. By doing so, we can achieve a Just Transition that benefits everyone and the planet.<sup>175</sup>

**Real-Zero Emissions Goals:** Real-Zero goals argue for reducing and preventing carbon emissions before they enter the atmosphere, holding institutions accountable, and eliminating the reliance on market-based carbon offsets. Real-Zero goals call for immediate divestment from fossil fuels, a moratorium on fossil fuel expansion, elimination of the reliance on market-based carbon offsets, stopping pollution at the source, a Just Transition to renewable energy, amongst other measures and policies.<sup>176</sup> The relationship between Net-Zero, Real-Zero, and offsets is described by the equation below:

$$\text{Real Zero} = \text{Net Zero} - \text{Offsets}$$

**Tar Sands:** Tar sands (or “oil sands”) are deposits of sand saturated with bitumen. Extraction of the thick tarry bitumen involves strip mining or “in-situ” methods, which create huge toxic waste ponds.<sup>177</sup> These “tailing ponds” are the accumulation from over 480 million gallons of toxic waste being dumped daily—waste so toxic that specific employees are responsible for scraping dead birds off the surface of the water.<sup>178</sup> As Canada warms at twice the rate as the rest of the world,<sup>179</sup> every stage of the Alberta tar sands industry is not only taking the world further away from the goals of the Paris Agreement, but is also wreaking environmental havoc directly on Canadian ecosystems. The U.S. State Department estimates that production and consumption of a barrel of oil sands crude releases ~20% more carbon dioxide than a standard barrel of crude oil,<sup>180</sup> and emissions from the oil sands in Canada are approximately 30% more than what has been reported by the industry.<sup>181</sup> Additionally, because boreal forests bank twice as much carbon as tropical forests, extraction in these regions results in releasing vital carbon sinks, destroying carbon sequestration champions that are vital in preventing even

172 IEA. (2022, December 06). *Renewable power's growth is being turbocharged as countries seek to strengthen energy security*. [\[LINK\]](#); United Nations. (n.d.) *Renewable energy - powering a safer future*. [\[LINK\]](#)

173 Just Transition Alliance. (n.d.). *False Solutions to Address Climate Solutions*. [\[LINK\]](#); Women & Gender Constituency. (n.d.). *Issue Brief False Solutions*. [\[LINK\]](#)

174 Global Forest Coalition. *The End of False Solutions: Moving Towards Rights-Based and Gender-Transformative Solutions to Climate Change*. [\[LINK\]](#)

175 Climate False Solutions. (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

176 Net zero is not zero! (2023, May 16). *Real Zero Europe*. [\[LINK\]](#)

177 Huseman, J., Et al. (2012). *Extreme Energy as Genocidal Method: Tar Sands and the Indigenous Peoples of Northern Alberta*. *Extreme Energy Initiative*. [\[LINK\]](#)

178 Ibid.

179 Bush, E., Et al. (2019). *Canada's Changing Climate Report*. *The Government of Canada*. [\[LINK\]](#)

180 Magill, B. (2017, April 13). *Carbon Emissions Factor Into Major Oil Sands Shakeup*. *Climate Central*. [\[LINK\]](#)

181 Leahy, S. (2019, April 11). *This is the world's most destructive oil operation—and it's growing*. *National Geographic*. [\[LINK\]](#)

more carbon from entering the atmosphere, and subsequent warming.<sup>182</sup> As tailing ponds leak into the Athabasca River, acid rain showers over the remote Northern Canada region, and vast regions of stripped land destroy habitat for native species. The devastating environmental impacts from the tar sands extraction is indisputable.<sup>183</sup> Almost all of the tar oil extracted from Alberta's boreal forest is transported to the U.S. via pipelines: Enbridge's recently completed Line 3 replacement project is increasing the capacity of this operation. Additionally, Enbridge's proposed new Line 5 reroute and tunnel project, as well as the Trans Mountain expansion project (TMX) threaten to further broaden and intensify its scope. This report focuses on case studies on Enbridge's projects and TMX and how they perpetuate the extraction of the Alberta tar sands.

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182 Huseman, J., Et al. (2012). Extreme Energy as Genocidal Method: Tar Sands and the Indigenous Peoples of Northern Alberta. *Extreme Energy Initiative*. [\[LINK\]](#)

183 Leahy, S. (2019, April 11). This is the world's most destructive oil operation—and it's growing. *National Geographic*. [\[LINK\]](#)

# RESEARCH METHODS



Women activists on the ground in NYC as part of the Summer of Heat campaign, showing solidarity with frontline leaders from the Gulf South. (Ashley Guardado | WECAN International)



## Research Methods

The report, organized by Women’s Earth and Climate Action Network, began with an investigation into fossil fuel extraction and infrastructure projects across the United States and a few locations in Canada. Based on the initial collection of research, nine regions with large fossil fuel projects and/or high concentrations of fossil fuel infrastructure were identified. The fossil fuel companies operating in these identified regions were found through credible local and national news articles, scientific publications, policy briefs, published reports, permit databases, in addition to original qualitative research in the form of detailed interviews with individuals living in affected frontline communities. Every measure possible has been taken to utilize the highest quality of research available, including consulting field experts, and when needed, the Ad Fontes Media Bias Chart.<sup>184</sup>

The tables at the beginning of each case study include some of the major fossil fuel projects in the identified region of interest, the company operating this project, and the financial institutions financing, insuring and/or investing in that company. The information presented on the companies and their projects is not exhaustive; but rather focuses on specific information relevant to the scope of the report. The tables serve to exhibit some of the most damaging fossil fuel operations, and to highlight relationships between these operations and the report’s eight identified financial institutions.

Based on an examination of companies operating in the nine regions, eight financial actors arose as prominent financiers, insurers, and investors of these companies. Criteria leading to identifying the three asset managers, four banks, and one insurance company discussed in this report include:

1. The number of projects/companies included in the report that a financial institution finances, insures, or invests in on any level;
2. The frequency with which a financial institution appeared in other reports linking financial institutions and fossil fuel projects/companies; and
3. The overall scale and degree of gender and race-based impacts of the project that the particular financial institution is financing, insuring, or investing in.

Information concerning the financial links between the companies and the financial institutions was obtained primarily through *Nasdaq*, *Fintel*, and *Yahoo! Finance*,<sup>185</sup> Rainforest Action Network’s (RAN) published reports (which source data from the Bloomberg Terminal), investigative journalism articles (i.e., *National Observer*), and several other sources that are described directly below each table.

<sup>184</sup> Ad Fontes Media. *Media Bias Chart*. [\[LINK\]](#)

<sup>185</sup> The financial platforms, *CNN Business* and *Fintel* were also used in some of the tables

The financial information presented in tables at the beginning of each case study represent project-level financing and general corporate-level financing, in the form of underwriting of bond and share issuances, loans, and insurance services. The tables also incorporate information about major shareholders and investors of fossil fuel companies (i.e., asset managers and other institutional investors). The investors in the tables include the top thirty (on *Nasdaq*) and the top ten (on *Fintel*) institutional holders and shareholders shown on the fossil fuel company's page. Additionally, organizations' reports, news articles, and primary documents were used to identify financial relationships between companies and the financial institutions. The various financial relationships included in the tables will be described directly below each figure. The information in the tables include companies' managed funds/assets by referring to the managing company, e.g. if BlackRock is included as an investor in a table, we are also referring to BlackRock's exchange-traded funds, iShares, or other managed funds. The tables are limited to the eight financial institutions identified by the report. However, we acknowledge that there are many more banks, asset managers, and insurance companies engaged in these regions. We have purposefully narrowed our scope in order to spotlight some of the biggest fossil fuel backers.

Of note, Liberty Mutual is mostly absent from the tables because data on insurance companies' financial transactions is difficult to track as it is usually not publicly available. This lack of transparency is pervasive in the insurance sector.

At the end of each case study, there is a paragraph specifically describing selected connections between financial institutions and companies, in order to exemplify particular financial institutions as significant facilitators of fossil fuel companies. These paragraphs are not intended to be exhaustive, and do not describe all of the information in the tables, but rather highlight important examples.

Our analysis of gender and race-specific impacts of fossil fuel activity included a literature review of scientific articles from accredited journals, published reports, and interviews with women in the identified frontline communities and health experts. Based on this research, the report describes gendered and race-based impacts of the fossil fuel industry through five themes that were repeatedly found in the data:

- Environmental Racism and Breaches in Indigenous Rights
- Caretaking Responsibilities and Hardships
- Pollution (including: air quality, water contamination, soil contamination and food insecurity, and heat islands)
- Fertility and Reproduction
- Man Camps
- Mental Health

Relevant studies and quotes from frontline women’s experiences are presented throughout these sections and the case studies.

All the information in the case studies, including companies’ operations and new fossil fuel permits/project plans were last updated on July 1, 2024. The scope of the shareholding was analyzed on: June 10, 2024—companies’ institutional holdings may have changed since this date. All of the population data was sourced from the U.S. Census Bureau, unless otherwise stated and cited. WECAN recognizes that the U.S. Census Bureau frequently undercounts low-income communities of color,<sup>186</sup> however, the U.S. Census remains the most approximate national population data publicly accessible.

The eight fossil fuel financial institutions were analyzed based on their own internal and external guidelines on climate change and carbon emissions, as well as human rights issues. A set of financial risks were composed by compiling data from academic papers and reports made by financial experts (e.g., *Portfolio Adviser*, *Institute for Energy Economics and Financial Analysis*, *Ceres*), advocacy networks (e.g. *Insure Our Future*), and specialized journalistic articles.

The report aims to include an intersectional gender and race lens to the literature on the disproportionate impacts of fossil fuel extraction and infrastructure on communities of color, Indigenous Peoples, and low-income communities, and to spotlight particular financial institutions as contributors to these injustices. For the sake of the report, we selected a sample of case studies that are emblematic of the fossil fuel industry’s offenses against the environment and frontline communities in the U.S. and parts of Canada. The data presented is limited to our own research investigation. We believe that the research we have presented demonstrates the importance of further research and analysis on the subject.

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186 Wang, H.L. (2022, March 11). The 2020 census had big undercounts of Black people, Latinos and Native Americans. *National Public Radio*. [\[LINK\]](#)

# GENDERED AND RACE-BASED IMPACTS OF THE FOSSIL FUEL INDUSTRY



Women protesting for Indigenous rights at COP conference. (Katherine Quaid | WECAN)

# Gendered and Race-Based Impacts of the Fossil Fuel Industry

## 5a. Environmental Racism and Breaches of Indigenous Rights

Fossil fuel extraction and infrastructure are disproportionately developed near communities of color, and on or near Indigenous territories in the U.S. and Canada.<sup>187</sup> Such communities are at the forefront of air, water, and soil pollution, and suffer the most from increased temperatures as detailed below. Roishetta Ozane, Founder of The Vessel Project, describes how environmental racism manifests in her community:

**“My community in Louisiana is predominantly Black; we have no grocery stores, only one health center, no bank. There are so many ways in which we are affected by the [fossil fuel] industry and climate change. We are a true environmental injustice community.”<sup>188</sup>**

Furthermore, as climate chaos accelerates, in part due to the fossil industry, low-income women of color and Indigenous women disproportionately bear the brunt of climate change in the form of displacement, housing insecurity, and violence.<sup>189</sup> As Jacqueline Patterson, Founder and Executive Director of The Chisholm Legacy Project: A Resource Hub for Black Frontline Climate Justice Leadership, describes:



Photo of Jacqueline Patterson.  
(Katherine Quaid | WECAN)

**“When it comes to the impact of climate change on Black women, they have housing that is not resilient to the impacts of disasters and are more likely to live in floodplains. Studies also show that during disasters, there is an extreme spike in violence against women. Black-woman headed households are more likely to be food and housing insecure, and between disasters and sea-level rise, we have this differential vulnerability to displacement for Black women.”<sup>190</sup>**

The impacts of fossil fuel activity violate internationally recognized substantive human rights, including the right to health, food, water, housing, work, and life itself,<sup>191</sup> as well as Indigenous Peoples’ rights. Dr. Jill Johnston, Associate Professor of Environmental Health at the University of Southern California (USC), studies environmental health inequities in the U.S., and describes how her work is a testament to the relationship between environmental racism, fossil fuel activity (flaring), and reproductive injustice:

187 Newkirk II, V.R. (2018, February 28). A New EPA Report Shows that Environmental Racism is Real. *The Atlantic*. [\[LINK\]](#); Tessum, C. (2021, April 28). PM2.5 polluters disproportionately and systemically affect people of color in the United States. *Science Advances*. [\[LINK\]](#); Donaghy, T. (2023, June). Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities. *Energy Research & Social Science*. [\[LINK\]](#); Donaghy, T., Healy, N., Jiang, C., et. al. (2023, June). Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities. *Energy Research & Social Science*. [\[LINK\]](#)

188 Ozane, R. (2022, May 19). WECAN Interview.

189 OHCHR. (2022, July 12). Climate change exacerbates violence against women and girls. *United Nations Human Rights*. [\[LINK\]](#)

190 Patterson, J. (2022, June 5). WECAN Interview.

191 Amnesty International. (2022, April 4). *Urgent Fossil Fuel Phase-Out Critical to Protect Rights*. [\[LINK\]](#)

“We initially looked at where these disposal wells were going in the Eagle Ford Shale and found they were predominantly being cited in communities of color. We saw similar patterns when we looked at flaring [in the Eagle Ford Shale]—those are more likely to be occurring near Hispanic or Latine communities. We were able to use satellite imagery—since flaring is not well tracked—and the residential home addresses of pregnant people from birth records and estimate how many flares were by their homes. With that, we saw a significant association between being near a lot of flares and having a higher risk of preterm birth.”<sup>192</sup>

Tribal sovereignty, the ability to govern and protect the health, safety, and welfare of citizens within a tribal territory,<sup>193</sup> is integral to the survival of Indigenous Peoples—culturally, physically, and economically.<sup>194</sup> After centuries of genocidal, colonial policies, tribes have been left with a minute fraction of their previously held land in which to govern. Governments, financial institutions, and corporations are responsible for upholding Indigenous Peoples’ right to FPIC as outlined in the UN Declaration on the Rights of Indigenous Peoples.<sup>195</sup>

Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, describes the connection between the loss of land and water due to fossil fuel pipelines and Indigenous identities and well-being:

“To know that we have narrowly missed twice already catastrophic damage that would harm the treaty right, that would harm our connection with the land and water, it makes me absolutely terrified of what else could happen—what else is lurking out there, what other damage is already occurring along the Line 5 pipelines that we don’t know about. What is that going to do to our communities? There is a Spirit in those places that protects us and in return we have to protect them and if that Spirit is harmed or damaged in any way it’s only going to break the relationship that we have with those Spirits, with that land, with that water.”<sup>196</sup>



Photo of Whitney Gravelle. (Laina G. Stebbins)

The extractive fossil fuel industry’s destruction of ancestral lands infringes on Indigenous rights to culture, i.e. their “ability to practice and pass on culture, traditional languages and ways of relating to other people and to the land.”<sup>197</sup> This destruction can be clearly seen in Canada, where over 4,400 federal contaminated sites are located on Indigenous land; this

192 Johnston, J. (2022, May 23). WECAN Interview.; Cushing, L., Vavra-Musser, K., Chau, K., et. al. (2020, July 15). Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas. *Environmental Health Perspective*. [\[LINK\]](#)

193 NCAI. (2020, February). *Tribal Nations & the United States: An Introduction*. [\[LINK\]](#)

194 Bishop, K. (2001, May). This Land Knows Me: Indigenous Land Rights. *Cultural Survival*. [\[LINK\]](#); Slotnick, S. (2017, March 1). Understanding Tribal Sovereignty. *Federal Bar Association*. [\[LINK\]](#)

195 United Nations. (2018). *United Nations Declaration of the Rights of Indigenous Peoples*. [\[LINK\]](#)

196 Gravelle, W. (2023, June 6). WECAN Interview

197 National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). Reclaiming Power and Place. *Privy Council Office*. [\[LINK\]](#)

equates to over 20% of Canada’s total contaminated sites, even though Indigenous reserves make up only 0.5% of the total land mass.<sup>198</sup> Fossil fuel contamination located on or near Indigenous territories hinders women’s ability to act as cultural bearers—to maintain and pass down traditions to future generations.<sup>199</sup> UN Women notes that Indigenous women hold “rich knowledge about the natural world, health, technologies, distinct rites and rituals, and other significant cultural expressions. Generation after generation, women pass on this traditional knowledge, which is a precious inheritance.”<sup>200</sup> The continuous destruction of Indigenous land by the fossil fuel industry threatens sacred and traditional practices, thereby placing women’s power and knowledge at risk.

The right to culture has been recognized by the World Health Organization (WHO) as intrinsically linked to the right to health, since Indigenous knowledge of health transcends “the traditional Western biomedical paradigm which treats body, mind, and society as separate entities and reflects a more holistic understanding of health.”<sup>201</sup>

Fossil fuel development and activity also contribute to climate change impacts that will have uneven effects across the United States. Indigenous communities are considered the first internal climate migrants in the U.S.— in Louisiana and Alaska, Indigenous Peoples are being forced out of their communities due to extreme weather including hurricanes, heat waves, winter storms, melting sea ice, and erosion.<sup>202</sup> Similarly, regions in the Southeast that are low-income and have the largest African American/Black/African Diaspora populations are at the highest risk.<sup>203</sup> For example, rising sea levels and accelerating coastal erosion in Louisiana, Texas, and other states, have displaced many people, forcing them to leave their communities behind.<sup>204</sup> Because women make up 80% of the people displaced by climate change globally<sup>205</sup>, they are at a higher risk for potential impacts. When displaced, women often have more difficulties finding access to economic opportunities, leading to higher risks of physical and sexual violence.<sup>206</sup> Additionally, when looking for work, men may leave women behind, increasing household responsibilities for women.<sup>207</sup> The number of people displaced by climate disruption will be increased and accelerated under current projections for fossil fuel extraction.

198 Chong, K., Et al. (2022). Contaminated sites and Indigenous Peoples in Canada and the United States: A scoping review. *medRxiv*. [\[LINK\]](#)

199 Winter, B. (2016, April). Women as Cultural Markers/Bearers. *The Wiley Blackwell Encyclopedia of Gender and Sexuality Studies*. [\[LINK\]](#)

200 UN Women. (2022, August 8). *Statement: Indigenous women play a vital role in the preservation and transmission of traditional knowledge*. [\[LINK\]](#)

201 Ibid.; Health Topics. *Health of indigenous peoples*. [\[LINK\]](#)

202 Donaghy, T., Et al. (2023, June). Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities. *Energy Research & Social Science*. [\[LINK\]](#)

203 Ibid.

204 Chavez, R. (2022, April 5). How rising sea levels threaten the lives of Louisiana’s coastal residents. *PBS*. [\[LINK\]](#)

205 OHCHR. (2022, July 12). Climate change exacerbates violence against women and girls. *United Nations Human Rights*. [\[LINK\]](#)

206 WHO. (2021, March 9). *Violence against women*. [\[LINK\]](#)

207 IDMC. (2020, March). *Women and Girls in Internal Displacement*. [\[LINK\]](#)

## 5b. Caretaking Role

Fossil fuel activity increases women’s burden as caretakers.<sup>208</sup> The land and water contamination that comes with fossil fuel extraction and refining sites affects the area’s biodiversity, which results in increased burdens on women and girls who may be responsible for food production, finding clean water, or caring for family members sickened by the contamination.

Due to persisting patriarchal structures, women continue to be disproportionately responsible for reproductive labor.<sup>209</sup> Also known as the “second shift”,<sup>210</sup> women are often the ones performing unpaid household and childcare duties such as cooking, washing clothes, child and elderly care, and bearing children.<sup>211</sup> This work remains extremely undervalued by conventional economic models.<sup>212</sup> While conventional economics focus on the market sphere, or goods which can be relatively easily assigned a monetary market-value, feminist economics criticizes this lens emphasizing that “capitalist production relies on the reproductive activities of both women and nature,” and “extraction of natural resources and the pollution resulting from production are not sufficiently accounted for in production costs.”<sup>213</sup>

As feminist scholar Dianne Rocheleau argues, the responsibilities of reproductive labor place women “in a position to oppose threats to health, life, and vital subsistence resources, regardless of economic incentives, and to view environmental issues from the perspective of the home, as well as their personal and family health.”<sup>214</sup> When water and air become polluted, making elders and children at home sick, and safe food and water supplies hard to obtain, it imposes significant stress and strain on women’s daily lives. For example, mothers are 10 times more likely than fathers to take time off of work to care for sick children,<sup>215</sup> placing women at greater risk of lost wages or being let go. Roishetta Ozane—the Founder of The Vessel Project, a mutual aid organization in Louisiana, summarizes how the lack of support for women and mothers directly impacts the quality of life for children:

**“When I go into these communities, I see these babies without diapers and with snotty noses and allergies. I cannot go home knowing that a baby didn’t eat because I didn’t have the money to give a mom formula.”<sup>216</sup>**

Regular household and caretaking labor can become dangerous in families impacted by fossil fuel development and industries. Patricia Garcia-Nelson, a Fossil Fuel Just Transition Advocate at GreenLatinos and mother, describes how her community has been impacted by living near

208 Patterson, J. (2020, May 2). WECAN Interview.

209 Ferrant, G., Et. al. (2014, December). Unpaid Care Work: The missing link in the analysis of gender gaps in labour outcomes. *Organisation for Economic Co-operation and Development Centre*. [\[LINK\]](#)

210 ICPSR. (2009, April 16). Exploring the Second Shift: A Data-Driven Learning Guide. *University of Michigan*. [\[LINK\]](#)

211 Reproductive Labour and Care (2016). *Exploring Economics*. [\[LINK\]](#)

212 Ibid.

213 Ibid.

214 Barry, J.M. (2012). *Standing Our Ground: Women, Environmental Justice, and the Fight to End Mountaintop Removal*. *Ohio University Press*. [\[LINK\]](#)

215 Lann, B. (2014, October 28). Who Stays Home When the Kids Are Sick? *The Atlantic*. [\[LINK\]](#)

216 Ozane, R. (2022, May 19). WECAN Interview.



fossil fuel activity, especially at a school—Bella Romero—that’s near 11 oil wells in Colorado (Section 6f):

“At this point, we have six years of data showing that there are harmful emissions coming off of [Bella Romero]: data from the drilling phase, data from the projects ongoing. We have had air monitors installed on and off since 2019, and so far we have seen a lot of impacts on the kids going to the school. This year I went to my son’s school to drop off lunch or pick him up early or something like that, four or five times this year, and almost every single time I was there, there was a kid in the nurse’s office with a nosebleed. We have a lot of kids who experience asthma attacks, in fact, my sister’s godmother lives across the street from us and she said she was glad her son’s going to high school and maybe his asthma would get better.”<sup>217</sup>



Photo of fracking near a children’s playground in Colorado. (Chet Strange | The New York Times)

In Kern County, California caretaking roles are in part shaped by the population of approximately 69,000 undocumented immigrants and the fact that men face higher rates of incarceration for lacking citizenship.<sup>218</sup> This reduces the sources of social support and doubles women’s work: mothers are forced to become both the sole caretaker and the primary financial provider.<sup>219</sup> Given that Central California is predominantly agricultural, women are forced outside

<sup>217</sup> Garcia-Nelson, P. (2023). WECAN Interview.

<sup>218</sup> Migration Policy Institute. (2018). *Profile of the Unauthorized Population: Kern County, CA*. [\[LINK\]](#)

<sup>219</sup> Esparza, R. (2020, December 18). WECAN Interview.

into the pollution to provide for their families. Rosanna Esparza, a Community Organizer and Environmental Researcher in Kern County, describes this phenomenon as it relates to women and families:

**“Many of the women are the single family breadwinners, they’re the head of their families. Because of ICE and what’s happening with the number of people who are arrested (males primarily)...and due to this, women are doing most of the heavy labor. We’re getting exposed [to the pollution].”<sup>220</sup>**

This essential caretaking work continues to remain largely invisible and undervalued in the world, monetarily and otherwise. It is imperative to continuously draw connections and bring attention to ways in which the climate crisis in general, and fossil fuel industries in particular, impose an additional burden on women as caretakers—not in the future but currently in their daily lives. While such impacts might be harder to measure, they are no less important.

The following arguments will delineate effects from the fossil fuel industry on African American/Black/African Diaspora, Indigenous, Latina, and low-income women, which will be demonstrated in part by referring to women’s labor as primary caretakers.

## 5c. Pollution

Fossil fuel related pollution manifests in various forms, each carrying distinct and intertwined consequences. For women, especially women of color and Indigenous women, the impacts of different pollutants often exacerbate existing gender and racial disparities, leading to disproportionate burdens on women’s health and well-being.

### 5c.i. Air Quality

Globally, air pollution from burning fossil fuels is responsible for one in five deaths.<sup>221</sup> The 2024 report, *State of the Air*, found that despite progress to clean up sources of air pollution, almost 4 in 10 U.S. residents still live in places with unhealthy levels of air pollution.<sup>222</sup> In the U.S, 350,000 premature, avoidable deaths in 2018 were attributed to fossil fuel related pollution.<sup>223</sup> Air pollution in 2016 from the oil and gas sector in the U.S. resulted in \$77 billion in total health impacts.<sup>224</sup> In 2021, the states with the highest fossil fuel related deaths per capita were Pennsylvania, Ohio, and West Virginia<sup>225</sup> (further discussed in Appalachia Section 6i.).

<sup>220</sup> Ibid

<sup>221</sup> Vohra K., Et al. (2021, February 9). Fossil fuel air pollution responsible for 1 in 5 deaths worldwide. *Harvard T.H. Chan School of Public Health*. [\[LINK\]](#)

<sup>222</sup> American Lung Association. (2024). *Key Findings*. [\[LINK\]](#)

<sup>223</sup> Vohra K., Et al. (2021, February 9). Fossil fuel air pollution responsible for 1 in 5 deaths worldwide. *Harvard T.H. Chan School of Public Health*. [\[LINK\]](#)

<sup>224</sup> Buonocore, J. (2023, May 8). Air pollution and health impacts of oil & gas production in the United States. *Environmental Research: Health*. [\[LINK\]](#)

<sup>225</sup> Bertrand, S. (2021, December 17). Fact Sheet | Climate, Environmental, and Health Impacts of Fossil Fuels (2021). *Environmental and Energy Study Institute*. [\[LINK\]](#)

Numerous epidemiological studies have established a clear link between fine particles emitted by fossil fuel combustion and health hazards. These include aggravated asthma, respiratory infections, lung cancer, heart disease, stroke, cognitive impairment, premature death, and adverse reproductive outcomes.<sup>226</sup> Small particulates have been classified by the WHO as a Group 1 carcinogen.<sup>227</sup> In particular, benzene, emitted by fossil fuel activity, is a well-established cause of cancer (including leukemia, lymphoma, and myeloma), aplastic anemia, chromosomal aberrations, and a host of other long-term diseases. Acute exposure may lead to symptoms such as states of narcosis, headaches, and loss of consciousness.<sup>228</sup>

Additionally, refineries and petrochemical facilities frequently “flare” to burn off excess hydrocarbon gas that cannot be reused or recycled by the plant. Flares can occur during the starting-up or shutting-down of facilities and during unplanned operational interruptions like power outages.<sup>229</sup> A 2023 review of various studies, found that flaring is associated with premature death, adverse birth outcomes, as well as respiratory and cardiovascular-related hospitalizations in nearby communities.<sup>230</sup> Air quality monitoring studies found that flares release a “variety of hazardous air pollutants, including volatile organic compounds, polycyclic aromatic hydrocarbons, carbon monoxide, nitrogen oxides and black carbon.”<sup>231</sup> A 2021 study conducted by the University of Southern California found that one of the three top regions with the highest flare exposure was the Permian Basin (Section 6c.).<sup>232</sup> USC Environmental Health Scientist Jill Johnston notes:

**“A significant number of Black, Indigenous and Latine people live near flaring. High rates of poverty and other barriers to health in rural areas—such as a lack of access to health care—could worsen the health effects of flaring-related exposures.”<sup>233</sup>**

Pregnant people in these regions are especially susceptible to the health effects of flaring since flare chemicals (e.g., nitrogen oxides, polycyclic aromatic hydrocarbons) affect both mother and fetus, significantly increasing the likelihood of preterm births and other health deficits.<sup>234</sup> These mothers often have to take on enhanced caretaking responsibilities if children are disabled via flare chemicals.

Liquefied Natural Gas (LNG) pipelines also pose health threats in the case of a leak; LNG pipelines can leak odorless, colorless, highly flammable clouds of vaporized natural gas that hang near the ground.<sup>235</sup> Natural gas leaks have led to explosions with the potential to incinerate entire neighborhoods off the map. In 2010, a pipeline ruptured under a neighborhood in San

226 Environmental Protection Agency. *Particulate Matter (PM) Pollution*. [\[LINK\]](#); Boyle M.D., Et al. (2016, January 4). Hazard Ranking Methodology for Assessing Health Impacts of Unconventional Natural Gas Development and Production: The Maryland Case Study. *PLOS One*. [\[LINK\]](#)

227 Kink, K. (2020, March 13). Burning Fossil Fuels Heats the Climate. It Also Harms Public Health. *Yale Climate Connections*. [\[LINK\]](#)

228 WHO (2019). *Exposure to Benzene: A Major Public Health Concern*. [\[LINK\]](#)

229 ExxonMobil. (2019, May 20). *Understanding Flares*. [\[LINK\]](#)

230 Donaghy, T., Et al. (2023, June). Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities. *Energy Research & Social Science*. [\[LINK\]](#)

231 Ibid.

232 Cushing, L.J. Et. al. (2021, February 23). Up in smoke: characterizing the population exposed to flaring from unconventional oil and gas development in the contiguous US. *Environmental Research Letters*. [\[LINK\]](#); The World Bank. (n.d.). *Global Gas Flaring Reduction Partnership (GGFR)*. [\[LINK\]](#)

233 Hopper, L. (2021, March 11). Health risk? More than 500,000 Americans live within 3 miles of natural gas flares. *USCNews*. [\[LINK\]](#)

234 Cushing, L.J. Et. al. (2021, February 23). Up in smoke: characterizing the population exposed to flaring from unconventional oil and gas development in the contiguous US. *Environmental Research Letters*. [\[LINK\]](#)

235 Englund, W. (2021, June 3). Engineers raise alarms over the risk of major explosions at LNG plants. *The Washington Post*. [\[LINK\]](#)

Bruno, California, leaving 38 homes destroyed, 8 people killed, and 50 injured.<sup>236</sup> Since 2010, gas leaks across the United States have killed over 163 people, while leaving over 725 people injured.<sup>237</sup> A 2020 study published by the American Chemical Society found that in local distribution systems, there are an estimated 630,000 natural gas leaks annually,<sup>238</sup> which are attributed to incorrect operation, corrosion, or material and equipment failures.<sup>239</sup>



Emergency crews work to put out the last fires the day after a rupture gas line caused an explosion and fire in San Bruno, CA. (Dan Honda | Contra Costa Times/MCT/ABACAPRESS | Alamy)

These incidents highlight the importance of keeping communities informed and prepared in the event of gas leaks. It is especially crucial to consider the unique challenges faced by marginalized communities which are compounded for disabled, elderly, and young individuals. Caretakers (most often women), face additional obstacles when it comes to ensuring a safe evacuation due to limitations in the financial investment, physical, and landscape barriers.<sup>240</sup> Furthermore, a study published in May 2022 found that natural gas “leak densities increase with increasing percent of people of color and with decreasing median household income”<sup>241</sup>—in other words, low-income communities of color and Indigenous communities shoulder an unfair burden of dangerous natural gas leaks.

In 2021, researchers calculated that air pollution—and specifically particulate matter less than 2.5 micrometers in diameter—caused by the burning of oil and gas is responsible for over 8 million premature deaths worldwide in 2018.<sup>242</sup> According to numerous internal documents released by *The Guardian*, the oil industry knew “at least 50 years ago that air pollution from burning fossil fuels posed serious risks to human health, only to spend decades aggressively lobbying against clean air regulations.”<sup>243</sup> In 1970 and 1980, Imperial Oil, an ExxonMobil subsidiary, acknowledged the concerns that fossil fuel derived air pollution caused “among mothers who worried about possible smog effects” and “birth defects among industry worker offspring.”<sup>244</sup> Despite this, companies, such as ExxonMobil and Shell, took steps to conceal the adverse impacts of air pollution by funding studies that disputed these links, while continuing to pollute communities and the planet.<sup>245</sup> In the Texas Gulf Coast (Section 6a.), companies, such as Flint Hills Resources (FHR), are filing permits (and receiving approvals) to increase their emissions caps; this would allow FHR to legally pollute predominantly Latine communities far beyond safe levels.<sup>246</sup>

236 Serman, J., Et al. (2022, July 18). Silent Threat: Gas explosions injured hundreds, killed dozens nationwide since 2010. *WBTV*. [\[LINK\]](#)

237 New, B. (2024, January 9). I-Team: Gas explosions: “These things happen quite frequently.” *CBS Texas*. [\[LINK\]](#)

238 Willer, Z., Et al. (2020, June 10). A National Estimate of Methane Leakage from Pipeline Mains in Natural Gas Local Distribution Systems. *Environmental Science and Technology*. [\[LINK\]](#)

239 Serman, J., Et al. (2022, July 18). Silent Threat: Gas explosions injured hundreds, killed dozens nationwide since 2010. *WBTV*. [\[LINK\]](#)

240 Bell, S. A. (2022, September 27). Why it can be more difficult to evacuate older adults in a disaster. *PBS*. [\[LINK\]](#)

241 Weller Z.D., Et al. (2022, May 11). Environmental Injustices of Leaks from Urban Natural Gas Distribution Systems: Patterns among and within 13 U.S. Metro Areas. *Environmental Science and Technology*. [\[LINK\]](#)

242 Harvard School of Public Health. (2021, February 9). *Fossil fuel air pollution responsible for 1 in 5 deaths worldwide*. [\[LINK\]](#)

243 Milman, O. (2021, March 18). Oil firms knew decades ago fossil fuels posed grave health risks, files reveal. *The Guardian*. [\[LINK\]](#)

244 *Ibid.*

245 *Ibid.*

246 Castillo, E. (2022, May 12). *WECAN Interview*; EPA. (2020, July 22). *EPA letter to Flint Hills Resources*. [\[LINK\]](#)

Vanessa Gray (Anishinaabe Kwe and Bear Clan) Co-Founder of The Land and the Refinery, and member of AFN [see Section 6g], describes the fear that arises from living near fossil fuel facilities emitting constant pollutants into the air and the inadequacy of emergency plans to warn her community:

**“The emergency plan has never changed in my whole life, and beyond that, it hasn’t been better to be in an emergency situation with over 60 high-emitting facilities within a 10-mile radius of our homes in the community. The emergency plan for when something does happen has always been the same and it’s not very good, they just ask us to stay inside our houses and turn off any ventilation and that’s it. We’ve never felt safer or more understood as the time has passed for as long as chemical facilities have been operating 24 hours a day, seven days a week.”<sup>247</sup>**

Women are disproportionately vulnerable to the health threats from air pollution.<sup>248</sup> Biologically, female bodies experience higher accumulation of inhaled particles in their lungs and are more sensitive to toxicological exposure.<sup>249</sup> Similarly, exposure to persistent organic pollutants (POPs), including dioxins, which are released by fossil fuel combustion, have been linked to specific disorders such as breast cancer and ovarian diseases, and can increase risks of cardiovascular disease.<sup>250</sup> The effects of air pollution on biological women’s cardio-metabolic health is alarmingly under-researched. Moreover, air pollutants from fossil fuel combustion can result in adverse obstetric outcomes, such as stillbirth, fetal growth restriction, and birth defects.<sup>251</sup> Constant exposure to air pollution is damaging and debilitating, and can leave women and their families torn apart and feeling powerless.<sup>252</sup> Frontline women across Louisiana, California, and Minnesota report “terrible smells,” “horrible tastes,” and “toxic...burn[ing] air” from pollution.<sup>253</sup> Barbara Washington, a Member of RISE St. James in St. James Parish, Louisiana, describes what she has seen in her community, where her younger sister died from cancer:

**“I do know that many ladies have had breast cancer. I do know that many ladies have had hysterectomies. I do know that many ladies have kids born with certain illnesses. As a matter of fact in my family...at least two of the kids...were born deaf...some are autistic. But mostly cancer... in a lot of women...diabetes, heart problems, [high] cholesterol...Our health problems are coming from a whole lot of stuff we are receiving from out of the air and pollution.”<sup>254</sup>**

Because toxic and polluting industries are disproportionately developed in communities of color, and on or near Indigenous territory<sup>255</sup> in the U.S. and Canada,<sup>256</sup> such communities are facing greater risks from particulate matter and air pollutants. A study done by the National

247 Gray, V. (2023, June 2). WECAN Interview.

248 Liu, G. (2020, June 16). The Gender-Based Differences in Vulnerability to Ambient Air Pollution and Cerebrovascular Disease Mortality: Evidences Based on 26781 Deaths. *Ubiquity Press*. [\[LINK\]](#)

249 Sorensen, C. Et al. (2018, July 10). Climate change and women’s health: Impacts and policy directions. *PLoS medicine*. [\[LINK\]](#)

250 Wahlang, B. (2018). Exposure to persistent organic pollutants: impact on women’s health. *Review on Environmental Health*. [\[LINK\]](#)

251 Described in greater detail in the fertility discussion below.

252 Wilson, S. (2023, June 6). WECAN Interview.

253 Washington, B. (2020, November 25). WECAN Interview.; Perez, E. (2020, December 17). WECAN Interview.; Esparza, R. (2020, December 18). WECAN Interview.

254 Washington, B. (2020, November 25). WECAN Interview.

255 Patnaik, A. (2020, August 15). *Racial Disparities and Climate Change*. [\[LINK\]](#)

256 Newkirk II, V.R. (2018, February 28). A New EPA Report Shows that Environmental Racism is Real. *The Atlantic*. [\[LINK\]](#)

Center for Environmental Assessment (NCEA) found that African American/Black/African Diaspora people are exposed to 1.5 times more particulate matter than their white counterparts, and Latine people 1.2 times more than non-Hispanic whites.<sup>257</sup> Moreover, communities near fossil fuel infrastructure—disproportionately African American/Black/African Diaspora, Indigenous and Latine communities—are exposed to benzene and other aromatic chemicals released by fossil fuel activities.<sup>258</sup>

In 2024, over 131.2 million people in the U.S. live in counties with failing ozone or particle pollution grades.<sup>259</sup> A 2022 study conducted by the Environmental Defense Fund found that there were disproportionately large numbers of communities of color and low-income communities living near active oil and gas wells.<sup>260</sup> According to a report from the Clean Air Task Force and the National Hispanic Medical Association, more than one in four people in the United States live in areas that violate the federal air pollution standard for ozone, while more than one in three Latine, or over 23 million Latine people, live in areas that violate this standard.<sup>261</sup> In the United States, over 1.81 million Latines live within a half-mile radius of oil and gas wells.<sup>262</sup> In Texas, over 800,000 Latines—the largest number of any state—live within this radius, in California and Colorado, the percentage of Latines living within this radius exceeds the states' averages, and in Kansas and Ohio, more than one in three and one in five Latines, respectively, live within this radius.<sup>263</sup> Furthermore, over 1.78 million Latine people living in the United States are subjected to cancer risks above the EPA's level of concern due to toxic air pollution from oil and gas facilities.<sup>264</sup> Latine communities experience 153,000 childhood asthma attacks and 112,000 lost school days each year due to oil and gas emissions during the summer ozone season.<sup>265</sup> A higher percentage of Latine children are entering the emergency room from asthma attacks than non-Latine.<sup>266</sup> These discrepancies are exacerbated by high levels of poverty and relatively low rates of health insurance coverage within Latine communities. The American Lung Association notes how “although people of color are 41% of the overall population of the U.S., they are 54% of the nearly 120 million people living in counties with at least one failing grade...In the counties with the worst air quality that get failing grades for all three pollution measures, 72% of the 18 million residents affected are people of color, compared to the 28% who are white.”<sup>267</sup>

Women are also impacted by air pollution through the additional burden the fossil fuel extractive industry imposes on women as caretakers.<sup>268</sup> When children, elders, or other family members suffer from a respiratory disease, such as asthma or chronic obstructive pulmonary disease (COPD), or other illnesses triggered by the proximity of polluting industries, women

257 Mikati, I., Et al. (2018, April). Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status. *American Journal of Public Health*. [\[LINK\]](#)

258 Amnesty International. (2024, January 25). *United States: Lives Devastated and Human Rights Sacrificed by Fossil Fuel-related Pollution from Petrochemicals Plants in Texas and Louisiana*. [\[LINK\]](#)

259 American Lung Association. (2024). Key Findings. [\[LINK\]](#)

260 Environmental Defense Fund. (2022, June 21). *Study Explores Demographics of Communities Living Near Oil and Gas Wells*. [\[LINK\]](#)

261 Fleischman, L., Et al. (2016, September). Latino Communities at Risk: The Impact of Air Pollution from the Oil and Gas Industry. CATF and NHMA. [\[LINK\]](#)

262 Oil and Gas Threat Map. (2024). *Is your health threatened?* [\[LINK\]](#)

263 Fleischman, L. Et al. (2016, September). Latino Communities at Risk The Impact of Air Pollution from the Oil and Gas Industry. *Clean Air Task Force*. [\[LINK\]](#); *Ibid*.

264 *Ibid*.

265 *Ibid*.

266 *Ibid*.

267 American Lung Association. (2023). *Key Findings*. [\[LINK\]](#)

268 Patterson, J. (2020, May 2). WECAN Interview.

are, in most cases, the ones staying home to take care of the sick.<sup>269</sup> This might entail having to quit work, leaving women more economically vulnerable and/or dependent. Elizabeth Perez and Rosanna Esparza, both Community Organizers in California's Central Valley, shared an example about a young girl from Kern County, California who was battling asthma. During an asthma attack while the girl was at school, there was difficulty calling an ambulance on time for her, causing her mother to leave work and take her to the doctor.<sup>270</sup>

Fossil fuel activity is zoned and permitted in high concentrations in African American/Black/ African Diaspora, Indigenous, Latine, and low-income communities. In combination with women's role as caretakers, fossil fuel companies and the financial institutions behind them are placing already vulnerable women at even greater risk of air pollution—which has documented public health consequences.



Polluted water flowing out of a pipe. (Shutterstock)

<sup>269</sup> Ibid.

<sup>270</sup> Perez, E. (2020, December 17). WECAN Interview.

### 5c.ii. Water Contamination

In a 2019 report, the Natural Resources Defense Council (NRDC) found strong correlations between the racial makeup of communities and their access to safe drinking water.<sup>271</sup> The analysis showed that people of color, low-income people, and non-native English speakers were especially impacted by water violations.<sup>272</sup> More than any other socio-demographic characteristics analyzed, race, ethnicity, and language spoken were found to have the strongest relationship to decreased access to safe drinking water.<sup>273</sup>

As one of the main industries responsible for water contamination, the fossil fuel industry directly contributes to this grave issue.<sup>274</sup> The NRDC study demonstrates how the most vulnerable communities in the U.S. carry the heaviest burden of the extractive industry's pollution and contamination of water. The NRDC notes that evidence of water contamination in the U.S., and thus its impacts on communities, is alarmingly underreported as the collected data "only regulates a small subset of drinking water contaminants" and "monitoring and compliance data on regulated substances is incomplete and often falsified," notably because "drinking water is [only] monitored at point of entry."<sup>275</sup>

As mentioned, women face heightened effects from water pollution due to persisting patriarchal structures in the U.S. and Canada. Because of their caretaking duties and household labor, women are more exposed to polluted water.<sup>276</sup> Fossil fuel extraction and refining pose significant threats to nearby waterways and can enter into the drinking water system through a number of pathways: coal mining operations often wash acid runoff into drinking water sources; oil spills and leaks during extraction and transport further pollute drinking water sources; and wastewater, laden with heavy metals, radioactive materials, and other pollutants is stored in underground wells that can leach into waterways.<sup>277</sup> This water contamination can cause cancers, birth defects, and neurological damage.<sup>278</sup> The contamination of mercury from coal-fired power plants is hazardous to women's pregnancies, and women's consumption of contaminated fish and/or seafood increase infants' risks of neurological and neurobehavioral complications.<sup>279</sup>

When children, elders, or other family members suffer from waterborne illness, or other illnesses triggered by the proximity of polluting industries, women are, in most cases, the ones who end up having to stay home and take care of the sick.<sup>280</sup> Elida Castillo, Program Director of Chispa Texas, and Daughter of the Coastal Bend, describes how fossil fuel industries contaminate local water supplies:

271 Fedinick, K.P., Et al. (2020, March 27). Watered Down Justice. *National Resource Defense Council*. [\[LINK\]](#)

272 Ibid.

273 Ibid.

274 Denchak, M. (2018, March 14). Water Pollution: Everything You Need to Know. *Natural Resource Defense Council*. [\[LINK\]](#)

275 Fedinick, K.P. Et al. (2020, March 27). Watered Down Justice. *National Resource Defense Council*. [\[LINK\]](#)

276 McHenry, K.A. (2017, October 10). Fracking women: a feminist critical analysis of hydraulic fracturing in Pennsylvania. *IJFAB: International Journal of Feminist Approaches to Bioethics*. [\[LINK\]](#)

277 Denchak, M. (2018, March 14). Water Pollution: Everything You Need to Know. *Natural Resource Defense Council*. [\[LINK\]](#)

278 Ibid.

279 Eugenio, R.N. Et al. (2018). Soil Pollution: A Hidden Reality. *Food and Agriculture Organization of the United Nation*. [\[LINK\]](#)

280 Patterson, J. (2020, May 2). WECAN Interview.



“Because of how much water [fossil fuel] industries use, you have our local municipalities seeking new sources of water. So, they blend water from local rivers (like the Colorado River), and when they do that, they use chlorine to clean [the water]. Now we have heightened levels of hydrochlorides in our water system. We have received letters from the Texas Commission on Environmental Quality stating that our water goes beyond federal limits of hydrochlorides in our water supply. [The letters] are basically saying that our water is toxic.”<sup>281</sup>



Elizabeth Perez speaking at an action against oil and gas drilling on public lands in Kern County. (CCEJN Staff Members)

A similar pattern can be seen in Central California. Elizabeth Perez, a Community Organizer at the Central California Environmental Justice Network (CCEJN), explains how water contamination from fracking in Kern County, California has impacted the community’s water supply:

“The state provides water...and sometimes the needs aren’t met and I believe it is difficult to take care of a baby with limited water. I know in some areas of the Central Valley, some schools don’t have clean drinking water and are only given one bottle of water a day and it gets really hot here...I can imagine mothers being concerned with their children not having access to this basic human right, which is water.”<sup>282</sup>

Water contamination also has a particular cultural significance for Indigenous women. The connection between women’s roles as mothers and water is sacred. Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, describes what it means for her to be a water protector:

“As women and Anishinaabe society, we’re considered water protectors and that is because women carry water within our bodies and our womb. When we give birth, we give birth from water and it is our sworn duty to protect water because water is life. In order for us to be able to continue to live, we need water and there are ceremonies that are performed there, teachings that are passed down to all the Anishinaabe women to ensure that water continues to be respected as it was the first thing created by the Creator.”<sup>283</sup>

Furthermore, a report by the Physicians for Social Responsibility revealed that fracking in Weld County has been releasing profound levels of per- and poly-fluoroalkyl substances (PFAs), also known as “forever” chemicals into adjacent communities’ water.<sup>284</sup> PFAs do not degrade and build up in human bodies and have long been known for causing a wide range of health problems including: childhood leukemia, kidney and testicular cancers, thyroid disease, reproduc-

281 Castillo, E. (2022, May 12). WECAN Interview.

282 Perez, E. (2020, December 17). WECAN Interview.

283 Gravelle, W. (2023, June 6). WECAN Interview.

284 Physicians for Social Responsibility (2022). *Fracking with “Forever Chemicals” in Colorado*. [\[LINK\]](#)

tive defects, increased cholesterol levels, interference with the body's natural hormones, and a weakened immune system.<sup>285</sup> Fossil fuel corporations avoid disclosing chemicals entered into the local ecosystem under the pretense of protecting “trade secrets.”<sup>286</sup> Between 2011 and 2021, 368 million pounds of unidentified chemicals were labeled as “trade secrets” and subsequently hidden from the public in Weld County.<sup>287</sup> There are no efforts by regulators or public officials to require robust disclosure, and there are no studies or data measuring the effects of these unspecified chemicals on local ecosystems and public health.<sup>288</sup>

### 5c.iii. Soil Contamination and Food Insecurity

Air and water pollution inevitably affect soil quality, and therefore the ability to grow and harvest healthy resources. Soil pollution is defined as “the presence of a chemical or substance out of place and/or present at a higher than normal concentration that has adverse effects on any non-targeted organism,” and is commonly caused by anthropogenic sources such as industrial or mining activities.<sup>289</sup> Environmental racism and socio-spatial segregation in the United States and Canada leaves African American/Black/African Diaspora, Indigenous, and Latine communities with land close to fossil fuel extraction and infrastructure, which results in polluted and unfruitful land for growing. While 98% of farmland is owned by white people in the U.S., the workforce is predominantly composed of non-white, especially Latine, farmworkers.<sup>290</sup> The small percentage of land non-white farmers own is mainly located in regions most affected by fossil fuel industries, such as the Appalachian region (Kentucky, North Carolina, Tennessee, Virginia, and West Virginia) and southern states such as Alabama, Arkansas, Georgia, Florida, Louisiana, Mississippi, and South Carolina. Communities of color are at the front-line of soil pollution and its epidemiologic consequences.<sup>291</sup>

Soil and food pollution impact women's reproductive systems. Surface mining has led to the intrusion of arsenic into soils, which increases risks of miscarriage, stillbirth, gestational diabetes, and preterm birth.<sup>292</sup> Coal combustion also increases soil levels of mercury, and can lead to higher frequencies of low birth weight and infant death.<sup>293</sup> A study found that pregnant women residing in coal mining areas of West Virginia had a low birth weight rate 16% higher than those in other counties.<sup>294</sup> Another 2019 study found statistically significant trace amounts of heavy metals in the hair and urine of Indigenous women living near intense natural gas activity in Northeast British Columbia.<sup>295</sup> Cancer causing-toxins such as dioxins (generated via fossil fuel burning and waste incineration of plastics), settle into the soil. These dioxins can

285 Environmental Protection Agency. *Our Current Understanding of the Human Health and Environmental Risks of PFAs*. [\[LINK\]](#)

286 Hahn, J. (2022, February 9). *Oil and Gas Companies Routinely Frack With “Trade Secret” Chemicals, Including PFAS*. [\[LINK\]](#)

287 *Ibid.*

288 *Ibid.*

289 Rodriguez-Eugenio, N., Et al. (2018). *Soil Pollution: A Hidden Reality*. Food and Agriculture Organization of the United Nations. [\[LINK\]](#)

290 Horst, M., Et al. (2018, October 28). *Racial, Ethnic and Gender Inequities in Farmland Ownership and Farming in the U.S. Agriculture and Human Values*. [\[LINK\]](#)

291 *Ibid.*

292 Wu, R., Duan, M., Zong, D. et al. Effect of arsenic on the risk of gestational diabetes mellitus: a systematic review and meta-analysis. *BMC Public Health*. [\[LINK\]](#); Ishfaq, H., Bilal, M., Jabbar, A., et. al. (2021). Reproductive Toxicity of Arsenic: What We Know and What We Need to Know? *IntechOpen*. [\[LINK\]](#)

293 Zhao, S., Deepak, P., Duan, Y., et. al. (2019). A review on mercury in coal combustion process: Content and occurrence forms in coal, transformation, sampling methods, emission and control technologies. *Process in Energy and Combustion Science*. [\[LINK\]](#); Lockwood, A., Walker-Hood, K., Rauch, M., et. al. (2009). *Coal's Assault on Human Health*. [\[LINK\]](#)

294 Epstein, P.R., Et al. (2011, February). Full Cost Accounting for the Life Cycle of Coal. *Ann NY Academy of Sciences*. [\[LINK\]](#)

295 Caron-Beaudoin É., Et al. (2019, September). Urinary and hair concentrations of trace metals in pregnant women from Northeastern British Columbia, Canada: a pilot study. *Journal of Exposure Science and Environmental Epidemiology*. [\[LINK\]](#)

cause reproductive and developmental problems and perturbations of the endocrine system by interfering with hormones.<sup>296</sup> More than 90% of human exposure to dioxins is through food, particularly meat and dairy products, fish, and shellfish.<sup>297</sup> Indigenous communities near fossil fuel activity often depend on animal populations most vulnerable to dioxin contamination, representing an unfair burden of dioxin toxicity carried by frontline Indigenous communities.

Spills, leaks, and general pollution from fossil fuel activity have documented risks for agricultural practices.<sup>298</sup> Oil contamination can lead to a loss of organic matter and topsoil, soil nutrient depletion, changes in soil pH, salinization, and soil degradation.<sup>299</sup> According to the 2022 Census of Agriculture, the U.S. has over 1.2 million female producers, accounting for 36% of U.S. producers and 58% of U.S. farmland.<sup>300</sup> Fossil fuel derived soil contamination reduces the productivity and health of agricultural land, greatly impacting women farmers who depend upon healthy soil to grow crops and raise livestock in order to make a living and feed their families. Specifically, benzene contamination in soil, a result of oil and gas spills—like Noble Energy’s recent flowline spill near Weld County, Colorado<sup>301</sup>—can lead to a higher risk of acute myeloid leukemia and harm to reproductive organs.<sup>302</sup> Both of these impacts disproportionately affect women as caretakers and child bearers.

Methods of extracting fossil fuels, such as drilling and trenching, can cause radionuclides—a naturally occurring radioactive material that can be found in soil, ground water, and rocks—to surface from beneath the ground, leaving soil and water contaminated for indiscriminate lengths of time.<sup>303</sup> Denali Nalamalapu, the Co-Director of POWHR Coalition—an environmental justice organization committed to ending fossil fuel expansion in Appalachia—shares their concern for the long-term ramifications of the construction practices used to install the Mountain Valley Pipeline:



Photo of Denali Nalamalapu at Stop MVP action in DC. (Eman Mohammed | Survival Media Agency)

tal justice organization committed to ending fossil fuel expansion in Appalachia—shares their concern for the long-term ramifications of the construction practices used to install the Mountain Valley Pipeline:

**“We know that fossil fuels won’t be the future of our energy needs for long, but the radioactive waste that sits in the soil and that these companies aren’t held accountable to cleaning up will impact our health.”**

Nalamalapu underscores how soil contamination stemming from fossil fuel extraction and related activities poses severe health risks, as contaminants like radioactive waste persist long after construction ends,<sup>304</sup> often

296 Science Communication Unit, University of the West of England, Bristol. (2013, September). Science for Environment Policy In-depth Report: Soil Contamination; Impacts on Human Health. *European Commission DG Environment*. [\[LINK\]](#)

297 Environmental Protection Agency (2022, June 1). *Learn about Dioxin*. [\[LINK\]](#)

298 Odukoya, J., Et al. (2019, February 16). Understanding the Impacts of Crude Oil and its Induced Abiotic Stresses on Agrifood Production: A Review. *MDPI*. [\[LINK\]](#)

299 Scott, A., Et al. FAQ 3: oil and gas, poverty, the environment and human rights. *ODI*. [\[LINK\]](#)

300 USDA. (2022). *Female Producers - Selected Producer Characteristics: 2022 and 2017*. [\[LINK\]](#); National Agricultural Statistics Service. (2024, February 13). *USDA releases 2022 Census of Agriculture data*. [\[LINK\]](#)

301 McKenzie, M. (2023, May 2). Weld County oil spills for May 2. *GreeleyTribune*. [\[LINK\]](#)

302 Agency for Toxic Substances and Disease Registry. (2015, March 12). *Toxicological Profile for Benzene*. [\[LINK\]](#)

303 EPA. (2024, May 28). *Radioactive Waste Material From Oil and Gas Drilling*. [\[LINK\]](#)

304 NIRS. (2011, October). Atomic radiation is more harmful to women. *WISE*. [\[LINK\]](#)

without the companies responsible for the harm being held accountable. Chemical and waste pollution, including radioactive contamination, have particular adverse health risks for women, including reproductive issues.<sup>305</sup>

Soil pollution from fossil fuel infrastructure also impacts the ability to grow food, and by extension, women's ability to feed their families. Brine spills<sup>306</sup> increase salinity levels, which impact soil fertility. The estimated 3,900 brine spills resulting from fracking activities in the Bakken region of North Dakota are notable examples of widespread and consistent soil contamination, "kill[ing] nearly all vegetation [and] rendering sections of crop and ranch lands unusable."<sup>307</sup> Excess heavy metals in soil, such as arsenic, cadmium, and lead (particularly originating from mining), are destructive to plant metabolism, which leads to a decrease in crop productivity. Besides the epidemiologic effects, excess heavy metals can impede the development of healthy plant tissue, interfering with growth and causing plant death.<sup>308</sup> In particular, cadmium can cause a "reduction of root, stem and leaf growth, decreasing net photosynthesis and water use efficiency and altering nutrient uptake."<sup>309</sup>

Water and air pollution also contribute to soil pollution. Wastewater resulting from oil and gas activities, especially fracking involving radioactive materials and heavy metals, degrades the quality of soil by creating excessive sodicity, which lowers the permeability of soil to air and water.<sup>310</sup> This in turn results in excessive salt levels that are lethal to plants and increased biocides that cause biodegradation.<sup>311</sup> Oil refineries, manufacturing (petrochemical facilities), and the burning of fossil fuels contribute to over two thirds of the pollutants sulfur dioxide (SO<sub>2</sub>) and nitrogen oxide (NO<sub>x</sub>).<sup>312</sup> When SO<sub>2</sub> and NO<sub>x</sub> react with water, these pollutants create acid rain. Acid rain later contaminates water and soil.<sup>313</sup> Barbara Washington, a Member of RISE St. James, who lives a mile from Occidental's chemical plant in St. James Parish, Louisiana, describes her family's garden, "The okra...muscle green...none of that is doing well anymore... because the soil is contaminated."<sup>314</sup>

Similarly, Dr. Crystal Cavalier-Keck (Occaneechi Band of the Saponi Nation), Co-Founder of Seven Directions of Service and Chair of Environmental Justice Committee for the NAACP, describes the two-fold impact fossil fuel projects have on food security in her community in North Carolina near the proposed Mountain Valley Pipeline Southgate extension. Pipeline companies have taken land, most of which is farmland, causing people to "lose their crops" and "lose their livestock because [they] can't walk on [the pipeline right-of-way]."<sup>315</sup> Secondly, Dr. Crystal Cavalier-Keck describes how chemicals get into her community's food:

305 Secretariat of the Basel, Rotterdam and Stockholm Conventions. (2019, March 1). *Women disproportionately vulnerable to health risks from chemical and waste pollution*. [\[LINK\]](#); Sorensen, C., Murray, V., Lemery, J., et. al. (2018, July 10). Climate change and women's health: Impacts and policy directions. *PLOS Medicine*. [\[LINK\]](#)

306 Meehan, M. (2023, March). Environmental Impacts of Brine. North Dakota State University. [\[LINK\]](#)

307 Flesher, J. (2016, April, 27) Scientists Say Oilfield Wastewater Spills Release Toxins. *AP News*. [\[LINK\]](#)

308 Rodriguez-Eugenio, N. Et al. (2018). Soil Pollution: A Hidden Reality. *Food and Agriculture Organization of the United Nations*. [\[LINK\]](#)

309 Ibid.

310 Pitchtel, J. (2016). Oil and Gas Production Wastewater: Soil Contamination and Pollution Prevention. *Applied and Environmental Soil Science*. [\[LINK\]](#)

311 Ibid.

312 Environmental Protection Agency (2022, June 24). *What is Acid Rain?* [\[LINK\]](#)

313 Everything Connects. *Soil Pollution*. [\[LINK\]](#)

314 Washington, B. (2020, November 25). WECAN Interview.

315 Cavalier-Keck, C. (2022, June 5). WECAN Interview.

“With these pipelines, extractive companies are coming in with mining, and their air compression stations where they blow off chemicals or release toxins into the soil or the aquifers that go underground...Most of our water comes from springs that are underground...When you release the chemicals into the ground it gets into our water or it rains down...so you have chemicals raining down on your food which in turn makes people eat poisons. So people are developing cancers at an alarming rate. We have a lot of cancer clusters in the area around these pipelines that are in the ground, coal ash power plants, and compression stations.”<sup>316</sup>

Soil contamination occurs across different forms of fossil fuel infrastructure. Kendra Pinto (Diné), a Four Corners Indigenous Community Field Advocate at Earthworks, describes living near oil and gas wells in New Mexico and the stress of fossil fuel derived soil contamination:

“For folks who live off the land, and who grow on the land, I’m pretty sure they go through something very similar when they see that the soil they’re supposed to use to grow their food is being threatened by toxic pollution, which is almost always invisible. There’s very much a mental aspect because when you look at a problem, you shouldn’t just silo each problem. You have to look at it holistically. Just because the emissions are coming out of the well sites doesn’t mean it’s just bad for the environment, like the air, but also the people living near it and the animals who are also living near it.”

As previously mentioned, such increased food insecurity and illnesses are not without gendered effects, as women are overrepresented in domestic and caretaking duties. When food insecurity occurs, it disproportionately affects low-income women, women of color, and Indigenous women. Women are 40% more likely to report food insecurity in the U.S.,<sup>317</sup> and women-headed households were 75% more likely to be food insecure than men-headed households.<sup>318</sup> Furthermore, during the Covid-19 pandemic, food insecurity rose (parallel to unemployment rates) with Black, Latine, and Indigenous women seeing the greatest increase in food insecurity.<sup>319</sup> Caretakers (predominantly women) are more likely to skip meals so children have enough food, increasing caretakers’ likelihood of illness, stress, depression, and workplace absences (impacting income).<sup>320</sup> Additionally, food insecurity resulting from fossil fuel derived soil and water pollution can disproportionately impact women: food insecurity during pregnancy can have serious cognitive and developmental fetal deficits, which can in turn lead to generational impacts on health.<sup>321</sup>

316 Ibid.

317 Jung N.M., Et al. (2017, April). Gender differences in the prevalence of household food insecurity: A systematic review and meta-analysis. *Public Health Nutrition*. [\[LINK\]](#)

318 Coleman-Jensen, A. (2014, September 1). Household Food Security in the United States in 2018. *United States Department of Agriculture—Economic Research Service*. [\[LINK\]](#)

319 Belsey-Priebe M., Et al. (2021, June 26). “COVID-19’s Impact on American Women’s Food Insecurity Foreshadows Vulnerabilities to Climate Change.” *International Journal of Environmental Research and Public Health*. [\[LINK\]](#)

320 RTI International Center for Health and Environmental Modeling. (2014, July 24). *Current and Prospective Scope of Hunger and Food Security in America: A Review of Current Research*. [\[LINK\]](#)

321 Ibid

### 5c.iv. Heat Islands

Extreme heat is one of the deadliest weather hazards we face due to the climate crisis. Heat contributes to thousands of deaths in the U.S. every year, and without rapid curbing of greenhouse gas emissions, the death rate is expected to dramatically increase over this century. The NRDC reports that nearly 210 million Americans live in counties vulnerable to health threats from high summer temperatures.<sup>322</sup> On average, more than 65,000 people go to the emergency room with heat-related illnesses every summer,<sup>323</sup> and over the last year, heat has been the single largest contributor to weather-related deaths.<sup>324</sup> A 2021 study found that in North America, 20,000 deaths between 2008 and 2017 could be linked to high temperatures; this number is expected to rise due to the severity of climate change.<sup>325</sup> The largest source of greenhouse gas emissions from human activity is the burning of fossil fuels.<sup>326</sup>



Electronic sign warning of an extreme heat alert. (Alan Budman | Shutterstock)

322 Knowlton, K. Climate Change and Health: Extreme Heat. NRDC. [\[LINK\]](#)

323 Ibid.

324 National Weather Service. *Weather Related Fatality and Injury Statistics*. [\[LINK\]](#)

325 Zhao, Q., Et al. (2021, July). Global, regional, and national burden of mortality associated with non-optimal ambient temperatures from 2000 to 2019: a three-stage modeling study. *The Lancet Planetary Health*. [\[LINK\]](#); Khatana, S. Et al. (2022, May 19). Association of Extreme Heat With All-Cause Mortality in the Contiguous US, 2008-2017. *American Medical Association*. [\[LINK\]](#)

326 U.S. EPA. (2018). *Sources of Greenhouse Gas Emissions*. [\[LINK\]](#)

These deaths also have race-based and gendered discrepancies: the CDC reported that between 2004 and 2018, Indigenous and Black populations had the highest heat-related mortality rates.<sup>327</sup> Extreme heat disproportionately impacts child bearers, causing higher rates of preterm birth, miscarriage, birth defects, stillbirth, hypertensive disorders of pregnancy, and gestational hypertension.<sup>328</sup> In 2022, a Texas study found that extreme heat was linked to preterm birth and occurred at a higher rate in the earlier stages of pregnancy specifically in Black, Latina, and Asian/Pacific Islander mothers, indicating climate change may exacerbate existing health inequities for pregnant women.<sup>329</sup>

According to data from the Union of Concerned Scientists, extreme heat disproportionately affects communities of color: recent studies reveal that areas with more than 25% African American/Black/African Diaspora residents experience nearly three extra weeks of extreme heat compared to areas with less than 25% African American/Black/African Diaspora population.<sup>330</sup> This racial discrepancy is further reflected in the rates of emergency hospital visits for heat-related causes, which surged by “67% for African Americans, 63% for Hispanics, 53% for Asian Americans, and 27% for white people between 2005 and 2015.”<sup>331</sup> According to First Street modeling,<sup>332</sup> extreme heat is only expected to worsen. By 2053, approximately 430 counties across 16 states will likely face a significant increase (more than threefold) in the number of days with temperatures reaching or surpassing their current highest levels.<sup>333</sup>

Disproportionate impacts from a phenomenon known as “Heat Islands” is the result of redlining, where communities of color are systematically segregated to areas with limited access to public services like banking, healthcare, and parks or tree canopy shade, and are instead targeted for environmentally toxic projects such as fossil fuel extraction sites and chemical plants.<sup>334</sup> Historically, African American/Black/African Diaspora neighborhoods were primarily targeted by redlining and today this injustice continues, now also impacting Latine and Indigenous communities.<sup>335</sup> Heat Islands<sup>336</sup> are characterized by structures such as housing projects and asphalt car parks with inadequate vegetation, and are up to 12.6°F hotter than non-redlined neighborhoods of the same city.<sup>337</sup> According to the American Economic Journal, up to 13% of racial education achievement gaps can be attributed to heat impacts, specifically a combination of more hot days and hotter classrooms for African American/Black/African Diaspora and Latine students.<sup>338</sup>

327 Vaidyanathan, A. Et al. (2020). Heat-Related Deaths – United States, 2004–2018. CDC. [\[LINK\]](#)

328 Baharav, Y. Et al. (2023, May 23). The Impact of Extreme Heat Exposure on Pregnant People and Neonates: A State of the Science Review. *Journal of Midwifery & Women's Health*. [\[LINK\]](#)

329 Auger, N., Fraser, WD., Sauve, R., et al. (2017). Risk of Congenital Heart Defects after Ambient Heat Exposure Early in Pregnancy. *Environ Health Perspect*. [\[LINK\]](#); Mao, Y. Et al. (2023, September 12). Associations between extreme temperature exposure and hypertensive disorders in pregnancy: a systematic review and meta-analysis. *Taylor & Francis*. [\[LINK\]](#)

330 Crushing, L. Et al. (2022). Extreme heat and its association with social disparities in the risk of spontaneous preterm birth. *Paediatric and Perinatal Epidemiology*. [\[LINK\]](#)

331 Hollis, A. (2020). African Americans Are Disproportionately Exposed to Extreme Heat. *Harvard Medical School*. [\[LINK\]](#)

332 Alfonseca, K., Et al. (2022, July 22). Why extreme heat endangers more Black, Hispanic and Indigenous people. *ABCNews*. [\[LINK\]](#)

333 First Street Foundation. *Defining America's Climate Risk*. [\[LINK\]](#)

334 First Street. (2022, August 14). *Hazardous Heat* [\[LINK\]](#)

335 Ibid.

336 Perry, A.M., Et al. (2019, October 14). America's formerly redlined neighborhoods have changed, and so must solutions to rectify them. *Brookings*. [\[LINK\]](#)

337 Glantz, A., Et al. (2018, February 17). Modern-day redlining: How banks block people of color from homeownership. *Chicago Tribune*. [\[LINK\]](#)

338 Lakhani, N. (2020, July 28). Killer heat: US racial injustices will worsen as climate crisis escalates. *The Guardian*. [\[LINK\]](#)

339 Park, J.R., Et al. (2020, May). Heat and Learning. *American Economic Journal*. [\[LINK\]](#)

Additionally, heat stress poses threats to pregnant women and can have disastrous consequences for fetal health. Studies have exposed links between heat exposure and preeclampsia,<sup>339</sup> premature birth,<sup>340</sup> low birth weight,<sup>341</sup> birth defects,<sup>342</sup> and stillbirth.<sup>343</sup> According to the Centers for Disease Control and Prevention (CDC), premature birth is a leading cause of infant death and has been connected to higher rates of lifelong intellectual and physical health problems.<sup>344</sup> Premature births further affect families by creating heavy financial costs and emotional tolls.<sup>345</sup> Additionally, a study from Stanford University found that heat exposure leads to more hospitalization for African American/Black/African Diaspora pregnant women than other pregnant women exposed to heat: “since Black women are more likely to both experience extreme temperature during pregnancy...and have less access to adaptive technologies such as air conditioning.”<sup>346</sup> With climate change, the future will bring hotter days and more periods of acute heat waves, and there is need for more research into this area to support these findings, expound on the effects, and help mitigate the impacts.

Systematic racism and the resulting zoning and city planning that create extreme Heat Islands are placing women of color in the U.S. in disproportionate danger; African American/Black/African Diaspora, Indigenous, and Latina women face worse heat effects to their pregnancy health and birth outcomes than wealthy white women.<sup>347</sup> Because women of color, Indigenous women, and low-income women live in areas of cities with less green space and higher average temperatures, they endure more hours of dangerous heat and are more often working in hotter conditions.<sup>348</sup> This may result in pregnant women working in extreme heat, and being forced to choose between their paychecks, the health of their child and their own health, particularly impacting Black women.<sup>349</sup>

According to Rupa Basu, the Chief of Air and Climate Epidemiology Section at the Office of Environmental Health Hazard Assessment for the California EPA, “Black women have the highest risk of preterm delivery from heat.”<sup>350</sup> Amongst research looking at heat exposure and pregnancy, four different studies found that heat was linked to a range of increased risk of preterm birth from 8.6% to 21%.<sup>351</sup> Two other studies “found an association of racial/ethnic disparity and heat exposure with an increasing risk of preterm birth; higher risk was found among black mothers.”<sup>352</sup> These detrimental effects on birth outcomes impact women’s rights

339 Mao, Y. Et al. (2023, September 12). Associations between extreme temperature exposure and hypertensive disorders in pregnancy: a systematic review and meta-analysis. *Taylor & Francis*. [\[LINK\]](#)

340 Huang, M., Et al. (2021, April 23). Acute associations between heatwaves and preterm and early-term birth in 50 US metropolitan areas: a matched case-control study. *BioMedCentral*. [\[LINK\]](#)

341 Ngo, N.S., Et al. (2016, January). Climate change and fetal health: The impacts of exposure to extreme temperatures in New York City. *Environmental Research*. [\[LINK\]](#)

342 Auger, N., Et al. (2017, January 1). Risk of Congenital Heart Defects after Ambient Heat Exposure Early in Pregnancy. *Environmental Health Perspectives*. [\[LINK\]](#)

343 Basu, R., Et al. (2017, April). The impact of maternal factors on the association between temperature and preterm delivery. *Environmental Research*. [\[LINK\]](#)

344 Centers of Disease Control. *Preterm Birth*. [\[LINK\]](#)

345 Human Rights Watch (2020, October 23). *US: Heat Emergency Plans Missing Pregnancy, Racial Justice*. [\[LINK\]](#)

346 Kim, J., Et al. (2019 October). What to Expect When It Gets Hotter: The Impacts of Prenatal Exposure to Extreme Heat on Maternal and Infant Health. *Stanford: Institute for Economic Policy Research*. [\[LINK\]](#)

347 Ibid.

348 Human Rights Watch (2020, October 23). *US: Heat Emergency Plans Missing Pregnancy, Racial Justice*. [\[LINK\]](#); Sullivan, K. (2020, October 8). Black, Latino, and Indigenous Communities Hit Hardest by Heat Waves. *Everyday Health*. [\[LINK\]](#)

349 Human Rights Watch (2020, October 23). *US: Heat Emergency Plans Missing Pregnancy, Racial Justice*. [\[LINK\]](#)

350 King, A.D. (2020, July 29). At the Intersection of Climate Change and Environmental and Reproductive Justice. *New Security Beat*. [\[LINK\]](#)

351 Bekkar, B., Et al. (2020, June 18). Association of Air Pollution and Heat Exposure With Preterm Birth, Low Birth Weight, and Stillbirth in the US. *JAMA Network Open*. [\[LINK\]](#)

352 Ibid.



to care for their children and achieve “supportive parenting environments,” as described by Kelly Davis, Chief Equity Officer at the National Birth Equity Collaborative (NBEC).<sup>353</sup>

In addition to health risks, women experience particular negative economic consequences due to the rise of extreme weather events.<sup>354</sup> As an example, extreme heat causes women to lose more wages than their male counterparts when they have to take time off work to serve as caretakers for family members who suffer from heat-induced illnesses.<sup>355</sup> This loss of income exacerbates the preexisting gender wage gap, in which women already earn 20% less than men.<sup>356</sup> Additionally, extreme heat disproportionately burdens low-income women performing unpaid domestic care work without access to air conditioning.<sup>357</sup>

Extreme heat has also been associated with intimate partner violence.<sup>358</sup> In the United States, one in four women and one in nine men experience intimate partner violence.<sup>359</sup> This suggests that with the increase in heat and subsequent intimate partner violence, women will endure higher levels of violence. Elizabeth Perez, Community Organizer at the Central California Environmental Justice Network (CCEJN), describes the interlocking issues between heat, poverty, racism, and women’s caretaking duties that arise in Latine communities in the Central Valley where it can reach 110°F:

“Pregnant women who are farmers have to go to work and it’s hot and they get tired. During the summer especially...women have to find a caretaker, or if not, a way to keep the children busy whilst they’re working...[It’s] too hot for children to play outside and a lot of time mothers have to look after their children inside...and generally farmers share houses with other families...I can imagine that’s also heavy on the women to keep their families entertained and healthy in this house full of other people...”<sup>360</sup>

## 5d. Fertility, Medical, and Reproductive Rights

Fossil fuel industry practices and resulting pollution have devastating impacts on women’s fertility and reproductive rights. Proximity to fossil fuel extraction and development has been inextricably linked to negative impacts among expecting mothers and children.<sup>361</sup> These are often lifelong impacts affecting the mental and physical health of women and children.<sup>362</sup>

Fracking fluids use over 1,000 different chemicals (including PFAs), many of which have been proven or are suspected to be carcinogens, reproductive or developmental toxicants, or endo-

353 Human Rights Watch (2020, October 23). *US: Heat Emergency Plans Missing Pregnancy, Racial Justice*. [\[LINK\]](#)

354 Adrienne Arsht-Rockefeller Foundation Resilience Center. (2023, July 26). *Extreme heat exposes stark gender inequalities*. [\[LINK\]](#)

355 Ibid.

356 Ibid.

357 Ibid.

358 Linares, C., Et. al. (2018, December). Heat Wave and the Intimate Risk of Violence. *Science of the Total Environment*. [\[LINK\]](#)

359 National Coalition Against Domestic Violence. *Statistics*. [\[LINK\]](#)

360 Perez, E. (2020, December 17). WECAN Interview.

361 Johnson, N. Et al. (2021). Air pollution and children’s health—a review of adverse effects associated with prenatal exposure from fine to ultrafine particulate matter. *Environmental Health and Preventive Medicine*. [\[LINK\]](#); Woodruff, T. (2024, March 7). Health Effects of Fossil Fuel-Derived Endocrine Disruptors. *The New England Journal of Medicine*. [\[LINK\]](#)

362 Pacheco, S.E. (2020, January 13). Catastrophic effects of climate change on children’s health start before birth. *Journal of Clinical Investigation*. [\[LINK\]](#)

crine disruptors.<sup>363</sup> According to the WHO,<sup>364</sup> endocrine disrupting chemicals are associated with altered reproductive function, increased incidence of breast cancers, abnormal growth patterns, and neurodevelopmental delays in children, which may not become evident until later in life.<sup>365</sup>

Furthermore, the Stockholm Environment Institute reports that outdoor pollution (present in all Chapter 6 case studies) is linked with preterm births and that plastic pollutants (including but not limited to vinyl chloride, styrene, and acrylonitrile) are endocrine disruptors that can cause infertility, spontaneous abortions, and increased breast cancer risk.<sup>366</sup> In addition to the effects of physical pollutants, fossil fuel activity creates light pollution which has been correlated with reproductive impacts such as increased breast cancer risk.<sup>367</sup> Fossil fuel activity requires 24/7 monitoring, and requires lighted worksites to maintain safety.<sup>368</sup>

Health data on fracking has been historically under-researched, but recent years have seen an influx of peer-reviewed scientific studies that point out a disconcerting dynamic in how fracking threatens the health of pregnant women and their children.<sup>369</sup> A 2020 study, conducted by the University of California, Berkeley, found that living near oil and gas wells directly correlates with low birth weights in infants.<sup>370</sup> Women were found to give birth to babies that were 1.3 ounces (36 grams) smaller than those further away from active sites.<sup>371</sup> This difference in weight can hinder the development of newborns and increase their risks for chronic health problems.<sup>372</sup> Additionally, a study investigating records for 15,451 live births from 2007 to 2010 in Southwest Pennsylvania (part of Appalachia discussed in Section 6i.) found a significant association between proximity to unconventional gas development (fracking) and decreased birth weight, after accounting for a large number of contributing factors.<sup>373</sup> Another study published in the *International Journal of Epidemiology* found that for a birth cohort in Texas (1996–2009)—where mothers reside within 10 km of an active or future drilling site—found higher incidence of maternal hypertension and otherwise rare life-threatening eclampsia cases.<sup>374</sup>

Infants born small for gestational age are at increased risk of perinatal morbidity, persistent short stature, and metabolic alterations in later life.<sup>375</sup> A study in Pennsylvania (Section 6i.) found that pregnant women living near active fracking sites were at a 40% and 30% increased risk of experiencing preterm births and high-risk pregnancies, respectively.<sup>376</sup> Women who lived

363 Macfarlane, R. Et. al. (2020, January). Fractures in the Bridge: Unconventional (Fracked) Natural Gas, Climate Change and Human Health. *Canadian Association of Physicians for the Environment (CAPE)*. [\[LINK\]](#)

364 Bergman, A., Et al. (2013). State of the Science of Endocrine Disrupting Chemicals 2012. *World Health Organization*. [\[LINK\]](#)

365 Concerned Health Professionals of New York, & Physicians for Social Responsibility. (2019, June). *Compendium of scientific, medical, and media findings demonstrating risks and harms of fracking*. [\[LINK\]](#)

366 Forsey, A., Et al. (2020, March 6). 5 ways reducing pollution can improve equality for women. *Stockholm Environment Institute*. [\[LINK\]](#)

367 Physicians for Social Responsibility (2019, July). *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)*. [\[LINK\]](#)

368 Straub L. (2015, September 1). After the Frack: Bright Lights in the Middle of Nowhere. *Earth Island Journal*. [\[LINK\]](#)

369 Boden, S. (2019, August 2). Fracking Linked To Anxiety, Depression In Pregnant Women. *WESA 90.5 Pittsburgh's NPR News Station*. [\[LINK\]](#)

370 Tran, K. Et al. (2020, June 3). Residential Proximity to Oil and Gas Development and Birth Outcomes in California: A Retrospective Cohort Study of 2006–2015 Births. *Environmental Health Perspectives*. [\[LINK\]](#)

371 Ibid.

372 Ibid.

373 Stacy, S.L., Et al. (2015). Perinatal outcomes and unconventional natural gas operations in Southwest Pennsylvania. *PLoS One*. [\[LINK\]](#)

374 Willis, M.D., Et al. (2021, December 13). Associations between residential proximity to oil and gas extraction and hypertensive conditions during pregnancy: a difference-in-differences analysis in Texas, 1996–2009. *International Journal of Epidemiology*. [\[LINK\]](#)

375 Cho, W.K., Et al. (2016, January 22). Catch-up Growth and Catch-up Fat in Children Born Small for Gestational Age. *Korean Journal of Pediatrics*. [\[LINK\]](#)

376 Casey, J.A., Et al. (2016, March). Unconventional natural gas development and birth outcomes in Pennsylvania, USA. *Epidemiology*. [\[LINK\]](#); Johns Hopkins Bloomberg School of Public Health. (2015, October 8). *Study: Fracking Industry Wells Associated With Premature Birth*. [\[LINK\]](#)

in the closest proximity to the most active wells had the highest rates of these reproductive complications.<sup>377</sup> As Jacqueline Patterson, the Founder and Executive Director of The Chisholm Legacy Project: A Resource Hub for Black Frontline Climate Justice Leadership, summarizes:

**“Endocrine disruptors emitted by smokestacks impact reproductive health, and Black women are more likely to live near these toxic facilities—so they’re disproportionately impacted by these endocrine disruptors. We see high rates of low birth weight and infant mortality.”<sup>378</sup>**

Similarly, a retrospective birth cohort study of 158,894 women living in the Barnett Shale area (a geological formation in Northeast Texas and discussed in Section 6c.) found an association between mothers’ residential proximity to fracking activity and preterm birth and fetal death.<sup>379</sup> In another study looking at fracking activity and preterm births, researchers found that mothers living closest to the densest fracking activity were more likely to have extremely premature babies (born before 28 weeks of gestation) compared with women who did not live near a well.<sup>380</sup> Infants born preterm are vulnerable to various potential complications including respiratory distress syndrome, chronic lung disease, injury to the intestines, a compromised immune system, cardiovascular disorders, hearing and vision problems, and neurological insult; the risks increase the earlier the birth.<sup>381</sup> Another 2018 study published by the University of Oklahoma found a significantly increased prevalence of neural tube defects among children whose birth residence was located within two miles of a drilling and/or fracking site, compared to those which were not.<sup>382</sup>

Rates of premature birth in the U.S. have increased by 12% since 2014<sup>383</sup> and have grown significantly for five years in a row since 2019.<sup>384</sup> According to the CDC, African American/Black/African Diaspora women’s pregnancies end in premature birth 50% more often than those of white women.<sup>385</sup> Further, low birth weight is twice as common among babies born to African American/Black/African Diaspora women, and for African American/Black/African Diaspora women, stillbirth is more than twice as common as it is for white women.<sup>386</sup> March of Dimes, an organization fighting premature birth in the U.S., found that Hispanic and Native American women also have worse birth outcomes than white women.<sup>387</sup> Pregnant people living in front-line communities, such as those in Louisiana, are being forced to take measures to protect their children. As Roishetta Ozane, Founder of The Vessel Project describes:

377 Ibid.

378 Patterson, J. (2022, June 5). WECAN Interview.

379 Whitworth, K.W., Et al. (2017, July 21). Maternal residential proximity to unconventional gas development and perinatal outcomes among a diverse urban population in Texas. *PLoS One*. [\[LINK\]](#)

380 Konkel, L. (2018, October 1). Drilling into Critical Windows of Exposure: Trimester-Specific Associations between Gas Development and Preterm Birth. *Environmental Health Perspectives*. [\[LINK\]](#)

381 Butler, A.S., Et al. (2007). Preterm birth: causes, consequences, and prevention. *National Academies Press*. [\[LINK\]](#)

382 Janitz, A.E., Et al. (2019, January). The association between natural gas well activity and specific congenital anomalies in Oklahoma, 1997–2009. *Environment International*. [\[LINK\]](#)

383 Martin, J. Et al. (2024, January 31). Shifts in the Distribution of Births by Gestational Age: United States, 2014–2022. *CDC*. [\[LINK\]](#)

384 March of Dimes. (2022, November 15). *March of Dimes 2022 Report Card Shows U.S. Preterm Birth Rate Hits 15-year High Rates Increase for Women of All Races, Earning Nation D+ Grade*. [\[LINK\]](#); D’Ambrosio, A. (2021, April 8). What Happened With Preterm Birth During the Pandemic? *MedPageToday*. [\[LINK\]](#)

385 CDC. *Reproductive Health: Preterm Birth*. [\[LINK\]](#)

386 CDC. *Stillbirth*. [\[LINK\]](#)

387 March of Dimes. (2020). *Report Card for United States*. [\[LINK\]](#)

**“I am a certified breast-feeding specialist, and I coach women on how to breastfeed, so that children are getting those antibodies so they can be immune to the same things their parents are immune [to like new allergies and conditions].”<sup>388</sup>**

In healthcare spaces broadly, independent of climate chaos, studies show that women face longer waits to be diagnosed with cancer<sup>389</sup> and heart disease,<sup>390</sup> are treated less aggressively for traumatic brain injury than men,<sup>391</sup> and are less likely to be offered pain medication than men.<sup>392</sup> Furthermore, people of color receive poorer quality care; doctors are more likely to describe Black patients as pain tolerant,<sup>393</sup> and non-compliant.<sup>394</sup> Therefore, Black women are at the highest combined risk of misdiagnosis, malpractice, and maltreatment. In fact, Black women are nearly three times more likely to die during or after childbirth than their white counterparts.<sup>395</sup> Mimi Bingham, Doula and Student midwife with Mimi Birth Services, describes the challenges Black women face when giving birth:

**“You’re not just fighting to get the baby here safely. You’re fighting a war, a battle. Even when you want a true emergency C-section, you’ve got to fight for that, too. You shouldn’t have to go into a hospital and feel like you’re on a battlefield.”<sup>396</sup>**

These underlying health disparities nationally make it so African American/Black/African Diaspora, Indigenous, Latina, and low-income women are less likely to seek and obtain care. As climate chaos worsens, more women of color and Indigenous women will be impacted by fossil fuel development and ecological instability, and the embedded racial biases within healthcare decrease the likelihood of affected women receiving the care and treatment they require to stay as healthy as possible and care for their communities. Elida Castillo, Program Director of Chispa Texas and Daughter of the Coastal Bend (Section 6a.), describes how health impacts of fossil fuel activity can be exacerbated when combined with underlying systemic healthcare inequities.

**“We live in a state where we don’t have access to good health insurance, or health insurance, period; and so a lot of these issues don’t go reported because people don’t have the finances to even seek medical attention. They know they’re experiencing problems, but if you’re not going to the doctor and you don’t have access to medical care, [these cases aren’t reported]. In our community, there are not enough hospitals or enough doctors in the area to see the population, and then the population cannot afford to go to the doctor.”<sup>397</sup>**

388 Ozane, R. (2022, May 19). WE CAN Interview.

389 Din N.U., Et al. (2015, May 15). Age and Gender Variations in Cancer Diagnostic Intervals in 15 Cancers: Analysis of Data from the UK Clinical Practice Research Datalink. *PLoS One*. [\[LINK\]](#)

390 Maas, A., Et al. (2010). Gender differences in coronary heart disease. *Netherlands Heart Journal*. [\[LINK\]](#)

391 Mikolić, A., Et al. (2020, December 31). Differences between Men and Women in Treatment and Outcome after Traumatic Brain Injury. *Journal of Neurotrauma*. [\[LINK\]](#)

392 Chen, E.H., Et al. (2008, May 15). Gender disparity in analgesic treatment of emergency department patients with acute abdominal pain. *Academic Emergency Medicine*. [\[LINK\]](#)

393 Sabine, J.A. (2020, January 6). How We Fail Black Patients in Pain. *Association of American Medical Colleges*. [\[LINK\]](#)

394 Frakt, A. (2020, July 8). Bad Medicine: The Harm That Comes From Racism. *The New York Times*. [\[LINK\]](#)

395 Williams, S. (2022, April 5). How Serena Williams Saved Her Own Life. *ELLE*. [\[LINK\]](#)

396 Johnson, A. (2023, December 14). She knows the ache of losing a baby. Her calling is to help other Black moms. *Washington Post*. [\[LINK\]](#)

397 Castillo E. (2022, May 12). WE CAN Interview.

Maricruz Ramirez, a Community Organizer with the Center on Race, Poverty, & the Environment, expresses her concern for the young women and their future children in the heavily fracked region of Kern County:

**“There are many issues with pregnant women or women with babies. We see so many birth defects like premature births, and there is no other explanation than this pollution.”<sup>398</sup>**

Rosanna Esparza, a Community Organizer and Environmental Researcher in Kern County, echoes these concerns:



Rosanna Esparza in Kern County, CA.  
(Alex Horvath | Bakersfield Californian)

**“We know about the exposure to toxicity from the proprietary lens of fracking. We know that there are cancer causing substances. When we’ve done our testing and our gram samples of the air as well as the soil samples we’ve seen the number of chemicals that can cause sterility, something like spina bifida, or any of these other challenges and birth defects. And we see it later in the birth of these children.”**

Joan Casey, an environmental health scientist at the Columbia University Mailman School of Public Health and researcher on the gendered impacts of fracking, points out why the implications of pregnant women’s health problems can be far reaching:

**“There’s growing realization that we need to be concerned about the health of mothers during and after pregnancy. They are vulnerable women who are growing another human being inside of them, and their exposures potentially tell us something about what a larger population is experiencing.”<sup>399</sup>**

The fossil fuels industry’s willingness to sacrifice women’s overall health and fertility for financial gain is a reproductive health injustice because it impacts women’s fertility and ability to parent the children they have, and it impedes on the parents’ right to raise their children in a toxic-free environment.<sup>400</sup> The studies from different parts of the U.S. where fracking occurs demonstrate that fracking can have harmful impacts on a woman’s ability to maintain pregnancy and carry a healthy pregnancy to term, as well as result in developmental disorders for the infant.<sup>401</sup>

398 Esparza, R. (2020, December 18). WECAN Interview.

399 Boden, S. (2019, August 2). Fracking Linked To Anxiety, Depression In Pregnant Women. WESA 90.5 Pittsburgh’s NPR News Station. [\[LINK\]](#)

400 McHenry, K.A. (2017, October 10). Fracking women: a feminist critical analysis of hydraulic fracturing in Pennsylvania. *IJFAB: International Journal of Feminist Approaches to Bioethics*. [\[LINK\]](#)

401 Casey, J.A., Et al. (2016, March). Unconventional natural gas development and birth outcomes in Pennsylvania, USA. *Epidemiology*. [\[LINK\]](#)

## 5e. Man Camps

One of the most devastating gendered implications of the oil and gas industry is the increase in rates of sexual assault and violence against women in areas where transient work camps (i.e., Man Camps) appear. Man Camps are temporary housing sites set up for the construction of resource extraction infrastructure.<sup>402</sup> Man Camps are predominantly occupied by young transient male workers, who are disconnected from the community into which they are temporarily relocated for grueling but very high-paying work. Extensive research points to the hyper-masculine nature of Man Camps, which leads to social isolation, lack of self-care, and significant alcohol and drug use, as well as an increase in demand for sex trafficking.<sup>403</sup> Oil and gas projects are disproportionately developed on Native American reservations in the U.S.: reservations represent 2% of the land but hold approximately 20% of the fossil fuel reserves.<sup>404</sup> Substance abuse, high disposable incomes, lack of social ties in the area, in addition to colonial and racist views towards Indigenous women, all contribute to violence against women, girls, and two-spirit people near Man Camps.<sup>405</sup>



Photo of Indigenous women with a MMIW flag at COP28. (Katherine Quaid | WECAN)

402 Simons, P., Et al. (2019, April 3). Relations of Ruling: A Feminist Critique of the United Nations Guiding Principles on Business and Human Rights and Violence against Women in the Context of Resource Extraction. *Canadian Journal of Women and the Law*. [\[LINK\]](#)

403 Gibson, G., Et al. (2017, February). Indigenous Communities and Industrial Camps: Promoting healthy communities in settings of industrial change. *The Firelight Group*. [\[LINK\]](#)

404 Osborne, T. (2018, April 9). Native Americans Fighting Fossil Fuels. *Scientific American*. [\[LINK\]](#)

405 Gibson, G., Et al. (2017, February). Indigenous Communities and Industrial Camps: Promoting healthy communities in settings of industrial change. *The Firelight Group*. [\[LINK\]](#)

The extractive industry's Man Camps contribute to the iniquitous Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2S) epidemic.<sup>406</sup> According to the U.S. Department of Justice, “one in three Native American women are raped during their lifetimes—two-and-a-half times the likelihood for an average American woman—and in 86 percent of these cases, the assailant is non-Indian.”<sup>407</sup> During a panel discussing human trafficking in the U.S., particularly in North Dakota, former U.S. Senator Heidi Heitkamp emphasized the impact trafficking has on Indigenous women: “Native American women are murdered at ten times the national average, and 84 percent of the Native women have experienced violence in their lifetime.”<sup>408</sup> In Canada, Indigenous women are 12 times more likely to be murdered or missing than any other Canadian women, and 16 times more likely than Caucasian women.<sup>409</sup>

Frontline Indigenous communities, advocacy organizations, and researchers have all consistently pointed out that “there is a direct correlation between increased rates of sexual abuse, trafficking, and domestic violence against women and children in regions where fossil fuel extraction companies set up Man Camps to house workers.”<sup>410</sup> For example, as a result of the Bakken oil boom in North Dakota, which led to thousands of male workers moving to that area, there was a dramatic increase in violent crime and aggravated assault, as well as the disappearance of over 125 Indigenous women.<sup>411</sup> A study done by the U.S. Bureau of Justice Statistics found that when looking at the rapid rise of oil worker populations in the Bakken region from 2006-2012, that the rate of aggravated assault increased by 70% and that the rate of unlawful sexual contact toward women increased by 54%.<sup>412</sup> In contrast, rates of violent victimization in the same period declined by 8% in the nation.<sup>413</sup>

Following the 1978 Supreme Court case *Oliphant v. Suquamish*, Indigenous tribes in the U.S. were stripped of the right to arrest and prosecute non-Native Americans who commit crimes on Indigenous land.<sup>414</sup> As a result, Indigenous women are not protected by law in the same way as non-Indigenous women, and sexual violence within or near Indigenous territories is rarely prosecuted. As reported by *The Atlantic*, “In 2011, the U.S. Justice Department did not prosecute 65 percent of rape cases reported on reservations.”<sup>415</sup> This systemic injustice leaves the tribes with little to no control over the thousands of workers that move into Man Camps, and cases of MMIWG2S continue to go unprosecuted and underreported.

The Sovereign Bodies Institute, a research institute that created one of the largest data sources on the MMIWG2S epidemic, documents the multiple barriers to justice for Indigenous women, girls, and two-spirit people, which include jurisdictional complexity, police negligence and incapacity, gender violence by law enforcement, difficulty in accessing data, and a policy-

406 Jones, R.J. (2020, October 9). Keep my Memory. *Alliance for Climate Education*. [\[LINK\]](#)

407 Begay, C. Et al. (2018). Sexual Assault on Native American Reservations in the U.S.. *Ballard Brief*. [\[LINK\]](#)

408 Coons, A. (2017, October 29). Human and Sex Trafficking on the Home Front. *Dakota Student*. [\[LINK\]](#)

409 National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). Reclaiming Power and Place. *Privy Council Office*. [\[LINK\]](#)

410 Clabots, B. (2019, October 14). The Darkest Side of Fossil-Fuel Extraction. *Scientific American Blog Network*. [\[LINK\]](#)

411 Göldner, L. (2023, August 3). Women are disproportionately harmed by the fossil fuel industry. This has to change. *Euronews*. [\[LINK\]](#)

412 Martin, K., Et al. (2019, February 12). Violent Victimization Known to Law Enforcement in the Bakken Oil-Producing Region of Montana and North Dakota, 2006-2012. *Research Triangle Institute and Bureau of Justice Statistics*. [\[LINK\]](#)

413 Ibid

414 U.S. Supreme Court. (1978). *Oliphant v. Suquamish Indian Tribe*, 435 U.S. 191. [\[LINK\]](#)

415 Crane-Murdoch, S. (2013, February 22). On Indian Land, Criminals Can Get Away with Almost Anything. *The Atlantic*. [\[LINK\]](#)

making process that is abusive towards survivors.<sup>416</sup> Thus, areas where Man Camps are located not only have higher rates of violence against women, girls, and two-spirit people, they also lack law enforcement capacity and will to respond—further exacerbating the cumulative impacts of violence. As Melina Laboucan-Massimo (Lubicon Cree Nation), Founder of Sacred Earth Solar and Director of Healing Justice at Indigenous Climate Action, describes:

**“There is a direct link between oil extraction and violence against largely Indigenous women and girls, which serves as an important reminder: violence against the land begets violence against women. This is yet another reason, on a growing list, why the pipeline expansions should be shelved. Financiers have an opportunity to walk the path towards a cleaner, safer and more just world for all women, girls and Mother Nature alike.”<sup>417</sup>**

Moreover, the increased rate of rape, demand for sex work, and sex trafficking, result in increased incidences of sexually transmitted infections (STIs) and HIV/AIDS; an issue that is heightened due to the lack of adequate health services and testing capabilities in these areas.<sup>418</sup> The Firelight Report exposes Northern British Columbia, an area with high numbers of industrial Man Camps, as a region with particularly high rates of STIs: 22% higher than the provincial average.<sup>419</sup>

Although oil and gas companies frequently emphasize the economic benefits extractive projects will bring into a community, Indigenous women often do not get the same access to these touted benefits. There are several barriers to women’s economic participation in these extractive projects and the resource sector wages:

- Man Camps are hypermasculinized and hypersexualized settings where sexual harassment, racism, and violence occur at elevated levels, making these worksites too dangerous for women; violence that is worsened by lack of adequate policing.<sup>420</sup>
- The rotational schedules, in combination with a lack of childcare, make it difficult for mothers to join the workforce.<sup>421</sup>

The gender-based violence towards Indigenous women perpetuated by the extractive industry and its financial backers, also creates intergenerational trauma among Indigenous children.<sup>422</sup> Joye Braun (Cheyenne River Sioux), who was an Organizer with the Indigenous Environmental Network and Leader of the Wakpa Waste Camp and sadly passed away in 2022, described this trauma:

416 Sovereign Bodies Institute and Brave Heart Society. *Zuya Winyan Wicayu'onihān: Honoring Warrior Women*. [\[LINK\]](#)

417 Quaid, K. (2020, October 19). Indigenous Women Leaders Warn Global Financial Companies to Stop Support for Tar Sands Oil [Press Release]. *Women Earth & Climate Action Network (WECAN)*. [\[LINK\]](#)

418 Gibson, G., Et al. (2017, February). Indigenous Communities and Industrial Camps: Promoting healthy communities in settings of industrial change. *The Firelight Group*. [\[LINK\]](#)

419 Ibid.

420 National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). *Reclaiming Power and Place*. Privy Council Office. [\[LINK\]](#)

421 Ibid.

422 Ibid.



**“The truth is written in the blood and tears of our sisters that tar sands and the subsequent pipelines are nothing more than death knocking at our children’s future. As Indigenous women we know the fear of looking into our daughter’s eyes hoping and praying they won’t go missing or murdered. These industries bring that fear to our doorstep. They bring death to our cultures and our children.”<sup>423</sup>**

Prompted by determined advocacy from Indigenous Peoples, social justice organizations, and concerned citizens, a bill was passed in October 2020 in the U.S. Senate requiring that the Department of Justice “review, revise, and develop law enforcement and justice protocols to address the missing or murdered Native Americans.”<sup>424</sup> Despite this bill, Indigenous women’s safety continues to be harmed by fossil fuel Man Camps<sup>425</sup> and new fossil fuel projects resulting in transient work camps within or near Indigenous communities, such as Texas LNG in Brownsville, Texas, the Willow Project in Alaska, and Enbridge’s Line 5 project in Wisconsin and Michigan, continue to be proposed, approved, and financed.<sup>426</sup>

## 5f. Mental Health

In addition to affecting the physical health of community members, fossil fuel activity is a source of major mental and emotional distress for women in frontline communities. Psycho-social stress, psychological stress, and negative mental health outcomes found to be associated with fracking include:

**“‘Collective trauma’ and loss of community unity, lifeways, and social fabrics; social disruption from boom and bust cycles; gendered imbalances; and distressing and alienating working conditions...; increased sex trafficking around oil and gas ‘mancamps’, which can particularly affect Indigenous women; and various disparities in resource and information access between industry and people living amid drilling.”<sup>427</sup>**

Research conducted by the Oklahoma State University in 2016 examined the effects of horizontal drilling on mental well-being in Texas. The study found that for the entire sample, horizontal drilling significantly reduced life satisfaction and increased bad mental health days.<sup>428</sup> A 2021 study notes that insufficient sleep and poor overall health can also be attributed to increased drilling, especially in rural areas where light pollution from drilling-related activity adds to the chemical and noise pollution already present.<sup>429</sup>

423 Henn, J. (2020, October 19). Indigenous Women Leaders Warn Global Financial Companies to Stop Support for Tar Sands Oil. *Stop the Money Pipeline*. [\[LINK\]](#)

424 Congress.gov. (2019-2020). *Savanna’s Act, S.R. 227, 116th Congress*. [\[LINK\]](#)

425 Beaumont, H. (2021, June 4). Sexual violence along pipeline route follows Indigenous women’s warnings. *The Guardian*. [\[LINK\]](#)

426 Jaremkó, G. (2023, March 28). Another Enbridge Line 5 Permitting Delay Pushes Construction to 2026. *Natural Gas Intel*. [\[LINK\]](#)

427 Malin, S. (2020, December). Depressed democracy, environmental injustice: Exploring the negative mental health implications of unconventional oil and gas production in the United States. *Energy Research and Social Justice*. [\[LINK\]](#)

428 Maguire, K., Et al. (2016, March 21). Energy Boom and Gloom? Local Effects of Oil and Natural Gas Drilling on Subjective Well-Being. *Institute of Labor Economics*. [\[LINK\]](#)

429 Boslett, A, Hill, Et al. (2021, May). Rural light pollution from shale gas development and associated sleep and subjective well-being. *Resource and Energy Economics*. [\[LINK\]](#)

When the negative effects were separated by gender, women were found to experience reduced life satisfaction from horizontal and conventional drilling, while men were not.<sup>430</sup> This study exposes the disproportionate mental health impact the oil and gas industry has on women. Combined with the fact that a larger magnitude of extractive facilities are located near communities of color, African American/Black/African Diaspora, Indigenous, Latina, and low-income women are at higher risk for negative mental health outcomes. Additionally, unpaid care has impacts on a person's physical and mental health.<sup>431</sup> Due to the compounding factors of racist structures and unjust gender circumstances, the level of unpaid care and inordinate responsibilities are greater for many caretakers who are primarily women. Consequently, when health and safety threats catalyzed by fossil fuel activity lead to increased caretaking responsibilities, women are more likely to experience detrimental mental health impacts.<sup>432</sup> Patricia Garcia-Nelson, whose children attend Bella Romero, a school located near a fracking site in Colorado, describes the mental strain that the oil and gas industry has caused:

**“I remember one time I saw smoke coming out from the direction of the school and I had a full-blown panic attack. I needed to get to the school and see what it is...I do experience a lot of stress just being as vigilant as possible because it's up to us to protect our community members.”<sup>433</sup>**

A report examining data collected over three years in Northern Colorado exposes how oil and gas production generates chronic stress and self-reported mental health impacts: 90% of participants reported chronic stress about the uncertainty of the risks surrounding continued expansion of fossil fuel infrastructure, and 75% reported negative mental health impacts such as depression.<sup>434</sup> The study concentrates on Weld County (Section 6e.), which has one of the highest well-to-people density ratios in the U.S. and a Latine population in Greeley City (in Weld Co.) that is approximately 20 percentage points above the national average.

Shamyra Lavigne, a Member of RISE St. James, reports the stresses and anxieties that arise from the numerous industrial projects surrounding her home in “Cancer Alley,” including alcohol abuse and the emotional pain particular to mothers:

**“We're also talking about the stress and the anxiety of...having to raise your kids here and not knowing what's going to happen in the future. The fear of what's going to happen, the fear of what's coming, the fear and the disheartening emotions that you feel when the government is letting you down and that no one is there to protect you or help you. And that you're being overlooked and that you're not as important...That also affects our health, that also affects us completely.”<sup>435</sup>**

430 Ibid.

431 Statistics Canada. (2023, January 5). *More than half of women in Canada are caregivers*. [\[LINK\]](#)

432 Sharma N., Et al. (2016, March). Gender differences in caregiving among family - caregivers of people with mental illnesses. *World J Psychiatry*. [\[LINK\]](#)

433 Garcia-Nelson, P. (2023, June 2). WECAN Interview.

434 Malin, S. (2020, December). Depressed democracy, environmental injustice: Exploring the negative mental health implications of unconventional oil and gas production in the United States. *Energy Research and Social Justice*. [\[LINK\]](#)

435 Lavigne, S. (2020, November, 25). WECAN Interview.

Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, describes the stress she experiences living near the degrading and high-risk original Line 5 pipeline: “I am scared every single day that I’m going to get a phone call that it’s [the pipeline] ruptured and that’ll be the end.”<sup>436</sup>

A study evaluating prenatal mental health found that pregnant women living near hydraulic fracking activity in Pennsylvania were more likely to develop depression and anxiety.<sup>437</sup> According to the study, four out of 100 pregnant women exposed to fracking activity develop anxiety or depression that they would not have otherwise developed.<sup>438</sup> The researchers controlled for a variety of other factors about the mothers that could explain this relationship, but the proximity and size of fracking wells was the only factor correlated with increases in depression and anxiety.<sup>439</sup> This finding speaks not only to the impacts of fracking on women’s mental health but also to the health of the infant, as depression in mothers has been linked to developmental issues among infants.<sup>440</sup> Roishetta Ozane, Founder of The Vessel Project, describes how financial insecurity—caused by hurricanes (exacerbated by continued fossil fuel development, which increases climate disruptions<sup>441</sup>), costs of chronic illness (often a result of fossil fuel pollution<sup>442</sup>) and poor disaster aid—can precipitate mental health crises, especially amongst single mothers:



Sharon Wilson with optical gas imaging camera.  
(Sharon Wilson)

“I can’t tell you the number of women who have called me, and they have given up. If they are on the verge of suicide, and if they can tell me what their plan is, then I am getting them assistance from the local hospital. A lot of times, that is me picking them up, bringing them to a clinic across town (because they don’t have a clinic close enough). Sometimes it’s as simple as, ‘I don’t have my rent today; my children and I aren’t going to have anywhere to live, and so I’m suicidal! You pay their rent for them, and they’re okay. Then you help them come up with a plan to pay rent next month.’<sup>443</sup>

Sharon Wilson, director at Oilfield Witness, describes her experience seeing the fossil fuel industry separating families due to mental strain and chronic stress:

436 Gravelle, W. (2023, June 6). WECAN Interview.

437 Boden, S. (2019, August 2). Fracking Linked To Anxiety, Depression In Pregnant Women. WESA 90.5 Pittsburgh’s NPR News Station. [\[LINK\]](#)

438 Ibid.

439 Ibid.

440 Ibid.

441 Earthjustice. (2023, June 28). *How Climate Change Is Fueling Extreme Weather*. [\[LINK\]](#)

442 Parker, H. (2023, June 16). Southwest Louisiana residents grapple with pollution, clean energy during DOE’s Lake Charles visit. WWO. [\[LINK\]](#)

443 Ozane, R. (2022, May 19). WECAN Interview.

“I’ve seen many people who were not able to keep their family intact. The family was torn apart and the stress... they just could not stay together. The women and children are typically home more than the men, so their exposure is much worse and everything becomes so much harder when the family members are sick from air pollution.”<sup>444</sup>

Pollution, climate chaos, and the compounding effects of sicker communities—all due to fossil fuel development—are all causes of mental illness. Fossil fuel development and its impacts on frontline communities must be included as a driving force behind climbing rates of mental illness in the United States,<sup>445</sup> and the effects of fossil fuel development must be integrated in broader mental health campaigns.

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444 Wilson, S. (2023, June 6). WECAN Interview.

445 McKoy, J. (2021, October 7). Depression Rates in US Tripled When the Pandemic First Hit—Now, They’re Even Worse. *Boston University*. [\[LINK\]](#)

# SELECTED REGIONS



A drilling rig at a fracking site located next to a home in Weld County, Colorado. (Julie Dermansky)

## Selected Regions

### 6a. Texas Gulf Coast

Project(s)	Companies operating in The Texas Gulf Coast region*	Banks financing the company**	Asset Managers and investing in the company***	Insurance Companies insuring the company****
(1) TOTAL Port Arthur Refinery, (2) Novealis Holdings LLC, Port Arthur	Total Energies	(1) <u>Royal Bank of Canada,</u> (2) <u>Bank of America,</u> (3) <u>JPMorgan Chase</u>	(1) <u>Capital Group</u> (2) <u>BlackRock</u>	N/A
(1) Pasadena Refining, (2) Ethylene Plant in Orange County, (3) Ethylene/ Polyethylene integrated complex on Sabine River	Chevron (i.e., Chevron Phillips Chemical)	(1) <u>JPMorgan Chase,</u> (2) <u>Bank of America,</u> (3) <u>Royal Bank of Canada</u> (4) <u>Citigroup</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock,</u> (3) <u>Capital Group</u>	N/A
(1) Terminal in Beaumont, (2) Sweeny Refinery	Phillips 66	(1) <u>Bank of America,</u> (2) <u>JPMorgan Chase</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock</u>	N/A
Galveston Bay Refinery, Texas City	Marathon Petroleum	(1) <u>Bank of America,</u> (2) <u>JPMorgan Chase,</u> (3) <u>Royal Bank of Canada</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock</u>	
Shell Deer Park	Shell	(1) <u>Bank of America,</u> (2) <u>Royal Bank of Canada</u>	(1) <u>BlackRock</u>	N/A
(1) ExxonMobil/SABIC Gulf Coast Plastic Manufacturing Facility, (2) Hydrogen/CCS facility in Baytown Complex (Beaumont TX), (3) Ethane Cracker in Corpus Christi, (4) Golden Pass LNG Project	ExxonMobil (i.e. XTO Energy)	(1) <u>JPMorgan Chase,</u> (2) <u>Bank of America,</u> (3) <u>Royal Bank of Canada</u> (4) <u>Citigroup</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock,</u> (3) <u>Capital Group</u>	N/A
Ethane Cracker in Point Comfort, TX	Formosa Plastic Corporation	N.A	(1) <u>Vanguard,</u> (2) <u>BlackRock</u>	N/A
Occidental Chemical Corporation Ingleside Plant	Occidental Petroleum	(1) <u>Bank of America,</u> (2) <u>JPMorgan Chase</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock</u>	N/A

(1) Annova LNG: Liquefied Natural Gas fracked gas export terminal, (2) Enbridge Ingleside Energy Center (EIEC) CCS/Hydrogen Plant (3) Rio Bravo Pipeline (4) Valley Crossing Pipeline	Enbridge (i.e. Annova LNG)	(1) <u>Royal Bank of Canada,</u> (2) <u>JPMorgan Chase,</u> (3) <u>Bank of America</u>	(1) <u>Vanguard</u>	N/A
(1) Bill Greehey Refinery, (2) Texas City Refinery, (3) Houston Refinery, (4) Port Arthur Refinery (5) Port Arthur Coker Project	Valero	(1) <u>Bank of America,</u> (2) <u>Royal Bank of Canada</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock</u>	N/A
(1) Huntsman Petrochemical LLC Port Neches Facility, (2) Huntsman Petrochemical LLC Houston Facility	Huntsman Corporation	(1) <u>Bank of America,</u> (2) <u>Citigroup Inc</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock</u>	N/A
(1) Union Carbide Corp Seadrift Plant, (2) Dow Chemical Co. Freeport Facility	Dow Inc.	(1) <u>JP Morgan Chase,</u> (2) <u>Bank of America</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock,</u> (3) <u>Capital Group</u>	N/A
(1) Blue Marlin Pipeline, Port Arthur, (2) Nederland Facility Expansion, (3) Cushing South Pipeline, (4) Gulf Run Pipeline, (5) Mont Belvieu to Nederland LNG Pipeline, (6) Justice LNG Pipeline	Energy Transfer	(1) <u>Bank of America,</u> (2) <u>JPMorgan Chase,</u> (3) <u>Citigroup Inc</u>	N/A	N/A
(1) Brookshire Petrochemical Plant, (2) Deer Park Petrochemical Plant, (3) Longview Petrochemical Plant,	Westlake Chemical	N.A	(1) <u>BlackRock,</u> (2) <u>Vanguard,</u> (3) <u>Capital Group</u>	N/A
Stage 3 Liquefaction Project	Cheniere Energy Inc	(1) <u>JPMorgan Chase,</u> (2) <u>Bank of America</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock,</u> (3) <u>Capital Group</u>	N/A

Sempra Energy's Port Arthur LNG	ConocoPhillips (i.e., KKR, Sempra Energy)	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> (3) <a href="#">Citigroup</a> (4) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A
Texas LNG	Glenfarne Group (facility delivery: Samsung Engineering and Technip Energies)	N/A	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	N/A
Rio Grande LNG	NextDecade	(1) <a href="#">Bank of America</a> , (2) <a href="#">Citigroup Inc</a> , (3) <a href="#">JPMorgan Chase</a>	(1) <a href="#">BlackRock</a> , (2) <a href="#">Vanguard</a>	(1) <a href="#">Liberty Mutual</a>
Freeport LNG Texas export facility	Freeport LNG	N/A	N/A	(1) <a href="#">Liberty Mutual</a>
Motiva Port Arthur Refinery	Aramco	N/A	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	(1) <a href="#">Liberty Mutual</a>

All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), Rainforest Action Network's 2024 published report, *Banking on Climate Chaos*, the financial institution's website, or other primary documents.

\*This list is not exhaustive.

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*\*N/A is because there is a lack of transparency.

In 2023, the United States became the world's largest exporter of liquefied natural gas, increasing 12% over the year period; the Texas Gulf Coast leads the nation in LNG production and expansion.<sup>446</sup> As of February 2024, six proposed LNG facilities are in various stages of construction, expansion, and operation.<sup>447</sup> Several Texas LNG projects that have obtained permits and are moving forward with construction include the Freeport LNG Train, Texas LNG, and Rio Grande LNG.<sup>448</sup> Other LNG projects await permit approval amidst the Biden administration's January 2024 pause on natural gas export permits and a federal court's subsequent decision to reverse the pause.<sup>449</sup> If all of the proposed and under-construction LNG projects are built, up to an estimated 766 million CO<sub>2</sub> emissions would be released into the atmosphere each year.<sup>450</sup>

The Texas Gulf Coast region also holds the highest concentration of oil refineries and petrochemical plants in the United States.<sup>451</sup> The Environmental Integrity Project (EIP) released a

446 Metzger, L. Et al. (2024, February 20). What's happening with LNG in Texas? *Environment Texas*. [\[LINK\]](#); NES Fircroft. (2023, May 18). *The World's Top LNG Companies*. [\[LINK\]](#); EIA. (2024, April 15). The United States exported a record volume of natural gas in 2023. [\[LINK\]](#)

447 Metzger, L. Et al. (2024, February 20). What's happening with LNG in Texas? *Environment Texas*. [\[LINK\]](#)

448 Ibid.

449 Bikales, J. (2024, July 1). Federal judge blocks Biden's pause on LNG export permits. *Politico*. [\[LINK\]](#)

450 Metzger, L. Et al. (2024, February 20). What's happening with LNG in Texas? *Environment Texas*. [\[LINK\]](#)

451 Jackson, E. (2020, February 28). National Energy and Petrochemical Map. *Fractracker Alliance*. [\[LINK\]](#)



report emphasizing that long-term exposure to the levels of pollution emitted by oil refineries can cause adverse health effects, including impacts to the blood and nervous systems, and an increased risk of cancer.<sup>452</sup> The report specifically notes that populations enduring benzene levels above the EPA Action level, “could see as many as four additional cancers per 10,000 people exposed.”<sup>453</sup> These health risks are exacerbated by the compounding industrial activity in this area: pollution from the Houston ship channel has earned Harris, Brazoria, and Jefferson counties (which all have populations made up of over half African American/Black/African Diaspora and Latine people) the nickname “Cancer Belt.”<sup>454</sup> According to the University of Texas School of Public Health, children living within two miles of the Houston ship channel are 56% more likely to contract leukemia than those living farther away.<sup>455</sup>

In 2019, the EIP released air monitoring reports for over 100 refineries in the United States, exposing the top ten refineries that have cancer-causing benzene levels at concentrations exceeding federal action levels; of the six Texas refineries, five are located near communities that are predominantly Latine and African American/Black/African Diaspora. The sixth refinery (Shell’s plant in Deer Park) in Harris County has a Latine community approximately double the nation’s average.<sup>456</sup> All six of the refineries are located in the eastern Texas Gulf Coast.<sup>457</sup> In May of 2023, nine Shell workers in Deer Park were sent to the hospital after a fire broke out at the plant, releasing plumes of smoke that led to an increase in nosebleeds, nausea, and fatigue in nearby communities.<sup>458</sup> In 2019, a similar chemical fire broke out near a local school, Deer Park Junior High, raising health concerns about long term benzene exposure for several mothers and local residents.<sup>459</sup> Due to events such as these, caretakers must remain vigilant and attend to their children’s health and safety. The fact that mothers are 10 times more likely than fathers to take time off of work to care for sick children<sup>460</sup> underscores the burden women, mothers, and caregivers experience as a result of fossil fuel related health implications.

### **Port Arthur: Refineries and LNG**

Port Arthur, a city in Jefferson County, is a notable example of environmental racism. This city has a poverty rate more than double the state of Texas and a population of 72.7% African American/Black/African Diaspora<sup>461</sup> and Latine people.<sup>462</sup> According to the Texas Cancer Registry, Black residents in Jefferson County—located downwind of oil refinery flaring—have 15% higher cancer rates than the Texas average and 40% higher cancer mortality rate than the Texas average.<sup>463</sup> Studies reported that Port Arthur residents are also over 4 times more likely than people 100 miles upwind of refineries to have respiratory problems, skin disorders, and

452 Kunstman, B. Et al. (2020, February 6). Monitoring for Benzene at Refinery Fencelines. *Environmental Integrity Project*. [\[LINK\]](#)

453 Ibid.

454 Collins, C. (2020, February 6). Six Texas Oil Refineries Are Among the Nation’s Worst Benzene Polluters, Data Shows. *Texas Observer*. [\[LINK\]](#)

455 Ibid.

456 Ibid.

457 Kunstman, B., Et al. (2020, February 6). Monitoring for Benzene at Refinery Fencelines: 10 Oil Refineries Across U.S. Emitted Cancer-Causing Benzene Above EPA Action Levels. *Environmental Integrity Project*. [\[LINK\]](#)

458 Nguyen, R. (2023, May 9). Experts concerned about impact of Deer Park Shell fire on people of color. *ABC 13*. [\[LINK\]](#)

459 Citron-Fink, R. (2019, March 28). Parents Have Serious Health Concerns in the Wake of Petrochemical Fires in Texas. *Moms Clean Air Force*. [\[LINK\]](#)

460 Lann, B. (2014, October 28). Who Stays Home When the Kids Are Sick? *The Atlantic*. [\[LINK\]](#)

461 U.S. Census Bureau. (2019). *Port Arthur city, Texas*. [\[LINK\]](#)

462 Collins, C. (2020, February 6). Six Texas Oil Refineries Are Among the Nation’s Worst Benzene Polluters, Data Shows. *Texas Observer*. [\[LINK\]](#)

463 Invasive Cancer Incidence Rates in Texas. (2023, February). *Texas Cancer Registry*. [\[LINK\]](#); Feleischman, L. (2017). Fumes Across the Fence-Line. *NAACP Clean Air Task Force*. [\[LINK\]](#)

headaches.<sup>464</sup> A 2023 EIP study found that three refineries in Port Arthur, including Motiva’s Port Arthur, Total Refinery, and Port Arthur Refinery, have released hundreds of thousands of pounds of pollution per year into Alligator Bayou, which has become so contaminated that fish can no longer live there.<sup>465</sup> Wetlands are essential for climate change mitigation and adaptation,<sup>466</sup> and their destruction places nearby communities at greater risk from the impacts of climate change. Total Refinery, owned by TotalEnergies, was cited emitting benzene at 148% above the EPA’s action level.<sup>467</sup> Air and water pollutants have an increased impact on women’s reproductive and endocrine health (as discussed in Section 5d).

Ten miles outside of Port Arthur, an LNG project owned by Sempra—Port Arthur LNG Export Terminal—is under construction along the Sabine-Neches ship channel.<sup>468</sup> Upon completion, this terminal is projected to emit more than 7 million tons of greenhouse gas emissions annually.<sup>469</sup> The Port Arthur LNG Export Terminal will release chemicals such as nitrogen oxide and carbon monoxide, which can increase the risk of cardiovascular disease specifically in women.<sup>470</sup> In 2020, the TCEQ approved an air permit for the Port Arthur LNG Export Terminal that was later revoked in November 2023 due to a federal court’s finding that the TCEQ had granted Sempra’s permit with lower standards inconsistent with state regulations.<sup>471</sup> Sempra has not been required to halt construction, but has since had to reapply for a TCEQ emissions permit.<sup>472</sup> Similar negative health impacts and emission violations persist in other communities along the Gulf Coast.

### **Corpus Christi: Refineries and LNG**

Past and current developments in Corpus Christi, in San Patricio County, are another egregious example of the oil and gas industry’s history of environmental racism in the Texas Gulf Coast. Corpus Christi has a poverty level 5% higher than the national average and 64% of the community’s residents identify as Hispanic.<sup>473</sup> The history of devastation is embodied in the actions of the Citgo operations in Corpus Christi: in 2008, blood and urine tests of residents adjacent to the refinery had benzene levels 280 times greater than the general population;<sup>474</sup> in 2014, Citgo was found guilty on two Clean Air Act counts of conviction;<sup>475</sup> and in 2016, an oil spill rendered the tap water undrinkable, impacting over 300,000 people.<sup>476</sup>

Valero’s Corpus Christi East refinery is also disproportionately impacting Latine community members; nearly two-thirds of the residents living within a mile of Valero’s plant identify as

464 Ibid. Morris, D. Et al. (2004). Symptoms of adverse health effects among residents from communities surrounding chemical-industrial complexes in southeast Texas. *Archives of Environmental Health: An International Journal*. [\[LINK\]](#)

465 Environmental Integrity Project. (2023, January 26). *Oil’s Unchecked Outfalls*. [\[LINK\]](#)

466 Washington State Department of Ecology. *Wetlands & Climate Change*. [\[LINK\]](#); State of Vermont. (2024). *Wetland Functions and Values: Water Storage for Flood Water and Storm Runoff*. [\[LINK\]](#)

467 Collier, K. (2020, February 7). Report: Six Texas oil refineries spewing cancer-causing pollutant above federal threshold. *KHOU*. [\[LINK\]](#)

468 Sempra Infrastructure. (2024). *About Port Arthur LNG*. [\[LINK\]](#)

469 Younes, L. (2023, November 20). The liquefied natural gas boom hits a snag in Port Arthur, Texas. *Grist*. [\[LINK\]](#)

470 Wu, R. Et al. (2016, August 17). Impact of carbon monoxide and nitrogen dioxide on cardiovascular biomarkers in the Study of Women’s Health Across the Nation. *Environmental Health Perspectives*. [\[LINK\]](#)

471 Zuvanich, A. (2023, November 15). Port Arthur LNG facility on hold as federal appeals court vacates Texas-issued emissions permit. *Houston Public Media*. [\[LINK\]](#)

472 Data USA. (2021). *Corpus Christi, Tx*. [\[LINK\]](#)

473 Ibid.

474 Wilder, F. (2009, August). The Fire this Time. *The Texas Observer*. [\[LINK\]](#)

475 The United States Department of Justice. (2014, February). Citgo Sentenced to Pay More Than \$2 Million for Environmental Crimes at Corpus. *Department of Justice*. [\[LINK\]](#)

476 Reuters (2016, December 18). Texas City Lifts Tap Water Ban After Chemical Spill Fear. *Fortune*. [\[LINK\]](#)

Latine.<sup>477</sup> According to the EPA, in 2023, Valero’s refinery was emitting benzene 42 times over the acceptable limit.<sup>478</sup> The report led by the EPA inspector general also determined that Valero underreported benzene emissions by utilizing emission modeling techniques instead of approved monitoring techniques.<sup>479</sup> Exposure to high levels of benzene over a long period has the potential to cause irregular menstrual cycles and reduce ovary size in women.<sup>480</sup>

Existing and expanding pipelines in and/or near Corpus Christi also threaten the health and safety of women. In December 2022, Flint Hill Resources’ (FHR) Ingleside crude oil terminal pipeline spilled 335 barrels of light crude oil, equating to 14,000 gallons of oil, into the Corpus Christi Bay due to a crack in the pipeline.<sup>481</sup> A 2016 study found that the after-effects of an oil spill were associated with an increase in mental distress, domestic violence, and depression in women.<sup>482</sup> As of May 2023, FHR was seeking a permit to continue to operate its Ingleside LLC Marine Terminal, located directly across the bay from Corpus Christi in San Patricio County, which has a Latine population more than twice the national average.<sup>483</sup> Environmental justice groups are fighting and organizing against the terminal’s approval, highlighting the fact that FHR is categorized as a “high-priority violator” under the Clean Air Act.<sup>484</sup> Enbridge, the company behind Line 3 and Line 5 pipelines, is also seeking to expand its Gray Oak pipeline linking the Port of Corpus Christi to Line 3.<sup>485</sup> As of March 2024, construction has yet to begin, but is expected to cost \$100 million and increase crude oil output by 2.5 million barrels.<sup>486</sup>

Cheniere, another fossil fuel company with operations in Corpus Christi and Gregory, Texas, is seeking expansion with several existing and proposed LNG train projects. Cheniere Corpus Christi Stage III—a proposed LNG train project approved in 2022—was unaffected by the LNG pause and is expected to complete construction by 2027.<sup>487</sup> Construction for Cheniere Corpus Christi Midscale Trains 8-9, each capable of producing 1.64 million metric tons of LNG annually, is delayed as a result of the LNG pause.<sup>488</sup> Cheniere has repeatedly exceeded emission limits for its Cheniere’s Corpus Christi LNG plant—receiving 19 violation notices.<sup>489</sup> Instead of administering penalties, in 2022, the Texas Commission on Environmental Quality (TCEQ) approved a permit for Cheniere to emit more pollution above federal standard limits.<sup>490</sup> According to the EPA, air pollution can worsen existing conditions for women, such as cardiovascular disease, lung disease, and diabetes; air pollution can also adversely affect fertility and pregnancy outcomes.<sup>491</sup>

477 U.S. Census Bureau. (2021, July 1). *Quickfacts: Corpus Christi City, Texas*. [\[LINK\]](#)

478 DiNatale, S. (2023, September 27). Valero’s benzene reporting could mask true emissions at Corpus refineries, EPA oversight report says. *San Antonio Express News*. [\[LINK\]](#) Collins, C. (2020, February 6). Six Texas Oil Refineries Are Among the Nation’s Worst Benzene Polluters, Data Shows. *Texas Observer*. [\[LINK\]](#)

479 Ibid.

480 CDC. (2018, April 4). *Facts about Benzene*. [\[LINK\]](#)

481 Salinas, R. (2023, January 5). Oil spill in Corpus Christi bay nearly 4 times larger than originally estimated. *KSAT*. [\[LINK\]](#)

482 Rung, A. Et al. (2016, May). Depression, Mental Distress and Domestic Conflict among Louisiana Women Exposed to the Deepwater Horizon Oil Spill in the Watch Study. *Environmental Health Perspectives*. [\[LINK\]](#)

483 US Census Bureau. (2022). *QuickFacts, San Patricio County, Texas*. [\[LINK\]](#)

484 Scott, A. (2023, May 23). Environmental advocates concerned as Flint Hills Resources seeks permits from TCEQ. *Kris6News*. [\[LINK\]](#)

485 Blum, J. (2021, November 5). Enbridge next focused on adding crude capacity, connections to Texas Gulf Coast. *S&P Global*. [\[LINK\]](#)

486 Stephenson, A. (2024, March 6). Enbridge bullish on Mainline, sees Canadian pipelines maxing out capacity by 2026. *Calgary Herald*. [\[LINK\]](#)

487 Ibid.

488 Metzger, L. Et al. (2024, February 20). What’s happening with LNG in Texas? *Environment Texas*. [\[LINK\]](#)

489 Groom, N. Et al. (2022, June 24). INSIGHT-Texas repeatedly raises pollution limits for Cheniere LNG plant. *NASDAQ*. [\[LINK\]](#)

490 Ibid.

491 Women and Environmental Health Fact Sheet. (2007, October). *EPA*. [\[LINK\]](#); Tran, K. Et al. (2020, June 3). Residential Proximity to Oil and Gas Development and Birth Outcomes in California: A Retrospective Cohort Study of 2006–2015 Births. *Environmental Health Perspectives*. [\[LINK\]](#); Willis, M.D., Et al. (2021, December 13). Associations between residential proximity to oil and gas extraction and hypertensive conditions during pregnancy: a difference-in-differences analysis in Texas, 1996–2009. *International Journal of Epidemiology*. [\[LINK\]](#)



Elida Castillo standing in the road close to her house in Taft. (Dylan Baddour)

Elida Castillo, Program Director for Chispa Texas and resident of Gregory, Texas, describes watching her community's health deteriorate before her eyes:

**“We have talked to parents whose children have never had respiratory issues before, and now they’re having to use nebulizers. People are getting headaches. There’s just so many different projects [in Gregory]...people have been reporting more respiratory problems.”<sup>492</sup>**

Elida Castillo's description of the fossil fuel-related health issues in Gregory parallel community members' concerns in other Texas towns where LNG facilities are being proposed and/or constructed.

### **Freeport: LNG**

Freeport, Texas is a community along the Gulf Coast, home to several petrochemical plants and Freeport LNG, the second largest exporter of LNG in the United States.<sup>493</sup> The Freeport LNG Terminal currently consists of Trains 1-3 which exports LNG, and Train 4 which is expected to be fully operational by 2028 and also exports LNG.<sup>494</sup> In January 2024, Train 3 experienced freeze damage to one of its motors, causing Trains 1 and 2 to be taken offline until May 2024.<sup>495</sup> Frozen LNG pipes can disrupt fuel flow building pressure, which can potentially cause leaks and in turn release a cloud of vapor that triggers a fire or explosion.<sup>496</sup> In June 2022, an explosion and fire occurred at the Freeport LNG terminal as a result of built up pressure in an “improperly closed relief valve.”<sup>497</sup> Many residents were temporarily evacuated and some residents were not notified of the extent of the disaster until watching the news.<sup>498</sup> Freeport LNG's explosion caused \$275 million in damages to the facility, and also cost the company \$163,054 for violating the Clean Air Act by failing to follow chemical accident prevention regulations<sup>499</sup> [See section 8 regarding financial risks].

The TCEQ reported that the explosion caused elevated levels of carbon monoxide, volatile organic compounds, nitrous oxides, and sulfur dioxide to be released.<sup>500</sup> Studies have shown that women exposed to nitrous oxides and sulfur dioxide in the first few weeks of pregnancy have a higher risk of gestational diabetes,<sup>501</sup> and when exposed to particulate matter and sulfur dioxide have an increased chance of giving birth early to a baby with a low birth weight.<sup>502</sup>

<sup>492</sup> Mogenson, J. (2024, February 7). “The Eye of Sauron”: How Liquefied Natural Gas Terminals Torment the People Living Nearby. *Mother Jones*. [\[LINK\]](#)

<sup>493</sup> Pipeline and Gas Journal. (2024, April 15). *Freeport LNG Plant Runs Near Zero Consumption for Fifth Day*. [\[LINK\]](#)

<sup>494</sup> Global Energy Monitor. (2023, October 12). *Freeport LNG Terminal*. [\[LINK\]](#)

<sup>495</sup> Freeport LNG Expects Trains 1 and 2 at Texas Facility to Remain Offline Until May. (2024, March 20). *Pipeline and Gas Journal*. [\[LINK\]](#)

<sup>496</sup> Why do LNG dispenser pipes freeze? (2023, December 1). *Blue Sky New Energy*. [\[LINK\]](#); Radtke, P. (2024, March 6). Secrecy around LNG export terminals leaves public in the dark on dangers. *Louisiana Illuminator*. [\[LINK\]](#)

<sup>497</sup> Lee, M. Et al. (2022, November 1). ‘Hubris’: LNG plant officials saw trouble days before blast. *Politico*. [\[LINK\]](#)

<sup>498</sup> Miles, J. (2022, June 8). Residents report feeling explosion at plant near Freeport. *KHOU 11*. [\[LINK\]](#)

<sup>499</sup> Reuters. (2023, December 14). *Freeport LNG settles with US EPA over safety failures for June 2022 Texas blast*. [\[LINK\]](#)

<sup>500</sup> A major natural gas terminal in Texas goes offline because of an explosion. (2022, June 10). *NPR*. [\[LINK\]](#)

<sup>501</sup> Robledo, C. Et al. (2015, February). Preconception and early pregnancy air pollution exposures and risk of gestational diabetes mellitus. *National Library of Medicine*. [\[LINK\]](#)

<sup>502</sup> Mitku, A. Et al. (2023, January 6). Impact of ambient air pollution exposure during pregnancy on adverse birth outcomes: generalized structural equation modeling approach. *BMC Public Health*. [\[LINK\]](#)

These types of complications would be exacerbated by the fact that nearly 30% of Freeport residents are uninsured for healthcare, which places women at greater risk of forgoing necessary medical treatments, maternity care, and preventive care.<sup>503</sup> Additionally, a ProPublica data map that analyzed cancer cluster hotspots across the country found that 1 out of every 450 Freeport residents is estimated to have an incremental lifetime probability of cancer, which is 22 times the EPA's acceptable risk.<sup>504</sup> With preexisting health issues such as these and a poverty rate nearly double the nation's average,<sup>505</sup> overcoming a future LNG catastrophe would be especially difficult.

A notable example of the egregious impacts of LNG is East End, a historic African American/Black/African Diaspora neighborhood in Freeport that was established in the 1930s. The neighborhood has slowly diminished due to land dispossession to facilitate growth of local industry and Port Freeport, which now owns 95% of the property in East End.<sup>506</sup> Homes, churches, and businesses were acquired through eminent domain, forcing residents to leave behind their memories and livelihood.<sup>507</sup>



Gwen Jones speaking at an action to defend the Gulf from fossil fuel exports. (Gwen Jones)

Gwendolyn Jones, a mother and activist, experienced the grave consequences of fossil fuel expansion when her family's property in the neighborhood of East End was acquired by eminent domain for Port Freeport's LNG and chemical exports. She describes caring for her grandson with an asthma attack believed to be exacerbated by industrial pollution :

**“He was having an asthma attack [and] I was bringing him home. All of a sudden, three years old, he wasn't even in school yet, and I looked in the back seat and he was just gasping and thank God I have asthma so I knew how to keep him calm, until I got home because I had the medicine here at the house. I had to calm him down, tell him to close his eyes and just relax and hold my hand and then when I got him home... I gave him the medicine I used, the pumps and everything.”<sup>508</sup>**

503 Freeport, Tx. (2021). *Data USA*. [\[LINK\]](#); Borchelt, G. The Impact Poverty Has on Women's Health. *American Bar Association*. [\[LINK\]](#)

504 Shaw, A. Et al. (2023, August 28). The Most Detailed Map of Cancer-Causing Industrial Air Pollution in the U.S. *ProPublica*. [\[LINK\]](#)

505 Data USA. (2021). *Freeport, Tx*. [\[LINK\]](#)

506 Erdenesanaa, D. (2023, April 26). Goodbye to a Neighborhood. *Texas Observer*. [\[LINK\]](#)

507 Hagerty, C. (2022, March 24). 'Everything's going to pieces': how a port took over a Black US neighborhood. *The Guardian*. [\[LINK\]](#)

508 Jones, G. (2024). WECAN interview.

Asthma hospitalizations impose significant challenges on children, leading to missed school days and heightened risks of chronic conditions.<sup>509</sup> A literature review from 2019 concluded that pediatric asthma hospitalization can cost upwards of \$3,076 to \$13,612 on average in the U.S., highlighting the potential financial and care burdens on women who take time off of work to care for their child.<sup>510</sup>

### **Brownsville LNG**

Since the early 2000s, the Brownsville community, located in Cameron County, has been resisting construction of LNG plants;<sup>511</sup> currently, there are at least three active LNG projects at various stages of permitting and early construction. NextDecade's Rio Bravo LNG Pipeline Project, expected to begin construction in 2025 would run between Kleberg County and the city of Brownsville, with an estimated cost of \$2.1 billion.<sup>512</sup> The Rio Bravo Pipeline will consist of a 137 mile pipeline that will transport 4.5 billion cubic feet of natural gas per day.<sup>513</sup> Over 150 landowners are at risk of land seizure via eminent domain to accommodate land for the pipeline.<sup>514</sup> Another project planned for Brownsville is Glenfarne Group's Texas LNG export plant, which is anticipated to span across 625-acres of black mangrove habitat and cost \$3.5 billion.<sup>515</sup> The company claims Texas LNG is "Green by Design" because it will be powered by motors run on renewable energy.<sup>516</sup> Glenfarne anticipates project financing to be completed in early 2024 and operations to start in 2027.<sup>517</sup> Texas LNG received construction approval prior to the LNG pause and is authorized to move forward with construction, which as of May 2024 has yet to commence.<sup>518</sup>

Expansion of LNG in Brownsville will increase pollution and the negative health consequences that stem from such pollution. In a community where nearly 95% of the residents identify as Hispanic and 26% of residents live in poverty,<sup>519</sup> heightened air pollution in Brownsville is risking the health of Hispanic and low-income individuals—groups that already experience worse outcomes in terms of pregnancy and childbirth complications.<sup>520</sup> LNG pollution will exacerbate these issues. This is especially concerning in a community where 48% of residents do not have health insurance.<sup>521</sup> In 2023, Brownsville was named the unhealthiest city in the U.S.—a designation based on access to healthy food, vaccination rates, and medical costs.<sup>522</sup> Therefore, adverse health consequences caused by elevated particulate matter and pollution

509 Willis, M., Hystad, P., Denham, A., et. al. (2020, December). Natural gas development, flaring practices and paediatric asthma hospitalizations in Texas. *International Journal of Epidemiology*. [\[LINK\]](#)

510 Perry, R., Braileanu, G., Palmer, T., et. al. (2019, February). The Economic Burden of Pediatric Asthma in the United States: Literature Review of Current Evidence. *Pharmacoeconomics*. [\[LINK\]](#)

511 Dr. DeYoe, H. (2017). History of Proposed LNG Plants at Port of Brownsville. *The University of Texas Rio Grande Valley*. [\[LINK\]](#)

512 Enbridge. (2020, February 13). *Rio Bravo Pipeline Project*. [\[LINK\]](#); Global Energy Monitor. (2023, September 8). *Rio Bravo Gas Pipeline*. [\[LINK\]](#)

513 Ibid.

514 Global Energy Monitor. (2023, September 8). *Rio Bravo Gas Pipeline*. [\[LINK\]](#)

515 Gallucci, M. (2024, February 28). Inside the fight to stop LNG export projects in South Texas. *Canary Media*. [\[LINK\]](#); Nissimov, R. (2020, June 29). Glenfarne eyeing Gulf Coast LNG FIDs in 2021, Sees 'Substantial Opportunity' in Korean Market. *Natural Gas Intel*. [\[LINK\]](#)

516 Texas LNG. *Texas LNG is "Green by Design."* [\[LINK\]](#)

517 Business Wire. (2024, January 25). Glenfarne Energy Transition's Texas LNG Updates Commercial Status and Concludes Required Permitting for Final Investment Decision. *Yahoo Finance*. [\[LINK\]](#); Global Energy Monitor. (2023, November 13). *Texas LNG Terminal*. [\[LINK\]](#)

518 Metzger, L. Et al. (2024, February 20). What's happening with LNG in Texas? *Environment Texas*. [\[LINK\]](#)

519 United States Census Bureau. (2018-2022). *QuickFacts Brownsville*. [\[LINK\]](#)

520 Hoyert, D. (2020). Maternal Mortality Rates in the United States, 2020. *National Center for Health Statistics*. [\[LINK\]](#); Blue Cross Blue Shield. (2022, September 21). *Racial and Ethnic Disparities in Maternal*. [\[LINK\]](#)

521 Brownsville Comprehensive Healthcare Plan. *City of Brownsville*. [\[LINK\]](#); Mann, S. (2023, April 4). America's unhealthiest city: Brownsville in Texas tops list... *Daily Mail*. [\[LINK\]](#)

522 Ibid.

released from the proposed Texas LNG, Rio Bravo LNG, Rio Grande LNG projects, will be amplified and exacerbated due to the communities' preexisting health conditions and the lack of access to healthcare and healthy food.<sup>523</sup> Emma Guevara, a local resident and Organizer in Brownsville, describes her interlocking concerns around healthcare access and the Rio Bravo and Texas LNG projects:



Photo of Emma Guevara, an Organizer and resident of Brownsville, Texas in front of green shrubs.

“LNG terminals have been known to cause reproductive health issues, including things like fertility issues, still-birth, premature births, anencephaly...which is really concerning to our community because as a majority minority Latino community... our community does not have access to healthcare the same way that the rest of the country does. Not to mention that because we're close to the border a lot of people think that accessing healthcare is easier because you can just go to Mexico and get cheaper healthcare. But the problem with that is a lot of our community is mixed status. And so depending on their citizenship status, they might not be able to go to Mexico and they might not be able to get medical care in the United States either.”

Another LNG project, the Rio Grande LNG terminal owned by NextDecade, began construction in early 2024 in Brownsville's Ship Channel; the terminal is projected to cost \$18.4 billion.<sup>524</sup> Extending from Port Isabel to Brownsville, Rio Grande LNG terminal will be one of the first major oil and gas projects along the U.S.–Mexico coast.<sup>525</sup> Upon completion, NextDecade's Rio Grande LNG could produce 27 million metric tons of LNG annually<sup>526</sup> and cover 750 acres of undeveloped land, crossing 182 acres of wetlands and 984-acre stretch of coastline.<sup>527</sup> The Rio Grande LNG terminal site is on sacred land that would cross Garcia Pasture, a burial site that is sacred to the Estok-Na Tribe, also known as the Carrizo/Comecrudo Tribe.<sup>528</sup> Garcia Pasture is also on the National Park Service's list of historic places and identified as an endangered site by the World Monuments Fund.<sup>529</sup> Despite knowledge of the importance of this area to the Carrizo/Comecrudo Tribe and that the protection of cultural sites is a human rights issue under the United Nations Declaration on the Rights of Indigenous Peoples, Texas LNG, Rio Grande LNG, regulators and financiers failed to consult the Tribe regarding their projects and their impacts to Carrizo/Comecrudo wellbeing and traditions.<sup>530</sup> Given that Indigenous women often play key roles in knowledge holding and transmission of culture,<sup>531</sup> the destruction of sacred sites may be especially detrimental to the Indigenous women in this region.

523 Ibid.

524 Gallucci, M. (2024, February 28). Inside the fight to stop LNG export projects in South Texas. *Canary Media*. [\[LINK\]](#)

525 Ibid.

526 Ibid.

527 Baddour, D. (2023, July 13). Company confirms it has found new funding to build a massive gas terminal at the Port of Brownsville. *The Texas Tribune*. [\[LINK\]](#)

528 Baddour, Dylan. (2022, October 18). Texas Indigenous leaders target banks in fight against natural gas export terminals in Rio Grande Valley. *Texas Tribune*. [\[LINK\]](#)

529 Ibid.

530 Ibid.

531 United Nations Department of Economic and Social Affairs. *UNPFII Mandated Areas - Environment*. [\[LINK\]](#)

Christa Mancias-Zapata (Esto'k Gna), Tribal secretary of the Carrizo/Comecrudo Tribe of Texas and activist, states that LNG facilities in her community are violating rights to Free, Prior and Informed Consent and threatening “sacred sites, land, air, water, and climate.”<sup>532</sup> In discussing her children and the devastating cultural and health impacts of future LNG projects, Christa Mancias-Zapata states:

**“I want [my children] to live in a society where they are not afraid to be who they are...That comes from stopping these pipelines so that the state recognizes that there are sacred sites that deserve to be preserved.”<sup>533</sup>**



Young activists in Texas holding “No LNG in the Rio Grande Valley” banner (Sierra Club)

Echoing this opposition, Rebekah Hinojosa, a resident and Organizer in Brownsville, Texas, reflects on how these polluting companies have not heard her communities’ concerns and opposition:

**“Over and over, we have made it clear that we do not want these massive gas facilities in our low-income communities of color because they would put our families in danger with pollution and risk of explosions, destroy wildlife habitat, destroy sacred lands, and exacerbate the climate crisis, all in the name of corporate polluter profit.”<sup>534</sup>**

<sup>532</sup> Garcia, J. (2023, June 8). One Year After Explosion in Freeport, 140+ Groups Demand Insurance Companies Stop Insuring Dangerous Methane Gas Expansion. *Insure Our Future*. [\[LINK\]](#)

<sup>533</sup> Givens, M. (2021, March 2). Defending the Sacred in South Texas: Christa Mancias. *Cultural Survival*. [\[LINK\]](#)

<sup>534</sup> Brown, G. (2023, July 11). Rio Grande Valley LNG Projects Hit With Legal Challenges... *Sierra Club*. [\[LINK\]](#)



### Additional Projects and Impacts

Numerous other large petrochemical facilities, LNG projects, and deepwater oil terminals are at various stages of construction or are slated for the region in the near future.<sup>535</sup> The Golden Pass LNG project, a QatarEnergy (formerly Qatar Petroleum) and ExxonMobil joint venture, was unaffected by the LNG pause and is expected to add around 186 million tons of natural gas production capacity by 2025.<sup>536</sup> In June 2022, Cheniere Energy Inc. received a positive Financial Investment Decision, allowing Cheniere Energy to move forward with Corpus Christi Stage 3 Liquefaction Project, an expansion project that will increase global LNG exports starting in 2025.<sup>537</sup> The 15 new and expanded petrochemical, natural gas, and oil facilities built in 2022 are expected to release an additional 1.1 million pounds of carbon dioxide per year, which does not even account for half of the project's emissions.<sup>538</sup> For example, Chevron Phillips Chemical and QatarEnergy plan to build an ethylene and polyethylene integrated complex, Golden Triangle Polymers Plant, in Orange Texas—a city with an African American/Black/African Diaspora population more than double the national average.<sup>539</sup> Expected to launch operations in 2026 as one of the largest polymer facilities in the world, Golden Triangle is moving forward despite allegations that Chevron Phillips Chemical violated the Clean Air Act and state air pollution control laws at three petrochemical manufacturing facilities in Cedar Bayou, Port Arthur, and Sweeney, Texas.<sup>540</sup> Several proposed deepwater oil terminals off the Texas coast, including Harbor Island Oil Terminal and Texas Gulf Link are awaiting approval, while the Blue Marlin Offshore Port and the Sea Port Oil Terminal have been approved.<sup>541</sup>

Accelerating climate change, driven by the fossil fuel industry, has further intensified risks to communities living in this area. Notably, sea level rise in the Gulf of Mexico has contributed to the rise of storm surges, hurricanes, and flooding events which have led to increased mental health anxieties, water and air contamination, as well as safety risks surrounding fossil fuel infrastructure.<sup>542</sup> A 2022 report by the U.S. Government Accountability Office determined that 70% of the 1,357 chemical facilities in Texas and Louisiana, were at risk of flooding, storm surge, and sea-level rise.<sup>543</sup> These climate exacerbated weather events could lead to forced shutdowns, an elevated release of emissions, fires, explosions, and other catastrophes.<sup>544</sup> During Hurricane Harvey in 2018, coastal refineries reportedly leaked up to 28,500 pounds of benzene into the air<sup>545</sup>—this number may be even higher as leaks are often underreported due to industry self-reporting.<sup>546</sup> Almost a decade prior, BP Oil spilled over 4.9 million barrels

535 Tullo, A. (2022, March 31). Big petrochemical project may come to the Gulf Coast. *CEN*. [\[LINK\]](#)

536 Gardner, T. (2019, February 5). Qatar Petroleum, Exxon invest in \$10 billion Texas LNG project. *Reuters*. [\[LINK\]](#); Paul, C. (2023, December 6). ExxonMobil pushes back timeline for startup of Golden Pass LNG. *S&P Global*. [\[LINK\]](#)

537 Cheniere. (2022, June 22). *Cheniere Announces Positive Final Investment Decision on the Corpus Christi Stage 3 Liquefaction Project*. [\[LINK\]](#)

538 Abbott, M., et al. (2023, March 20). New petrochemical facilities in Texas adding 1.1 million pounds of CO2 every year. *EnvironmentTexas*. [\[LINK\]](#)

539 U.S. Census Bureau. *Orange City Texas*. [\[LINK\]](#); Pipoli, R. (2022, November 19). CPChem, Qatar to build new polyethylene plan in Texas-Louisiana border. *Reuters*. [\[LINK\]](#)

540 *Ibid.*

541 Phillips, A. (2023, March 8). Wave of new oil export terminals looms over Gulf Coast. *News Oil and Gas Watch*. [\[LINK\]](#); Trimble, A. (2024, April 12). Biden Administration Approves Largest Offshore Oil Export Terminal in the U.S. *Earthjustice*. [\[LINK\]](#); Texas Gulf Link. *Project Overview*. [\[LINK\]](#); Global Energy Monitor. (2024, April 16). *Blue Marlin Offshore Port*. [\[LINK\]](#)

542 Licker, R., et al. (2019). Tracing Fossil Fuel Companies' Contribution to Climate Change and Ocean Acidification. *Union of Concerned Scientists*. [\[LINK\]](#); Liddell, J., et al. (2021). Historic and Contemporary Environmental Justice Issues among Native Americans in the Gulf Coast Region of the United States. *BrockU*. [\[LINK\]](#)

543 Sadasivam, N. (2023, June 7). A billion-pound problem: How unchecked "excess emissions" ballooned in Texas. *The Texas Tribune*. [\[LINK\]](#)

544 *Ibid.*

545 Collins, C. (2020, February 6). Six Texas Oil Refineries are Among the Nation's Worst Benzene Polluters, Data Shows. *Texas Observer*. [\[LINK\]](#)

546 *Ibid.*

of oil into the Gulf of Mexico.<sup>547</sup> The Associated Press reported that women in the Gulf Coast have suffered from what they call “storm PTSD” wherein the ongoing climate disasters, perpetuated by the fossil fuel pollution, increase threats of industry accidents and related risks, which directly impacts women as caretakers in the region.<sup>548</sup> In its 2023 report, the EIP discovered 21,769 instances of unauthorized pollution across Texas between 2016 and 2022, but found that “only one half of one percent of these incidents did the state use its legal authority to require the companies to analyze the cause of the problem and take concrete action to avoid these pollution releases in the future.”<sup>549</sup> Despite the EIP’s findings and growing concerns about climate chaos, the Gulf Coast continues to be a hub for fossil fuel expansion, with numerous new LNG sites, refineries, and offshore drilling permits being proposed and approved.

Continuation of the fossil fuel industry and the rapid development currently underway in the Texas Gulf Coast will disproportionately impact African American/Black/African Diaspora women, Indigenous women, and Latinas in these communities. As previously discussed, fossil fuel pollution related illnesses in children and family members disproportionately encumber women, given their more pronounced roles as caretakers tending to the sick. Although no studies from this particular region have been published about reproductive issues, based on other studies in Pennsylvania, California, and other states and the carcinogenic nature of these chemicals,<sup>550</sup> there is need for more data and research into the effects this pollution is having on pregnant women and newborns.

Elida Castillo, summarizes how fossil fuel industries manipulate frontline communities:

**“Our communities, which are Black and Brown, and lower income, are targeted. They think they can take advantage of people by not informing them. [They] donate money to build a playground, while at the same time exposing our children to these contaminants that are going to affect their health in the long run. Families shouldn’t be exposed to the types of dangers we’re exposed to. Workers shouldn’t have this fear of being exposed to chemicals, and then taking them back home to family members and exposing them too. [These companies] are misinforming the communities that they’re coming into, and they just don’t care about us.”<sup>551</sup>**

In 2022, the world’s largest 60 banks provided \$10.1 billion to TotalEnergies, the company behind the Port Arthur Refinery.<sup>552</sup> From 2016-2021, JPMorgan Chase and Bank of America provided TotalEnergies, with \$2.8 billion and \$2.1 billion, respectively, in fossil fuel financing.<sup>553</sup> As of March 31, 2024, Royal Bank of Canada, Bank of America, and JPMorgan Chase were all amongst the top 20 largest shareholders of TotalEnergies, owning a collective 7.5 million

547 Liddell, J., Et al. (2021). Historic and Contemporary Environmental Justice Issues among Native Americans in the Gulf Coast Region of the United States. *BrookU*. [\[LINK\]](#)

548 Bussewitz, C., Et al. (2022, June 2). As natural gas expands in Gulf, residents fear rising damage. *AP News*. [\[LINK\]](#)

549 Baddour, D. (2023, June 30). Texas Pipeline Operators Released or Flared Tons of Gas to Avert Explosions During Heatwave. *Inside Climate News*. [\[LINK\]](#); Clark-Leach, G., Et al. (2023, March 23). *Environmental Integrity Project. The Polluter’s Playbook How Loopholes and Lax Enforcement Harm Air Quality in Texas*. [\[LINK\]](#)

550 Currie, J., Et al. (2017, December 13). Hydraulic fracturing and infant health: New evidence... *Science Advances*. [\[LINK\]](#); Webb, E. (2014, December 5). Developmental and reproductive effects of chemicals associated with unconventional oil and natural gas. *Reviews on Environmental Health*. [\[LINK\]](#)

551 Castillo, E. (2022, May 12). WE CAN Interview.

552 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance*. [\[LINK\]](#)

553 Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

shares worth over \$524 million.<sup>554</sup> Additionally, BlackRock and Vanguard are significant shareholders of Next Decade, the company that owns Rio Bravo LNG with a combined value of over \$180 million.<sup>555</sup> Liberty Mutual has also been enabling LNG across the Texas Gulf Coast, providing insurance for Rio Grande LNG, Freeport’s Export Facility, and Motiva Port Arthur Refinery.<sup>556</sup> According to the Rainforest Action Network, Liberty Mutual “ha[s] yet to meet with community members...[and will not] publicly commit to ending coverage.”<sup>557</sup>

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554 NASDAQ, *TotalEnergies SE Common Stock (TTE), Institutional Holdings*. [\[LINK\]](#)

555 NASDAQ, *Next Decade Corp. Common Stock (NEXT), Institutional Holdings*. [\[LINK\]](#)

556 Rainforest Action Network. (2024, February). *Risk Exposure: The Insurers Secretly Backing the Methane Gas Boom in the US Gulf South*. [\[LINK\]](#)

557 *Ibid.*

## 6b. The Willow Project

Project	Company	Banks investing in the company*	Asset Managers investing in the company**	Insurance companies insuring the company***
The Willow Project	ConocoPhillips	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> (3) <a href="#">Citigroup</a> (4) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A

All data in the chart is derived from financial databases/platforms (Nasdaq), or the Rainforest Action Network's 2024 published report, *Banking on Climate Chaos*.

\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*N/A is because there is a lack of transparency.

The Western Arctic currently faces four times faster warming than anywhere in the world, as a result of climate change.<sup>558</sup> This is where ConocoPhillips has been approved to build the historic Willow Project pipeline,<sup>559</sup> the largest proposed oil and gas project on U.S. public lands, with an anticipated 385 miles of pipelines, 30 miles of roads, an airstrip, and a gravel mine.<sup>560</sup> The project's construction and operation has been called a "carbon bomb" and would have devastating consequences for the health and traditional practices of Alaska Native communities who have lived in the region for thousands of years, as well as ecological ecosystems and local wildlife.<sup>561</sup>

The National Petroleum Reserve where the project is slated for construction has become a sacrifice zone,<sup>562</sup> threatening Indigenous ways of life, including food security for residents who practice a traditional subsistence lifestyle.<sup>563</sup> Food insecurity has been shown to be significantly associated with higher indicators of psychological distress as well as higher rates of diabetes in women.<sup>564</sup> This uniquely affects Indigenous women who are the most vulnerable to malnourishment and hunger.<sup>565</sup> A study by the International Journal of Circumpolar Health notes that "affordability of market food and accessibility to hunting and fishing in Arctic Canada were major barriers to Indigenous women's food security."<sup>566</sup> The Willow Project's footprint includes areas within the Teshekpuk Lake Special Area, "a critical ecological area which is home to migratory birds and is a primary calving area and migration corridor for the Teshekpuk caribou herd."<sup>567</sup> Studies note that "few places outside the proposed project's area match the impor-

558 Harvey, C. (2022, August 12). The Arctic Is Warming Four Times Faster Than the Rest of the Planet. *Scientific American*. [\[LINK\]](#)

559 Protect the Western Arctic: America's largest piece of undisturbed public land. (2023). *StopWillow*. [\[LINK\]](#)

560 U.S. Department of Interior. (January 2023). *Willow Master Development Plan*. [\[LINK\]](#)

561 Ibid.

562 Sovereign Iñupiat for Living Arctic. (2023, January 31). *38 Indigenous Led Organizations Sign On to Stop Willow Plan*. [\[LINK\]](#)

563 Ibid.

564 Myers, C. (2020, April 2). Food Insecurity and Psychological Distress: a Review of the Recent Literature. *Current Nutrition Reports*. [\[LINK\]](#); Gucciardi, E., Et al. (2014). The Intersection between Food Insecurity and Diabetes: A Review. *Curr Nutr Rep*. [\[LINK\]](#)

565 Imam, S. (2020). The Effects of Food Insecurity on Indigenous Women in Maine. *University of Maine*. [\[LINK\]](#)

566 Lambden, J., Et al. (2012, March 18). Traditional and market food access in Arctic Canada is affected by economic factors. *International Journal of Circumpolar Health*. [\[LINK\]](#)

567 Friedman, L. (2023, February 1). Biden Clears the Way for Alaska Oil Project. *NYTimes*. [\[LINK\]](#)

tance of the Teshekpuk Lake Caribou Habitat Area,” and further oil and gas development would affect subsistence hunting in at least five villages that depend on it: Nuiqsut, Utqiagvik, Anaktuvuk Pass, Atqasuk, Point Lay and Wainwright.<sup>568</sup> Over three-quarters of residents in Nuiqsut, for example, live off the fish they catch, the whales they harvest and the caribou they hunt.<sup>569</sup> Over the past decade, over a third of Nuiqsut households (38%) were not able to get enough healthy food to meet their needs, 53% percent of households were unable to get enough subsistence foods, and 25% percent of households reported that at times they did not have enough food to eat.<sup>570</sup> Nauri Simmonds (Iñupiaq), Executive Director for Sovereign Impact for a Living Arctic (SILA), describes how fossil fuel operations have impacted Nuiqsut’s food sources in the region: “There is cancer in the caribou and mold in the fish.”<sup>571</sup> With the strong correlation between food insecurity and negative health indicators, women who rely on this habitat area for subsistence hunting will be at greater risk for physical and mental health concerns.

Siqiniq Maupin, an Iñupiaq person discusses how the Willow Project affects them and their children:

**“If we lose that land, it’s devastating to our culture...I’m very afraid that my kids are going to grow up not just in a world that doesn’t have their traditional medicine that we’ve been eating for thousands and thousands of years, but that they won’t even have a safe place to be that isn’t overheating.”<sup>572</sup>**

Residents of Anaktuvuk Pass, home to the Nunamiut people, identified the impacts that this habitat destruction would bring to their community, writing in a letter imploring the U.S. government to respect their tribal government and consult them before any decision-making; residents stated that, “Caribou are vital to our culture, to our livelihood, and to our physical and spiritual wellbeing.”<sup>573</sup> Despite local Indigenous communities’ stated concerns and lack of consent, as well as President Biden’s promise not to drill on federal lands,<sup>574</sup> the Biden Administration approved the project in March 2023.<sup>575</sup> In response, climate and Indigenous groups filed two lawsuits in opposition to the Willow Project asserting that federal agencies failed to analyze the project’s full environmental impacts and failed to provide a range of alternatives to mitigate these impacts, including impacts to subsistence practices.<sup>576</sup> The lawsuits claim that the agencies violated the National Environmental Policy Act, the Endangered Species Act, the Alaska National Interest Lands Conservation Act, and other federal acts.<sup>577</sup> In November 2023, U.S. District Court Judge Sharon Gleason, ruled in favor of ConocoPhillips by siding with the

568 Petersen, V. (2022, August 3). Alaska’s Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

569 Harball, E. (2019, May 8). How a small, Arctic village found itself in the middle of Alaska’s new oil boom *Alaska Public News*. [\[LINK\]](#)

570 Brubaker, M., Et al. (2016). Climate Change in Nuiqsut, Alaska. *ANTHC Center for Climate and Health*. [\[LINK\]](#)

571 Simmonds, N. (2024, May). *WE CAN* Interview.

572 Funes, Y. (2023, March 6). The Willow Project Would Be a Public Health Crisis for Alaska. *The Frontline*. [\[LINK\]](#)

573 Hugo, C. (2023, March 7). Willow Project Threatens Traditional Caribou Hunting: Naqsragniut Tribal President Writes Letter to the DOI Requesting Consultation. *NDN Collective*. [\[LINK\]](#)

574 Kertscher, T. (2023, April 10). Fact check: Did Biden flip-flop on allowing oil drilling on federal lands? *WRAL News*. [\[LINK\]](#)

575 Nilsen, E. (2023, March 14). Biden administration approves controversial Willow oil project in Alaska, which has galvanized online activism. *CNN*. [\[LINK\]](#)

576 Sovereign Iñupiat for a Living Arctic v. Bureau of Land Management. (2023, November 9). Case No. 3:23-cv-00058-SLG. [\[LINK\]](#); Nilsen, E. (2023, March 15). Environmental groups file two lawsuits hoping to stop the Willow Project, citing climate impacts. *CNN*. [\[LINK\]](#); Sabin Center for Climate Change Law. (2023). *Sovereign Iñupiat for a Living Arctic v. Bureau of Land Management*. [\[LINK\]](#)

577 Nilsen, E. (2023, March 15). Environmental groups file two lawsuits hoping to stop the Willow Project, citing climate impacts. *CNN*. [\[LINK\]](#); Sabin Center for Climate Change Law. (2023). *Sovereign Iñupiat for a Living Arctic v. Bureau of Land Management*. [\[LINK\]](#)

federal government and dismissing environmental groups' lawsuits.<sup>578</sup> In the same month, the groups filed an appeal to the Ninth Circuit court of appeals seeking to overturn the district court's ruling.<sup>579</sup> This appeal is awaiting a decision by the appeals court.

In a landscape that has already been severely altered by climate change, "ConocoPhillips' plan involves using giant chillers [which would require large amounts of energy to operate] to refreeze thawing permafrost—a consequence of climate change—to ensure a solid drilling surface."<sup>580</sup> Biden's approval of this project makes it nearly impossible for his administration to achieve stated environmental goals of reducing carbon emissions by 50% by 2030.<sup>581</sup> The Willow Project, as approved, would release an additional 239 million metric tons of greenhouse gasses over its 30 year lifetime; this is roughly equivalent to the combined emissions from 1.7 million gas-powered cars.<sup>582</sup> Residents in the area note that "the SEIS [supplemental environmental impact statement] still has the same major concerns: climate change, availability of quality subsistence, mental health impacts, and little benefit for the most vulnerable community."<sup>583</sup> The SEIS outlines several ways in which the community would be impacted, including noise, light and chemical pollution, and threats to Indigenous food security.<sup>584</sup> Specifically, the SEIS noted the environmental degradation and human rights violations that will occur due to the development of the Willow Project.<sup>585</sup> The persistence of these forms of pollution disproportionately threatens women's physical and mental health.<sup>586</sup>

The health of surrounding communities is already considered high risk with airborne pollutants released at each stage of the oil extraction process.<sup>587</sup> Especially concerning pollutants being released include methane, volatile organic compounds (VOCs), particulate matter (including black carbon), and ozone.<sup>588</sup> Black carbon (BC) has especially detrimental impacts for women and children: BC exposure in children can lead to a higher risk of asthma attacks, decreased cognitive function, altered behavioral development, and increased hospitalizations from respiratory and cardiovascular issues.<sup>589</sup> BC exposure in pregnant women is uniquely harmful as it can reach the fetus by contaminating the placenta.<sup>590</sup> This can result in the thinning of the placenta or placental inflammation within the last trimester, causing an increased risk of adverse birth effects.<sup>591</sup> Adding to the danger of these conditions is that support for health and safety complications is hundreds of miles away and there is no year-round road access in affected areas, including towns like Nuiqsut.<sup>592</sup>

578 Ruskin, L. (2023, November 9). Judge rules Willow oil project in Alaska's Arctic can proceed. *NPR*. [\[LINK\]](#)

579 Knoblauch, J. (2023, November 22). Disrupting the Willow Project and Big Oil's Even Bigger Dreams. *EarthJustice*. [\[LINK\]](#)

580 Challenging the Willow Oil & Gas Project in Alaska's Western Arctic. (2021, April 26). *Earthjustice*. [\[LINK\]](#)

581 The White House. (2021, April 22). *FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target Aimed at Creating Good-Paying Union Jobs and Securing U.S. Leadership on Clean Energy Technologies*. [\[LINK\]](#)

582 Bohrer, B., Brown, M., Daly, M. (2023, March 13). What is the controversy behind the Alaska Willow oil project? *PBS*. [\[LINK\]](#); EPA. *Greenhouse Gas Equivalencies Calculator*. [\[LINK\]](#)

583 Petersen, V. (2022, August 3). Alaska's Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

584 Ibid.

585 U.S. Department of the Interior. (2023, January). *Willow Master Development Plan*. [\[LINK\]](#)

586 Rumph, J., Et al. (2022, January 23). Uncovering Evidence: Associations between Environmental Contaminants and Disparities in Women's Health. *Int. J. Environ. Res. Public Health*. [\[LINK\]](#)

587 Shankman, S. (2018, August 2). Surrounded by Oil Fields, an Alaska Village Fears for Its Health. *InsideClimateNews*. [\[LINK\]](#)

588 Ibid.

589 Hansson, S. (2022, December 13). Adverse Effects of Black Carbon (BC) Exposure during Pregnancy on Maternal and Fetal Health: A Contemporary Review. *National Library of Medicine*. [\[LINK\]](#)

590 Ibid.

591 Goriainova, V., Awada, C., Opoku, F., et al., (2022, December 13). Adverse Effects of Black Carbon (BC) Exposure during Pregnancy on Maternal and Fetal Health: A Contemporary Review. *MDPI*. [\[LINK\]](#)

592 Shankman, S. (2018, August 2). Surrounded by Oil Fields, an Alaska Village Fears for Its Health. *InsideClimateNews*. [\[LINK\]](#)

For the past decade, oil and gas has adversely shaped life and livelihoods in the town of Nuiqsut, which is home to about 500 people of whom over 80% are Iñupiat.<sup>593</sup> In 2022, at ConocoPhillips' Colville-Delta 1 (CD1) drill site, a gas leak occurred after a component failed while pumping diesel fuel into a disposal well to prevent freezing.<sup>594</sup> The accident released 7.2 million cubic feet of gas into the air just eight miles from Nuisut and caused 300 employees to be evacuated.<sup>595</sup> Nauri Simmonds (Iñupiaq), Executive Director of SILA explains how residents were not reasonably notified or given adequate safety instructions:



Photo of Nauri Simmonds with a red handprint over her mouth, to represent Missing and Murdered Indigenous Women. (Nauri Simmonds)

coPhillips' Colville-Delta 1 (CD1) drill site, a gas leak occurred after a component failed while pumping diesel fuel into a disposal well to prevent freezing.<sup>594</sup> The accident released 7.2 million cubic feet of gas into the air just eight miles from Nuisut and caused 300 employees to be evacuated.<sup>595</sup> Nauri Simmonds (Iñupiaq), Executive Director of SILA explains how residents were not reasonably notified or given adequate safety instructions:

**“In 2022, [during] the CD1 incident...the community was not set up for an emergency response, they were given visqueen and told to find a room in their house and block off the outside air... Many of the residents self evacuated... industry employees weren't permitted in the area because of the health risks... One pregnant woman stayed away for three months until she had her baby and then she came back.”<sup>596</sup>**

Residents have become increasingly concerned in the past decade about the impacts of changing seasons, the drying and disappearance of lakes, the increasing frequency of wildfires, and the emergence of new and invasive species due to climate change.<sup>597</sup> Both the City of Nuiqsut and the Native Village of Nuiqsut have publicly voiced their opposition to the Willow Project due to its threat to their health, food sources, air quality, and cultural practices.<sup>598</sup> In December of 2023, these same local governments rescinded their letters of opposition stating they are not against construction so long as it does not impact their subsistence, likely due to recent lawsuit dismissals.<sup>599</sup> Local governments' recent shift in support of the Willow project does not necessarily reflect the opinion of the entire community. Local Indigenous community members have still not given consent and have publicly opposed ConocoPhillips' project.<sup>600</sup> As generations of residents deal with the legacies of these compounding harms, companies including Repsol, Armstrong, and Oil Search operate oil fields just outside town; many parents are forced to pass by oil wells when dropping their kids at school.<sup>601</sup>

Nutaaq “Doreen” Simmonds (Utqiagvik), describes how oil and gas projects, such as the Willow Project, continue to alter her community members' livelihoods:

593 Brubaker, M, Bell, B, Dingman, H., Et al. (2016). Climate Change in Nuiqsut, Alaska. *ANTHC Center for Climate and Health*. [\[LINK\]](#)

594 AP. (2023, March 24). *ConocoPhillips details gas leak cause, remedies at hearing*. [\[LINK\]](#)

595 Ibid.

596 Simmonds, N. (May 2024). WECAN Interview.

597 Ibid.

598 Native Movement. (2023, June 2). The Threat of the Proposed Willow Project. *Native Movement*. [\[LINK\]](#); Brower, E., et al. (2023, January 25). *NVN and City of Nuiqsut Comments regarding BLM Willow MDP Preliminary Final FSEIS*. [\[LINK\]](#)

599 Herz, N. (2024, January 10). As Conoco's Willow project advances, 2 local governments have withdrawn their criticism. *Alaska Public Media*. [\[LINK\]](#)

600 Native Movement. *The Threat of the Proposed Willow Project*. [\[LINK\]](#); Baswan, M. The Willow Project and its impacts on Indigenous communities. *The Indigenous Foundation*. [\[LINK\]](#)

601 Shankman, S. (2018, August 2). Surrounded by Oil Fields, an Alaska Village Fears for Its Health. *InsideClimateNews*. [\[LINK\]](#)

**“It pains me ... the health of our people, the joblessness, the inability to find the caribou and the fish, that our land will suffer by being covered up with oil, and our children will suffer as always happens when oil is extracted.”<sup>602</sup>**



Oil pipeline surrounded by snow in Dalton Highway, Alaska. (Robert Valarcher)

Climate anxieties pervade the community—residents of Nuiqsut face emergency conditions and the need for supplies in the event of malfunction or emergency at one of the drilling sites.<sup>603</sup> In 2012, a gas pipeline leak of Spanish-owned company Repsol released approximately 42,000 gallons (1,000 barrels) of fresh-water-based drilling mud and an unknown amount of gas into the ice drilling pad and adjacent snow-covered tundra.<sup>604</sup> In March 2022, many families evacuated when an uncontained natural gas leak was detected at a ConocoPhillips Alaska drill site eight miles north of Nuiqsut.<sup>605</sup> The cause of the leak was unknown but was called natural seepage.<sup>606</sup> Even before this traumatic event, the community had a “longstanding mistrust of the government and oil companies in the region.”<sup>607</sup> In fact, air monitoring in Nuiqsut is done by ConocoPhillips, and studies

show differences in how ConocoPhillips monitors VOCs in Nuiqsut versus standard practice in the lower 48 states.<sup>608</sup> In March 2022, the monitor was down for routine maintenance at the time of the explosion which caused the leak.<sup>609</sup> While “ConocoPhillips can continue to make promises to protect the Arctic as many times as they’d like,” organizers highlight that “their track record says otherwise.”<sup>610</sup> Mothers in the area reported that “their worst fears of a link between the oil drilling boom surrounding the town and respiratory illness” have heightened from the “every-day pollutants in the wind, coming from vast drilling operations, [that turn] the sky a hazy green some days and [leave] black soot on the snow on others. When that happens, noses run and asthma flares up.”<sup>611</sup> Since women unequally undertake caregiving responsibilities, they are more exposed to stressors, report greater strain, burden, and distress than their male counterparts. The development of the Willow Project will only exacerbate these issues as many parents report anxiety and grief that result in their land and lifestyle being changed so drastically that they feel as though they can no longer adapt.<sup>612</sup>

602 Cassidy Dipaola. (2023, March 3). Fight To Stop Willow Project Comes to Biden’s Doorstep. *People Vs. Fossil Fuels*. [\[LINK\]](#)

603 Naiden, A., Et al. (2022, March 8). ConocoPhillips Alaska employees evacuated due to prolonged natural gas leak on the North Slope. *ADN*. [\[LINK\]](#)

604 DEC. (2012). Repsol Q2 Pad Gas and Mud Release. *State of Alaska*. [\[LINK\]](#)

605 Partlow, J. (2022, March 10). Gas Leak at ConocoPhillips Alaskan drilling site forces some to leave. *The Washington Post*. [\[LINK\]](#)

606 Clifford, L. (2023, April 14). Nuiqsut residents express concern over ConocoPhillips natural gas leak. *News-Miner*. [\[LINK\]](#)

607 Petersen, V. (2022, August 3). Alaska’s Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

608 Shankman, S. (2018, August 2). Surrounded by Oil Fields, an Alaska Village Fears for Its Health. *InsideClimateNews*. [\[LINK\]](#)

609 Ibid.

610 Petersen, V. (2022, August 3). Alaska’s Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

611 Shankman, S. (2018, August 2). Surrounded by Oil Fields, an Alaska Village Fears for Its Health. *InsideClimateNews*. [\[LINK\]](#)

612 Funes, Y. (2023, March 6). The Willow Project Would Be a Public Health Crisis for Alaska. *The Frontline*. [\[LINK\]](#)



As of March 2024, construction is underway with over 800 employees who are already tasked with building an ice road and pipeline.<sup>613</sup> As the Willow Project moves forward with its development, concerns also arise with the “inevitable” establishment of Man Camps.<sup>614</sup> The placement of these temporary housing sites for workers directly correlates with increased rates of violence against women and children, contributing to the Missing and Murdered Indigenous Peoples crisis.<sup>615</sup>

In addition to threatening the health, safety, and sovereignty of nearby communities, the Willow Project endangers the stability of the entire planet. The Arctic acts not only as a climate regulator through its reflective ice cover,<sup>616</sup> but also as a carbon sink by storing carbon in permafrost and ocean sediments.<sup>617</sup> By building hundreds of miles of roads, pipelines, and other infrastructure, Willow is destroying this essential global carbon mitigator. Further, the Willow Project is expected to release an additional 9.2 million tons of carbon pollution every year, taking the world even further away from limiting warming to 1.5°C and further exacerbating climate change in the Arctic.<sup>618</sup> Temperatures in this region are rising at three times the global annual average causing snow and ice to melt at an increasing rate and altering the global climate system.<sup>619</sup> The accelerated melting of snow and ice is driving sea level rise, which poses a grave threat to communities and ecosystems globally.<sup>620</sup> According to a 2023 study, the main contributors to the decline of Arctic sea ice over the last 41 years have been fossil fuel combustion and deforestation.<sup>621</sup> If the expansion of and reliance upon fossil fuels continues at its current rate, it is expected that the first ice-free summer will occur in the 2030s— a decade earlier than previous projections.<sup>622</sup>

As of March 31, 2024, Vanguard, BlackRock, and JPMorgan Chase were among the top four largest shareholders of ConocoPhillips, collectively owning over 257 million shares valued at over \$28.9 billion.<sup>623</sup> As of 2024, ConocoPhillips expects to spend \$8 billion on the Willow Project,<sup>624</sup> which is “more than any other oil project on the table nationwide.”<sup>625</sup> ConocoPhillips’ presence in the area has already impacted local Indigenous communities through their oil and gas drilling, exacerbating climate anxieties, food insecurity, and health issues. Building another pipeline creates an uphill battle for future generations, especially for Indigenous women in this region, who will be dealing with compounding health hazards.

613 Rosen, Y. (2023, December 20). Appeals court allows ConocoPhillips to keep building its Willow project on Alaska’s North Slope. *Alaska Beacon*. [\[LINK\]](#)

614 Slater, D., Et al. (2023, March 10). The Willow Project Is Not A “Both Sides” Story. *Revolving Door Project*. [\[LINK\]](#)

615 Iron Eyes, T. (2023, March 27). The Willow Project: Inevitable Disaster for People and Planet. *Lakota People’s Law Project*. [\[LINK\]](#)

616 Ralls, E. (2023, June 13). Additional heat is being transferred to the Arctic Ocean as the climate warms. *Earth.com*. [\[LINK\]](#)

617 Alfred Wegener Institute. (2023, January 14). Trapping Millions of Tons of CO<sub>2</sub> - Researchers Have Discovered an Arctic Carbon Conveyor Belt. *SciTechDaily*. [\[LINK\]](#); MIT. (2022, August 4). Permafrost. *MIT Climate Portal*. [\[LINK\]](#)

618 Osaka, S. (2023, March 17). The Willow oil project debate comes down to this key climate change question. *Washington Post*. [\[LINK\]](#)

619 Arctic Council. *The Arctic In A Changing Climate*. [\[LINK\]](#)

620 National Oceanic and Atmospheric Administration. (2022). *2022 Sea Level Rise Technical Report*. [\[LINK\]](#)

621 Min, S. (2023, June 15). 10-year countdown to sea-ice-free Arctic. *Science Daily*. [\[LINK\]](#)

622 Kim, Y.H., Et al. (2023, June 6). Observationally-constrained projections of an ice-free Arctic even under a low emission scenario. *Nature Communications*. [\[LINK\]](#); IPCC. (2023). *ARG Synthesis Report: Climate Change 2023*. [\[LINK\]](#)

623 NASDAQ. *ConocoPhillips Common Stock (COP)*. [\[LINK\]](#)

624 Al Jazeera. (2023, March 14). *Willow oil drilling project in Alaska: Here’s what to know*. [\[LINK\]](#)

625 Puko, T. (2023, February 1). Biden team gives nod to huge Alaska oil project, setting up climate fight. *The Washington Post*. [\[LINK\]](#)

## 6c. Permian Basin and Eagle Ford Shale

Project(s)	Companies operating in West and Central Texas*	Banks financing the company**	Asset Managers investing in the company***	Insurance Companies insuring the company****
(1) Permian Basin Oil & Gas Field (plans to increase by 80% by 2024), (2) Wink to Webster Pipeline, (3) Texas Ten Oil & Gas Property, (4) Darkstar Unit Oil & Gas Property, (5) San Quentin Oil & Gas Property, (6) Preston Oil & Gas Property (7) Hawkins Fi Oil & Gas Property	ExxonMobil (i.e. XTO Energy)	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada (4) Citigroup	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1)Permian Basin Oil & Gas Field	Shell	(1) Bank of America, (2) Royal Bank of Canada	(1) BlackRock	N/A
(1)Permian Basin oil and gas production	Pioneer Natural Resources	N.A	(1) Vanguard, (2) BlackRock (3) Capital Group	N/A
(1) Permian Basin oil & Gas Field, (2) Denver Unit Oil & Gas Property, (3) Seminole San Andres Oil & Gas Company	Occidental Petroleum (i.e. Oxy USA Inc.)	(1) Bank of America, (2) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
(1) Eagle Ford Oil & Gas Field, (2) CMC Bluebonnet Unit Oil & Gas Property, (3) DR State Wise Unit Gas Property, (4) Soa Scharbauer S Oil & Gas Property	Chevron	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada (4) Citigroup	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1)Sea Port Oil Terminal	Enbridge	(1) Royal Bank of Canada, (2) JPMorgan Chase, (3) Bank of America	(1) Vanguard	N/A

(1) Lone Star Express LNG Pipeline, (2) West Texas Gateway LNG Pipeline, (3) Godley Gas Plant, (4) Crescent Gas Plant, (5) JC Nolan Pipeline & Terminal	Energy Transfer	<u>(1) Bank of America,</u> <u>(2) JPMorgan Chase,</u> <u>(3) Citigroup Inc</u>	N/A	N/A
(1) Clearfork, Spraberry, Wolfcamp, Cline, Strawn and Atoka formations	Diamondback Energy	<u>(1) JPMorgan Chase,</u> <u>(2) Bank of America,</u> <u>(3) Royal Bank of Canada</u>	<u>(1) Vanguard,</u> <u>(2) BlackRock,</u> <u>(3) Capital Group</u>	
(1)NGL Pipeline Expansion	Crescent Energy Company (owned by KKR, a private equity company)	N/A	<u>(1) Vanguard,</u> <u>(2)BlackRock</u>	
(1)Saguaro Connector Pipeline	Oneok	<u>(1) JPMorgan Chase,</u> <u>(2) Bank of America</u>	<u>(1) Vanguard,</u> <u>(2) BlackRock</u>	
(1)El Paso Refinery (2) Marathon Petroleum's midstream segment (MPLX) (3)Argo Hidalgo natural gas processing plant (4) Sugarloaf gathering system pipeline	Marathon Petroleum	<u>(1) Bank of America,</u> <u>(2) JPMorgan Chase,</u> <u>(3) Royal Bank of Canada</u>	<u>(1) Vanguard,</u> <u>(2) BlackRock</u>	
Various operations in Martin, Culberson, Gaines, Midland, Terry, Hockley, Glasscock, Howard, Reagan, Garza, Ector, Reeves, Upton, Winkler Eddy, Pecos, Andrews, Schleicher, Lea, Crane, Scurry, Irion, Loving, Borden, Yoakum, Ward, Cochran, Roosevelt, Coke and Crockett <sup>626</sup>	Apache Corporation	<u>(1) Bank of America,</u> <u>(2) JPMorgan Chase</u>	<u>(1) Vanguard,</u> <u>(2) BlackRock</u>	

All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), the Rainforest Action Network's 2024 published report, *Banking on Climate Chaos*, or other primary documents.

\*This list is not exhaustive.

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*\*N/A is because there is a lack of transparency.

<sup>626</sup> Shale Experts. (2024, September 24). Apache Corp. [\[LINK\]](#)

Injustices occurring in West Texas and Eastern New Mexico against African American/Black/African Diaspora women, Indigenous women, and Latinas can be seen distinctly in fossil fuel companies' past and current activity in the Permian Basin and along the Eagle Ford Shale basin. Located next to and south of the Permian Basin, the Eagle Ford Shale has 54 active drilling rigs and produces 1.1 million bpd.<sup>627</sup> The Permian Basin, extends from West Texas to Southeastern New Mexico and is the largest oil and gas basin in the U.S., producing 6.1 million bpd.<sup>628</sup>

The Permian Basin's natural gas and liquids output is projected to reach a record of 6.4 million barrels per day by the end of 2024.<sup>629</sup> In 2023, the United States produced more crude oil than any country in the world, primarily because of the prolific drilling operations in the Permian Basin.<sup>630</sup> Over 40% of the United States' total oil production and 15% of its natural gas production is sourced from the Permian Basin as of 2024.<sup>631</sup> By 2030, the Permian Basin is projected to produce 7.86 million barrels per day.<sup>632</sup> Fossil fuel extraction in this region currently makes it one of the biggest single sources of carbon emissions on the planet.<sup>633</sup> Studies have shown that unfettered fracking expansion in the Permian Basin will release more than 55 billion metric tons of carbon by 2050, which would expend 10% of the global carbon budget necessary to limit warming to 1.5°C.<sup>634</sup>

A study led by the Environmental Integrity Project (EIP), using TCEQ data, found that the Permian Basin has the highest illegal air pollution emissions in the state of Texas.<sup>635</sup> The EIP also found that in numerous cases the TCEQ has administered "minor source" permits<sup>636</sup> to companies whose developments legally qualify as major pollution sources. This exploitation of the system allows large oil and gas companies to effectively avoid required federal processes, including federal oversight, public input, and more stringent pollution requirements, involved in "major source" permits.<sup>637</sup> This concerning health hazard has not been a priority for the state nor the fossil fuel industry. Despite known air quality violations, federal pollution standards are rarely enforced and there are just three air quality monitors in the region, only one of which monitors sulfur dioxide, the most prevalent air pollutant in the region.<sup>638</sup> According to the EPA, sulfur dioxide can harm the respiratory system, and short-term exposure can lead to an increase in hospital emergency room visits. In a study from the American Journal of Epidemiology, the risk of stillbirth increased 13% with every three parts per billion of sulfur dioxide exposure in the first trimester of pregnancy, and 26% in the third trimester. As the primary caretakers, Latinas disproportionately bear the burden of the health problems arising from unsafe fossil fuel pollution in these counties. Health and reproductive issues are exacerbated by lack of insurance and insufficient healthcare for Latine families. Benzene, another byproduct

627 US oil output from top shale regions to rise in March -EIA. (2024, February 12). *Reuters*. [\[LINK\]](#)

628 Ibid.

629 Kassai, L. (2024, February 9th). Permian Oil Output to Hit Fresh Record This Year, Pipeline Owner Plains Says. *Bloomberg News*. [\[LINK\]](#)

630 Kreil, E. (2024, March 11). United States produces more crude oil than any country, ever. *International Energy Agency*. [\[LINK\]](#)

631 Drane, A. (2024, March 12). Shale boom sends US oil production to new world record. *Houston Chronicle*. [\[LINK\]](#)

632 Geiger, J. (2024, April 18). Permian Growth Expected To Be Slow Before Peaking In 2030. *Oil Price*. [\[LINK\]](#)

633 Pskowski, M., Et al. (2023, January 13). EPA moves away from Permian Basin air pollution crackdown. *Texas Tribune*. [\[LINK\]](#)

634 Clark-Leach, G. (2023, March 23)The Polluter's Playbook How Loopholes and Lax Enforcement Harm Air Quality in Texas. *Environmental Integrity Project*. [\[LINK\]](#)

635 Levin, I., Et al. (2019, May 9). Sour Wind in West Texas: Air Pollution From Surging Oil and Gas Industry Exceeds Health Standards. *Environmental Integrity Project*. [\[LINK\]](#)

636 EPA. *True Minor Source and Synthetic Minor Source Permits*. [\[LINK\]](#)

637 Baddour, D. (2023, December 26). 'Major' problem in Texas: How big polluters evade federal law and get away with it. *Houston Landing*. [\[LINK\]](#); EPA. *Setting Emissions Standards for Major Sources of Toxic Air Pollutants*. [\[LINK\]](#)

638 Ibid.

of oil refineries, places women at greater risk of having a high-risk pregnancy that can result in low birth weights, congenital heart defects, and preterm births.<sup>639</sup>

In 2022, the EPA considered designating the Permian Basin in violation of ozone standards by declaring it an Ozone Nonattainment Area, yet their proposal “was moved to a back burner in the agency’s annual agenda.”<sup>640</sup> As of April 2024, the EPA has yet to designate ozone standards in the Permian Basin—a step that would increase permitting and monitoring requirements,<sup>641</sup> and potentially minimize fossil fuel related health implications, such as asthma and respiratory issues.<sup>642</sup>

Residents of El Paso, Texas, also face health challenges as a consequence of a 97-year-old oil refinery, owned by Marathon Petroleum, as well as other polluting industries.<sup>643</sup> An estimated 44% percent of local residents living near Marthon’s refinery live below the poverty line,<sup>644</sup> with 96% of the population identifying as Hispanic.<sup>645</sup> In 2023, El Paso was ranked 14th for having the worst ozone pollution in the country according to the American Lung Association.<sup>646</sup> In 2018, environmental organizations along with the city of Sunland Park sued the EPA to designate El Paso’s air quality as unsafe, which as of 2024, is still an ongoing battle.<sup>647</sup>

Members of the Familias Unidas del Chamizal, a local group organizing families to safeguard community health, report that the TCEQ’s air quality monitor in El Paso is located in the Chamizal National Memorial, a 55-acre park separate from residential areas and polluting facilities.<sup>648</sup> Hilda Villegas, a mother and Founder of Familias Unidas del Chamizal, describes what mothers in her community are facing:

**“A lot of the families here are single women with their children...We struggle to feed our children, to provide a roof, and then now we’re overburdened with their health.”<sup>649</sup>**

Women have an unequal vulnerability to ozone pollution as it has been linked to decreased bone mineral density,<sup>650</sup> increased risk for uterine fibroids,<sup>651</sup> preterm births,<sup>652</sup> asthma,<sup>653</sup> and other conditions. In early 2024, El Paso County Commissioners challenged TCEQ’s refinery permit renewal for Marathon Petroleum’s midtown refinery by hiring an environmental expert and lawyer, after the company requested to increase their annual emissions.<sup>654</sup>

639 Epstein, A. (2017, January). The Human Health Implications of Oil and Natural Gas Development. *ResearchGate*. [\[LINK\]](#)

640 Pskowski, M., Et al. (2023, January 13). EPA moves away from Permian Basin air pollution crackdown. *Texas Tribune*. [\[LINK\]](#)

641 Jones, N. (2023, December 19). NM environment secretary: Unclear when EPA will crack down on Permian Basin air pollution. *Source NM*. [\[LINK\]](#)

642 Dr. Schade, G. (2023, November 13). Air Quality, Public Health Scientists Host Webinar Addressing Rising Air Pollution Levels In Permian Basin. *Department of Atmospheric Sciences at Texas A&M University*. [\[LINK\]](#)

643 Pskowski, M. (2024, January 19). El Paso Challenges Oil Refinery Permit. *Inside Climate News*. [\[LINK\]](#); Gutierrez, I. (2022, February 22). ‘Like a dumping ground’: Latina moms in Texas border city are fighting air pollution. *NBC News*. [\[LINK\]](#)

644 U.S. Census Bureau (2022). American Community Survey 5-year estimates. *Census Reporter*. [\[LINK\]](#)

645 American Lung Association. (2023). *State of the Air, El-Paso-Las Cruces, TX-NM*. [\[LINK\]](#)

646 Ibid.

647 Flores, A. (2018, August 8). Sunland Park argues in lawsuit against EPA that El Paso’s ozone levels are unsafe. *El Paso Times*. [\[LINK\]](#); IQ Air. *Air quality in El Paso*. [\[LINK\]](#)

648 Gutierrez, I. (2022, February 22). ‘Like a dumping ground’: Latina moms in Texas border city are fighting air pollution. *NBC News*. [\[LINK\]](#)

649 Ibid.

650 Prada, D. Et al. (2023, February 14). Air pollution and decreased bone mineral density among Women’s Health Initiative participants. *The Lancet*. [\[LINK\]](#)

651 Wesselink, A. (2021, May 13). A prospective cohort study of ambient air pollution exposure and risk of uterine leiomyomata. *National Library of Medicine*. [\[LINK\]](#)

652 Rappazzo, K. (2021, May 12). Ozone exposure during early pregnancy and preterm birth: a systematic review and meta-analysis. *National Library of Medicine*. [\[LINK\]](#)

653 Hemshekhar, M. Et al. (2022, June 28). Sex Dimorphism of Allergen-Induced Secreted Proteins in Murine and Human Lungs. *National Library of Medicine*. [\[LINK\]](#)

654 Mendoza-Moyers, D. (2024, January 11). El Paso County to challenge Marathon refinery permit. *El Paso Matters*. [\[LINK\]](#)

Rather than heeding the demands of communities to halt further pollution, as well as the implications of these numerous studies outlining the hazardous health impacts from oil and gas pollution, companies and their financial backers forge ahead with future development. Plastic production and new petrochemical facilities are giving oil companies substantial business: the Permian Basin's oil is expected to feed numerous petrochemical operations on the gulf coast, including Formosa Plastics' giant plastic plant ("The Sunshine Project") in Louisiana.<sup>655</sup>

In rural West Texas, another proposed LNG pipeline project has emerged. The Saguaro Connector Pipeline owned by Oneok, is expected to transport LNG from the Permian Basin across the border to Puerto Libertad, Mexico, costing \$9.5 million.<sup>656</sup> Extending over 155 miles long and transferring 2.8 billion cubic feet of gas, the Saguaro Connector is expected to connect to the Sierra Madre pipeline in Mexico and arrive at the Sonora LNG export facility located near the Gulf Coast to be sold overseas via tanker ships.<sup>657</sup> Because the Saguaro Connector does not pass through other states, Oneok's project has been allowed to bypass the usual federal oversight process and is only subject to Texas state rules.<sup>658</sup> The pipeline would also cross through geothermal hot springs which are considered sacred to the Carrizo/Comecrudo Tribe of Texas.<sup>659</sup> The geothermal springs are a valuable water resource sustaining life for native species such as rare aoudad sheep, white-tail deer, wild cats, and bobwhite quail.<sup>660</sup> The proposed pipeline's proximity to the Carrizo/Comecrudo Tribe also presents severe safety concerns: as seen with other pipeline construction projects [see Line 3<sup>661</sup> and Keystone XL<sup>662</sup>], Man Camps used to build pipelines like the Saguaro Connector place Indigenous women and girls at higher risk of experiencing sexual violence [see Section 5h for more detail].

The proposed Saguaro Connector Pipeline would also travel within one mile of Van Horn, a rural town with only 2,000 residents, 80% of which identify as Hispanic.<sup>663</sup> Several residents have property very close to the anticipated pipeline route, and are concerned their town is not equipped for a leak or pipeline explosion, which would exacerbate the region's already high fire risk and water scarcity.<sup>664</sup>

Mother of two and Van Horn resident, Yolanda Carmona expresses concern around the safety threats the proposed pipeline poses to her community:

**"We have more concerns for fossil fuel activity being so close to our schools, our neighborhoods, and right through our water infrastructure. We are not prepared for a catastrophe in any sense. It's not feasible to have a pipeline here when we can barely sustain our water infrastructure."<sup>665</sup>**

655 Buckner, E. (2020, February 14). Why We're Challenging Formosa Plastics' Massive Proposed Petrochemical Plants in Court. *EarthWorks*. [\[LINK\]](#)

656 Pskowski, M. Et al. (2024, January 3). Worried about safety, Van Horn residents challenge planned cross-border pipeline. *El Paso Times*. [\[LINK\]](#)

657 Ibid.

658 Ibid.

659 Sneath, S. (2024, February 15). What's at Stake if the U.S. OK's Building This Gas Pipeline to Mexico. *DeSmog*. [\[LINK\]](#)

660 Ibid.

661 Lovrien, J. Et al. (2021, February 23). 2 arrests in human trafficking sting were Line 3 workers. *Duluth News Tribune*. [\[LINK\]](#)

662 University of Colorado Boulder. (2020, January 29). *Violence from Extractive Industry 'Man Camps' Endangers Indigenous Women and Children*. [\[LINK\]](#)

663 Pskowski, M. Et al. (2024, January 3). Worried about safety, Van Horn residents challenge planned cross-border pipeline. *El Paso Times*. [\[LINK\]](#)

664 Ibid.

665 Carmona, Y. (2024). WECAN Interview.

Studies have found that due to unequal gender and cultural norms and the imbalanced distribution of power and resources, women disproportionately suffer impacts from extreme weather events and other disasters, such as wildfires or water contamination (risks that are heightened by the Saguaro Connector Pipeline) and earthquakes (events that are perpetuated by fossil fuel drilling).<sup>666</sup> The impacts from earthquakes are particularly felt in places like the Permian Basin, which had a record-breaking 2,400 earthquakes in 2022. Seismologists attribute these earthquakes to oil and gas companies' practice of injecting wastewater (oil production byproduct) into deep disposal wells that build intense pressure and cause movement along fault lines.<sup>667</sup> In one study, increased environmental distress resulting from earthquakes and county-level oil and gas injection wells was much higher in the Permian Basin compared to other areas.<sup>668</sup>

Health and safety issues also arise from the creation of Man Camps in the area that house fossil fuel workers, which contribute to spikes in violent crime<sup>669</sup> that often disproportionately harm women.<sup>670</sup> In one study, women residing in the Permian Basin reported a higher perceived threat of environmental issues and higher distress than women living elsewhere in Texas.<sup>671</sup> Sharon Wilson, director at Oilfield Witness, describes how undocumented immigrant women are trafficked by “coyotes”<sup>672</sup> (men who exploit immigrants, often aligned with cartels and criminal organizations) and taken to fossil fuel Man Camps. Sharon Wilson explains:

**“The coyotes get the women and they promise them things and actually turn them into prostitutes... The women go to the Man Camps where the men live in these separate little trailers... these coyotes take these women and drop them off at the Man Camp and then come back and pick them up later. And I mean this happens to a lot of Indigenous women: oil and gas moves in and then all these young women just disappear and they’re never seen or heard from again.”<sup>673</sup>**

The health and safety risks and racism that arise from Permian Basin oil and gas development have led a group of Indigenous, frontline, and youth organizations to sue the state of New Mexico for not living up to its own constitutional duty to regulate pollution and protect fundamental rights of all New Mexicans.<sup>674</sup> In their declaration, the plaintiffs describe how the impacts of oil and gas are infringing on their rights to clean air, water, and other natural resources, and urge the state to stop any new oil and gas development.<sup>675</sup> Additionally, in January 2023, conservation groups filed a lawsuit challenging the Biden Administration’s approval

666 Dunne, D. (2020, October 29). Mapped: How climate change disproportionately affects women's health. *Carbon Brief*. [\[LINK\]](#); Yavinsky, R. (2012, December 26). Women More Vulnerable Than Men to Climate Change. *Population Reference Bureau*. [\[LINK\]](#)

667 Takahashi P. (2022, January 14). Permian Basin was hit by a record number of earthquakes last year. What does that mean for oil and gas? *Houston Chronicle*. [\[LINK\]](#)

668 Elser, H., Et al. (2020, October 8). Petro-risks and environmental distress in West Texas: Community perceptions of environmental degradation, threats, and loss. *Energy Research & Social Science*. [\[LINK\]](#)

669 University of Colorado Boulder. (2020, January 29). *Violence from Extractive Industry 'Man Camps' Endangers Indigenous Women and Children*. [\[LINK\]](#)

670 Real Archaeology. (2022, December 4). *Man Camps: An Oil Industry Business that Affects Native American Women*. [\[LINK\]](#)

671 Elser, H., Et al. (2020, October 8). Petro-risks and environmental distress in West Texas: Community perceptions of environmental degradation, threats, and loss. *Energy Research & Social Science*. [\[LINK\]](#)

672 Beauvais, S. (2020, February 27). What's It Like Selling Sex Appeal in the Permian Basin? *MarfaPublicRadio*. [\[LINK\]](#); Conner, B. (2023, May 10). Neighbors had suspicions about Harris County home where migrants were held captive. *ABC13*. [\[LINK\]](#); Love, J. (2023, January 20). The Coyotes Working the US Side of the Border Are Often Highly Vulnerable, Too. *Bloomberg*. [\[LINK\]](#)

673 Sharon Wilson. (2023, June 6). WECAN Interview.

674 NMLAWS. (2023). Holding the state of New Mexico accountable for its constitutional duty to protect the environment. *New Mexico Land, Air, Water, And The Sacred*. [\[LINK\]](#)

675 Evans, G., Et al. (2023). *Complaint to Enforce Constitutional Rights for a Healthful and Beautiful Environment...* *Center for Biological Diversity*. [\[LINK\]](#)

of 32 oil and gas leases spanning nearly 6,000 acres in southern New Mexico.<sup>676</sup> As of March 2024, the U.S. Bureau of Land Management has failed to respond to the conservation groups' petition by the court's December 2023 deadline.<sup>677</sup> Sister Joan Brown, Executive Director of the New Mexico Interfaith Power and Light, emphasizes that further oil and gas expansion in the Permian Basin violates the Bureau of Land Management (BLM)'s "moral and ethical responsibility for the common good and land trust stewardship, foundational to the agency... the Bureau must take seriously its responsibility to reduce climate pollution, health risks, and address care for the sacred lands in New Mexico."<sup>678</sup> These lawsuits pose both regulatory and reputational risks to firms financing Permian Basin companies [see Section 8].



Gas flaring in the Permian Basin in United States, Texas, Midland. (iStock by Getty Images)

The release of particulate matter by oil and gas operations in the Permian Basin was estimated to have been responsible for 638 premature deaths in 2017.<sup>679</sup> Adjusted for 2022 inflation dollars, premature mortality was predicted to have cost \$6.57 billion in damages nationwide in 2017, as a result of the particulate matter produced by the Permian Basin.<sup>680</sup> In February 2024, the Apache Corporation agreed to pay \$4 million in fines in a civil suit filed by the EPA and New Mexico Environment Department (NMED) for violating the Clean Air Act.<sup>681</sup> Additionally, there were notable discrepancies in flaring data reported by the New Mexico government: research from the National Oceanic and Atmospheric Administration (NOAA) showed annual flaring data that was 35% higher than data reported by the New Mexico Oil Conservation Division.<sup>682</sup> According to the CDC, breathing high levels of benzene, commonly associated with flaring, has been shown to cause irregular menstrual cycles and shrink the size of ovaries in women.<sup>683</sup> Carlsbad, New Mexico, a town near the Texas border, with a population of 56% Hispanic individuals and a poverty rate of 13%, has faced several pipeline explosions as a result of oil and gas activities in the Permian Basin.<sup>684</sup> In 2000, the El Paso Natural Gas pipeline exploded from internal corrosion, killing 12 people.<sup>685</sup> Another pipeline explosion in 2017 in Carlsbad caused several families to evacuate—accidents like these highlight the safety concerns that pipelines present.<sup>686</sup> As previously mentioned, injuries and relocations, which result from disasters, disproportionately affect women as caretakers. Additionally, psychological stressors, which are exacerbated for communities liv-

676 Citizens Caring For The Future., Et al. (2023, January 23). *Carlsbad NM lease sale complaint*. [\[LINK\]](#)

677 Citizens Caring For the Future et al. v. Haaland et al. Case 2:23-cv-00060-GBW-KRS. (2023, October 2). *United States District Court of New Mexico*. [\[LINK\]](#)

678 Center for Biological Diversity. (2023, January 23). *Lawsuit Aims to Defend Climate, Clean Air From Fracking in New Mexico's Permian Basin*. [\[LINK\]](#)

679 Goodkind, A. Et al. (2023, July 17). PM2.5 Pollution from Oil and Gas Activity in the Permian Basin: An Economic Analysis of its Human Health Impacts and Damages. *University of New Mexico*. [\[LINK\]](#)

680 Ibid.

681 Apache Corporation to Pay \$4 Million and Reduce Unlawful Air Pollution from Oil and Gas Wells in New Mexico and Texas, Eliminating More Than 10,000 Tons of Harmful Air Pollutants Annually (2024, February 13). *United States Office of Public Affairs*. [\[LINK\]](#)

682 Cusick, S. Et al. (2022, March 31). Delaware Basin Health and Air Quality. *NASA Langley Research Center*. [\[LINK\]](#)

683 CDC. (2018, April 4). *Facts about Benzene*. [\[LINK\]](#)

684 United States Census Bureau. (2020). *QuickFacts Carlsbad City, New Mexico*. [\[LINK\]](#)

685 Paulus, D. (2024, March 7). New Mexico and Texas saw one of the deadliest pipeline explosions. *KLAQ FM*. [\[LINK\]](#)

686 Ibid.



ing near pipeline explosions and flaring, have been associated with negative maternal mental health impacts.<sup>687</sup>

Occidental Petroleum, which was exposed in the EIP report as releasing the most unauthorized sulfur dioxide in 2017 (10,618,267 lbs), states on its website that they are a “forward-thinking reservoir management and problem solving for industry-leading results.<sup>688</sup> All with an exemplary safety and environmental record.”<sup>689</sup> Government bodies and companies ignore the disastrous impacts of compounding environmental pressures and environmental laws.<sup>690</sup> The continued land leases by the BLM in the area produce large quantities of methane which “accelerate climate change and simultaneously deplete the freshwater supply for the region.”<sup>691</sup> In 2021, WildEarth Guardians, an environmental non-profit filed a lawsuit against Occidental Petroleum for their alleged violation of the Clean Air Act via flaring from their natural gas facility near Carlsbad.<sup>692</sup> By 2022, Occidental Petroleum settled with WildEarth Guardians and agreed to invest \$5.5 million in reducing emissions, a \$500,000 fine, and \$500,000 for projects to improve air quality.<sup>693</sup> [See section 7 for more information about reputation/regulatory risks.]

Fossil fuel derived air pollution is also pervasive in the Eagle Ford Shale, which spans from Northwest to Southwest Texas. In this region, majority Hispanic census blocks had a higher number of flares within 5 kilometers than census blocks with less Hispanic residents.<sup>694</sup> Studies have shown that living within 5 km of 10 or more flares during pregnancy is linked to statistically significant increases in adverse birth outcomes.<sup>695</sup> A study done by the National Institutes of Health (NIH) analyzing over 23,000 birth records from 2012-2015, found that there was a 50% higher chance of preterm births for women living within three miles of the Eagle Ford shale basin than for those women living farther away.<sup>696</sup> This was the first study to directly relate oil and gas development to women of color: “stratified analysis suggested that Hispanic women were more vulnerable to the effects of flaring on preterm birth, whereas non-Hispanic white women were not.”<sup>697</sup> This flaring is especially concentrated in Midland and Odessa, where according to the American Lung Association, air pollution places a total of 351,380 people at risk—223,400 of whom are people of color.<sup>698</sup> This suggests that impacts from flaring to pregnant women (predominantly Latinas in this region) may span across the Permian Basin. Nearly 210,000 people live within three miles of an active flare site (over 100 flares per night) in the Permian Basin and Eagle Ford Shale.<sup>699</sup>

687 Gold, K. Et al. (2008, July). How physicians cope with stillbirth or neonatal death: a national survey of obstetricians. *National Library of Medicine*. [\[LINK\]](#); Wheeler, S. Et al. Healthy Environment for a Healthy Start: Promoting Environmental Justice for Equitable Birth Outcomes. *March of Dimes*. [\[LINK\]](#)

688 Levin, Ilan. (2019, May 19). Sour Wind in West Texas. *Environmental Integrity Project*. [\[LINK\]](#)

689 Producing energy efficiently, reliably and responsibly worldwide. *Occidental Petroleum*. [\[LINK\]](#)

690 Wright, S. (2021). Fracking on Federal Lands. *MSU Denver*. [\[LINK\]](#)

691 Ibid.

692 Hedden, A. (2022, October 28). Occidental Petroleum agrees to \$6.5 million for fixes for air pollution. *Carlsbad Current Argus*. [\[LINK\]](#)

693 Ibid.

694 Cushing, L., Et al. (2021, February 23). Up in smoke: characterizing the population exposed to flaring from unconventional oil and gas development in the contiguous US. *Environmental Research Letters*. [\[LINK\]](#)

695 Ibid.

696 Cushing, L.J., Et al. (2020, July 15). Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas. *Environmental Health Perspectives*. [\[LINK\]](#)

697 Ibid.

698 American Lung Association. (2023). *Midland-Odessa, TX*. [\[LINK\]](#)

699 Cushing, L., Et al. (2021, February 23). Up in smoke: characterizing the population exposed to flaring from unconventional oil and gas development in the contiguous US. *Environmental Research Letters*. [\[LINK\]](#)



Operating oil wells in the Permian Basin. (Jim West | Alamy Stock Photo)

Despite well documented health implications, drilling permits continue to be issued. In 2023, several companies obtained new drilling permits: in the period from January 2023 to January 2024, 1,345 drilling permits were issued in the Eagle Ford Shale<sup>700</sup> and in 2023, 5,267 drilling permits were issued in the Permian Basin.<sup>701</sup> Drilling in this region continues to grow as oil companies announce plans to raise production. ExxonMobil, which recently acquired Pioneer Natural Resources, aims to increase its production in the Permian Basin from 1.3 million barrels of oil per day to 2 million by 2027.<sup>702</sup> Similarly, in 2024, Chevron indicated that it will boost its production by 75,000 barrels of oil per day by the end of the year.<sup>703</sup> Valero, Marathon Petroleum, Chevron and ExxonMobil, among others, reported record level growth and profits in the Permian Basin in 2023, and plan to further expand and optimize their operations in 2024.<sup>704</sup>

Some of the top drillers in this area include Chevron, ExxonMobil, Occidental Petroleum, and Pioneer Natural Resources. As of March 31, 2024, Vanguard, BlackRock, JPMorgan Chase, and Bank of America were all amongst the top seven largest shareholders of Exxonmobil, collec-

<sup>700</sup> Railroad Commission of Texas Drilling Permit Online Query System. (2024, February 26). *Texas Eagle Ford Shale Drilling Permits Issued 2008 through January 2024*. [\[LINK\]](#)

<sup>701</sup> Railroad Commission of Texas Drilling Permit Online Query System. (2024, March). *Texas Permian Basin (District 7C, 08, & 8A) Drilling Permits Issued 2006 through December 2023*. [\[LINK\]](#)

<sup>702</sup> Blackmon, D. (2023, October 11). ExxonMobil Becomes The Biggest Big Dog In The Permian Basin. *Forbes*. [\[LINK\]](#)

<sup>703</sup> Mathews, C. (2024, February 2). Exxon, Chevron Tapping Permian for Output Growth in '24. *Yahoo! Finance*. [\[LINK\]](#)

<sup>704</sup> ExxonMobil announces 2023 results. (2024, February 2). *ExxonMobil News*. [\[LINK\]](#); Chevron News Release. (2024, February 2). *Chevron Reports Fourth Quarter 2023 Results*. [\[LINK\]](#)

tively holding over \$102.2 billion worth of shares.<sup>705</sup> In 2022, Pioneer Natural Resources was ranked number one in wells drilled in Texas, Oklahoma, New Mexico, and Louisiana, and expects to expand its drilling in the region in 2023.<sup>706</sup> Pioneer Natural Resources' drilling operations cause nearly daily earthquakes in Midland and Odessa Texas, contributing to disproportionate impacts on women's health and safety.<sup>707</sup> Additionally, as of March 31, 2024, Vanguard and BlackRock were the top two shareholders of Marathon Petroleum, collectively holding over 65 million shares worth \$10.9 million.<sup>708</sup> Bank of America, JPMorgan Chase, and the Royal Bank of Canada are also significant shareholders of Marathon.<sup>709</sup>

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705 NASDAQ. *Exxon Mobil Corporation Common Stock (XOM)*. [\[LINK\]](#)

706 Phinds. (2023, February 24). *Pioneer Natural Resources 2023 Outlook*. *Oilgasleads*. [\[LINK\]](#)

707 Yavinsky, R. (2012, December 26). *Women More Vulnerable Than Men to Climate Change*. *Population Reference Bureau (PRB)*. [\[LINK\]](#)

708 NASDAQ. *Marathon Petroleum Corporation Common Stock (MPC)*. [\[LINK\]](#)

709 *Ibid.*

## 6d. "Cancer Alley" and Louisiana LNG

Project(s)	Companies operating in "Cancer Alley"*	Banks financing the companies**	Asset Managers investing in the companies ***	Insurance Companies insuring the company****
Baton Rouge Oil Refinery	ExxonMobil	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada (4) Citigroup	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Norco Manufacturing Unit, (2) Geismar Plant, (3) Convent Refinery	Shell	(1) Bank of America, (2) Royal Bank of Canada	(1) BlackRock	N/A
"The Sunshine Project" Ethane Cracker	Formosa Plastic Corporation (i.e., FG LA LLC)	N.A	(1) Vanguard, (2) BlackRock	N/A
Garyville Refinery	Marathon Petroleum	(1) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
(1) St. James Parish Chemical Plant, (2) Geismar Plant	Occidental Petroleum	(1) Bank of America, (2) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
Carville Styrenics Complex Polystyrene Plant	TotalEnergies	(1) Royal Bank of Canada, (2) Bank of America, (3) JPMorgan Chase	(1) Capital Group, (2) BlackRock	N/A
(1) Meraux Refinery, (2) St. Charles Refinery	Valero	(1) Bank of America, (2) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
(1) St. Charles Operations (Taft/Star) Union Carbide Corp, (2) DuPont Pontchartrain Works (3) The Dow Chemical Co. - Louisiana Operations	Dow Inc.	(1) JP Morgan Chase, (2) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A

(1) Sea Robin Gas Processing Plant, (2) Mississippi River Transmission Underground Natural Gas Storage Facility, (3) Enable Gas Transmission System, (4) Southeast Supply Header (joint venture with Enbridge)	Energy Transfer	(1) <a href="#">Bank of America</a> , (2) <a href="#">JPMorgan Chase</a> , (3) <a href="#">Citigroup Inc</a>	N/A	N/A
(1) Lake Charles Refinery	Phillips 66	(1) <a href="#">Bank of America</a> , (2) <a href="#">JPMorgan Chase</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	N/A
(1) Geismar Petrochemical Plant, (2) Plaquemine Petrochemical Plant, (3) Westlake Petrochemical Plant	Westlake Chemical	N.A	(1) <a href="#">BlackRock</a> , (2) <a href="#">Vanguard</a> , (3) <a href="#">Capital Group</a>	N/A
(1) Denka Petrochemical Plant	DuPont de Nemours Inc	(1) <a href="#">Bank of America</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	

All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), Rainforest Action Network’s 2024 published report, *Banking on Climate Chaos*, or other primary documents.

\*This list is not exhaustive

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor

\*\*\*Shareholder/institutional investor, ownership of stock

\*\*\*\*N/A is because there is a lack of transparency

“Cancer Alley” is a 184-mile stretch along the banks of the Mississippi River between Baton Rouge and New Orleans, where companies such as ExxonMobil, Occidental Petroleum, Shell, Valero, Dow Inc., TotalEnergies, and Formosa operate over 200 fossil fuel refineries and petrochemical facilities.<sup>710</sup> Dubbed “Cancer Alley” in the early 1980s, this area has one of the highest cancer risks in the country.<sup>711</sup> Research has found that the cancer risk within the region is even higher among lower income and African American/Black/African Diaspora-dominant communities and neighborhoods than in the nearby high-income white ones.<sup>712</sup> In March 2021, a large group of UN human rights experts called for a halt to further pollution in “Cancer Alley,” and described the pollution-emitting chemical plants as a form of environmental racism that “poses serious and disproportionate threats to the enjoyment of several human rights of its largely African American residents, including the right to equality and non-discrimination, the right to life, the right to health, right to an adequate standard of living and cultural rights.”<sup>713</sup>

710 Terrell, K., Julien, G. (2023, February 21). Discriminatory Outcomes of Industrial Air Permitting in Louisiana, United States. SSRN. [\[LINK\]](#); Groner, A. (2021, May 7). Louisiana Chemical Plants are Thriving off of Slavery. *The Atlantic*. [\[LINK\]](#)

711 Yawn, Y.J. (2020, March 19). St. James is full: New Cancer Alley plant may double toxic pollutants, EPA data shows. *Tennessean*. [\[LINK\]](#); Terrel, K. Et al. (2022, January 13). Air pollution is linked to higher cancer rates among black or impoverished communities in Louisiana. *Environmental Research Letters*. [\[LINK\]](#)

712 James, W., Et al. (2012, December 3). Uneven magnitude of disparities in cancer risks from air toxics. *International Journal of Environmental Research and Public Health*. [\[LINK\]](#)

713 United Nations. (2021, March 2). Environmental racism in Louisiana’s ‘Cancer Alley’, must end, say UN human rights experts. *UN News*. [\[LINK\]](#)

“Cancer Alley” is a poignant example of evolving racism in the United States. In the 1800s, this stretch of land along “River Road” was dominated by plantations worked by slaves.<sup>714</sup> After the abolition of slavery, parts of this region became settlements of freed slaves characterized by a large community of African American/Black/African Diaspora farmers and activists fighting Jim Crow policies.<sup>715</sup> In the late 1960s, the fossil fuel industry laid claim to the land, a phenomenon of environmental racism that continues today. For example, in 2014, several areas of St. James Parish were quietly re-zoned as “industrial” and “residential/future industrial” by the government, a decision most residents were not even informed of, opening this region to massively polluting industries.<sup>716</sup> Barbara Washington and Shamyra Lavigne, Members of RISE St. James, both state that districts four and five in St. James Parish, which are predominantly African American/Black/African Diaspora and poor neighborhoods, hold the highest concentration of polluting industry plants in the parish.<sup>717</sup> Since the 1960s, fossil fuel companies have profited billions of dollars from activities causing direct harm to low-income African American/Black/African Diaspora communities in “Cancer Alley.”

In 2019, the University Network for Human Rights conducted a localized cancer study, and found that for those living within a 1.5 kilometer radius of the Denka petrochemical plant, cancer rates were 71% higher than the national average.<sup>718</sup> After decades of community members in St. John the Baptist Parish reporting health issues, the EPA finally did an assessment concluding that Denka’s emission of the carcinogenic chemical chloroprene was above EPA action levels.<sup>719</sup>

In 2022, the EPA produced a 56-page letter, recommending the closure of schools such as Fifth Ward Elementary School located only 450 feet from Denka’s petrochemical plant.<sup>720</sup> This school serves over 400 children from pre-kindergarten to 4th grade, 95% of whom are African American/Black/African Diaspora.<sup>721</sup> Denka, the nation’s only emitter of chloroprene, stated that it does not believe its plant has negative health impacts on the community,<sup>722</sup> despite research showing otherwise. The EPA’s *Toxicological Review of Chloroprene*<sup>723</sup> noted that this chemical is not only carcinogenic, but can damage the liver, kidneys, and lungs, contribute to gastrointestinal disorders, and creates an increased risk of tumors in multiple organs.<sup>724</sup> Children are more susceptible to carcinogens from chloroprene exposure.<sup>725</sup>

Due to concerns from the EPA and residents, the school board is implementing ways to more efficiently measure pollution in the school, and initially discussed transferring students to another location.<sup>726</sup> However, due to high levels of pollution across this region,

714 Potter A.E., et al. (2017, December). Commemorating the Enslaved Along Louisiana’s River Road. *American Association of Geographers*. [\[LINK\]](#)

715 Gibson, C. (2023, March 21) Saint James residents file lawsuit against parish over petrochemical plants. *4WWL*. [\[LINK\]](#)

716 Ibid.

717 Washington, B. (2020, November 25). WECAN Interview.

718 Nagra, R. et al. (2021, February 18). “Waiting to Die”: Toxic Emissions and Disease Near the Denka Performance Elastomer Neoprene Facility in Louisiana’s Cancer Alley. *Environmental Justice*. [\[LINK\]](#)

719 Press Release. (2023, February 28). EPA and Justice Department File Complaint Alleging Public Health Endangerment Caused by Denka Performance Elastomer’s Carcinogenic Air Pollution. *EPA*. [\[LINK\]](#)

720 EPA. (2022, October 12). Letter of Concern. *Office of Environmental Justice and External Civil Rights*. [\[LINK\]](#)

721 ProPublica. *Fifth Ward Elementary School*. [\[LINK\]](#)

722 Holden, E., et al. (2019, December 19). Chemical manufacturer launched aggressive campaign instead of reining in pollution, according to documents. *The Guardian*. [\[LINK\]](#)

723 EPA. (2010, September). *Toxicological Review of Chloroprene*. [\[LINK\]](#)

724 Strassmann, M. (2023, May 4). Synthetic rubber plant in crosshairs amid high cancer risk in Louisiana community. *CBS News*. [\[LINK\]](#)

725 Ibid.

726 Robichaux, B. (2022, October 27). School Board aware of EPA’s recommendation to relocate Fifth Ward Elementary students. *L’Observateur*. [\[LINK\]](#)

relocation would “not greatly decrease” the potential risks of developing cancers related to chloroprene exposure.<sup>727</sup> Based on air quality tests, in February 2023, the EPA sued Denka with an emergency lawsuit for “imminent and substantial endangerment to public health and welfare.”<sup>728</sup> Denka denies that emissions pose an imminent cancer threat to the community despite research providing evidence otherwise.<sup>729</sup> According to the EPA, children who inhale chloroprene have an elevated lifetime cancer risk greater than adults.<sup>730</sup> Evidence also indicates that women exposed to chloroprene may also face reproductive challenges such as miscarriages and birth defects.<sup>731</sup>



Sharon Lavigne and other members of Rise St. James in St. James, Louisiana protesting new petrochemical plants slated for Cancer Alley. The march was organized by Coalition Against Death Alley. (Julie Dermanksy)

Additionally, hurricanes (Katrina, Ida, and Harvey) have devastated communities in Louisiana, financially destabilizing families. These hurricanes have been steadily intensified by climate change and continued fossil fuel development.<sup>732</sup> Over 2,300 people resided in temporary Federal Emergency Management Agency (FEMA) trailers as of August 2023.<sup>733</sup> These trailers have been mostly occupied by women, single-mothers and their children, and elderly women

727 Ibid.

728 Department of Justice. (2023, February 28). *Justice Department Files Complaint Alleging Public Health Endangerment Caused by Denka Performance Elastomer's Carcinogenic Air Pollution*. [\[LINK\]](#)

729 Mindock, C. (2024, February 7). Louisiana plant's emissions don't warrant emergency EPA lawsuit, chemical company says. *Reuters*. [\[LINK\]](#)

730 EPA. (2010, September). *Toxicological Review of Chloroprene*. [\[LINK\]](#)

731 New Jersey Department of Health and Senior Services. (1994, October). *Hazardous Substance Fact Sheet*. [\[LINK\]](#)

732 McDade, A. (2022, January 10). Louisiana Turns to Thousands of RV Trailers to House Victims of Hurricane Ida Months Later. *Newsweek*. [\[LINK\]](#)

733 (2023, August 24). FEMA Extends Housing Program for Hurricanes Ida, Delta, and Laura. *FEMA*. [\[LINK\]](#)

who cannot afford to rebuild homes they lost to storms.<sup>734</sup> After these storms, homeowners are more likely to receive financial aid, leaving renters (including low-income women and families, many of whom live in FEMA trailers) without support.<sup>735</sup> In 2022, Roishetta Ozane, Founder of The Vessel Project, described the reality of being a single mother raising children in a FEMA trailer after a hurricane damaged her home:

**“We’re living in a FEMA trailer right now—me and six children living in a three bedroom FEMA trailer. My daughter sleeps on an air mattress everyday in the front room because there’s not enough beds, since no more beds can fit in there.”<sup>736</sup>**

The FEMA trailer program was terminated at the end of February 2024.<sup>737</sup> With the program ending, women and families have struggled to find affordable housing in a market with limited options and exorbitant rent prices.<sup>738</sup>

Louisiana’s rapidly growing LNG industry is further contributing to the deterioration of public and environmental health in the state.<sup>739</sup> The U.S. is already the largest exporter of LNG in the world, producing nearly 86 million tons in 2023 alone.<sup>740</sup> By further increasing LNG development and production, fossil fuel companies are deepening our reliance on fossil fuels, thereby accelerating climate change.<sup>741</sup> In Cameron Parish, a \$10 billion LNG terminal project, Calcasieu Pass 2 LNG (CP2), awaits permitting approval for construction.<sup>742</sup> The company behind CP2, Venture Global, has a poor track record having dealt with legal repercussions from its clients, fines from the state, defective equipment, frequent flaring, and emission violations with past projects.<sup>743</sup> If completed, CP2 would be the largest LNG terminal in the Gulf South, exporting 24 million tons of gas every year and further moving away from the Just Transition.<sup>744</sup> As of July 2024, Venture Global received approval for its CP2 terminal from the Federal Energy Regulatory Commission (FERC), enabling the company to start applying for permits from the Department of Energy (DOE).<sup>745</sup> Roishetta Ozane describes the risks that LNG development, and specifically CP2, poses to her community:

734 Ibid.

735 Ibid.

736 Ozane, R. (2022, May 19). WECAN interview.

737 (2023, August 24). FEMA Extends Housing Program for Hurricanes Ida, Delta, and Laura. *FEMA*. [\[LINK\]](#)

738 Smith, M. (2022, January 10). FEMA trailer deadline looms for Lake Charles storm survivors: ‘Everything is expensive’. *The Advocate*. [\[LINK\]](#)

739 Cunningham, N. (2024, December 3). LNG expands on Louisiana’s vanishing coastline. *Gas Outlook* [\[LINK\]](#)

740 Chaill, B. (2024, January 11). U.S. LNG Export Boom: Defining National Interests. *Center for Strategic & International Studies*. [\[LINK\]](#)

741 Ibid.

742 Milman, O. (2023, October 23). ‘Carbon mega bomb’: climate experts urge Biden to block gas export hub. *The Guardian*. [\[LINK\]](#)

743 Nolan, D. (2023, November 27). This Liquefied Natural Gas Facility Is the Next Carbon Bomb. *Sierra Club*. [\[LINK\]](#)

744 Ibid.

745 LNGPrime. (2024, June 27). FERC approves Venture Global’s CP2 LNG project. [\[LINK\]](#)



**“As a mother living close to all the industries in SWLA, the proposed CP2 Liquefied Natural Gas (LNG) project in Cameron Parish, Louisiana fills me with deep concern. The potential destruction of wetlands and the increase in tanker traffic, dredging, and stormwater runoff in the Calcasieu Ship Channel would only exacerbate the existing challenges faced by the local fishing industry. It’s heartbreaking to witness the impact of industrial pollution on our children’s health and the future of our community.”<sup>746</sup>**



Roishetta Ozane. (The Vessel Project, Facebook)

Both the construction and operation phases of CP2 and other proposed LNG projects would further threaten the health of women in this region. For example, flaring from LNG plants exposes pregnant women living in close proximity to greater risks of having preterm births and babies with lower birth weights.<sup>747</sup> Long term exposure to pollutants released by flares such as carbon monoxide, nitrogen oxides, and sulfur dioxide<sup>748</sup> have been associated with miscarriages, stillbirths,<sup>749</sup> breast cancer<sup>750</sup>, and higher rates of lung cancer in women.<sup>751</sup> Other concerns include noise and light pollution, which have been associated with negative mental health impacts among nearby residents,<sup>752</sup> as well as increased need for caretaking roles as emitted toxins increase cancer prevalence within the entire community (see section 5b for further information). Other proposed LNG projects in Louisiana include Plaquemines LNG, Lake Charles LNG, Magnolia LNG, Commonwealth LNG, and Driftwood LNG; all of these projects are halted for further development as a result of the Biden administration’s pause on LNG.<sup>753</sup>



Dense industrial development releasing plumes of emissions in “Cancer Alley” in Louisiana. (Josh Badnali)



Smokestacks in “Cancer Alley,” Louisiana. (Josh Badnali)

Lack of environmental regulation and enforcement in Louisiana, in addition to a need for more information about air quality in neighborhoods around fossil fuel facilities,<sup>754</sup> further places women’s health at risk.<sup>755</sup> In a 2022 report, the EPA concluded that the Louisiana Department

<sup>746</sup> Ozane, R. (2023, December 11). Over 230 Groups Urge Biden Administration to Stop CP2 & to Recognize Economic, Environmental, & Public Health Dangers of LNG Exports. *Sierra Club*. [\[LINK\]](#)

<sup>747</sup> Cushing, J. Et al. (2020, July 15). Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas. *Environmental Health Perspectives*. [\[LINK\]](#); Terrel, K. (2024, March 14). Toxic air pollution and concentrated social deprivation are associated with low birthweight and preterm Birth in Louisiana. *Environmental Research: Health*. [\[LINK\]](#)

<sup>748</sup> Ibid.

<sup>749</sup> Conforti, A. Et al. (2018, December 30). Air pollution and female fertility: a systematic review of literature. *National Library of Medicine*. [\[LINK\]](#)

<sup>750</sup> Wei, Yudan. Et al. Ambient air pollution is associated with the increased incidence of breast cancer in US. *National Library of Medicine*. [\[LINK\]](#)

<sup>751</sup> Tseng, C. Et al. (2012, January 4). Cell type specificity of female lung cancer associated with sulfur dioxide from air pollutants in Taiwan: An ecological study. *BMC Public Health*. [\[LINK\]](#)

<sup>752</sup> Liquefied Natural Gas (LNG): Health and Climate Impacts. (2023, August 10). *Environmental Health Project*. [\[LINK\]](#)

<sup>753</sup> Cunningham, N. (2024, December 3). LNG expands on Louisiana’s vanishing coastline. *Gas Outlook*. [\[LINK\]](#)

<sup>754</sup> Juhasz, A. (2024, January 25). “We’re Dying Here” The Fight for Life in a Louisiana Fossil Fuel Sacrifice Zone. *Human Rights Watch*. [\[LINK\]](#)

<sup>755</sup> LCMC Health. (2024). *Why are the health effects of pollution worse for women?* [\[LINK\]](#)

of Environmental Quality (LDEQ) and Louisiana Department of Health (LDH) failed to provide sufficient access to crucial information to residents living in “Cancer Alley.”<sup>756</sup> Additionally, in a 2022 case brought by Rise St. James against LDEQ, a district court judge found that the agency violated its public trustee duty, noting that “LDEQ must take special care to consider the impact of climate-driven disaster fueled by greenhouse gasses on environmental justice communities and their ability to recover.”<sup>757</sup> An audit conducted by the Louisiana state government in 2021 found that LDEQ failed to adequately track companies’ emissions reports, track civil penalties, and issue enforcement actions.<sup>758</sup> All of these issues raise concerns about the level of pollution that these communities are being exposed to—furthering the health risks for women.

The Louisiana Bucket Brigade, a statewide environmental justice organization, created a film project highlighting the leadership of women of “Cancer Alley.” In six short documentary films, eight women who have thus far survived the effects of fossil fuel petrochemical plants and refineries, share the terrible losses of their parents, siblings, and partners. These women discuss the work they have done to make these injustices visible and demand change. For instance, Genevieve Butler, a Member of the Humanitarian Enterprise of Loving People Association and a resident of St. James Parish, describes having the skin peel off her face—twice—after getting caught in the rain, being diagnosed with breast cancer, and having thyroid surgery.<sup>759</sup> Sharon and Shamell Lavigne, a mother and daughter from St. James Parish, have been driven to fight for environmental justice because they understand that their family’s health problems stem from the polluting plants.<sup>760</sup>

The women have succeeded in shutting down some petrochemical projects to date, but new proposals are constantly being set forth, despite the clear health problems these plants pose. Grassroots groups such as The Louisiana Bucket Brigade and RISE St. James brought national attention<sup>761</sup> to “Cancer Alley,” and the Environmental Protection Agency responded in 2022 by committing \$600,000 to air monitoring studies within the region.<sup>762</sup>

Women of “Cancer Alley” who are fighting for justice face an uphill battle. Dr. Robert Bullard, a professor at Texas Southern University and a major leader in the environmental justice movement, explains that the U.S. legal system places the burden on community members to prove that their disease has been caused directly by local emissions.<sup>763</sup> This is very difficult, given that the community lacks resources that would enable them to prove this, and health researchers often blame residents’ sicknesses on diets and “lifestyles.”<sup>764</sup>

African American/Black/African Diaspora women of “Cancer Alley” suffer particularly severe health complications. Studies have repeatedly shown that women, especially women of color, are less likely to be taken seriously by medical professionals and are more likely to have their

756 Juhasz, A. (2024, January 25). “We’re Dying Here” The Fight for Life in a Louisiana Fossil Fuel Sacrifice Zone. *Human Rights Watch*. [\[LINK\]](#)

757 Ibid.

758 Ibid.

759 Butler, E. (2019, January 24). No Gardens – by Eve Butler. *Story Center*. [\[LINK\]](#)

760 Louisiana Bucket Brigade. *Women of Cancer Alley*. [\[LINK\]](#)

761 The Guardian (2021). *Cancer Town*. [\[LINK\]](#)

762 Dosemagen, S. (2022, February 19). EPA Investment in Cancer Alley. *The Hill*. [\[LINK\]](#)

763 Lu Baum, J. (2019, April 1). They Don’t Call It “Cancer Alley” For Nothing. *Big Easy Magazine*. [\[LINK\]](#)

764 Ibid.

illnesses ignored.<sup>765</sup> Historic and ongoing systemic racism has led to distrust in the healthcare system. The Remedy Health Study found that Black patients “are nearly two times more likely than white patients to put off seeing a doctor because they don’t trust the healthcare system,”<sup>766</sup> likely due to the legacy of mistreatment and negligent care of Black patients.<sup>767</sup> These compounding factors—that women are more likely to have fossil fuel derived health impacts<sup>768</sup> and that Black patients are more likely to have experiences that increase mistrust in the medical system<sup>769</sup>—make African American/Black/African Diaspora women especially vulnerable to illness and health impacts that spawn from fossil fuel pollution, often leading to longer or more complicated recoveries from these impacts. And, these same communities are statistically likely to have related chronic conditions undertreated for their entire lives.<sup>770</sup> Jo Banner, Co-Founder and Co-Director of the Descendants Project, describes these interlocking issues in her home in Louisiana:

**“There is a lot of cancer—a community member was diagnosed with cancer after suffering from pain. That person died within a month of the diagnosis. There is also a great deal of breast cancer in our communities. These cancer cases are on the rise. Our asthma rates are double the nation’s average. So breathing, respiratory problems, and also reproductive issues with women having miscarriages and not being able to bring their babies to full term are also problems—so it runs the gamut. Due to ongoing historical racism and the treatment of Black women in slavery, Black women’s health and well-being across the board, including in the medical profession, have not been cared for.”<sup>771</sup>**

With the threat of the powerful petrochemical industry and the difficulty in proving causation, this problem is even more hazardous for women experiencing health problems in “Cancer Alley.” Liz Gordon, an Activist in Baton Rouge, describes how one day after “yet another explosion,” her six-month-old daughter, broke out in a rash all over her body.<sup>772</sup> The doctor told Liz Gordon, “Well, we don’t want to treat her because we don’t want to put Exxon in the paperwork,” or “Be involved in a lawsuit.”<sup>773</sup> The harm inflicted by these companies is also financial: it costs money to treat illnesses, to go to the emergency room, and to miss work to care for yourself and loved ones.<sup>774</sup>

Formosa’s Sunshine Project, planned for St. James Parish, would involve building a \$12 billion petrochemical plant that would make various single-use plastics including polyethylene, polypropylene, polymer, and ethylene glycol.<sup>775</sup> This plant is permitted to emit over 13 million

765 Fenton, S. (2016, July 27). How Sexist Stereotypes Mean Doctors Ignore Women’s Pain. *Independent*. [\[LINK\]](#)

766 Miller, J. (2022, March 28). Chronic Care Disparities in the Black Community. *HealthCentral*. [\[LINK\]](#)

767 Byrd, W.M., Et al. (2001, March). Race, medicine, and health care in the United States: a historical survey. *Journal of the National Medical Association*. [\[LINK\]](#)

768 Grossman, A. (2022). The Influence of Environmental Toxicity, Inequity and Capitalism on Reproductive Health. *Biological Diversity*. [\[LINK\]](#)

769 Bazargan, M. Et al. Discrimination and Medical Mistrust in a Racially and Ethnically Diverse Sample of California Adults. *Annals of Family Medicine*. [\[LINK\]](#)

770 Hoffman, K.M., Et al. (2016, April 4). Racial bias in pain assessment and treatment recommendations, and false beliefs about biological differences between blacks and whites. *PNAS*. [\[LINK\]](#)

771 Banner, J. (2023, July 26). WECAN Interview.

772 Louisiana Bucket Brigade and Story Center. (2019, January 24). Women of Cancer Alley: Nothing Happens. *Youtube*. [\[LINK\]](#)

773 Ibid.

774 Investopedia. (2020, May 12). 6 Reasons Healthcare Is So Expensive in the U.S. [\[LINK\]](#)

775 Beenes, M. (2023, May 10). Formosa Plastics’ “Sunshine Project”. *BankTrack*. [\[LINK\]](#); Sanzillo, T. (2022, February 24). IEEFA U.S.: S&P pushes Louisiana project cancellation as credit boost for Formosa. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

tons of greenhouse gasses per year and more than 800 tons of toxic air pollutants per year.<sup>776</sup> Shamyra Lavigne describes the intergenerational harm that Formosa’s plant would exacerbate:

**“A mile away from Formosa’s [proposed facility] is an elementary school of little Black kids. And my heart breaks because I’m like, ‘These little Black kids are going to go through the same thing I was growing up there.’”<sup>777</sup>**

Notably, Adrienne Bloch, an Earthjustice attorney, reported that “ethylene oxide emissions will cause ambient levels of ethylene oxide that are 246 times that which EPA has found can cause cancer.”<sup>778</sup> Exposures higher than this EPA standard have been linked to increased miscarriage risk.<sup>779</sup>

According to a new report from Human Rights Watch, heavily polluted neighborhoods in Louisiana had 25% higher risks of low birthweight and 36% higher risks of preterm birth compared to unpolluted neighborhoods.<sup>780</sup> Additionally, toxic air pollution was linked to, on average, 2,166 low birthweight cases and 3,583 preterm birth cases annually in Louisiana.<sup>781</sup> This amounts to over one third of the state’s cases of low birthweight and over one half of the state’s cases of preterm birth.<sup>782</sup> As a result, women will ultimately bear the burden of coping with reproductive and emotional health issues, increased caretaking responsibilities, and financial challenges that come with raising an infant born with low birth weight. These challenges include increased birth defects and increased risk of health problems later in life, like heart disease and stroke.<sup>783</sup>

Due to advocacy pressure and a lawsuit filed by Earthjustice, in 2023, the EPA proposed more stringent regulations on exposure to ethylene oxide pollution.<sup>784</sup> Formosa Plastics planned petrochemical plant, projected to be one of the top five emitters of ethylene oxide in the U.S.,<sup>785</sup> is inconsistent with national standards, i.e., the EPA’s goal to cut ethylene oxide emissions by 80% per year. The EPA’s March 2024 ethylene oxide regulatory decision leaves Formosa Plastics, and the financial institutions behind Formosa, at risk of stranded assets [see Section 8].<sup>786</sup>

Population data reveals that proposed Sunshine Project sites are near predominantly African American/Black/African Diaspora neighborhoods.<sup>787</sup> UN human right experts have described this further development and the existing hub of industry as a “form of environmental racism [that] poses serious and disproportionate threats to the enjoyment of several human rights of its largely African American residents, including the right to equality and non-discrimination, the right to

<sup>776</sup> Louisiana Department of Environmental Quality. (2020, January 6). *Part 70 Operating Permit NOS*. [\[LINK\]](#)

<sup>777</sup> Moran, G. Et al. (2023, August 10). )Revealed: Louisiana created alleged conflict of interest in ‘Cancer Alley’ case. *The Guardian*. [\[LINK\]](#)

<sup>778</sup> Ludwig, M. (2019, March 2). Petrochemical Giants Are Slowly Killing Black Louisiana Communities. *Truthout*. [\[LINK\]](#)

<sup>779</sup> *Ibid.*

<sup>780</sup> Terrel, K. (2024, March 14). Toxic air pollution and concentrated social deprivation are associated with low birthweight and preterm Birth in Louisiana. *Environmental Research: Health*. [\[LINK\]](#)

<sup>781</sup> *Ibid.*

<sup>782</sup> *Ibid.*

<sup>783</sup> *Ibid.*

<sup>784</sup> EPA Press Office. (2023, April 11). *EPA Proposes New Standards to Protect Public Health, Reduce Exposure to Ethylene Oxide Pollution*. [\[LINK\]](#)

<sup>785</sup> Kellerman, C. *Formosa Plastics: An Assault On Human Life*. Loyola University New Orleans. [\[LINK\]](#)

<sup>786</sup> EPA Press Office. (2023, April 11). *EPA Proposes New Standards to Protect Public Health, Reduce Exposure to Ethylene Oxide Pollution*. [\[LINK\]](#)

<sup>787</sup> Younes, L. (2019, November 19). What Could Happen if a \$9.4 Billion Chemical Plant Comes to “Cancer Alley.” *Propublica*. [\[LINK\]](#)

life, the right to health, right to an adequate standard of living and cultural rights.”<sup>788</sup> In 2019, a cartographic analysis showed that the location of this proposed plant will be on the burial sites of enslaved ancestors of the local community.<sup>789</sup> In 2020, St. James residents expressed concerns to Formosa Plastics that the Sunshine Project poses threats to the community’s health and cultural heritage, i.e., by building on top of burial grounds of enslaved ancestors.<sup>790</sup> Formosa Plastics’ disregard for the communities’ concerns and opposition led residents to file a landmark lawsuit in March of 2023, which, among other goals, aims to create an ordinance that protects unmarked cemeteries of enslaved people and establish a “complete moratorium on future permitting or construction of industrial facilities throughout the Parish.”<sup>791</sup> As of March 2024, a final verdict has not been made; a motion was filed by the St. James Parish Council and St. James Parish Planning Commission to dismiss the case and was subsequently struck down in November of 2023.<sup>792</sup>

A 2022 Louisiana district court decision ruled in favor of RISE St. James, the Louisiana Bucket Brigade, and other environmental organizations, temporarily denying Formosa Plastics air permits for its Sunshine Project.<sup>793</sup> However, in January 2024, a state of appeals court overruled this decision, effectively reauthorizing Formosa’s state permits to pursue construction for its petrochemical plant.<sup>794</sup> Environmental groups are currently challenging this decision in the Louisiana Supreme Court.<sup>795</sup>

Despite receiving all required air permits, as of July 2024, Formosa Plastics has not been authorized to begin construction, as it must complete an Environmental Impact Statement (EIS) to receive its federal wetlands permit from the U.S. Army Corps of Engineers.<sup>796</sup> Despite recent setbacks, communities and national allies continue to fight for more stringent legislation concerning fossil fuel pollution and higher health standards.

The more legislation that calls for increased environmental justice measures, the more fossil fuel projects will be affected, which in turn carries risks for the financial institutions financing the companies and projects (discussed further in Section 9a). As of March 31, 2024, Vanguard and Blackrock are the top two largest shareholders of DuPont, the company behind the Denka Petrochemical Plant, which was found to be releasing the toxic chemical chloroprene.<sup>797</sup> Collectively, Vanguard and Blackrock own over 76.4 million shares with a combined value of over \$6 billion.<sup>798</sup> Between 2023 and 2024, Vanguard and Blackrock remained the top investors for Venture Global, the company behind the CP2 LNG terminal project.<sup>799</sup> Additionally, Vanguard and Blackrock are significant shareholders of Formosa Plastics Corporation, the company behind “The Sunshine Project.”<sup>800</sup> As of March 31, 2024, Vanguard alone owned over 101.2 million shares.<sup>801</sup>

788 United Nations (2021, March 2). *Environmental racism in Louisiana’s ‘Cancer Alley’ must end, say UN human rights experts.* [\[LINK\]](#)

789 Gannon, M. (2020, November 17). In Louisiana’s ‘Cancer Alley,’ a Black community battles an industry that threatens its health—and history. *Popular Science.* [\[LINK\]](#)

790 Muller, W. (2020, July 20). How many burial sites are on the land where Formosa Plastics plans to build? *Louisiana Illuminator.* [\[LINK\]](#)

791 United States District Court. (2023, March 21). *Complaint for Declaratory and Injunctive Relief.* [\[LINK\]](#)

792 Inclusive Louisiana et al v. St. James Parish et al. No. 2:2023cv00987 - Document 62 (E.D. La. 2023). [\[LINK\]](#)

793 Rise St. James et al v. Louisiana Department of Environmental Quality, Docket No.: 694,029. (2022, September 12). [\[LINK\]](#)

794 Muller, W. (2024, January 26). Appeals court rules in favor of Formosa Plastics facility in St. James. *Louisiana Illuminator.* [\[LINK\]](#)

795 RISE St. James, et al. v. Louisiana Department of Environmental Quality. *Application for Writ of Certiorari.* (2022, September). [\[LINK\]](#)

796 Dryfoos, D. (2024, February 8). Formosa Plastics gets air permits back, but a few hurdles remain. *The Lens.* [\[LINK\]](#)

797 Holden, E., Et al. (2019, December 19). Chemical manufacturer launched aggressive campaign instead of reining in pollution, according to documents. *The Guardian.* [\[LINK\]](#); EPA. (2010, September). *Toxicological Review of Chloroprene.* [\[LINK\]](#)

798 NASDAQ. (2024, July 31). *DuPont de Nemours, Inc. Common Stock (DD).* [\[LINK\]](#)

799 Fintel. *US:US92328MAA18 / Venture Global Calcasieu Pass LLC - Institutional Ownership and Shareholders.* [\[LINK\]](#)

800 Greenwood, A. (2024, January 23). Formosa Sunshine Project gets appeals court win in permit dispute for US Louisiana Complex. LexisNexis Risk Solutions. [\[LINK\]](#)

801 Fintel. (2024, July 30). *Formosa Plastics Corporation.* [\[LINK\]](#)

## 6e. California: Kern County and Surrounding Areas

Project(s)	Companies operating in California's Central Valley*	Banks financing the company**	Asset Managers investing in the company***	Insurance Companies insuring the company****
(1) Kern River oil field, (2) Lost Hills field, (3)Cymric field, (4) Midway Sunset field, (5) Coalinga Oil Field, (6) San Joaquin Oil & Gas Property, (7) McKittrick Oil & Gas Property, (8) Unspecified Lease in Kern County, (9) Orradre Oil & Gas Property, (10) Rosenberg Oil & Gas Property	Chevron	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada (4) Citigroup	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Midway Sunset field in Southwestern Kern County, (2) Belridge Producing Complex, (3) Coalinga Oil Field, (4) Anderson-Fitzgerald Oil & Gas Property, (5) Unspecified Lease in Kern County, (6) Lost Hills Oil & Gas Property, (7) Orradre Oil & Gas Property, (8) Sebu T Oil & Gas Property, (9) Taylor Oil & Gas Property	ExxonMobil (i.e., Aera Energy)	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada (4) Citigroup	(1) Vanguard, (2)BlackRock, (3) Capital Group	N/A
Elk Hills Gas Field	Occidental Petroleum (i.e.,California Resources Corporation)	(1) Bank of America, (2) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
(1) Wilmington Refinery, (2) Benicia Refinery	Valero	(1) Bank of America, (2) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
(1) Los Angeles Refinery	Phillips 66	(1) Bank of America, (2) JPMorgan Chase	(1) Vanguard, (2) BlackRock	

(1) Perris Petrochemical Plant, (2) Rialto Petrochemical Plant,	Westlake Chemical	N.A	(1) BlackRock, (2) Vanguard, (3) Capital Group	N/A
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All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), the Rainforest Action Network's 2024 published report, *Banking on Climate Chaos* or other primary documents. .

\*This list is not exhaustive.

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*\*N/A is because there is a lack of transparency.

California is one of the United States' top oil-producing states; three-quarters of the state's oil production creates as much damage to the climate as the Canadian tar sands operations.<sup>802</sup> Nine months into 2023, California regulators approved 820 permits to rework and redrill existing oil wells; more than 60% of which are within 3,200 feet of homes, schools, or other sites near human activity.<sup>803</sup> A new California law has gone into effect that would require a 3,200-foot buffer between oil drilling and communities.<sup>804</sup>

The Central Valley alone is responsible for 70% of oil and 90% of gas in California,<sup>805</sup> and has been plagued by big industry's pollution for decades; oil wells and extraction sites have been developed disproportionately in diverse, low income, working class, and/or rural communities.<sup>806</sup> Marginalized communities in California near oil fields are also often associated with historic redlined districts.<sup>807</sup> A 2023 study, found that an estimated 1.1 million Californians live within one kilometer of active wells, and that "the proportion of Black residents near active wells was 42% to 49% higher than the proportion of Black residents across California. The proportion of Hispanic residents near active wells was 4%–13% higher than their statewide proportion."<sup>808</sup> Throughout California, "people of color represent more than nine out of ten residents who live near oil and gas wells."<sup>809</sup> The following are some of the major oil producing counties in California, and all have significant racial minority populations:<sup>810</sup> Kern County (54.6% Latine), Los Angeles County (48.6% Latine and 15.4% Asian Diaspora), Ventura County (43.2% Latine), Fresno County (53.8% Latine), and Monterey County (59.4% Latine).<sup>811</sup> It should also be noted that the Census frequently undercounts low-income communities of color,<sup>812</sup> so these populations are likely larger than reported. It is clear from this data that Latine communities in California are unfairly shouldering the harmful impacts from the extractive industry. In addition, in 2023, nearly 9 million people (or 20% of the population) in Califor-

802 Fleming, J. (2021). Killer Crude: How California Produces Some of the Dirtiest, Most Dangerous Oil in the World. *Center for Biological Diversity*. [\[LINK\]](#)

803 Ferrar, K. (2023, October 4). 'Oil and Gas Extraction Activity within the Proposed 3,200 foot Public Health Protection Zone. *FrackTracker Alliance*. [\[LINK\]](#)

804 Cart, J. (2024, June 27). Controversial measure overturning oil well restrictions won't be on California ballot. *CalMatters*. [\[LINK\]](#)

805 Canon, G. (2021, March 12). 'Kern runs on oil': as California confronts climate crisis, one county is ready to drill. *The Guardian*. [\[LINK\]](#)

806 Gonzalez, D. Et al. (2023, March 23). Temporal Trends of Racial and Socioeconomic Disparities in Population Exposures to Upstream Oil and Gas Development in California. *Wiley Online Library*. [\[LINK\]](#)

807 Svoboda, D. (2022, April 13). More Oil and Gas Wells in Redlined Neighborhoods: Historically Marginalized Communities are Exposed to More Wells With Their Accompanying Pollution. *Berkeley Research*. [\[LINK\]](#)

808 Gonzalez, D. (2023, March 23). Temporal Trends of Racial and Socioeconomic Disparities in Population Exposures to Upstream Oil and Gas Development in California. *GeoHealth*. [\[LINK\]](#)

809 Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [\[LINK\]](#)

810 Ibid.

811 U.S. Census Bureau. (July 1, 2021). *Monterey County, California; Ventura County, California; Los Angeles County, California; Fresno County, California; Kern County, California*. [\[LINK\]](#)

812 Wang, H.L. (2022, March 11). The 2020 census had big undercounts of Black people, Latinos and Native Americans. *National Public Radio*. [\[LINK\]](#)

nia live within 1 kilometer of wells that have been plugged and abandoned.<sup>813</sup> Studies have shown that plugged wells have the potential to be emitting toxic chemicals, carrying a myriad of health risks. Benzene is one of the toxic chemicals known to be released and has disparate impacts on women’s health [see Section 5d].<sup>814</sup>



Oil pumps in residential neighborhood in Los Angeles County, California—with oil refineries in the background. (Gary Kavanagh)

The health risks of fracking and related oil and gas production are particularly dangerous in California as oilfields are commonly located in densely populated areas—a phenomenon known as “neighborhood drilling.”<sup>815</sup> In southern California, Hispanic/Latine, Asian, African American/Black/African Diaspora, and Hawaiian/Pacific Islander populations are particularly affected by living in proximity to oil and gas wells.<sup>816</sup> For example, Los Angeles County has the largest urban oilfield in the United States, with about 1,600 oil wells that pollute predominantly African American/Black/African Diaspora and Latine communities.<sup>817</sup> Los Angeles has the worst ground level ozone pollution in the U.S.<sup>818</sup> This is due to fossil fuel emissions reacting to the city’s persistent heat and sunlight, and being trapped within the mountainous landscape.<sup>819</sup>

813 Manke, K. (2023, March 23). Black, Latinx Californians face highest exposure to oil and gas wells. *Berkeley News*. [\[LINK\]](#); González, D., Et al. (2023, March 23). Temporal Trends of Racial and Socioeconomic Disparities in Population Exposures to Upstream Oil and Gas Development in California. *Advancing Earth and Space Sciences*. [\[LINK\]](#)

814 Manke, K. (2023, March 23). Black, Latinx Californians face highest exposure to oil and gas wells. *Berkeley News*. [\[LINK\]](#)

815 Center for Biological Diversity. (2017). *Fracking and Dangerous Drilling in California Briefing Book: Californians Against Fracking*. [\[LINK\]](#)

816 Proville, J., Et al. (2022, June 17). The demographic characteristics of populations living near oil and gas wells in the USA. *Population Environment*. [\[LINK\]](#)

817 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

818 Ibid.

819 Fortiér, J. (2023, April 19). Cough, Cough! LA’s Ozone Levels Among Worst In The Nation. *LAist*. [\[LINK\]](#)



Significant to reproductive justice, mothers in California gave birth to nearly three million babies living within about 3,200 feet of an oil and gas well between 2006-2015 alone.<sup>820</sup>

In a state plagued by severe climate-crisis-created “megadroughts,” the oil and gas industry uses tens of billions of gallons of water for extraction each year, while residents face fines for breaking imposed restrictions.<sup>821</sup> Fracking has been of particular concern in California as it brings “unique harms” to the area from a process called “shallow fracking,” which creates a heightened risk of water contamination through drilling adjacent to underground drinking water.<sup>822</sup> As *Inside Climate News* reported, the fossil fuel industries’ continued use and pollution of California’s water sources “makes little sense...the oil industry use[s] water needed by farms and cities to boost the extraction of the fossil fuels that drive global warming and have left water reservoirs critically depleted.”<sup>823</sup> Over half the people living without access to safe water live in five California counties, including Kern County.<sup>824</sup> Unsafe water can detrimentally impact women’s overall health, including reproductive health. For example, when nitrate levels increase in public water supplies—a byproduct of burning fossil fuels<sup>825</sup>—women are at a greater risk of ovarian, thyroid, kidney, and bladder cancers.<sup>826</sup> Additionally, other impacts include damaging children’s nervous systems and hindering brain development,<sup>827</sup> all of which increase caretaking responsibilities for women.

California state government shows signs of pivoting from its history of allowing fossil fuel development: California denied a record number fracking permits in 2021 ahead of Governor Newsom’s deadline to end state fracking by 2024.<sup>828</sup> State officials specifically cited climate concerns as a reason for denying permits, mostly to ExxonMobil (via Aera Energy).<sup>829</sup> Aera Energy and Chevron responded by filing lawsuits to overturn Governor Newsom’s “de-facto ban” on fracking.<sup>830</sup>

Local California governments have passed or considered oil drilling bans including in Los Angeles County and the San Francisco Bay Area.<sup>831</sup> In January 2023, the Los Angeles County Board of Supervisors approved a unanimously passed ordinance prohibiting new oil and gas wells and phasing out current drilling in unincorporated areas in the county.<sup>832</sup> This ordinance passed as a result of local pressure, specifically from those persons directly impacted by health conditions from local drilling operations. Nalleli Cobo, Founder of People not Pozos and a

820 Tran, K. Et al. (2020, June 3). Residential Proximity to Oil and Gas Development and Birth Outcomes in California: A Retrospective Cohort Study of 2006–2015 Births. *Environmental Health Perspectives*. [\[LINK\]](#)

821 Gross, L. (2022, September 18). Drought-Wracked California Allows Oil Companies to Use High-Quality Water. But Regulators’ Error-Strewn Records Make Accurate Accounting Neatly Impossible. *Inside Climate News*. [\[LINK\]](#); Beaumont, H. (2023, January 22). Oil wells guzzle precious California water. Next door, residents can’t use the tap. *The Guardian*. [\[LINK\]](#)

822 Center for Biological Diversity. (2017). *Fracking and Dangerous Drilling in California Briefing Book: Californians Against Fracking*. [\[LINK\]](#)

823 Gross, L. (2022, September 18). Drought-Wracked California Allows Oil Companies to Use High-Quality Water. But Regulators’ Error-Strewn Records Make Accurate Accounting Neatly Impossible. *Inside Climate News*. [\[LINK\]](#)

824 Ibid.

825 University of Pittsburgh. (2007, October 23). Harmful Byproducts of Fossil Fuels Could Be Higher In Urban Areas. *ScienceDaily*. [\[LINK\]](#)

826 National Cancer Institute Division of Cancer Epidemiology & Genetics. *Drinking Water Contaminants*. [\[LINK\]](#)

827 Clean Water and Reproductive Justice: Lack of Access Harms Women of Color. (2020, July). *National Partnership for Women & Families*. [\[LINK\]](#)

828 California denies most fracking permits ahead of 2024 ban. (2021, November 24). AP. [\[LINK\]](#)

829 The Associated Press, (2021, November 24). California denies most fracking permits ahead of 2024 ban. ABC News. [\[LINK\]](#)

830 Cox J., (2022, March 31). Aera challenges governor’s fracking ban. *Bakersfield.com*. [\[LINK\]](#)

831 Mulhern, A. (2022, December 5). Los Angeles Bans New Oil Wells, Plans to Close Existing Ones. *ScientificAmerican*. [\[LINK\]](#)

832 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#); Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [\[LINK\]](#)

young cancer survivor from Los Angeles, describes her health experience living within feet of an oil well since she was four years old:

**“My nose bleeds got so severe I had to sleep in a chair to prevent choking on my own blood, I developed asthma, I had heart palpitations, and horrible headaches. My mom developed asthma, my sister had headaches and stomach pains, so it was a really hard time... As soon as the doctor said I had cancer I immediately thought of the [oil drilling] sign that says dangerous chemicals known to cause cancer, birth defects, and reproductive harm.”<sup>833</sup>**

From a young age, Cobo led grassroots efforts engaging her community and documenting shared health symptoms, ultimately successfully shutting down a deteriorating oil drilling operation permanently.<sup>834</sup> For residents who still have active wells in their neighborhoods, health concerns are a persistent issue. As a frontline woman with an oil well two blocks from her house, Magali Sanchez-Hall told Earthjustice:

**“The oil wells are hidden, but everybody seems to feel it. You go to the hairdresser, and they have breathing problems and headaches. You’re talking to a mother, and she’ll say, ‘I have got to go, my kid is having a nosebleed.’”<sup>835</sup>**

In June 2023, conservation organizations filed a lawsuit against the Biden Administration’s BLM to stop the drilling of various oil and gas wells on public land in California’s San Joaquin Valley.<sup>836</sup> Despite the BLM’s past agreements to analyze the harms of oil and gas development in Central California, they continued to approve new drilling without fully understanding its impacts on air quality, water, climate, and environmental justice.<sup>837</sup> Scientists have noted that by undermining the state’s environmental justice goals and continuing to approve new oil and gas wells, fossil fuel companies and regulators are placing residents at an increased risk of severe health harms.<sup>838</sup> Amidst the approval of new wells, in May 2023, 27 wells (40% of those checked) near Bakersfield were found to be leaking methane at explosive levels.<sup>839</sup>

Lobbying and campaign records show that the fossil fuel industry spent over \$25.4 million on lobbying regulators and elected officials in 2023.<sup>840</sup> These activities heighten the concerns of environmental experts that the oil industry will block efforts to transition to a renewable energy economy.<sup>841</sup>

833 Nalleli Cobo, 2022 Goldman Environmental Prize, United States. (2022, May 25). *Goldman Environmental Prize*. [\[LINK\]](#)

834 Ibid.

835 Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [\[LINK\]](#)

836 Riquelmy, A. (2023, June 22). Environmental groups sue BLM over oil drilling in California. *Courthouse News Service*. [\[LINK\]](#)

837 Ibid.

838 Wolf, S., Et al. (2023, June 12). Top Scientists: California Must End Neighborhood Oil Drilling, New Fossil Fuel Permits. *Center for Biological Diversity*. [\[LINK\]](#)

839 Cox, J. (2023, June 1). State finds 27 oil wells leaking methane in Arvin-Lamont area. *Bakersfield.com*. [\[LINK\]](#)

840 Bacher, D. (2024, February 26). Elk Grove News – Big Oil pumped \$25.4 million into lobbying California officials in 2023. *Consumer Watch Dog*. [\[LINK\]](#)

841 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

### 6e. i Kern County

In the Central Valley, socioeconomic circumstances place many Hispanic residents and agricultural workers at a disadvantage, in terms of political influence and vulnerability to fossil fuel health and safety impacts.<sup>842</sup> Kern County, where the Latine community accounts for 56.1% of the population,<sup>843</sup> is an especially harrowing example of how the fossil fuel industry disproportionately impacts people of color. Kern County holds over 100,000 oil and gas wells in California<sup>844</sup> and produces approximately 70% of the state's oil and 90% of its natural gas.<sup>845</sup> Rural towns in this region have been devastated by poverty, food insecurity, climate change, and pollution from oil and gas emissions, truck traffic, and wastewater disposal. Central California, including Kern County, had the highest category of drought ranking in 2022.<sup>846</sup>

In 2024, an atmospheric river system caused significant flooding in Central California.<sup>847</sup> Flooding can inundate oil wells and fracking sites, which heightens the risk of oil and gas wells spilling hazardous material into local river systems and watersheds.<sup>848</sup> For this reason, oil companies' operations exacerbate the public and environmental health during flooding disasters. Because of this issue, companies, such as Chevron, have previously been forced to halt operations before major flooding events due to threats of oil spills.<sup>849</sup> As mentioned in Section 6a, oil spills have been linked to an increase in mental distress, domestic violence, and depression in women.<sup>850</sup> Additionally, Chevron and other oil and gas companies' greenhouse gas emissions and pollution perpetuates climate change, leading to more frequent and extreme weather events that result in severe flooding. These events have particularly harmful impacts on women in the region: studies have associated disasters, and particularly floods, with adverse pregnancy outcomes and maternal morbidities.<sup>851</sup>

Of the 122,000 Kern residents that live near wells and suffer from high pollution, 76% of them are people of color.<sup>852</sup> Water samples in Kern county were found to contain benzene, ethylbenzene, and xylene; several of the samples collected exceeded benzene levels established by safe drinking water standards.<sup>853</sup> These chemicals have been associated with prolonged menstruation cycles, damage to fetal development, and other reproductive effects.<sup>854</sup> Kern County is reported to have the highest levels of fine particle pollution in the country, causing "epidemic levels of illness" which affects low-income and communities of color the most se-

842 Proville, J., Et al. (2022, June 17). The demographic characteristics of populations living near oil and gas wells in the USA. *Population Environment*. [\[LINK\]](#)

843 United States Census Bureau. (2020). *Quick Facts Kern County California*. [\[LINK\]](#)

844 Mineral Answers. (2023, June). *Kern County, CA Oil & Gas Activity*. [\[LINK\]](#)

845 Canon, G. (2021, March 12). 'Kern runs on oil': as California confronts climate crisis, one county is ready to drill. *The Guardian*. [\[LINK\]](#)

846 Beaumont, H. (2023, January 22). Oil wells guzzle precious California water. Next door, residents can't use the tap. *The Guardian*. [\[LINK\]](#)

847 Garcia, L. (2024, February 2). Thursday's atmospheric river causes major flooding throughout Bakersfield. *NBC KGET*. [\[LINK\]](#)

848 Schwarts, A. (2013, September 13). Fracking May Be Making Colorado's Flood Disaster Even Worse. *Fast Company*. [\[LINK\]](#); Misuri, A. Et al. (2020, September 1). Flood triggered oil spills: Lessons from the Natech accident in Saga prefecture in August 2019. *Kyoto University*. [\[LINK\]](#)

849 Cox, J. (2023, April 24). Chevron braces for possible flooding in Kern River Oil Field. *The Bakersfield Californian*. [\[LINK\]](#)

850 Rung, A. Et al. Depression, Mental Distress and Domestic Conflict among Louisiana Women Exposed to the Deepwater Horizon Oil Spill in the Watch Study. *Environmental Health Perspectives*. [\[LINK\]](#)

851 Wheeler, S. Et al. Healthy Environment for a Healthy Start: Promoting Environmental Justice for Equitable Birth Outcomes. *March of Dimes*. [\[LINK\]](#)

852 Ibid.

853 Renda, M. (2019, October). Feds Open Slice of California's Central Coast to Oil & Gas Drilling. *Courthouse News Service*. [\[LINK\]](#)

854 Gaskins, A.J., Et al. (2019, July). Exposure to Fine Particulate Matter and Ovarian Reserve among Women from a Fertility Clinic. *Epidemiology*. [\[LINK\]](#); Stanich, D. (2011, December 8). Fine particle pollution a threat to the cardiovascular health of Californians. *California Air Resources Board*. [\[LINK\]](#)

verely.<sup>855</sup> Studies have linked exposure to fine particulate matter to decreased fertility<sup>856</sup> and elevated incidence of strokes among post-menopausal women.<sup>857</sup>

Amidst a statewide push toward permanent moratoriums on fracking in the area,<sup>858</sup> oil and gas drilling has not slowed down: in 2023, 101,594 wells were drilled in Kern County alone.<sup>859</sup> Experts have noted that drilling sites often “end up in low-income, monolingual, Hispanic communities with virtually no environmental review.”<sup>860</sup>



Fracking in Kern County, CA. (CCEJN staff members)

Arvin is a predominantly Latine farmworker town in Kern County whose water supplies had dangerous arsenic levels for years from groundwater contamination that scientists linked to oilfield operations.<sup>861</sup> Highlighting the discrepancies between extractive industries and the communities they pollute, Arvin resident Gabriela Ojeda told *Inside Climate News* that:

**“They [fossil fuel companies] asked us to make sure that we use as little water as possible, and they’re using a lot of water to drill. It just doesn’t seem fair.”<sup>862</sup>**

855 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

856 Gaskins, A.J., Et al. (2019, July). Exposure to Fine Particulate Matter and Ovarian Reserve among Women from a Fertility Clinic. *Epidemiology*. [\[LINK\]](#)

857 Stanich, D. (2011, December 8). Fine particle pollution a threat to the cardiovascular health of Californians. *California Air Resources Board*. [\[LINK\]](#)

858 Kilvans, L. (2024, February 14). California Releases Formal Proposal to End Fracking in the State. *KQED*. [\[LINK\]](#)

859 Mineral Answers. (2023, June). *Kern County, CA Oil & Gas Activity*. [\[LINK\]](#)

860 Ibid.

861 Gross, L. (2022, September 18). Drought-Wracked California Allows Oil Companies to Use High-Quality Water. But Regulators’ Error-Strewn Records Make Accurate Accounting Neatly Impossible. *Inside Climate News*. [\[LINK\]](#)

862 Ibid.

In 2014, a gas pipeline owned by Petro Capital Resources LLC leaked highly explosive levels of gas into homes in the city, displacing over thirty residents for about eight months.<sup>863</sup> In 2023, three oil wells in Arvin were confirmed to have been leaking near Arvin High School; the town also discovered 15 of 27 wells with methane levels exceeding 50,000 parts per million, which if not contained, could cause a fire or explosion.<sup>864</sup> Other chemicals such as benzene, toluene, and xylene which are used in oil and gas operations have been associated with endocrine disruption, and in women have been documented to impact menstrual cycles, reproductive organs, fertility, puberty, cause miscarriages, impair fetal development, and increase incidence of reproductive cancer.<sup>865</sup>

Local water suppliers in California have a history of legally challenging the fossil fuel industry. In 2018, the water company in Fuller Acres, a predominantly Latine community where residents are forced to drive to neighboring towns to buy drinking water, became one of 40 companies to sue Shell and Dow for water contamination.<sup>866</sup> Communities such as Fuller Acres do not have the financial means for water treatment plants and are thus more significantly impacted by groundwater contamination.<sup>867</sup> As previously mentioned, lack of access to clean drinking water disproportionately impacts women: unsafe water can lead to negative impacts on reproductive health and additional care responsibilities. Further, when climate change and fossil fuel-related disasters occur—such as displacement and groundwater contamination—women often bear the burden of relocating families and women’s livelihoods are more likely to be detrimentally affected.<sup>868</sup>

Elizabeth Perez, a Community Organizer at the Central California Environmental Justice Network, describes the impacts from pollution on women in her community in Kern County:

**“Some of my friends have asthma...during summer it’s really hard for people who have respiratory illnesses to go outside just because our air is so dirty...women are the ones who have to take their children to the clinic, for example to take the kid’s medicine for asthma [at school].”<sup>869</sup>**

Bakersfield, California, a town whose population is two-thirds Hispanic/Latine, African American/Black/African Diaspora, Asian, and Indigenous,<sup>870</sup> ranked number one in the country for having the worst air quality in 2023.<sup>871</sup> In 2019, Chevron was responsible for spilling at least 800,000 gallons of brackish oil and water into a creek bed in Bakersfield, costing the company \$13.1 million in settlement agreements.<sup>872</sup> In February 2024, a pipeline carrying crude oil burst in front of the Buena Vista Elementary School spilling oil onto a street near a crosswalk where parents usually pick up their kids; these spills and their proximity to schools severely

863 Bedell, C., et al. (2016, September 13). Pipeline operator fined over Arvin gas leak. *Bakersfield News*. [\[LINK\]](#)

864 Cox, J. (2023, June 6). State considering changes after activists press for action on leaky oil wells. *Bakersfield*. [\[LINK\]](#)

865 Webb, E. (2014, December 5). Developmental and reproductive effects of chemicals associated with unconventional oil and natural gas. *Reviews on Environmental Health*. [\[LINK\]](#)

866 Beaumont, H. (2023, January 22). Oil wells guzzle precious California water. Next door, residents can’t use the tap. *The Guardian*. [\[LINK\]](#)

867 Ibid.

868 *National Partnership for Women & Families*. (2020, July). *Clean Water and Reproductive Justice: Lack of Access Harms Women of Color*. [\[LINK\]](#)

869 Perez, E. (2020, December 17). WECAN Interview.

870 United States Census Bureau. (2023). *QuickFacts*. [\[LINK\]](#)

871 American Lung Association. (2023). *Bakersfield, CA*. [\[LINK\]](#)

872 Chevron to pay over \$13 million in settlement for California oil spills. (2024, March 21). *Reuters*. [\[LINK\]](#)

place the health and safety of young children at risk.<sup>873</sup> The source of the pipeline spill was an undisclosed oil refinery that was not released to the public.<sup>874</sup> Mothers and caretakers who have to care for sick children, may risk their employment by taking unpaid sick leave and are more likely to experience symptoms of depression.<sup>875</sup> In 2023, there were approximately 300 spills in California reported to the Office of Spill Prevention and Response.<sup>876</sup> According to the CDC, inhaling crude oil from an oil spill can potentially cause symptoms such as headaches, dizziness, confusion, nausea, or vomiting.<sup>877</sup> These examples underscore the risks associated with pipelines, and the burden of care that can result from an oil spill.



Children playing in a neighborhood located next to industry in Wilmington, California. (Iris Schneider for CALmatters)

Maricruz Ramirez, a resident of Bakersfield and Community Organizer with the Center on Race, Poverty, & the Environment, describes the detrimental impacts poor air quality has on children, affecting their ability to spend time outdoors:

**“This year the American Lung Association released their State of the Air report and the numbers were frightening. The city of Bakersfield alone had over 14,000 pediatric asthma cases, that’s not normal... it is because of the air we are breathing in... Even our schools will have days where if the air quality is on the really bad scale on the index, the children have inside playground time instead.”<sup>878</sup>**

873 LaVigne, D. (2024, February 8). Pipe burst spills oil in front of Buena Vista Elementary School. 23 ABC | Bakersfield. [\[LINK\]](#)

874 Ibid.

875 Murray, T. (2023, January 02). The Impact of "Sick Season" on Working Parents. *Dotdash Media*. [\[LINK\]](#)

876 Ibid.

877 Light Crude Oil Information for Health Professionals. (2010, May 13). CDC. [\[LINK\]](#)

878 Ramirez, M. (2024, June). WECAN Interview.

Chevron exemplifies big industry's bad acting in California. In 2019, a Chevron-owned oil well in Kern County leaked 800,000 gallons of crude petroleum and water for over two months into a creek near Bakersfield. This well was using steam injection to extract underground crude oil.<sup>879</sup> Bakersfield has been identified by the American Lung Association as the most polluted city in the United States for year-round particle pollution and short-term particle pollution, along with being the third most ozone-polluted city.<sup>880</sup> The city has over 9,000 oil and gas wells,<sup>881</sup> and of a population of 901,362 people, according to the American Lung Association, 611,843 residents are people of color.<sup>882</sup>

As of March 31, 2024, Vanguard and Blackrock were the top two shareholders of Chevron,<sup>883</sup> whose oil fields across Kern County are contaminating drinking water with trichloropropane<sup>884</sup> and burdening Latina mothers' caretaking roles.<sup>885</sup> These two companies own more than 289 million shares, worth over \$44.6 billion, collectively.<sup>886</sup> Additionally, JPMorgan Chase and Bank of America were in the top 10 largest shareholders of Chevron, owning shares valued at \$4.6 and \$4.5 billion, respectively.<sup>887</sup>

879 Wick, J. (2019 July 17). A major Kern County oil spill in environmentally conscious California. *Los Angeles Times*. [\[LINK\]](#)

880 Most Polluted Cities. (2023). *American Lung Association*. [\[LINK\]](#); Ramriez, M. (May 2024). WECAN Interview.

881 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

882 American Lung Association. (2023). *Bakersfield, CA*. [\[LINK\]](#)

883 NASDAQ. *Chevron Corporation Common Stock*. [\[LINK\]](#)

884 Wilson, J., Et al. (2020, September 18). Oil Companies Are Profiting From Illegal Spills. And California Lets Them. *ProPublica*. [\[LINK\]](#)

885 Castillo E., (2022, May 12). WECAN Interview.

886 NASDAQ. *Chevron Corporation Common Stock (CVX) Institutional Holdings*. [\[LINK\]](#)

887 Ibid.

## 6f. Northern Colorado: Broomfield, Adams, and Weld County

Project(s)	Companies operating in and near Weld County*	Banks financing the company**	Asset Managers investing in the company***	Insurance Companies insuring the company****
(1) Wattenberg Gas Field, (2) Cummings 19 Oil & Gas Property, (3) Folly Oil & Gas Property, (4) Jodster Oil & Gas Property	Occidental Petroleum (i.e., Kerr-McGee Oil & Gas Onshore LP)	(1) <u>Bank of America</u> , (2) <u>JPMorgan Chase</u>	(1) <u>Vanguard</u> , (2) <u>BlackRock</u>	N/A
(1) Wattenberg Gas Field, (2) Cummings 19 Oil & Gas Property, (3) Wells Ranch Oil & Gas Property	Chevron (i.e., Noble Energy Inc.)	(1) <u>JPMorgan Chase</u> , (2) <u>Bank of America</u> , (3) <u>Royal Bank of Canada</u> (4) <u>Citigroup</u>	(1) <u>Vanguard</u> , (2) <u>BlackRock</u> , (3) <u>Capital Group</u>	N/A
(1) Henderson Chemical Plant	Westlake Chemical	N.A	(1) <u>BlackRock</u> , (2) <u>Vanguard</u> , (3) <u>Capital Group</u>	N/A
(1) Wattenberg Oil Field	Civitas Resources, Inc. (previously Extraction Oil & Gas, Crestone Peak Resources, Bonanza Creek Energy, Inc.)	(1) <u>JPMorgan Chase</u>	(1) <u>Vanguard</u> , (2) <u>BlackRock</u>	N/A
(1) Commerce City Refinery (2) Line 1 (Rocky Mountain Pipeline Project)	Suncor Energy	(1) <u>Royal Bank of Canada</u>	(1) <u>Vanguard</u> , (2) <u>BlackRock</u>	N/A

All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), the Rainforest Action Network's 2024 published report, *Banking on Climate Chaos*, or other primary documents. .

\*This list is not exhaustive.

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*\*N/A is because there is a lack of transparency.



Northern Colorado, including Broomfield, Adams, and Weld Counties, is a hub for oil and gas activity and expansion, as well as the health consequences that result from oil spills, fossil fuel pollution, and fracking wastewater contamination. Both Adams and Weld Counties, for instance, currently have “F” grades for air quality from the American Lung Association.<sup>888</sup> Broomfield County was not included in this measurement. Similarly, Adams, Weld, and Broomfield Counties have not met EPA air quality standards since 2007.<sup>889</sup> Weld County has over 17,000 active wells and produces 79% of the state’s oil production.<sup>890</sup> While Weld County is the largest oil producer in the state, Adams County is rapidly increasing its output with oil production up by 58% since 2021<sup>891</sup> and Broomfield County continues to be threatened by further oil and gas development.<sup>892</sup>

Since 2009, companies in the state of Colorado have drilled 1,689 wells within 500-1,000 feet of buildings, 534 wells within 350-500 feet, 317 wells within 150-350 feet, and 16 wells within 150 feet.<sup>893</sup> Health threats associated with living near fossil fuel drilling have prompted local communities and organizations to advocate for expanding state regulatory policies and changing these setback distances. In response to these calls, the president of the Colorado Oil and Gas Association stated “policy needs to be based on real data, not modeling,” and complained that studies evaluating the impacts of oil and gas development on human health will lead to delays in permitting new operations.<sup>894</sup>

The Colorado Department of Public Health and Environment (CDPHE) released a study in 2019 concluding that Colorado residents living within 2,000 feet of fracking sites may be exposed to unhealthy levels of benzene and other chemicals, which may lead to elevated negative short-term health impacts, including nose bleeds, headaches, trouble breathing, and dizziness.<sup>895</sup> These health concerns start in the pre-production phase: Colorado residents within the city and county of Broomfield living within one mile of fracking sites have reported more frequent upper respiratory, lower respiratory, gastrointestinal, and acute health symptoms, as well as adverse birth outcomes, than residents living over two miles away from the sites.<sup>896</sup> Many of these impacts disproportionately affect women who serve as caregivers and attend to these fossil fuel derived health issues.

In addition to adverse health impacts, studies show that petroleum has far-reaching negative impacts on water quality and soil health.<sup>897</sup> In 2022, there were over 453 oil spills in Colorado, a 16% increase from 2021.<sup>898</sup> In the span of two weeks in the spring of 2023, 17 spills were reported in Weld County; the companies behind this contamination include Noble Energy Inc, Highpoint Operating Corporation, Crestone Peak Resources, KP Kauffman, Civitas Resources,

888 Report Card: Colorado. (2022). *American Lung Association*. [\[LINK\]](#)

889 Colorado Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. (2022, July 31). *U.S. EPA*. [\[LINK\]](#)

890 Weld County Oil and Gas. (2023, August 2). *Oil and Gas Energy Department*. [\[LINK\]](#)

891 Jaffe, M. (2024, February 29). Adams County’s oil and gas rules are among Colorado’s strictest — and the industry is still rapidly growing. *The Colorado Sun*. [\[LINK\]](#)

892 Jaffe, M. (2024, February 1). Colorado oil and gas regulators reject two drilling plans deemed too close to people and pronghorns. *The Colorado Sun*. [\[LINK\]](#)

893 Finley, B. (2019, October 17). Colorado to tighten oversight of oil and gas sites near homes in wake of study finding possible short-term health effects. *The Denver Post*. [\[LINK\]](#)

894 *Ibid.*

895 *Ibid.*

896 Weisner, M., Et al. (2023, February). Sites in the City and County of Broomfield, Colorado. *Int. J. Environ. Res. Public Health*. [\[LINK\]](#)

897 Kvočka, D., Et al. (2021, April 28). A Review of River Oil Spill Modeling. *MDPI*. [\[LINK\]](#)

898 Center for Western Priorities. (2023, April 11). *Oil and gas companies in New Mexico and Colorado reported an increase in drilling-related spills in 2022*. [\[LINK\]](#)

Inc. (formerly Extraction Oil & Gas Inc.), and Kerr McGee Oil & Gas.<sup>899</sup> Between September and October 2023, there were 34 oil spills reported by Noble Energy, Kerr McGee Oil, Highpoint Operating Co., KP Kauffman, Extraction Oil and Gas (now Civitas), and PDC Energy.<sup>900</sup> Of these spills, 13 were known to have leached contaminants into the soil including naphthalene<sup>901</sup> and benzene, both of which are known to cause severe health issues.

These spills and the water and energy-intensive nature of fracking sites are increasingly threatening clean water in Colorado—water that supplies drinking water to tens of millions of people. This region has already lost 10 trillion gallons of water since 2000 as a result of climate change, which is exacerbated by current and expanding fossil fuel development.<sup>902</sup> Drilling and fracking processes use large amounts of water that are directly competing with the limited supply of drinking water in this arid and drought-prone region. In 2022, Colorado’s oil and gas industry utilized over 10 billion gallons of water for fracking—and in one significant case, 8.9 billion of which was used in Weld County.<sup>903</sup> Acquiring mid-stream water firms has allowed oil and gas companies to considerably increase their water-use: according to FracTracker Alliance, in 2021, after creating its own company to sell access and distribute fresh water, Noble Energy averaged approximately 22 million gallons of water per well for fracking operations.<sup>904</sup> This process is especially taxing on the water supply because, unlike other operations (e.g., water used for agriculture), fracking wastewater cannot be reused for anything except for more fracking due to its contamination with toxic and radioactive substances.<sup>905</sup> Importantly, in practice, reuse of fracking wastewater is rare and instead is often disposed of in reinjection wells, which are linked to induced and increased seismicity,<sup>906</sup> or in produced water ponds, which pose numerous threats (such as water and air contamination) to public and environmental health.<sup>907</sup> Although the exact chemical composition of fracking wastewater is dependent on the geological area and chemicals used, many sites produce wastewater containing salts, metals, oil, grease, benzene, and radioactive material radium-226.<sup>908</sup> All of these chemicals are endocrine disruptors and are known to cause cancer, impact the nervous, immune, respiratory, and cardiovascular systems, and affect sensory organs.<sup>909</sup> Endocrine disruptors have especially harmful effects on women’s health, including infertility, improper hormone production, menstrual cycle abnormalities, and other fertility issues.<sup>910</sup>

A study on the industry’s environmental justice and health impacts found that Northern Colorado residents, living near industrial unconventional oil and gas production experience chronic

899 Mckenzie, M. (2023, May 16). Weld County oil spills for May 16. *Greeley Tribune*. [\[LINK\]](#)

900 McKenzie, M. (2023, September 5). Weld County oil spills for September 19. *GreeleyTribune*. [\[LINK\]](#); McKenzie, M. (2023, October 3). Weld County oil spills for October 3. *GreeleyTribune*. [\[LINK\]](#)

901 Yost, E., Et al. (2021). Health Effects of Naphthalene Exposure: A Systematic Evidence Map and Analysis of Potential Considerations for Dose-Response Evaluation. *NIH*. [\[LINK\]](#)

902 Ferrar, K. (2023, May). Evaluation of the capacity for water recycling for Colorado oil and gas extraction operations. *FracTracker*. [\[LINK\]](#); Milman, O. (2023, July 27). Colorado River has lost 10tn gallons of water since 2000 due to climate crisis. *The Guardian*. [\[LINK\]](#)

903 Ibid.

904 Ferrar, K. (2023, May 2). Evaluation of the Capacity for Water Recycling for Colorado Oil and Gas Extraction Operations. *FracTracker Alliance*. [\[LINK\]](#)

905 Jack, R. (2014, December 4). Analysis of Flowback Water for Reuse. *ThermoFisher Scientific*. [\[LINK\]](#)

906 U.S. Geological Survey. *How is hydraulic fracturing related to earthquakes and tremors?* [\[LINK\]](#)

907 National Institute of Environmental Health Sciences. (2022, November 15). *Hydraulic Fracturing & Health*. [\[LINK\]](#); Brown, V. (2014, February 1). Radionuclides in Fracking Wastewater: Managing a Toxic Blend. *Environmental Health Perspectives*. [\[LINK\]](#)

908 Vengosh, A. Et al. (2014, February 18). A Critical Review of the Risks to Water Resources from Unconventional Shale Gas Development and Hydraulic Fracturing in the United States. *Research Gate*. [\[LINK\]](#)

909 Ibid.

910 Rattan, S., Et al. (2017, June). Exposure to endocrine disruptors during adulthood: consequences for female fertility. *Journal of Endocrinology*. [\[LINK\]](#)

stress and self-reported mental health impacts.<sup>911</sup> Importantly, these experiences related to structural vulnerabilities, inequities, and feelings of powerlessness. For instance, 90% of participants reported chronic stress about the uncertainty of the risks as fossil fuel expansion continues in their community and 75% reported negative mental health impacts like depression.<sup>912</sup> A 2023 report addressing the sociopsychological impacts on people living near unconventional oil and natural gas development—which involves fracking—in Broomfield, found that residents “most commonly reported difficulty sleeping and anxiety or stress, and often stated noise disturbances from nearby oil and gas operations as the cause.”<sup>913</sup> Because women experience anxiety, panic disorders, depression, and PTSD at significantly higher rates than men,<sup>914</sup> the chronic stress of living near fossil fuel extraction sites in Weld and Broomfield Counties may be especially harmful to women’s mental health. [The previous Section 5.i provides more information on this topic.]



An oil well near homes in Weld County, Colorado. (Jim West)

Dr. Stephanie Malin, an Environmental Sociologist at Colorado State University, describes the compounding stress that women experience as a result of living near fossil fuel pollution and development:

911 Malin, S. (2020, December). Depressed democracy, environmental injustice: Exploring the negative mental health implications of unconventional oil and gas production in the United States. *Energy Research and Social Justice*. [\[LINK\]](#)

912 Ibid.

913 Weisner, M., Et al. (2023, February). Sites in the City and County of Broomfield, Colorado. *Int. J. Environ. Res. Public Health*. [\[LINK\]](#)

914 Medical News Today. *What are the psychological effects of gender inequality?* [\[LINK\]](#)

“Women are often at the forefront of environmental justice movements, and the community action here has followed that pattern. Women lead the movement, and they also take on much of that stress, as well as stress from concerns over risks like health impacts to their children. As primary caregivers, women are often in positions to notice those effects first.”<sup>915</sup>

Living near oil and gas sites, like those in northern Colorado, may also disproportionately affect women’s physical health and pregnancy outcomes, including a higher risk of fetal death, low birth weight, and preterm birth. [See Section 5d., for further information]. According to a 2019 study, pregnant women living in rural parts of Colorado in close proximity to oil and gas operations are at a greater risk of having a baby with congenital heart defects.<sup>916</sup>

In response to these risks, community resistance has led to some protections. In 2021, the Colorado Oil and Gas Conservation Commission, renamed the Colorado Energy & Carbon Management Commission (ECMC),<sup>917</sup> implemented a new setback rule that prohibits drilling within 2,000 feet of homes.<sup>918</sup> Although a seemingly strict rule, a multitude of exceptions are allowed, including wells drilled as a part of comprehensive drilling plans and waivers signed by property owners or tenants to allow drilling.<sup>919</sup> Additionally, in March 2022, ECMC made history by denying its first permit ever—temporarily stopping the McGavin pad, Occidental Petroleum’s project which planned to construct 26 wells near 87 homes.<sup>920</sup> In response to Colorado’s new standards to protect public health through the setback rule, the Executive Director of Colorado’s branch of the American Petroleum Institute—a national trade association that lobbies to protect U.S. oil and gas interests—stated: “Colorado and the United States need more natural gas and oil, not less.”<sup>921</sup> In response, the state of Colorado invited Occidental Petroleum to revise its application to allow it to continue building plans.<sup>922</sup>

This setback rule has failed to prevent new fracking permits: as of April 2024 there were 619 new approved well permits in Weld County and Adams County, with an additional 171 new pending applications.<sup>923</sup> In June 2023, a new bill was signed into state law to reduce the amount of freshwater consumed for fracking operations.<sup>924</sup> While this seems to be a step in the right direction, the bill does not inhibit oil and gas operations, and toxic wastewater from fracking will continue to be produced at the same rate.<sup>925</sup>

An especially destructive project slated for the region is the Rocky Mountain Pipeline Project (Line 1), which is proposed to replace Suncor’s existing 10-inch pipeline with a 16-inch pipeline to run from Cheyenne, Wyoming to Commerce City, Colorado. As of July 2024, 49 miles remain to be built in Weld County.<sup>926</sup> Construction of this pipeline would allow Suncor

915 Malin, S. (2024, May). WECAN in direct communication with Dr. Malin.

916 McKenzie, L. Et al. (2019, November). Congenital heart defects and intensity of oil and gas well site activities in early pregnancy. *Environmental International*. [\[LINK\]](#)

917 State of Colorado. (2024). *Colorado Energy & Carbon Management Commission*. [\[LINK\]](#)

918 Kohler, J. (2021, May 31). Colorado’s new oil, gas law ushered in new era – kind of. *Denver Post*. [\[LINK\]](#)

919 Kohler, J. (2021, April 29). Harvard study says tighter oil, gas rules that allow exemptions make little difference. *Denver Post*. [\[LINK\]](#)

920 Jaffe, M. (2022, February, 14). Colorado’s largest oil and gas producer wants permission to drill closer than 2,000 feet from homes. *The Colorado Sun*. [\[LINK\]](#)

921 Weiser, S. (22, March 27). Colorado Oil and Gas Commission denies drilling permit in Weld County. *Denver Gazette*. [\[LINK\]](#)

922 Ibid.

923 COGCC. *Applications for Permits to Drill (Form 2s)*. [\[LINK\]](#)

924 Colorado HB23-1242 Water Conservation In Oil And Gas Operations. (2024). *TrackBill*. [\[LINK\]](#)

925 Gross, L. (2023, May 22). Colorado Frackers Doubled Freshwater Use During Megadrought, Even as Drilling and Oil Production Fell. *Inside Climate News*. [\[LINK\]](#)

926 Suncor. (2024). *Suncor Energy Rocky Mountain Pipeline Project (Colorado)*. [\[LINK\]](#); Town of Eaton. (2023, April 17). Pre-Application Form. [\[LINK\]](#)

to triple the amount of crude oil transported to its refinery in Commerce City.<sup>927</sup> Over 40 environmental groups are urging regulators to pause the project on the basis of climate and environmental justice laws: advocates note that Line 1 will increase greenhouse gas emissions and the toxic burden within already heavily polluted communities, including Weld County.<sup>928</sup> Patricia Garcia-Nelson, a Fossil Fuel Just Transition Advocate at GreenLatinos, describes the lack of accountability surrounding Line 1, which is slated to be built in her community:

**“Suncor is trying to replace about 50 miles of pipe with increased capacity harming communities that are being impacted and have been impacted. It seems like business as usual because, with all these new technologies, they are still being put in our communities—despite the changes to the statute, despite new regulations...Suncor is operating in a manner that does not protect workers. In fact, they have had a lot of notices from PHMSA [Pipeline and Hazardous Materials Safety Administration] about how their protocols for worker safety are not up to standard, yet they are continuing to operate and they’re still trying to increase capacity and increase the amount of refining that happens in Colorado”<sup>929</sup>**

The Rocky Mountain Pipeline Project is slated to terminate at Suncor’s Commerce City Refinery, a refinery that has faced several closures due to fires and an explosion that occurred over a period of several decades.<sup>930</sup> Lucy Molina, a single mother and Frontline Organizer with Colorado 350 who lives in Commerce City, reports how fossil fuel pollution affects her children: she was visited by Child Protective Services for a welfare check after her children missed



Lucy Molina standing in front Suncor refinery in Commerce City, less than a mile from her home. (Anthony Camera)

several days of school due to illnesses resulting from air pollution.<sup>931</sup> Lucy Molina has witnessed her family and loved ones suffer health conditions her entire life; she describes watching the decline of her and her children’s health living near the Suncor refinery:

**“All I knew is my family kept getting sick. My great grandma died of cancer when I was five. My cousins were always having the bloody noses, just like my kids do now. My mom and I developed migraines. My aunt is still fighting the cancer. And then in 2018, my grandma died of Leukemia.”<sup>932</sup>**

Just a few towns over in Greeley, Colorado, in an egregious example of environmental racism, fossil fuel pollution threatens Bella Romero Academy, a predominantly Hispanic elementary school.<sup>933</sup> The EPA’s Environmental Justice Screening Tool’s Environmental Justice Index, which

927 Ibid.

928 Galatas, E. (2022, September 26). Colorado Groups Petition Leaders to Halt Suncor Line 1 Pipeline. *PublicNewsService*. [\[LINK\]](#)

929 Garcia-Nelson, P. (2023, June 2). WECAN Interview.

930 Rogers, J. (2018, October 4). Continental Oil Refinery Explosion and Fire. *Denver Public Library*. [\[LINK\]](#); Brasch, S. (2023, January 27). Two Suncor employees were burned in a flash fire at the Commerce City refinery... *CPR News*. [\[LINK\]](#); CBC. (2022, December 29). *Extreme weather, fires forced shutdown of Colorado refinery: Suncor*. [\[LINK\]](#)

931 TED Talk. (2022, October 21). I live in the most polluted zip code in America - and I'm fighting back | Lucy Molina | TEDxMileHigh. [\[LINK\]](#)

932 Ibid.

933 Public School Review. (2024). *Bella Romero Academy Of Applied Technology*. [\[LINK\]](#)

takes into account demographic data, including income and race, shows that Bella Romero Academy and the surrounding neighborhoods are located in a zone with extremely high levels of pollution.<sup>934</sup> The region is in the 95 to 100 percentile range nationally for particulate matter, ozone, and nitrogen dioxide levels within the parameters of the criteria of the Index.<sup>935</sup>

A study done by Barrett Engineering in 2019 found that elevated benzene levels were detected on Bella Romero Academy's two campuses in Greeley, located in Weld County.<sup>936</sup> The monitoring system set up on Bella Romero's grounds measured hourly hydrocarbons from October to December in 2019; the study found that benzene levels exceeded the one-hour safe level for one full school day and the eight-hour safe level for four full school days, and in total that the threshold on the campus was exceeded 113 times.<sup>937</sup> Approximately 1,000 feet from the academy are 11 wells owned by Extraction Oil and Gas, which began producing hydrocarbon liquids and gas in October 2019.<sup>938</sup> Although Extraction rejects responsibility for these toxic chemical spikes, wind observations during the 10 highest hours of benzene concentrations indicate Extraction's well pad as the source.<sup>939</sup>

Extraction's harmful Bella Romero project has a nefarious history of environmental racism. In 2013, Mineral Resources obtained a permit to drill near Frontier Academy, a majority white, charter school in an affluent neighborhood in Greeley.<sup>940</sup> The permit, however, was delayed when residents showed strong resistance.<sup>941</sup> Extraction Oil & Gas (now Civitas) acquired Mineral Resources a year later. Under this company, drilling plans near Frontier were abandoned and instead targeted the majority Hispanic school, Bella Romero Academy.<sup>942</sup> Bella Romero's students are 90% Hispanic and 82% of the students qualify for free or reduced lunch; this is compared to Frontier's 64% white students and 28% of students who qualify for free or reduced lunch.<sup>943</sup> Despite protests and a resolution passed by the school board opposing the development, Extraction (now Civitas) completed their 11 well development on the campus, drilling even closer to the campus than they had planned for Frontier.<sup>944</sup> Patricia Garcia-Nelson, describes the reality of having children at Bella Romero:

**“My youngest nephew has experienced a lot of what they call allergies and rashes, and he has to do a lot of steroid treatment. I have another nephew who has also started there at Bella, and as soon as he started, he also had to do steroid treatment, but he had to do treatment twice a week, so every Monday and Friday he has to go before school to get this shot...in my experience I can't even go to the nail salon and talk to a random woman, because turns out, her kid also goes to Bella, and since he's been there he's lost almost 30 pounds and no doctor can tell her what's wrong.”<sup>945</sup>**

934 EPA EJSscreen. *Environmental Justice Indexes*. [\[LINK\]](#)

935 *Ibid.*

936 Woodruff, C. (2020 March 11). Bella Romero Benzene Levels Worse Than Reported, Analysis Claims. *Westword*. [\[LINK\]](#)

937 *Ibid.*

938 Finley, B. (2019, December 5). Elevated level of benzene detected at Greeley school near oil and gas operation. *The Denver Post*. [\[LINK\]](#)

939 *Ibid.*

940 Julia, M. (2018, April 17). Parents Didn't Want Fracking Near Their School. So the Oil Company Chose a Poorer School, Instead. *Mother Jones*. [\[LINK\]](#)

941 *Ibid.*

942 Sakas, M. (2020, July 30). Safety Fears Hang In The Air After A Benzene Spike At A Greeley School With A Neighboring Oil And Gas Well. *CPR News*. [\[LINK\]](#)

943 Public School Review. (2024 ). *Bella Romero Academy Of Applied Technology*. [\[LINK\]](#)

944 *Ibid.*

945 Garcia-Nelson, P. (2023). WECAN Interview.

Furthermore, a January 2022 report by the Physicians for Social Responsibility revealed that fracking in Weld County has been releasing profound levels of per- and poly- fluoroalkyl substances (PFAs), also known as “forever” chemicals into adjacent communities’ water.<sup>946</sup> PFAs do not degrade and build up in human bodies and have long been known to cause a wide range of health problems, including childhood leukemia, kidney, and testicular cancers, thyroid disease, and reproductive defects.<sup>947</sup> Between 2011 and 2021, 368 million pounds of unidentified chemicals used in oil and gas drilling were labeled as “trade secrets” and subsequently hidden from the public in Weld County.<sup>948</sup> Contamination from oil spills like those in Weld County not only threaten women’s physical health, but also reduce the value, productivity, and health of the land, thereby impacting women farmers and farmworkers who depend upon healthy soil to grow crops and raise livestock in order to make a living and feed their families.<sup>949</sup>

As of March 31, 2024, Vanguard and BlackRock were the second and third largest shareholders of Civitas, owning shares valued at \$676 and \$669 million, respectively.<sup>950</sup> Civitas, is a major operator in Weld County’s Wattenberg Oil Field and across Colorado,<sup>951</sup> as well as one of the companies behind various oil spills and explosions in northern Colorado<sup>952</sup> and the owner of the 11 well development releasing elevated benzene levels near Bella Romero Academy—a school with a majority Latine population. As of March 31, 2024, Royal Bank of Canada was the largest shareholder of Suncor energy, having 65.9 million shares valued at \$2.5 billion. Vanguard is also a major shareholder of Suncor, with shares worth almost \$2 billion. Suncor, the company behind the Rocky Mountain Pipeline, disregards community concerns regarding both environmental impacts and safety risks.<sup>953</sup>

946 Physicians for Social Responsibility. (2022). Fracking with “Forever Chemicals” in Colorado. [\[LINK\]](#)

947 Environmental Protection Agency. *Our Current Understanding of the Human Health and Environmental Risks of PFAs*. [\[LINK\]](#)

948 Horwitt, D., Gottlieb, B. (2022, January). Fracking with “Forever Chemicals” in Colorado. *Physicians for Social Responsibility*. [\[LINK\]](#)

949 Salam, M., Ruhui, W., Sinkkonen, A., et. al. (2022, August 11). Effects of Contaminated Soil on the Survival and Growth Performance of European (*Populus tremula* L.) and Hybrid Aspen (*Populus tremula* L. x *Populus tremuloides* Michx.) Clones Based on Stand Density. *Plants (Basel)*. [\[LINK\]](#); Bloom, M. (2021, August 9). A Colorado Oil Company Allegedly Caused Dozens of Spills and Leaks. Now It’s Headed To a Trial. *KUNC*. [\[LINK\]](#)

950 NASDAQ. *Civitas Resources Inc. Common Stock (CIVI)*. [\[LINK\]](#)

951 Ibid.

952 McKenzie, M. (2023, May 2). Weld County oil spills for May 2. *GreeleyTribune*. [\[LINK\]](#); Jaffe, M. (2022, March 9). Broomfield’s “best practices” for oil and gas are held up as a model. But they don’t curb neighbors’ complaints. *The Colorado Sun*. [\[LINK\]](#)

953 Galatas, E. (2022, September 26). Colorado Groups Petition Leaders to Halt Suncor Line 1 Pipeline. *PublicNewsService*. [\[LINK\]](#)

## 6g. “Chemical Valley”, Canada

Project(s)	Companies operating in “Chemical Valley”*	Banks financing the company**	Asset Managers investing in the company***	Insurance Companies insuring the company****
Sarnia Refinery Plant, Waterdown to Finch Project	ExxonMobil (i.e., Imperial Oil Limited)	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> , (3) <a href="#">Royal Bank of Canada</a> (4) <a href="#">Citigroup</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A
(1) Sarnia Manufacturing Centre, (2) Corunna Refinery-Sarnia Manufacturing Unit	Shell	(1) <a href="#">Bank of America</a> , (2) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">BlackRock</a>	N/A
(1) Sarnia Industrial Pipeline Reinforcement Construction Project, (2) Sarnia Airport Pool, (3) Sarnia Terminal, (4) Dawn Corunna Hub: natural gas storage hub	Enbridge	(1) <a href="#">Royal Bank of Canada</a> , (2) <a href="#">JPMorgan Chase</a> , (3) <a href="#">Bank of America</a>	(1) <a href="#">Vanguard</a>	N/A
Sarnia Oil Sands Refinery	Suncor	(1) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	N/A

All data in the chart is derived from financial databases/platforms (*Nasdaq*), the Rainforest Action Network’s 2024 published report, *Banking on Climate Chaos*, or other primary documents.

\*This list is not exhaustive.

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*\*N/A is because there is a lack of transparency.

Canada’s “Chemical Valley,” located in Sarnia in Southwestern Ontario, has more than 60 chemical plants and oil refineries in a 25-kilometer radius.<sup>954</sup> The facilities produce an amount equivalent to 40% of Canada’s petrochemical industry.<sup>955</sup> Notably, 60% of the highest emitters are in a five-kilometer radius of Aamjiwnaang First Nation (AFN): 23 of the 38 fossil fuel operations near AFN reported emitting more than 50 tons of air pollution per year, with some of the facilities sharing a property line with the AFN.<sup>956</sup> After a 2019 visit to Aamjiwnaang, Baskut Tuncak, the UN special rapporteur on toxic chemicals, told the Guardian: “I was struck by the incredible proximity of the affected First Nation to dozens of intense chemical production and processing facilities, which resulted in incredible releases of pollution and waste affecting the [residents’] health.”<sup>957</sup>

954 Wang, Y. Et al. Impact of the biorefinery size on the logistics of corn stover supply – a scenario analysis. (2017). U.S. Office of Scientific and Technical Information. [\[LINK\]](#)

955 Hoover, E. Et al. (2012, August 16). Indigenous Peoples of North America: Environmental Exposures and Reproductive Justice. *Environmental Health Perspectives*. [\[LINK\]](#)

956 Macdonald, E. (2019, June). Return to Chemical Valley 2019. *Ecojustice*. [\[LINK\]](#)

957 Cecco, L. (2021, November 15). Canada: First Nation exposed to high levels of cancer-causing chemicals. *The Guardian*. [\[LINK\]](#)





Cropped image of Aajimwnaang Resource Centre sign on the First Nations Reserve in Sarnia in front of the Reserve to Chemical Valley. ([The Kurgan](#))

While levels of some pollutants in Sarnia have decreased in the last ten years, the industry continues to place nearby communities at great risk with emissions that routinely exceed Ontario Ambient Air Quality Criteria (AAQC) and Canadian Ambient Air Quality Standards (CAAQS), both set by the Canadian government to protect against adverse effects on human health and the environment.<sup>958</sup> These air quality standards are not legally binding and the industrial facilities can easily circumvent any regulations through site-specific standards.

An emissions report published in 2017 disclosed that benzene levels outside two of the industrial plants that neighbor AFN were found to be 10 times Ontario's hourly benchmark.<sup>959</sup> Although emissions have reportedly been reduced in some areas, benzene continues to be well above Ontario's air quality standard.<sup>960</sup> In 2019, Ecojustice released a report elucidating the pollution and air quality in Sarnia.<sup>961</sup> Ecojustice obtained data from air quality monitoring stations (one in Sarnia and one in the AFN) measuring various air pollutants, the most harmful

958 Ontario Ministry of the Environment, Conservation and Parks. (2020, May 1). *Human Toxicology and Air Standards Section, Technical Assessment and Standards Development Branch*. [\[LINK\]](#)

959 Jarvis, C. (2021, November 15). Cancer-causing air pollution forecast at 44 times annual level in Ont. First Nation, docs show. *Global News*. [\[LINK\]](#)

960 Ibid.

961 MacDonald, E. (2019, June). Return to Chemical Valley. Ten years after Ecojustice's report on one of Canada's most polluted communities. *Ecojustice*. [\[LINK\]](#)

being benzene and sulfur dioxide.<sup>962</sup> Investigators found that in 2018, sulfur dioxide exceeded AAQC levels 38 times and 28 times respectively at the AFN and Sarnia stations.<sup>963</sup> In 2018, the ozone AAQC was exceeded at the Sarnia station 18 times (no data has been available since 2015 on ozone at the AFN station); in 2017 and 2018, fine particulate matter levels exceeded CAAQS at both stations; and every year since 2011, the annual benzene AAQC has been exceeded at the AFN Station.<sup>964</sup> In 2021, new data from the Ministry of Environment revealed that the forecast for benzene pollution is up to 44 times the AAQC in north AFN and in some other industrial areas.<sup>965</sup> While the AAQC set the maximum level of benzene to 2.3 micrograms over a 24-hour period, benzene levels near the AFN averaged 32 micrograms in March 2023.<sup>966</sup> This long-term exposure to benzene disproportionately affects women's health; benzene has been found to have adverse impacts on fertility,<sup>967</sup> including irregular menstrual periods and decreasing ovary size.<sup>968</sup>

Between 2014 and 2015, Sarnia companies reported more than 500 pollution incidents, with more than 25% of those incidents involving or potentially involving flaring, which has been directly linked to women's mental health and fertility issues.<sup>969</sup> [Sections, 5d. and 5f., provide more information on this topic.]

Many AFN residents have reported suffering from a host of health problems, such as asthma, miscarriages, skin rashes, and cancers due to the toxic air pollutants in the area.<sup>970</sup> According to a 2019 study, the incident rate of acute myeloid leukemia in Sarnia is more than three times higher than the national average.<sup>971</sup> Additionally, Ecojustice's *Exposing Canada's Chemical Valley* study found that 39% of women surveyed had experienced a miscarriage or stillbirth.<sup>972</sup> Mothers in the area reported feeling "helpless" for not being able to protect their children from the toxic air they breathe.<sup>973</sup> For instance, in 2013, several children were exposed to a hydrogen sulfide leak from a Shell refinery and had to be hospitalized (Shell did not report the leak, so the children were also originally misdiagnosed).<sup>974</sup> A study published by the Aamjiwnaang Environmental Committee reported that "Chemical Valley's" ratio of female to male births had reached 2:1, an anomaly that has only ever been documented in animal populations residing in extremely polluted areas.<sup>975</sup>

Beze Gray, a two-spirit land and Water Defender from AFN, describes some of the health threats AFN community members experience and how this leads to fear and anxiety:

962 Ibid.

963 Ibid.

964 Ibid.

965 Jarvis, C. (2021, November 15). Cancer-causing air pollution forecast at 44 times annual level in Ont. First Nation, docs show. *Global News*. [\[LINK\]](#)

966 Aamjiwnaang First Nation. (April 1, 2023). *Monthly Report for Benzene and Sulphur Dioxide (SO2) Ambient Air Monitoring*. [\[LINK\]](#)

967 Virginia Department of Health. (2023). *Benzene*. [\[LINK\]](#)

968 Sirotkin A., Et al. (2017, August). Influence of oil-related environmental pollutants on female reproduction. *ScienceDirect*. [\[LINK\]](#)

969 Cribb, R., Et al. (2017, October 14). In Sarnia's Chemical Valley, is 'toxic soup' making people sick? *Toronto Star*. [\[LINK\]](#)

970 Jackson, D. (2010, January). Shelter in place: a First Nation community in Canada's Chemical Valley. *Interdisciplinary Environmental Review*. [\[LINK\]](#); Mackenzie, C., Lockridge, A., Keith, M.

(2005, August 17). Declining Sex Ratio in a First Nation Community. *EHP Publishing*. [\[LINK\]](#); MacDonald, E., Rang, S. (2007, October). Exposing Canada's Chemical Valley. *Ecojustice*. [\[LINK\]](#);

Wiebe, S. M. (2017, April). *Everyday Exposure: Indigenous Mobilization and Environmental Justice in Canada's Chemical Valley*. UBC Press. [\[LINK\]](#)

971 Ghazawi, F.M., Et al. (2019). Analysis of acute myeloid leukemia incidence and geographic distribution in Canada from 1992 to 2010 reveals disease clusters in Sarnia and other industrial US border cities in Ontario. *Cancer. National Library of Medicine*. [\[LINK\]](#)

972 MacDonald, E., Et al. (2007, October). Exposing Canada's chemical valley: An investigation of cumulative air pollution emissions in the Sarnia, Ontario area. *Ecojustice Canada*. [\[LINK\]](#)

973 Vice (2013, September 11). Canada's Toxic Chemical Valley. *YouTube*. [\[LINK\]](#)

974 Thorkelson, E. (2013, January 31). Shell Leak Sheds Light on Life in Canada's Chemical Valley. *The Narwhal*. [\[LINK\]](#)

975 Vice. (2013). *The Chemical Valley*. [\[LINK\]](#)

“We get a spill almost every week — where it can be really intense, where all of a sudden, the air doesn’t smell right, or it can be hard to breathe... We’re having constant noise in our communities...it’s shaking some people’s windows. And they can’t sleep at night because of how close that flare is to their house. Or because of the brightness where there could be multiple flares going off, and it’s really bright in the community. And we don’t really get to see a lot of stars or anything in my community. I’d like to see how that impacts our mental health on top of those chemicals and like, longer-term studies of what being exposed to any one of those chemicals that do cause mental health issues is doing to community members.”<sup>976</sup>

According to data from Clean Air Sarnia and Area (CASA), in April, 2024, air quality in Aamjiwnaang First Nation was repeatedly recorded as poor and moderate—which is still below the Ambient Air Quality Criteria.<sup>977</sup> These poor air quality readings are attributed to spiking benzene levels, which are a result of industrial emissions.<sup>978</sup> Due to dangerously high benzene levels, the AFN decided to officially declare a state of emergency.<sup>979</sup> This declaration comes after various official statements released by Aamjiwnaang Chief and Council members:

“Immediate reforms are needed to address the systemic racism which pervades the environmental protection regime and allows industry proponents...to continue with ‘business as usual’. Reconciliation should not perpetuate the historical power imbalance whereby Aamjiwnaang members’ lives are reduced to the point where the state can justify the emission of benzene levels which would not be tolerated anywhere else in Canada.”<sup>980</sup>

The frequent poor air quality has created concern and fear amongst community members as it impacts their health and livelihoods. Christine Rogers, an Environment Worker and member at AFN and mother to three daughters, describes how high benzene levels forced her to miss work and affected her family:

“[I] slept with my window open and I woke up with a really sore throat. I went to work anyway. As I was at work it just kept getting worse and worse. I just kept feeling more and more symptoms. It felt like a flu ... because I got nausea and a big headache. I just kept feeling worse and worse ... like spacey...I started talking with my daughter and she had the same symptoms that I had.”<sup>981</sup>

Aamjiwnaang mothers face unique challenges raising children in this unhealthy environment, underscoring the pervasive issue of environmental racism and how it affects First Nation communities. Higher levels of pollutants, including exposure to sulfur dioxide and small particulate matter in the first year of life are particularly detrimental and directly correlate with lower quality of health.<sup>982</sup> This likely explains why Sarnia children are more likely to develop severe

976 Rudder, D. (2023, March 1). Living in the shadow of Chemical Valley. *The Resolve*. [\[LINK\]](#)

977 La Grassa, J. (2024, April 17). Aamjiwnaang First Nation says high chemical levels making members sick, calls for Sarnia facility shutdown. *CBC*. [\[LINK\]](#)

978 Becken, B. (2024, April 18). Aamjiwnaang First Nation members say industrial benzene emissions in Sarnia, Ont., area made them ill. *CBC*. [\[LINK\]](#); *Ibid.*

979 Jeffrey, T. (2024, April 16). UPDATE: Aamjiwnaang officials call for immediate action amid 'extremely high' benzene levels, illness. *The Journal*. [\[LINK\]](#)

980 *Ibid.*; Aamjiwnaang First Nation Band Council. (2024, April). *Notice*. [\[LINK\]](#)

981 Becken, B. (2024, April 8). Aamjiwnaang First Nation members say industrial benzene emissions in Sarnia, Ont., area made them ill. *CBC News*. [\[LINK\]](#)

982 Trevithick, M. (2021, May 4). Sarnia-born children more likely to develop asthma than those from London, Windsor: Lawson study. *Global News*. [\[LINK\]](#)

health problems. Between 1998 and 2009, nearly 24% of children in Sarnia were diagnosed with asthma by the age of 10.<sup>983</sup> As the leading cause of emergency department visits, hospital admissions, and school absenteeism,<sup>984</sup> asthma in children intensifies caretaking responsibilities, which disproportionately fall to women.<sup>985</sup> A 2017 study on mental health shows that depression is significantly higher amongst mothers of children with asthma compared to the general public.<sup>986</sup> Christine Rogers was forced to describe the smoke stacks above their home as “cloud makers” and deliver a rhyme so her children could understand: “The more clouds in the sky, the more people die.”<sup>987</sup>

A study published by Therapeutic Drug Monitoring exposes the disproportionate adverse health effects of living in “Chemical Valley” as an Indigenous person.<sup>988</sup> Through the use of hair cortisol concentration (HCC) as a biomarker of stress, the report finds that chronic stress is more persistent across First Nation people than in non-First Nation people in the same area.<sup>989</sup> This study also notes that members of First Nation communities in Canada experience disproportionate levels of stress due to the state of their environment, i.e, environmental contamination.<sup>990</sup> This constant stress has also been shown to lead to unhealthy living habits and depression, further exacerbating the mental stress of living near polluting facilities, such as fossil fuel activity.<sup>991</sup> Because women in general experience depression and anxiety at higher rates than men, women living near environmental contamination, like those in Sarnia and AFN, may be at a greater risk of experiencing chronic stress and the numerous health problems that accompany this type of stress, including cardiac problems, pregnancy issues, and obesity.<sup>992</sup>

In a 16-year period, more than 700 chemical spills from Sarnia facilities were recorded.<sup>993</sup> AFN members, Sarnia residents, and environmental activists have fought these polluters and their financial backers for over a decade. Elaine MacDonald, the director of the Healthy Communities Program at Ecojustice, said in 2018,

**“In Canada, we have a provincial government and a federal government. We sued in both courts and lost. We can’t match the money the petrochemical industry can spend.”<sup>994</sup>**

Instead of heeding residents’ demands to leave their community, fossil fuel companies cling to their profits with new projects and expansions in Sarnia. In 2023, Shell completed its biodiesel blending project at the Sarnia Manufacturing Centre in Corunna<sup>995</sup> (less than 2.5 miles from AFN); biodiesel blending involves mixing FAME (Fatty Acid Methyl Ester) with ULSD [Ultra

983 Zadorsky, J. (2021, May 4). Pollution in this southwestern Ontario city may be why more children there develop asthma. *CTV News*. [\[LINK\]](#)

984 Ibid.

985 StatsCAN. (2023, January 5). More than half of women in Canada are caregivers. *Statistics Canada*. [\[LINK\]](#)

986 Behmanesh, F., Et al. (2017, December 25). Evaluation of anxiety and depression in mothers of children with asthma. *Electron Physician*. [\[LINK\]](#)

987 Vice. (2013). *The Chemical Valley*. [\[LINK\]](#)

988 Henley, P., Et al. (2013, October). Hair Cortisol as a Biomarker of Stress Among a First Nation in Canada. *Therapeutic Drug Monitoring*. [\[LINK\]](#)

989 Henley, P. Et al. (2013, October). Hair cortisol as a biomarker of stress among a first nation in Canada. *National Library of Medicine*. [\[LINK\]](#)

990 Ibid.

991 McKinley, G., Et al. (2022). Nibi and Cultural Affordance at Walpole Island First Nations: Environmental Change and Mental Health. *International Journal of Environmental Research and Public Health*. [\[LINK\]](#)

992 Cleveland Clinic. *Women and Stress*. [\[LINK\]](#)

993 Selweski, C. (2017, October 31). Chemical Valley and the threat to Michigan's drinking water. *Bridge Michigan*. [\[LINK\]](#)

994 Sorensen, E. (2018, October 9). The Eric Factor: Natives in “Canada’s Chemical Valley” hope for environmental change. *WQAD8*. [\[LINK\]](#); Wiebe, S.M. (2017). Everyday Exposure: Indigenous Mobilization and Environmental Justice in Canada’s Chemical Valley. *UBC Press*. [\[LINK\]](#)

995 Sarnia Lambton Economic Partnership. (2022, December 13). *Shell Proposes Biodiesel Blending Project at Sarnia Manufacturing Centre in Corunna*. [\[LINK\]](#)

Low Sulfur Diesel], which is a type of diesel fuel.<sup>996</sup> Although touted as renewable energy, bio-fuels are capable of emitting even more GHGs than some fossil fuels and often involve fossil fuels for blending.<sup>997</sup> Shell, in 2023, and Nova Chemicals, in 2024, reported releasing abnormal levels of hydrocarbons, specifically benzene, into the air at their Corunna facilities.<sup>998</sup> Shell was in the top five polluters in Sarnia, located less than five kilometers from the AFN.<sup>999</sup>

In January 2023, NOVA Chemicals (which is a wholly owned investment by the government of Abu Dhabi, United Arab Emirates) announced the mechanical completion of a \$2 billion project, which includes a new polyethylene (plastic) facility and the expansion of the Corunna “cracker” unit (phase 3).<sup>1000</sup> NOVA Chemicals’ new project has increased its capacity by over 50%,<sup>1001</sup> allowing it to produce 1.8 billion pounds of ethylene and close to 700 million pounds of co-products (propylene, butadiene, and benzene) annually.<sup>1002</sup> In July 2023, NOVA announced plans to search for a company partner to build a pyrolysis plant that would convert 146 million pounds of plastic waste into oil annually.<sup>1003</sup> As of April 2024, the company continues to carry out a feasibility study and pursue company partnerships with claims it will promote Canada’s circular economy goals.<sup>1004</sup>



View of Chemical Valley from the Sarnia Bay. (Dave McIntosh)

996 Irwin, M. (2022, December 12). Shell planning to introduce biodiesel blending in Corunna. *Sarnia News Today*. [\[LINK\]](#); Fuel Economy. *Ultra-Low Sulfur Diesel*. [\[LINK\]](#)

997 EPA. *Economics of Biofuels*. [\[LINK\]](#)

998 Morden, P. (2023, May 25). Shell reports hydrocarbon release at Corunna manufacturing centre. *The Observer*. [\[LINK\]](#); Perez, P. (2024, January 24). Weekend Benzene Leak at Corunna Site Prompts Nova’s Probe. *Chem Analyst*. [\[LINK\]](#)

999 MacDonald, E. (2019, June 11). Clearing the air in Chemical Valley. *Ecojustice*. [\[LINK\]](#)

1000 Reuters. (2023, January 9) *NOVA Chemicals Completes Polyethylene and Cracker Expansion in Canada*. [\[LINK\]](#); Shantz, T. (2019, December 4). Boom time in Sarnia for skilled trades. *The Sarnia Journal*. [\[LINK\]](#)

1001 NovaChemicals (2023). *Growth in Ontario*. [\[LINK\]](#)

1002 Reuters. (2023). *NOVA Chemicals completes polyethylene and cracker expansion in Ontario, Canada*. [\[LINK\]](#)

1003 Paben, J. (2023, July 17). NOVA considers major pyrolysis plant in Canada. *Plastics Recycling Update*. [\[LINK\]](#)

1004 Morden, P. (2023, June 28). Imperial Oil, Nova considering Sarnia-area plastic recycling projects. *The Observer*. [\[LINK\]](#)

NOVA Chemicals' expansion in 2021 reinforced demand for oil in the region leading to the Enbridge proposed Sarnia Industrial Pipeline Reinforcement Project, also known as the Dawn Corunna Project.<sup>1005</sup> The project decommissioned seven of the 11 old natural gas compressors and added a 36-inch diameter, 11.8-mile-long steel pipeline between the Corunna Station in St. Clair Township and the Dawn Operations Centre in the Township of Dawn-Euphemia.<sup>1006</sup> While the mayor of Dawn-Euphemia Township believes that Enbridge's new infrastructure represents the "sustainability of his community", town hall meetings, which included representatives from AFN, revealed the community's deep concerns for the environmental and health impacts of this project on the community. Despite these concerns, Enbridge's grant was approved from the Ontario Energy Board (OEB), and began construction in June, 2023 and was completed in November 2023.<sup>1007</sup>

The Sarnia Area Environmental Health Project (SAEHP) was created by concerned residents to "help enhance understanding of the links between the environment and health in the community, with a focus on assessing exposures to chemicals in air."<sup>1008</sup> A report released in 2024, found that the most common complaints from residents in close proximity to industrial plants in Sarnia are nausea from strong odors and disrupted sleep from flaring sounds.<sup>1009</sup> Benzene, sulfur dioxide, and fine particulate matter are identified as pollutants of concern most associated with health threats for the AFN community.<sup>1010</sup> According to one study, pregnant women exposed to excessive concentrations of sulfur dioxide have a greater risk of having a child with asthma.<sup>1011</sup> Additionally, the CDC found that in some cases women exposed to higher concentrations of benzene experienced irregular menstrual cycles and a decrease in the size of their ovaries.<sup>1012</sup>

Additionally, Vanessa Gray (Anishinaabe Kwe and Bear Clan), Co-Founder of The Land and the Refinery and member of AFN, created an app to provide community members with an accessible way to learn about the fossil fuel chemicals that most affect them.<sup>1013</sup> For Vanessa Gray, the only way to address fossil-derived health impacts is through community efforts, like her app:

**"We have questions about how our mental health is being impacted—and the community does struggle with quite a bit of mental health struggles—but we all think it's from the chemicals and what we're exposed to, but there's no way we can actually prove anything because that information about the chemicals is inaccessible."<sup>1014</sup>**

Vanessa Gray has been struggling with health issues since her childhood because of fossil fuel pollution in her community:

1005 Boyce, J. (2021, November 18). Enbridge aims to meet increased local demand with pipeline expansion project. *Sarnia News Today*. [\[LINK\]](#)

1006 Enbridge. *Dawn Corunna Project*. [\[LINK\]](#)

1007 Ibid.

1008 Graf, C. (2021, July). New environmental study underway this summer in Aamijwaaang First Nation. *Anishinabek News*. [\[LINK\]](#); CASA. SAEHP: About. *Clean Air Sarnia and Area*. [\[LINK\]](#)

1009 Environmental Sciences and Standards Division of the Ontario Ministry of the Environment, Conservation and Parks. (2024). *SAEHP Community Report - Summary of Key Findings*. [\[LINK\]](#)

1010 Ibid.

1011 Bai, S. (2022, March). The effect window for sulfur dioxide exposure in pregnancy on childhood asthma and wheezing: A case-control study. *Environmental Research*. [\[LINK\]](#)

1012 CDC. (2018, April 4). *Facts about Benzene*. [\[LINK\]](#)

1013 The Land and the Refinery. (2019). *About*. [\[LINK\]](#); Department of History Staff. (2019, October 25). TRU Launches Pollution Reporter App. *University of Toronto*. [\[LINK\]](#)

1014 Gray, V. (2023, June 2). WECAN Interview.

“When we were going to daycare, the daycare was in a place in the community where we were across the street from a facility that was emitting benzene. All of us required puffers. So there was a time in the day when we would line up and take our puffers and so myself, my younger sibling, and my older sibling all required puffers as children...it feels like a hopeless situation because of a lack of accountability and there are no progressive safety measures being put in place on a yearly basis.”<sup>1015</sup>



Vanessa Gray protesting with her community in “Chemical Valley.”  
(Vanessa Gray)

Although oil spills, health abnormalities, and fears plague the Aamjiwnaang First Nation and Sarnia residents, fossil fuel companies still receive financial support. By continuing to finance these companies, financial institutions are disregarding the lives of those living in the surrounding area, and as Sharilyn Johnston, former head of Aamjiwnaang’s Environment Department, notes, “a violation of First Nation rights.”<sup>1016</sup>

As of March 31, 2024, Bank of America and BlackRock were among the top 10 shareholders of Shell, with shares valued at \$1.3 billion.<sup>1017</sup> The Royal Bank of Canada is also a significant shareholder, holding 3.6 million shares valued at \$264.7 million.<sup>1018</sup> Shell, the company behind the biodiesel blending project at the Sarnia Manufacturing Centre, is one of the top five polluters in Sarnia, exposing AFN community members to heightened levels of pollution<sup>1019</sup>

1015 Ibid.

1016 Graf, C. (2021, July). New environmental study underway this summer in Aamjiwnaang First Nation. *Anishinabek News*. [\[LINK\]](#); Graf, C. (2020, January 13). New study in Aamjiwnaang find residents may face higher health risks caused by toxic substance in air. *Anishinabek News.Ca*. [\[LINK\]](#)

1017 NASDAQ. *Shell PLC American Depositary Shares*. [\[LINK\]](#)

1018 Ibid.

1019 MacDonald, E. (2019, June 11). Clearing the air in Chemical Valley. *Ecojustice*. [\[LINK\]](#); MacDonald, E., Rang, S. (2007, October). Exposing Canada’s Chemical Valley. *Ecojustice*. [\[LINK\]](#)

## 6h. Alberta Tar Sands and Affected Regions: Enbridge Line 5, Trans Mountain Expansion Project

Project	Company	Banks investing in the company*	Asset Managers investing in the company**	Insurance companies insuring the company***
(1) Enbridge Line 3 Replacement Project (2) Enbridge Line 5	Enbridge	(1) <a href="#">Royal Bank of Canada</a> , (2) <a href="#">JPMorgan Chase</a> , (3) <a href="#">Bank of America</a>	(1) <a href="#">Vanguard</a>	N/A
(1) Base Mine Extension, (2) Fort McMurray Oil Fields: Lewis, Meadow Creek, Fort Hills, Syncrude Expansion, (3) Coker Boiler Replacement Project, (4) Burrard Terminal, (5) Edmonton Refinery, (6) Montreal Refinery, (7) Rimouski Refinery	Suncor	(1) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	N/A
ExxonMobil/Imperial Oil Extraction Site	ExxonMobil	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> , (3) <a href="#">Royal Bank of Canada</a> (4) <a href="#">Citigroup</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A
Surmont Bitumen Recovery Facility	ConocoPhillips	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> (3) <a href="#">Citigroup</a> (4) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A
Athabasca Oil Sands Project	Chevron	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> , (3) <a href="#">Royal Bank of Canada</a> (4) <a href="#">Citigroup</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A
TransMountain Expansion Project	Canadian Government (via a credit agreement)	<a href="#">Royal Bank of Canada</a> , <a href="#">JPMorgan Chase</a>	N/A	Liberty Mutual (2019-2020)
(1) Wapiti Gas Facility, (2) Patterson Creek Plant, (3) West Fox Creek Plant, (4) West Whitecourt (Windfall) Plant	Energy Transfer	(1) <a href="#">Bank of America</a> , (2) <a href="#">JPMorgan Chase</a> , (3) <a href="#">Citigroup Inc</a>	N/A	N/A

All data in the chart is derived from financial databases/platforms (*Nasdaq*), Rainforest Action Network's published reports, or other primary documents.

\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*N/A is because there is a lack of transparency.



Alberta's tar sands operations are the largest industrial project in the world, with mines covering an area bigger than New York City and 500 Olympic swimming pools-worth of earth being dug up every day.<sup>1020</sup> A recent 2024 report uncovered that several Athabasca oil sands facilities under reported emissions by 1,900% to over 6,300%.<sup>1021</sup> The especially gruesome extraction methods<sup>1022</sup> and the enormous scale of the Alberta tar sands operation also have serious ramifications for the global atmosphere, the local ecosystems, and the Indigenous communities in the area.



Open pit mining in Alberta's tar sands, near Fort McMurray. (dan\_prat | iStock)

The Alberta tar sands operations threaten the health, safety, and sovereignty of nearby First Nations, including the Athabasca Chipewyan First Nation, the Fort McKay First Nation, the Mikisew Cree First Nation, Fort McKay Cree Nation, Beaver Lake Cree First Nation, the Chipewyan Prairie First Nation, and the Metis.<sup>1023</sup> Indigenous Peoples hold deep relationships to their land; to destroy the natural environment of Indigenous territories is, in essence, committing cultural genocide.<sup>1024</sup> Eriel Tchekwie Deranger, the Executive Director of Indigenous Climate Action and a member of the Athabasca Chipewyan First Nation, laments how the caribou, fish, birds, and other species they depend upon for survival are disappearing before their

1020 Leahy, S. (2019, April 11). This is the world's most destructive oil operation—and it's growing. *National Geographic*. [\[LINK\]](#); Kusnetz, N. (2021, November 21). Canada Tar Sands: Destruction So Vast and Deep It Challenges the Existence of Land and People. *Inside Climate News*. [\[LINK\]](#)

1021 He, M. Et al. (2024, January 25). Total organic carbon measurements reveal major gaps in petrochemical emissions reporting. *American Association for the Advancement of Science*. [\[LINK\]](#)

1022 Described further in Section 3.

1023 Indigenous Environmental Network. *Tar Sands Facts*. [\[LINK\]](#)

1024 Huseman, J. Et al. (2012). Extreme Energy as Genocidal Method: Tar Sands and the Indigenous Peoples of Northern Alberta. *Extreme Energy Initiative*. [\[LINK\]](#)

eyes.<sup>1025</sup> First Nation community members' ability to hunt, gather food, and travel has also been impacted.<sup>1026</sup> Jean L'Hommecourt, a member of the Fort McKay First Nation, describes how the land where she and her mother gathered berries and hunted moose has been leased by oil companies.<sup>1027</sup> When the mines directly threatened her mother's traditional land she joined the fight to protect her land:

**“That’s when I made my choice...I’m going to fight for my mom’s land...The basis of all our Indigenous culture is on the land.”<sup>1028</sup>**

She describes how the Alberta tar sands are genocide:

**“they’re making us dependent on things that they make, things that they build... so that we can give them our money, give them our land...what happens when that money is gone?... How are the children going to survive? How are they going to enjoy moose meat?”<sup>1029</sup>**

The environmental and health impacts of the tar sands, from processing to production, are well-documented. Air pollution is of concern as carbon dioxide emissions are 15% higher to make a gallon of gasoline from tar sands as opposed to conventional oil and the processing facilities emit large amounts of nitrogen and sulfur oxides into the air,<sup>1030</sup> Water contamination occurs through the sprawling waste ponds which leak heavy metals into groundwater and competition for clean water: about three times as much freshwater (amounting to about 5.9 gallons) is used in tar sands processes than from conventional oil operations.<sup>1031</sup> [Water degradation is discussed further in the Line 5 subsection below.] This contamination and pollution have far reaching consequences, including impacts on biodiversity. As wastewater ponds—otherwise known as “tailing ponds”, a toxic mix of water, sand, silt, and petrochemical waste products created while separating bitumen<sup>1032</sup>—leak into the Athabasca River, acid rain showers over the remote Northern Canada region, and vast regions of stripped land destroy habitat for native species. Tailing ponds can contain lead, mercury, arsenic, and benzene, all of which are listed on the World Health Organization’s “ten chemicals of major public concern.”<sup>1033</sup> These chemicals are known to have detrimental impacts on women’s health and wellbeing including an increased risk of miscarriage and spontaneous abortions,<sup>1034</sup> infertility,<sup>1035</sup> and preeclampsia.<sup>1036</sup>

Oil and gas activity has also been connected as the cause of Alberta’s most powerful earthquake ever recorded, according to a recent Stanford study.<sup>1037</sup> The November 2022 5.6 magnitude earthquake mostly affected the Peace River region, yet was felt more than 400 miles

1025 Leahy, S. (2019, April 11). This is the world's most destructive oil operation—and it's growing. *National Geographic*. [\[LINK\]](#)

1026 Ibid.

1027 Kusnetz, N. (2021, November 21). Canada Tar Sands: Destruction So Vast and Deep It Challenges the Existence of Land and People. *Inside Climate News*. [\[LINK\]](#)

1028 Ibid.

1029 Ibid.

1030 UCSUSA. (2016, February 23). What are Tar Sands? *Union of Concerned Scientists*. [\[LINK\]](#)

1031 Ibid.

1032 NRDC. *Alberta's Tailings Ponds Final Report*. [\[LINK\]](#)

1033 Ibid.

1034 Collin, M., Et al. (2022, August). Bioaccumulation of lead (Pb) and its effects on human: A review. *Journal of Hazardous Materials Advances*. [\[LINK\]](#)

1035 McClam, M., Et al. (2022, November 3). Associations between exposure to single cadmium, lead, mercury and mixtures of women's infertility and long-term amenorrhea. *medRxiv*. [\[LINK\]](#)

1036 Liu, H., Et al. (2022, January 7). The Relationship Between Preeclampsia and Arsenic Concentration in the Peripheral Blood. *Biological Trace Element Research*. [\[LINK\]](#)

1037 Schultz, R. Et al. (2023, March 23). Disposal From In Situ Bitumen Recovery Induced the ML 5.6 Peace River Earthquake. *Geophysical Research Letters*. [\[LINK\]](#)

away.<sup>1038</sup> Three smaller earthquakes were recorded in the same area in March 2023.<sup>1039</sup> Scientists now know that 90% of these seismic events with a magnitude over 3.0 in the Alberta region are caused by fracking.<sup>1040</sup> Continued fracking will result in more frequent earthquakes. Disasters like these are known to disproportionately affect women. According to UN Women, “when disasters strike, women are less likely to survive and more likely to be injured due to long standing gender inequalities that have created disparities in information, mobility, decision-making, and access to resources and training.<sup>1041</sup> In the aftermath, women and girls are less able to access relief and assistance, further threatening their livelihoods, wellbeing and recovery, and creating a vicious cycle of vulnerability to future disasters.”<sup>1042</sup> Disasters like those occurring in Alberta also increase violence against women and girls in the region. A 2021 study notes that during and after disasters, violence by a non-partner or intimate partner, rape and sexual assault, trafficking, and other risks increase.<sup>1043</sup>

Additionally, violence is perpetuated through the exploitation of women endemic in the oil industry: Canada’s National Inquiry into Missing and Murdered Indigenous Women and Girls (MMIWG)’s final report identified Man Camps as hotbeds for violence and quoted the United Nations Special Rapporteur on the Rights of Indigenous Peoples, James Anaya: “It has become evident through information received within the context of the study that extractive industries many times have different and often disproportionately adverse effects on Indigenous Peoples, and particularly on the health conditions of women.”<sup>1044</sup> For instance, in Alberta’s neighboring province of British Columbia, the construction of Mount Milligan Mine, near the Nak’al Bun/Stuart Lake area, resulted in the local community experiencing a 38% increase in sexual assaults and a 37% increase in missing people reports.<sup>1045</sup> In 2015, a coalition of Indigenous women’s rights organizations made a formal request to the United Nations Expert Mechanism on the Rights of Indigenous Peoples to intervene in the sexual violence occurring near fossil fuel extraction sites, including in the Alberta tar sands region.<sup>1046</sup> Numerous Indigenous women continue to come forward about their violent experiences with Alberta tar sands workers.<sup>1047</sup> April Wiberg, a member of Mikisew Cree First Nation in northern Alberta, grew up in southern Saskatchewan—a province directly east of Alberta.<sup>1048</sup> She recounts her terrifying experience of being pulled into the sex trade in the Man Camps in the Alberta tar sands, noting that she was targeted as an Indigenous girl with no fixed address.<sup>1049</sup> She describes the Alberta Man Camps as “lawless,” stating:

1038 Ibid.

1039 Ibid.

1040 Trumpener, B. (2016, March 29). Fracking triggers 90% of large quakes in B.C., Alberta oil and gas patch. *CBC*. [\[LINK\]](#)

1041 Explainer: How gender inequality and climate change are interconnected. (2022, February 28). *UN Women*. [\[LINK\]](#)

1042 Ibid.

1043 Thurston, A, Stöckl, H, Ranganathan, M. (2021, May 6). Natural hazards, disasters and violence against women and girls: a global mixed-methods systematic review. *BMJ Global Health*. [\[LINK\]](#)

1044 MMIWG. *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*. [\[LINK\]](#)

1045 Shandro, J. Et al. (2014, December). Community Health and Safety in the Nak’al Bun/Stuart Lake Region During the Construction Phase of the Mount Milligan Mine. *University of Victoria*. [\[LINK\]](#)

1046 Lakota People’s. (2015, May 26). Sexual Violence On Oil Field “Man Camps” Brought to United Nations’ Attention. *Lakota People’s Law Project*. [\[LINK\]](#)

1047 Rabbit, C. (2022, June 6). April Eve Wiberg: Protect Your Community From Targeted Sexual Exploitation. *Alberta Native News*. [\[LINK\]](#)

1048 Ibid.

1049 Ibid.

**“We often see these non-Indigenous men coming into our communities and preying on our most vulnerable members... And then they go back home to their nice little suburbs and act like nothing happened.”<sup>1050</sup>**

Notably, 80% of the oil workers in the Alberta tar sands region are white men and the support staff for work camps are mostly women.<sup>1051</sup> The continued presence of oil companies in this region is threatening nearby Indigenous women and girls, as well as two-spirit people. The pipeline projects, including Line 3 [discussed in more detail in Edition 3 of this report<sup>1052</sup>] and Line 5 discussed below, have expanded and intensified these issues.

New and ongoing oil and gas projects in the Alberta tar sands present a clear danger to the health and safety of Indigenous women. Oil companies in the Alberta tar sands, as well as companies behind the pipelines that transport the bitumen, continually disregard Indigenous jurisdiction and political authority, and violate treaties and international human rights laws. Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, states:



Whitney Gravelle, the president of the Bay Mills Indian Community in front of the Straits of Mackinac. (Sarah Rice)

**“My community, the Bay Mills Indian Community, our Tribal Nation is the signatory to the 1836 Treaty of Washington and in that treaty, our ancestors were able to preserve the usual privileges of occupancy which was later interpreted by federal courts to mean the right to fish, hunt, and gather...for me what the usual privileges of occupancy means is living out our Indigenous lifeways and being able to have a relationship with the land and have a relationship with the water ...pipelines contribute to climate change which contributes to the threat of water security which contributes to the threat of harming the treaty.”<sup>1053</sup>**

Despite efforts to halt tar sands expansion projects, including a lawsuit by Fort McKay First Nation and Indigenous Climate Action against the Canadian government, the government continues to approve projects and financial institutions continue to finance the companies behind the projects, including Line 5,<sup>1054</sup> Keystone XL,<sup>1055</sup> among others—all of which First Nations oppose.<sup>1056</sup>

The top tar sands companies received \$21 billion in financing in 2022, led by the biggest Canadian banks, which provided 89% of those funds.<sup>1057</sup> One of those banks being the Royal Bank of Canada, which provided \$31.773 billion between 2016 and 2022.<sup>1058</sup> As of March 31, 2024, the

1050 Weingarten, N. (2023, May 16). Edmonton advocate shares her story in docuseries about sex industry's ugly realities. *CBC News*. [\[LINK\]](#)

1051 Landry, K., Et al. (2022, November 7). 'Camp syndrome': exploring frontier masculinity in Alberta's oil production culture. *International Journal for Masculinity Studies*. [\[LINK\]](#)

1052 Fabrizio, A. Et al. (2023). Gendered and Racial Impacts of the Fossil Fuel Industry in North America and Complicity Financial Institutions. *WECAN International*. [\[LINK\]](#)

1053 Gravelle, W. (2023). *WECAN Interview*.

1054 NARF. (2023, June 1). Global Advisory Group Says Shut Down Line 5. *Native American Rights Fund*. [\[LINK\]](#)

1055 NARF. (2021, June). Keystone XL Pipeline (Rosebud Sioux Tribe V. Trump). *Native American Rights Fund*. [\[LINK\]](#)

1056 Ibid.

1057 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance*. [\[LINK\]](#)

1058 Ibid

Royal Bank of Canada and Vanguard were the first and fourth largest shareholders in Suncor.<sup>1059</sup> Suncor is one of the largest operators in the tar sands region, contributing to the contamination of groundwater air pollution, and threatening the existence of local First Nations. In addition to Suncor, EnergyTransfer is a company behind numerous polluting plants across Alberta, Canada.<sup>1060</sup> As of March 31, 2024, Bank of America and JPMorgan Chase were in the top ten largest shareholders of EnergyTransfer, holding shares worth \$799 and \$495 million, respectively.<sup>1061</sup>

The construction of Line 5 and Trans Mountain tar sands pipelines will facilitate further environmental and cultural decimation in Alberta, Canada by increasing the volume of bitumen that can be transported from the region.

### 6h. i Line 5

Enbridge's Line 5 threatens the health and safety of surrounding communities, as well as ecosystem and climate stability, through current and proposed projects: the existing pipeline, its proposed reroute around Bad River, and Enbridge's tunnel project through the Straits of Mackinac. In 2021, Enbridge's 1953 easement to operate Line 5 was revoked by Governor Whitmer due to legal violations and its "unreasonable risk" to the significant Great Lakes region and surrounding communities.<sup>1062</sup> Three years later, however, Enbridge continues to operate the pipeline despite being in violation of Governor Whitmer's shutdown order.<sup>1063</sup>

The current Line 5 pipeline transports nearly 23 million gallons of refined tar sands oil daily, in addition to natural gas liquids, which are later refined into propane and plastics, from Superior, Wisconsin to Sarnia, Ontario (Sarnia discussed in Section 6g.).<sup>1064</sup> The pipeline cuts through the Great Lakes via the Straits of Mackinac (a busy international shipping lane), as well as wetlands and over 400 rivers and streams.<sup>1065</sup> The current pipeline as it stands is over 20 years past its engineered lifespan.<sup>1066</sup> This is endangering the Great Lakes' waters and fisheries important to the citizens of the Great Lakes and Tribes of the Straights with treaty rights to hunt, fish, and gather.<sup>1067</sup> In April 2024, Earthjustice along with the Native American Rights Fund (NARF) filed a challenge to overturn Enbridge's tunnel permit on behalf of the Bay Mills Indian Community, Grand Traverse Band of Ottawa and Chippewa Indians, Little Traverse Bay Band of Odawa Indians, and Nottawaseppi Huron Band of the Potawatomi.<sup>1068</sup>

Originally built in 1953, Line 5 was only expected to be used for fifty years.<sup>1069</sup> Now, as of 2024, the Line 5 pipeline still runs over 20 years past its intended lifespan. Concerns about environmental safety are especially high since Enbridge's Line 5 is in the same Lakehead

1059 NASDAQ, *Suncor Energy Inc. Common Stock (SU)*. [\[LINK\]](#)

1060 Energy Transfer. (2022). *Operations Map*. [\[LINK\]](#)

1061 NASDAQ, *Energy Transfer LP Common Units (ET)*. [\[LINK\]](#)

1062 Coletta, A. (2012, May 2). Looming showdown as Michigan governor orders Canadian pipeline shut down. *The Washington Post*. [\[LINK\]](#)

1063 Ibid

1064 Department of Environment, Great Lakes, and Energy. (2024). Overview. [\[LINK\]](#)

1065 What Is Line 5? (May 18, 2023) *Clean Water Action*. [\[LINK\]](#)

1066 Logan, B. (2021, May 6) The future of Line 5: Engineering under Lake Michigan. *Michigan Engineering News*. [\[LINK\]](#)

1067 Great Lakes Indian Fish & Wildlife Commission. *Treaty Rights Reserved*. [\[LINK\]](#)

1068 Native American Rights Fund, (2024, April 12). *Michigan Tribes ask court to overturn Line 5 Tunnel Permit*. [\[LINK\]](#)

1069 Logan, B. (2021, May 6). The future of Line 5: Engineering under Lake Michigan. *Michigan Engineering News*. [\[LINK\]](#)

System pipeline system as Line 6B, where one of the largest inland pipeline spills in U.S. history occurred in 2010, near Marshall, Michigan in the Kalamazoo River.<sup>1070</sup> Despite knowing about cracks in the pipeline’s infrastructure for five years, Enbridge did not repair damage and the resulting spill lasted for 18 hours,<sup>1071</sup> releasing at least 843,000 gallons of oil into the river, and forcing 150 families to permanently move from the area due to carcinogenic fumes in their homes.<sup>1072</sup> Women living in the area reported that “it was just black oil from shore to shore. The water was just roaring, and the oil was then up over the banks. It was very overwhelming.”<sup>1073</sup> Repairing only some of the physical damage took six years and over \$1.2 billion dollars in legal settlements, \$177 million in settlement fees, multiple fines, and clean-up fees, however, it is reported that the riverbed of the Kalamazoo River, where the oil spill occurred, will “never be fully cleansed of bitumen.”<sup>1074</sup> Federal investigations into this spill revealed Enbridge’s failure to “learn from past mistakes and improve their safety culture.”<sup>1075</sup>



Construction vehicles install a portion of pipeline in the ground south of Superior, Wisconsin. (Derek Montgomery)

1070 Department of Environment, Great Lakes, and Energy. (2024). *Overview*. [\[LINK\]](#)

1071 (2010, July 25, p. 3). Pipeline Accident Report, Enbridge Incorporated, Hazardous Liquid Pipeline Rupture and Release. *National Transportation Safety Board*. [\[LINK\]](#)

1072 Uyeda, R. (2023, February 9). Enbridge’s Line 5 threatens Indigenous land and peoples. *Prism*. [\[LINK\]](#); EPA. *Enbridge Spill Response Timeline*. [\[LINK\]](#)

1073 Riesterer, J. (2019, July 12). The Enduring Legacy of the 2010 Kalamazoo River Oil Spill. *Belt Magazine*. [\[LINK\]](#)

1074 Ibid.

1075 NWF. (2020). *The Edge of Disaster for the Great Lakes*. [\[LINK\]](#)

In an attempt to address the hazards posed by existing Line 5 infrastructure, Enbridge proposed constructing a new pipeline encased with a tunnel around the segment of the eroding pipeline situated beneath the Great Lakes.<sup>1076</sup> The tunnel and its construction would increase and intensify the risks to the ecosystem and waterways. Geologists warn that this project may face significant functional challenges due to the geologic conditions of the region, including “poor quality bedrock, fault zones, unconsolidated sediments, and high groundwater pressures.”<sup>1077</sup> In February 2023, engineers warned the Michigan Public Service Commission (MPSC) that the tunnel project could lead to an explosion.<sup>1078</sup> Brian O’Mara, geologist and engineer, warned that “[a] methane explosion in a confined space like the tunnel project would be like a shotgun blast.”<sup>1079</sup> The crude oil and natural gas liquids transported through Line 5, coupled with the presence of methane could leak into the tunnel, which would result in an explosion and the contamination of the Great Lakes.<sup>1080</sup> Julie Goodwin, Earthjustice attorney, notes the fundamental issue with this project: “The tunnel project doesn’t solve the risks associated with oil flowing through the Great Lakes...It just replaces one set of risks for another.”<sup>1081</sup> Despite this evidence, in November of 2023, the MPSC granted Enbridge a permit to construct this updated pipeline enclosed with a tunnel through the Straits of Mackinac. Construction of the pipeline and tunnel, however, is still awaiting approval from several state and federal agencies, including the U.S. Army Corps of Engineers.

Since 1968, Line 5 itself has spilled approximately 35 times amounting to at least 1.1 million gallons of oil.<sup>1082</sup> A Michigan state task force assessing the pipeline’s risks in 2015, recommended a ban on heavy tar sands oil to stop the flow through the aging pipelines beneath the Straits of Mackinac.<sup>1083</sup> Enbridge’s history of negligence and oversight poses especially severe risks to the Indigenous women near the expansion of Line 5, in terms of land and water contamination, safety, food security, and ongoing colonization.<sup>1084</sup>

Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, notes how Enbridge represents a “final act of colonization”:

**“They talked about Grand Rapids Michigan being a climate haven for the rest of the world, but Indigenous People can’t move. We have our reservations. We have our homelands. We know how to fish these waters. We know how to hunt these forests. We don’t get to move... we could not be who we are if we did not reside in the Great Lakes.”<sup>1085</sup>**

The Great Lakes (of which the Straits of Mackinac are a part of) are home to 21% of the world’s fresh surface water—providing drinking water for 40 million people.<sup>1086</sup> A potential

1076 Richmond, T. (2023, December 1). Michigan regulators approve \$500M pipeline tunnel project under channel linking 2 Great Lakes. AP. [\[LINK\]](#)

1077 Oil & Water Don’t Mix. *Red Flags: Proposed Great Lakes Tunnel Project*. [\[LINK\]](#)

1078 Axel, T. (2023, February 6). Enbridge Ignoring Line 5 Explosion Risk, Warn Two Engineers. *Earthjustice*. [\[LINK\]](#)

1079 Walker, B. (2023, February 26). Engineers debate potential volatility of proposed Great Lakes Tunnel. *The Center Square*. [\[LINK\]](#)

1080 Ibid.

1081 Axel, T., Et al. (2023, May 22). Enbridge’s Line 5 Tunnel Could “Rain Devastation and Destruction” on Great Lakes. *EarthJustice*. [\[LINK\]](#)

1082 Looby, C. (2024, March 14). Controversy, legal fights over Line 5 pipeline keep it in the news... *Milwaukee Journal Sentinel*. [\[LINK\]](#)

1083 Schuette, B. (2018, August, 2018, p.133-135). *Michigan Pipeline Safety Advisory Board, State of Michigan*. [\[LINK\]](#)

1084 Berger, J. Et al. (2023, April 28). Decommissioning Violence in the Great Lakes How Line 5 Co-opts the Public Good and Threatens Anishinaabe Futurity. *University of Michigan*. [\[LINK\]](#)

1085 Enbridge’s Line 5 Pipeline (Bay Mills Indian Community). (2023, December 22). *Native American Rights Fund*. [\[LINK\]](#)

1086 Ibid.



Demonstrators gather in Mackinaw City for a protest against the Line 5 pipeline, which crosses the Straits of Mackinac between St. Ignace and Mackinaw City. (Whitney Gravelle)

spill would have catastrophic consequences for nearby communities' food, water, and financial security. As previously discussed in Section 5c.ii., women are 40% more likely to report food insecurity in the United States.<sup>1087</sup> Food insecurity during pregnancy produced by insufficient income can have serious cognitive and developmental fetal consequences—creating an adverse generational impact.<sup>1088</sup> Threats to the Great Lakes ecosystem will disproportionately impact Indigenous women, single-mothers, and children. Carrie Chesnik (Oneida Nation Wisconsin), the Executive Assistant of RISE Coalition describes the danger of contaminated drinking water:

**“What Indian people have known for a long time is that the water is hurting, the mother is hurting, and pretty soon we won’t have water to give our kids. We don’t have the luxury of buying water.”<sup>1089</sup>**

Furthermore, the lakes support teeming fisheries, which hold special significance to local Indigenous tribes and the Michigan economy. Fish is a staple of the regional Indigenous diet and five Chippewa and Ottawa tribes own commercial operations in the Straits of Mackinac. Losing a source of income and access to clean water and food increases women’s caretaking and food security responsibilities, most severely for single mother households.<sup>1090</sup>

A University of Michigan Water Center 2014 study modeling the ecological fallout of a potential Line 5 rupture concluded that the Straits of Mackinac is “the worst possible place for an oil spill in the Great Lakes.”<sup>1091</sup> The Straits can generate intense currents “that can create a flow or water more than 10 times greater than the flow over Niagara Falls.”<sup>1092</sup> Furthermore, extreme winter weather can make oil spills nearly impossible to clean because oil slicks are trapped beneath feet of ice. In other words, the environmental behavior of the Straits of Mackinac exacerbates the risk of a rupture in an already structurally weak pipeline and inhibits meaningful clean-up efforts in the event of a spill. Adjacent to the waterway, Mackinac County has the highest percentage of Indigenous residents compared to any other county in Michigan.<sup>1093</sup>

Recent industry studies have shown there is limited public need for the existing Line 5 pipeline,<sup>1094</sup> and that with adequate planning, decommissioning Line 5 would not significantly

1087 Jung N.M., Et al. (2017, April). Gender differences in the prevalence of household food insecurity: A systematic review and meta-analysis. *Public Health Nutrition*. [\[LINK\]](#)

1088 Ibid.

1089 Chesnik C. (2022, April 12). WECAN Interview.

1090 Jung N.M., Et al. (2017, April). Gender differences in the prevalence of household food insecurity: A systematic review and meta-analysis. *Public Health Nutrition*. [\[LINK\]](#)

1091 Dr. Schwab, D. (2014). Straits of Mackinac Contaminant Release Scenarios: Flow Visualization and Tracer Simulations. *University of Michigan Water Center*. [\[LINK\]](#)

1092 Ibid.

1093 Nelson, E. (2020, October 28). The Straits of Mackinac: Connecting People, Places and so Much More. *MSU*. [\[LINK\]](#)

1094 (2023, October). Executive Summary Likely Market Responses to a Potential Shutdown of Line 5. *PLG Consulting*. [\[LINK\]](#)



impact oil or gas supply.<sup>1095</sup> The Upper Peninsula region has 50 alternate transport sources for gas.<sup>1096</sup> Enbridge also faces opposition from many Indigenous communities across Wisconsin, Minnesota, and Michigan, as well as community members and county officials along the proposed reroute.<sup>1097</sup> In 2021, all of the federally recognized tribes in Michigan sent a letter to President Joe Biden urging him to support Michigan's efforts to shut down the Line 5 pipeline.<sup>1098</sup> Enbridge and aligned political leaders have used the pipeline's imminent expiration as reason to maximize profits in the short term by proposing the construction of an encased tunnel in the Straits of Mackinac and rerouting Line 5.<sup>1099</sup>

Line 5, in its current state, also crosses through the Bad River Reservation via Ashland, Bayfield, and Iron counties in Wisconsin and poses an immediate threat to both the ecological integrity of the area and safety of surrounding communities. Increased flooding and erosion of the Bad River riverbank (both of which are worsening due to the climate crisis)<sup>1100</sup> threaten to expose the existing pipeline, risking irreversible damage.<sup>1101</sup> In the autumn of 2022, a federal judge ruled that Enbridge was trespassing on Bad River land,<sup>1102</sup> and ordered that a mitigation plan be decided upon for a potential spill. Despite this, Enbridge continues to violate FPIC and tribal usufructuary rights,<sup>1103</sup> while seeking to appeal the court ruling.<sup>1104</sup> Along Line 5, there is visible evidence of corrosion as well as smaller pipeline breakages that have led to spills on and off Bad River Band reservation land. A rupture from Line 5 could release more than 840,000 gallons of oil,<sup>1105</sup> and, according to experts, erosion seems to be occurring more rapidly than expected which decreases the stability of the pipeline. In August 2022, Enbridge had to shut down Line 5 due to reports of contaminated soil as well as a small oil spill from a valve site in Ashland County, about 1 mile from the Bad River reservation land.<sup>1106</sup> The hazardous conditions and precarious state of the current Line 5 pipeline due to spring flooding led the Bad River Band of Lake Superior Chippewa to file an emergency motion to shut down the pipeline in May of 2023.<sup>1107</sup> Michigan Attorney General, Dana Nessel also submitted a brief in support of the Bad Rivers Band lawsuit against Enbridge to shut down the pipeline in October 2023.<sup>1108</sup> By June of 2023, U.S. District Court Judge William Conley ruled that Enbridge must pay a fine of \$5.15 million for trespassing and shut down part of the Line 5 pipeline that occupies the Bad River reservation within 3 years, citing that the pipeline conditions "created an unreasonable risk of failure."<sup>1109</sup> The Bad River Band appealed this decision, as the reroute still poses a threat to waterways, citing the threat of an "imminent rupture" that would endanger Lake Superior and its vital resources.<sup>1110</sup>

1095 Public Sector Consultants. (2020, March). *Analysis of Propane Supply Alternatives for Michigan*. [\[LINK\]](#)

1096 Michigan Department of Environment. (2020, April 17). *Upper Peninsula Energy Task Force Committee Recommendations*. [\[LINK\]](#)

1097 Enbridge. (2024). *Line 5 through the Bad River Reservation*. [\[LINK\]](#); Native American Rights Fund. (2024, April 11). *Enbridge's Line 5 Pipeline (Bay Mills Indian Community)*. [\[LINK\]](#)

1098 McWhirter, S. (2021, November 7). Michigan's Indigenous tribes ask Biden to shut down Line 5. *MLive*. [\[LINK\]](#)

1099 Rock, J. (2021, December 21). Fossil Fuel Company Enbridge: Climate Change Means We Need to Make Money Now, Not Later. *Jacobin Magazine*. [\[LINK\]](#)

1100 Shao, E. (2023, July 10) How Is Climate Change Affecting Floods? *The New York Times*. [\[LINK\]](#); United States Environmental Protection Agency. *Climate Adaptation and Erosion & Sedimentation*. [\[LINK\]](#)

1101 Kaeding, D. (2023, May 19). Federal judge says now isn't the time to shut down Line 5 pipeline, but it could happen. What's next? *WPR*. [\[LINK\]](#)

1102 Kaeding, D. (2024, February 8) Federal court hears arguments from Bad River, Enbridge in appeal of pipeline shutdown order. *WPR*. [\[LINK\]](#)

1103 Milwaukee Public Museum. *Indian Treaty Rights*. [\[LINK\]](#)

1104 Ibid.; Tuttle, R. (2023, June 19). Enbridge to Appeal Court Order to Move Line 5 Within Three Years. *Bloomberg*. [\[LINK\]](#)

1105 Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation. (2023, June 23). *Bad River Vs Enbridge Pipeline Lawsuit Decision*. [\[LINK\]](#)

1106 DNR Office of Communications. (2022, August 4). DNR Assisting Investigation of Enbridge Line 5 Oil Spill Near Ashland. *Wisconsin Department of Natural Resources*. [\[LINK\]](#)

1107 United States District Court for the Western District of Wisconsin: See Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation v. Enbridge Energy Company Inc., and Enbridge Energy. L.P. 19-cv-602-wmc. (W.D. Wis. 2023) [\[LINK\]](#)

1108 Kozłowski, K. (2023, October 19). Michigan AG files brief in support of tribe's bid to shut Enbridge pipeline on reservation. *Detroit News*. [\[LINK\]](#)

1109 Ibid.

1110 Ibid.

This proposed relocation further threatens to irreversibly damage drinking water, ecosystems, and *manoomin* (sacred Indigenous wild rice) that local communities depend on.<sup>1111</sup> The proposed reroute construction would cut through more than 900 waterways upstream from Bad River Band Reservation,<sup>1112</sup> so any pollutants produced through the Line 5 reroute construction would empty directly into tribal land and the Kakagon-Bad River Slough Wetland Complex. This biodiverse region contains hundreds of human-inhabited islands, reefs, and key sources of local food such as whitefish and lake trout. The Kakagon-Bad River Slough Wetland Complex is an ecologically, culturally, and economically significant ecosystem that is home to unspoiled swamps, bogs, wild rice beds, and coastal lagoons which are all critical to the health of Lake Superior.<sup>1113</sup> Trenching and drilling for the Line 5 reroute construction could introduce excess sediment, fuels, lubricants, and drilling fluids into the wetland complex through connected tributary streams, causing permanent damage to the surface and ground waters.<sup>1114</sup> This type of pollution and contamination of the Kakagon-Bad River Slough Complex would impact the drinking water and food supply for millions.<sup>1115</sup>

The Superior Rivers Watershed Association also cited the following concerns during the Line 5 reroute construction: erosion caused by construction and maintenance activities, hydrologic impacts of blasting through bedrock or directional boring under waterways, and “frac-outs” as seen in Willow River in the Enbridge Line 3 project.<sup>1116</sup> The U.S. EPA determined that the Line 5, 41-mile reroute project “may result in substantial and unacceptable adverse impacts” to the Kakagon-Bad River Slough Complex,<sup>1117</sup> and that sediment laden runoff from this project could enter the sloughs through the connected tributary streams, which may permanently negatively impact water quality, aquatic life, and native habitat.<sup>1118</sup> Running an oil pipeline through major tributaries of this ecosystem—with the potential cumulative impacts of pipeline construction, oil spills, aquifer breaches, and HDD drilling damage and fluid pollution—would have a catastrophic impact most severely on communities downstream from the pipeline (e.g. Bad River Band, Red Cliff Tribe).

Additionally, when Indigenous communities could lose access to traditional staple foods (like wild rice and fish) due to water contamination that could result from Line 5, they are more likely to consume a non-traditional Western diet.<sup>1119</sup> This places individuals at a higher risk of diabetes and hyperlipidemia.<sup>1120</sup> Independent of fossil-fuel imposed food insecurity, a 2020 Center for Disease Control population study found that Indigenous communities had the highest prevalence of diabetes, with Indigenous women having the highest prevalence amongst all women.<sup>1121</sup> Furthermore, due to the high price of insulin and other diabetes treatments,

1111 Grand Traverse Band Natural Resources Department. *Line 5 Pipeline 101: Facts about the Pipeline Threatening Our Great Lakes*. [\[LINK\]](#)

1112 Wisconsin Department of Natural Resources. (2021, December). *Draft Environmental Impact Statement: Proposed Enbridge Line 5 Relocation Project Vol.2*. [\[LINK\]](#); Wisconsin Citizens Media Cooperative. (2022, April 29). *Indigenous Women Leaders & Over 200 Groups Urge the Army Corps to Stop the Line 5 Pipeline Expansion*. [\[LINK\]](#)

1113 United States Environmental Protection Agency. (2022, March 16). *Public Notice MVP-2020-00260-WMS / Enbridge Line 5 Wisconsin Segment Relocation*. [\[LINK\]](#)

1114 Ibid.

1115 Sivaraman B., (2022, January 31). How a Shoddy Environmental Review Could Cause a Catastrophic Oil Spill in Wisconsin. *EarthJustice*. [\[LINK\]](#)

1116 Superior Rivers Watershed Association Position Statement in Regard to the Proposed Enbridge Line 5 Reroute Through Bad River Watershed. (2020, July 1). *Superior Rivers Watershed Association*. [\[LINK\]](#)

1117 EPA Region 5. (2022, March 16). *Letter from US EPA Region 5 to US Army Corps of Engineers, St. Paul District, Regulatory Branch*. [\[LINK\]](#)

1118 Wisconsin Department of Natural Resources. (2021, December). *Draft Environmental Impact Statement: Proposed Enbridge Line 5 Relocation Project Vol.2*. [\[LINK\]](#)

1119 Williams, D. E., Et al. (2001). The effect of Indian or Anglo dietary preference on the incidence of diabetes in Pima Indians. *Diabetes care*. [\[LINK\]](#)

1120 Ibid.

1121 National Diabetes Statistics Report. *Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services*. (2020). *Centers for Disease Control and Prevention*. [\[LINK\]](#)

people must either find ways to pay for treatment or leave their diabetes untreated—causing kidney damage, blurry vision, neuropathy (e.g., nerve damage) and immunodeficiencies.<sup>1122</sup> Women with diabetes who are pregnant and leave their illness untreated have increased rates of fetal birth defects, miscarriages, and preterm births.<sup>1123</sup> In addition to the physical impacts of diabetes, disabled or ill children increase women’s caretaking responsibilities (Section 5b.)



Women in front of U.S. Capitol protesting to stop Line 5. (Ashley Guardado | WE CAN International)

Construction of the Line 5 reroute will also bring transient work camps to these counties, increasing the likelihood of human trafficking, and further exacerbating the MMIWG2S epidemic (as seen in the Enbridge Line 3 project in Third Edition of this report).<sup>1124</sup>

Rene Ann Goodrich (Bad River Ojibwe) and member of the Native Lives Matter Coalition and Wisconsin Department of Justice MMIW Task Force explains the connection between the Line 5 reroute construction and man-camps:

1122 Mayo Clinic (2022). *Diabetes*. [\[LINK\]](#)

1123 Center for Disease Control (2022). *Type 1 or Type 2 Diabetes and Pregnancy*. [\[LINK\]](#)

1124 Berger, J. Et al. (2022) Highlighting Violence in the Straits of Mackinac: The Threat of Enbridge’s Line 5. *University of Michigan School for Environment and Sustainability*. [\[LINK\]](#)

“The work of Line 5 is very concerning. The pipelines contribute to the violence towards Indigenous women. Native lives are tied to native lands; violence perpetrated on the land and on the water directly contributes to the violence that’s perpetrated on Indigenous peoples and also targets our girls, our women and our two-spirits by the influx of the man-camps.”<sup>1125</sup>

During public comment hearings on the Line 5 reroute project in 2022, 92.4% of people testifying called for the Department of Natural Resources (DNR) to deny Enbridge building permits and force the decommissioning of Line 5.<sup>1126</sup> More than 32,000 public comments were sent to the Wisconsin DNR, urging the rejection of any permits for the Enbridge’s Line 5 reroute.<sup>1127</sup> The Line 5 reroute construction cannot begin until a series of state and federal permits, approvals, and reviews have been obtained. The Bay Mills Tribe passed a resolution to designate the Straits of Mackinac as a “Traditional Cultural Property Site” which would ensure that reviews for any continued projects would have to take cultural significance into account.<sup>1128</sup> Presuming the latest changes to the National Environmental Protection Act do not impact the timeline, a new draft environmental impact statement (EIS) is projected to be published in Spring 2025.<sup>1129</sup> The EIS concentrates exclusively on the tunnel project, neglecting the necessity of conducting a thorough evaluation of the entire Line 5 pipeline network.<sup>1130</sup> Despite calls from numerous advocacy groups, emphasizing the pipeline’s detrimental impacts on local communities and ecosystems, these groups’ request to include the entire pipeline in the EIS remains unfulfilled.

Simultaneously, the U.S. Army Corps of Engineers has extended the permit process for the tunnel project beneath the Straits of Mackinac, surpassing the initially expected fall 2023 timeline to 2026.<sup>1131</sup> Furthermore, all impacted tribes in the area have not been adequately consulted regarding the effects of the reroute on their watershed, resulting in the exclusion of Indigenous voices from the decision-making process concerning their land.

Financially supporting Enbridge’s pipelines poses a significant risk to the well-being and safety of Indigenous women across the Great Lakes region due to the deteriorating condition of the existing Line 5 and the potential hazards associated with constructing a pipeline reroute and the proposed tunnel project to facilitate the Line 5 reconstruction segment. As of March 31, 2024, Royal Bank of Canada and Vanguard are the top two largest shareholders of Enbridge, with more than 218 million shares, valued at \$4.75 and \$2.98 billion, respectively.<sup>1132</sup> JPMor-



Rene Ann Goodwin speaking at an event stop Enbridge’s Line 5 and MMIW. (Sophia Lovato | WECAN International)

1125 Lake, O. Et al. (2022, October 12). Standing Up for Water, Land and Climate: Meet 10 Indigenous Women Fighting the Line 5 Pipeline. *Ms. Magazine*. [\[LINK\]](#)

1126 Sierra Club (2022). *Line 5*. [\[LINK\]](#)

1127 Wisconsin Department of Natural Resources. (2021, December). *Enbridge Pipeline Projects in Wisconsin*. [\[LINK\]](#)

1128 Shea, P. (2021, April 1). Michigan tribe seeks cultural property protection in path of Line 5 project. *Energy News Network*. [\[LINK\]](#); Rosenthal, A. (2021, February 4). Tribes affirm Mackinac Straits cultural site. *Record Eagle*. [\[LINK\]](#)

1129 U.S. Army Corps of Engineers. (2023, March 23). *Corps of Engineers revises Enbridge Line 5 EIS schedule to ensure thorough analysis*. [\[LINK\]](#)

1130 Detroit News. (2023, July 10). *Army Corps angers critics, heartens Enbridge with Line 5 Tunnel Decision*. [\[LINK\]](#); Native American Rights Fund. *Enbridge Line 5 Pipeline (Bay Mills Indian Community)*. [\[LINK\]](#)

1131 Jaremko, G. (2023, March 28). Another Enbridge Line 5 Permitting Delay Pushes Construction to 2026. *Natural Gas Intel*. [\[LINK\]](#)

1132 NASDAQ. *Enbridge Inc Common Stock (ENB)*. [\[LINK\]](#)

gan and Bank of America are also significant shareholders of Enbridge, which is undermining global commitments to transition to renewable energy.<sup>1133</sup> Moreover, these financiers played a key role during Enbridge's Line 5 construction: in 2020 Bank of America, JPMorgan Chase, and Royal Bank of Canada were all lenders providing credit facilities to relevant Enbridge companies.<sup>1134</sup> Bank of America and JPMorgan Chase were both lead managers underwriting bonds issued by Enbridge, and Royal Bank of Canada profited from fees for advising Enbridge on how to sell renewable energy and natural gas assets in order to focus on Line 3.<sup>1135</sup> These financial institutions must recognize Enbridge's violations of Indigenous sovereignty and their right to Free, Prior, and Informed Consent, as well as the human rights abuses that have resulted from Line 3 and now, Line 5. By financing the company behind Line 3, which has resulted in ongoing physical and mental harms in nearby communities, financial institutions are not adhering to international standards or their own statements and commitments to not cause harm. Firms financing Enbridge Line 3 must reevaluate internal practices to ensure financier due diligence.

### 6h. ii Transmountain Pipeline

The Trans Mountain Expansion Project (TMX) entails replicating an existing pipeline along a 1,500 kilometer route from Alberta to British Columbia.<sup>1136</sup> This project would triple the current pipeline's capacity to transport bitumen, with an estimated carrying capacity of approximately 890,000 barrels per day of products, including lighter crudes and refined fuels.<sup>1137</sup> Completing the pipeline would extend a lifeline to the environmentally catastrophic Alberta tar sands operation and allow the tar sands from Alberta to expand to overseas markets.<sup>1138</sup> The expansion project was initially proposed and approved in 2016 under the ownership of Kinder Morgan, but in 2018, the Canadian government purchased the pipeline, and, as of April 2024, is still the owner.<sup>1139</sup> In March of 2024, the Canadian government stated that it has plans to sell the Trans Mountain pipeline, but would likely not do so in 2024.<sup>1140</sup> The pipeline, which endured several construction delays, began operating in May 2024.<sup>1141</sup>

Approving and developing the TMX has been rife with contention. In 2018, the Canadian Federal Court of Appeals ruled that the government had failed to consider the concern from multiple challenges from First Nations.<sup>1142</sup> However, in 2019, the pipeline was reapproved, prompting several First Nations to file an appeal, including the Squamish Nation, the Tsleil-Waututh Nation, along with three environmental groups.<sup>1143</sup> The Squamish, the Tsleil-Waututh, the Coldwater, and a collective of bands within the Stó:lō, also argued against the project in December, 2019.<sup>1144</sup> When the 2019 First Nations' appeal was dismissed,<sup>1145</sup> even more First Nations

1133 Ibid.

1134 Kirsch, A. (2018, October-updated 2020 November). Who's Banking Enbridge? *Rainforest Action Network*. [\[LINK\]](#)

1135 Ibid.

1136 The Canadian Press (2020, September 15). Trans Mountain pipeline expansion on schedule and on budget after 1st year, says CEO. *CBC*. [\[LINK\]](#)

1137 Ibid.

1138 Hampton, L. (2024, March 19). Trans Mountain Pipeline expansion to be complete by end of May - Alberta Premier. *Reuters*. [\[LINK\]](#)

1139 The Canadian Press. (2024, January 31). A look at the Trans Mountain pipeline expansion's milestones and setbacks over the years. *Global News*. [\[LINK\]](#)

1140 Williams, N. (2024, May 1). Canada's long-delayed Trans Mountain oil pipeline starts operations. *Reuters*. [\[LINK\]](#)

1141 Reuters. (2024, August 6). *Trans Mountain Pipeline interim tolls hearing scheduled for May 2025 - CER*. [\[LINK\]](#)

1142 Kassam, A. (2018, August). Trans Mountain pipeline halted after Canadian court overturns approval. *The Guardian*. [\[LINK\]](#)

1143 Bellrichard, C. (2020, February 4). First Nations respond to Trans Mountain appeal decision. *CBC*. [\[LINK\]](#)

1144 Ibid.

1145 Kung, E. (2020). Eugene Kung speaks on Wellhead to Tidewater webinar. *Vimeo*. [\[LINK\]](#)

challenged the project. In August 2020, the Squamish Nation, the Tsleil-Waututh Nation, the Ts'elxwéyeqw Tribes, and the Coldwater Indian Band challenged the Court of Appeals by filing applications to the Supreme Court of Canada.<sup>1146</sup> However, in July 2020, the Supreme Court dismissed this appeal.<sup>1147</sup> While construction moves forward on TMX, it is abundantly clear that Free, Prior and Informed Consent has not been granted. Early construction of the pipeline destroyed at least 58 Indigenous archaeological sites which included burial grounds and village sites.<sup>1148</sup>



Protestors marching with a banner that reads “Stop Insuring Trans Mountain Insure Our Future” (Insure Our Future)

In December 2019, a cease and desist order for TMX was sent from the United Nations Committee for the Elimination of Racial Discrimination to Canada.<sup>1149</sup> The committee explicitly expressed that: “by the refusal [of Canada] to consider Free, Prior and Informed Consent as a requirement for any measure, such as large-scale development projects, that [Canada] may cause irreparable harm to Indigenous Peoples rights, culture, lands, territories and way of life.”<sup>1150</sup> In March 2023, the UN Special Rapporteur on the rights of Indigenous People, Mr. José Francisco Calí-Tzay, linked TMX to human rights abuses, reporting that,

1146 Rabson, M. (2020, July 2). Supreme Court rejects Indigenous challenge to Trans Mountain pipeline approval. *Global News*. [\[LINK\]](#)

1147 Rabson, M. (2020, July 2). Supreme Court rejects Indigenous challenge to Trans Mountain pipeline approval. *The Canadian Press*. [\[LINK\]](#)

1148 UBCIC. *TMX and Specific Claims*. [\[LINK\]](#)

1149 Tiny House Warriors (2020, April 1). *Shut Down the Man-Camps*. [\[LINK\]](#)

1150 Ibid.

“a large number of megaprojects in Indigenous territories proceed without good faith consultation and in the absence of obtaining Indigenous Peoples’ free, prior, and informed consent as, in the case of Trans Mountain Pipeline. I am also concerned about the ongoing militarization of Indigenous lands and the criminalization of Indigenous human rights defenders resisting the Trans Mountain and Coastal GasLink pipelines in British Columbia.”<sup>1151</sup>

Despite calls from human rights organizations across the world to shut down TMX, as well as legal action by First Nations, Trans Mountain Man Camps remain present through 2024.<sup>1152</sup> Construction sites in Clearwater and Valemount are operating within Secwepemc Territory and without Secwepemc consent.<sup>1153</sup> The Tiny House Warriors are a group of Stk’emlúpsenc te Secwepemc and Ktunaxa people positioned along the route to peacefully protest Trans Mountain from crossing unceded Secwepemc Territory. This group of primarily women was violently attacked in April, 2020 and their memorial of red dresses for missing and murdered Indigenous women and girls was destroyed.<sup>1154</sup> Threats to Indigenous women from Man Camps are outlined in the 1,200 page report, *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*, published by the Government of Canada.<sup>1155</sup>

In addition to human rights violations and allegations, TMX also faced several construction delays between 2019 and 2023 as a result of the Covid-19 pandemic, an atmospheric river, and drilling complications.<sup>1156</sup> The project’s cost rose from \$12.6 billion to \$21.4 billion in two years and has now ballooned to \$35 billion as a result of labor shortages, supply chain disruptions, inclement weather, and regulatory obstacles.<sup>1157</sup> Construction of TMX also faced difficulty drilling through hard rock, prompting the company to request approval from the CER for a smaller size and coating for the pipe.<sup>1158</sup> Although the commission initially denied their requests over safety and quality concerns, CER ultimately approved the pipeline variance, after TMX warned the commissioners of another delay and lost revenue, this time by two years.<sup>1159</sup> Despite these hurdles, pro-oil officials reiterate that TMX is extremely strategic and allows Canada to reach new international oil markets.<sup>1160</sup> Building TMX would take Canada even further away from meeting its commitment to the goals set forth in the Paris Agreement.<sup>1161</sup>

Pollution threats from TMX are also of major concern for nearby communities. The existing pipeline has a history of disastrous spills, including the July, 2020 incident when the pipeline spilled 50,000 gallons of crude oil from a pump station located above an aquifer that supplies the Sumas First Nation with drinking water.<sup>1162</sup> Similar environmental threats exist for other waterways. Pípsell or so-called Jacko Lake, located in Kamloops, is a waterbody considered

1151 Tzay-Cali, J. (2023, March). United Nations Special Rapporteur On The Rights Of Indigenous Peoples. UNCHR. [\[LINK\]](#)

1152 BankTrack. (2023, January 30). *Trans Mountain Pipeline Expansion project (TMPE)*. [\[LINK\]](#); Transmountain. *Blue River Camp Community*. [\[LINK\]](#)

1153 Ibid.

1154 Tiny House Warriors. *About*. [\[LINK\]](#)

1155 National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). *Reclaiming Power and Place*. Privy Council Office. [\[LINK\]](#); Smith, R. (2020, October 5). Liberty Mutual slammed for tar sands involvement. *Insurance Business America*. [\[LINK\]](#)

1156 The Canadian Press. (2024, January 31). A look at the Trans Mountain pipeline expansion's milestones and setbacks over the years. *Global News*. [\[LINK\]](#)

1157 Razavi, K. (2023, November 22). Indigenous rights collide with \$35B Western Canada pipeline expansion. *Global News*. [\[LINK\]](#); Ibid.

1158 Ibid.

1159 The Canadian Press. (2024, January 31). A look at the Trans Mountain pipeline expansion's milestones and setbacks over the years. *Global News*. [\[LINK\]](#)

1160 Varcoe, C. (2022, February 3). Trans Mountain expansion running over budget by billions of dollars and months behind schedule. *National Post*. [\[LINK\]](#)

1161 Israel, B. (2017, October 4). The Real GHG trend: Oilsands among the most carbon intensive crudes in North America. *Pembina Institute*. [\[LINK\]](#)

1162 Sulakhana, E. (2020, July 14). Who's insuring the Trans Mountain pipeline? *Rainforest Action Network*. [\[LINK\]](#)

a significant cultural site; it is utilized for ceremonies, hunting, fishing, and medicinal plant harvesting for the Secwépemc people.<sup>1163</sup> Despite opposition by local Secwépemc people, the Canada Energy Regulator approved the use of open trenching techniques for pipe installation along TMX’s proposed route, which is positioned less than a mile away from Pípsell.<sup>1164</sup> The Neskonlith Indian Band never signed a mutual-benefit agreement despite their location 31 miles from Kamloops and the impact—including erosion and water contamination—that open trenching will have on the sacred Pípsell.<sup>1165</sup>



Miranda Dick at an action to stop the construction of TMX near the shore of the Thompson River. (Brendan Kergin | Castanet)

Secwépemc Matriarch, Miranda Dick, explains how her mother who died of cancer nearly 20 years ago warned her about the health risks of polluted waterways:

**“She always said it was in the food we eat and the water we drink—this cancer would be contaminating our human consumption. So she always said to protect clean water, protect the berries, and protect the salmon and the deer. It’s our food supply, right?”<sup>1166</sup>**

The construction and operation of TMX also threatens local Indigenous staple foods and traditional practices, including berry harvesting and fishing.<sup>1167</sup> Secwepemc elder, Helen Sandy, preserves and harvests Sxusem, which are small red berries used to treat stomach aches and provide a boost of vitamin C.<sup>1168</sup> Sandy emphasizes that preserving traditional foods sustains culture for future generations and provides vital nutrition.<sup>1169</sup> Building TMX infringes on First Nations cultural survival, economic livelihoods, and nutritional health. When Indigenous communities lose access to traditional staple foods they are more likely to consume a non-traditional Western diet, placing individuals at a higher risk of diabetes and hyperlipidemia.<sup>1170</sup> Independent of fossil-fuel imposed food insecurity, a 2020 Center for Disease Control population study found that Indigenous communities had the highest prevalence of diabetes, with Indigenous women having the highest prevalence amongst all women.<sup>1171</sup> Furthermore, due to the high price of insulin and other diabetes treatments, people must either find ways to pay for treatment or leave their diabetes untreated—causing kidney damage, blurry vision, neuropathy (e.g., nerve damage) and immunodeficiencies.<sup>1172</sup> Women with diabetes who are pregnant and leave their illness untreated have increased rates of fetal birth defects, miscarriages, and preterm births.<sup>1173</sup>

1163 Ibid.

1164 Ibid.

1165 Brannan Companies. (2024, March 5). *What is Open Cut Utility?* [\[LINK\]](#)

1166 Wickett, M. (2023, June 15). 'It's our food supply, right?': Shuswap land defender focuses on water. *Penticon Western News*. [\[LINK\]](#)

1167 Cooperman, J. (2015, May 15). The Secwepemc use of wild plants. *Salmon Arm Observer*. [\[LINK\]](#); First Nations Traditional Foods Fact Sheets. *First Nations Health Authority*. [\[LINK\]](#)

1168 Mindus, A. (2021, October 6). Secwepemc woman preserves Indigenous food traditions through photography. *The William Lakes Tribune*. [\[LINK\]](#)

1169 Ibid.

1170 Williams, D. E., Et al. (2001). The effect of Indian or Anglo dietary preference on the incidence of diabetes in Pima Indians. *Diabetes care*. [\[LINK\]](#)

1171 Centers for Disease Control and Prevention. (2020). National Diabetes Statistics Report. *Centers for Disease Control and Prevention, U.S. Dept of Health and Human Services*. [\[LINK\]](#)

1172 Mayo Clinic. (2022). *Diabetes*. [\[LINK\]](#)

1173 Center for Disease Control (2022). *Type 1 or Type 2 Diabetes and Pregnancy*. [\[LINK\]](#)



On top of the risks that TMX poses to local communities, the price of the project is becoming increasingly expensive: the cost of the project has seen an over 40% increase due to inflation, supply chain challenges, environmental hurdles, issues regarding population density, and major archaeological discoveries, among other issues.<sup>1174</sup> The cost to date is six times the cost of its original estimated price tag, now totaled at almost \$35 billion.<sup>1175</sup> While Trans Mountain is still attempting to secure external financing to fund the remaining cost of the project, which is also slated to be sold within the coming years.<sup>1176</sup> Canadian economists have also stated the project has been mismanaged through its number of contractors that have shifted throughout the project, and that the predicted revenue will fail to recoup \$16 to \$20 billion.<sup>1177</sup> Financial institutions have an opportunity to comply with their commitments to the Paris Climate Agreement and international human and Indigenous rights standards.

The pipeline requires insurance under federal law in order to transport oil because of the numerous risks associated with pipelines and construction.<sup>1178</sup> If insurance companies stopped providing critical financial support to Trans Mountain, the project would no longer be able to transport oil.<sup>1179</sup> Liberty Mutual has provided significant insurance coverage to Trans Mountain.<sup>1180</sup>

Banks also play a large role in expanding the TMX pipeline. In 2023, Canada's six largest banks, including the Royal Bank of Canada, have increased financing by \$10 billion to cover the project's cost overruns.<sup>1181</sup> Additionally, according to public records, these same banks gave Trans Mountain pipeline a preferential loan rate of 1.85% interest, while the normal interest rate is 6.7%.<sup>1182</sup> By continuing to provide financial support, banks, such as the Royal Bank of Canada, are violating Indigenous rights, perpetuating the MMIWG2S epidemic, and facilitating the continuation of North America's most carbon intensive operation.

1174 Ellis, S. (2023, March 21). Trans Mountain Pipeline's Losses Are Enbridge's Gains. *MorningStar*. [\[LINK\]](#); Simper, S. (2023, March 20). Trans Mountain: update on Expansion Project. *World Pipelines*. [\[LINK\]](#)

1175 Razavi, K. (2023, November 22). Indigenous rights collide with \$35B Western Canada pipeline expansion. *Global News*. [\[LINK\]](#)

1176 Ellis, S. (2023, March 21). Trans Mountain Pipeline's Losses Are Enbridge's Gains. *MorningStar*. [\[LINK\]](#)

1177 Heather Yourex-West. (2023, August 9). The factors driving up Trans Mountain pipeline costs: "This project has been seriously mismanaged." *Global News*. [\[LINK\]](#)

1178 Sulakshana, E. (2020, July 14). Who's insuring the Trans Mountain pipeline? *Rainforest Action Network*. [\[LINK\]](#)

1179 Ibid.

1180 Ibid.

1181 Bulowski, N. (2023, May 16). Canada's biggest banks pitch in another \$3 billion for Trans Mountain. *Canada's National Observer*. [\[LINK\]](#)

1182 George, G. Et al. Press Release: BC First Nations highlight Canadian banks' pattern of supporting Trans Mountain Expansion through preferential rates. *Union of British Columbia Indian Chiefs*. [\[LINK\]](#)

## 6i. Appalachia: Pennsylvania, West Virginia, Virginia, North Carolina and Ohio

Project(s)	Companies operating in Appalachia*	Banks financing the company**	Asset Managers investing in the company***	Insurance Companies insuring the company****
(1) Shell Polymers Petrochemical Complex (Beaver County, PA)	Shell	(1) <a href="#">Bank of America</a> , (2) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">BlackRock</a>	N/A
(1) Mariner East LNG Pipeline System (joint venture with Sunoco), (2) Mariner West LNG Pipeline System, (3) Rover Natural Gas Pipeline, (4) Eastern Refined Products Pipeline, (5) Mid-Continent Refined Products Pipeline, (6) Inland Refined Products Pipeline (OH), (7) Revolution Pipeline	Energy Transfer	(1) <a href="#">Bank of America</a> , (2) <a href="#">JPMorgan Chase</a> , (3) <a href="#">Citigroup Inc</a>	N/A	Liberty Mutual: <a href="#">certificate of insurance for Mariner East Pipeline System</a>
(1) Liquefied Natural Gas (LNG) Facility (Butler County, PA), (2) Liquefied Natural Gas Facility (Belmont County, OH)	ExxonMobil (i.e., XTO Energy Inc.)	(1) <a href="#">JPMorgan Chase</a> , (2) <a href="#">Bank of America</a> , (3) <a href="#">Royal Bank of Canada</a> (4) <a href="#">Citigroup</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	
(1) Mountain Valley Pipeline (2) Bradshaw Compressor Station (Mannington, WV), (3) Harris Compressor Station (Braxton County, WV), (4) Stallworth Compressor Station (Fayette County, WV), (5) Marcellus & Utica Shale LNG well pad (bought during EQT acquisition of Chevron Appalachia), (6) Laurel Mountain Midstream (bought during EQT acquisition of Chevron Appalachia)	EQT Corporation	(1) <a href="#">Bank of America</a> , (2) <a href="#">JPMorgan Chase</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A
(1) Union Carbide Corp Facility (Institute, WV), (2) Union Carbide Corp South Charleston Facility (Charleston, WV)	Dow Inc.	(1) <a href="#">JP Morgan Chase</a> , (2) <a href="#">Bank of America</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	N/A

(1) Columbus Petrochemical Plant, (2) Ekland Petrochemical Plant, (3) Franklin Petrochemical Plant, (4) Greencastle Petrochemical Plant, (5) Leola Petrochemical Plant, (6) Marietta Petrochemical Plant, (7) Marion Petrochemical Plant, (8) Mt. Eaton Petrochemical Plant, (9) Natrium Petrochemical Plant, (10) Wayne Petrochemical Plant	Westlake Chemical	N.A	(1) <a href="#">BlackRock</a> , (2) <a href="#">Vanguard</a> , (3) <a href="#">Capital Group</a>	N/A
(1) Williams Gas Pipeline Transco	Williams Companies, Inc.	(1) <a href="#">Bank of America</a> , (2) <a href="#">JP Morgan Chase</a> , (3) <a href="#">Royal Bank of Canada</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a>	
(1) Piedmont natural gas	Duke Energy Corporation	(1) <a href="#">Bank of America</a> , (2) <a href="#">Royal Bank of Canada</a> , (3) <a href="#">JPMorgan Chase</a>	(1) <a href="#">Vanguard</a> , (2) <a href="#">BlackRock</a> , (3) <a href="#">Capital Group</a>	

All data in the chart is derived from financial databases/platforms (*Nasdaq*), the Rainforest Action Network's 2024 published report, *Banking on Climate Chaos*, or other primary documents.

\*This list is not exhaustive.

\*\*Underwriting bonds and share issuances, loans, and/or ownership of stock/institutional investor.

\*\*\*Shareholder/institutional investor, ownership of stock.

\*\*\*\*N/A is because there is a lack of transparency.

For decades, the Appalachian region, including rural communities in Pennsylvania, West Virginia, Virginia, North Carolina, and Ohio, has suffered from boom and bust economic perturbations and persistent pollution caused by the fossil fuel industry. Despite Appalachia's rich natural resources, the region has a history of economic hardship and extraction-related health issues.<sup>1183</sup> This region exemplifies how fossil fuel companies and their investors target low-income communities: according to a 2021 study, over 90% of the gas produced in Appalachia occurs in 22 counties in the upper Ohio River Valley and in northeastern Pennsylvania, 19 of which are above the national poverty rate.<sup>1184</sup> Over a decade ago, the oil and gas industry promised extensive local economic growth, but a 2023 study found that job growth decreased by 2.1% equating to 10,000 jobs lost in the 22 counties while nationally the number of jobs grew by 6.5%.<sup>1185</sup> Although Appalachia is responsible for over 40% of U.S. gas production, very little of the generated profits enter the local economies in these counties.<sup>1186</sup> Instead of

1183 Krometis, L. Et al. (2017, July 6). Environmental health disparities in the Central Appalachian region of the United States. *National Library of Medicine*. [\[LINK\]](#)

1184 O'Leary. (2023, August). Frackalochia Update: Peak Natural Gas and the Economic Implications... *Ohio River Valley Institute*. [\[LINK\]](#)

1185 *Ibid.*

1186 *Ibid.*

economic growth, these counties and other parts of Appalachia have been left with numerous fossil fuel derived physical health impacts that will continue and worsen as pipelines, petrochemical plants, and drilling operations expand.



A drilling rig in Noble County, Ohio (Ted Auch | FracTracker Alliance)

A 2015 study done on Appalachian fracking communities found that methane and ethane were respectively six times and twenty-three times higher in homes close to natural gas wells, and methane was found in 82% of drinking water samples.<sup>1187</sup> A 2017 study that examined the health records of 1,125,748 infants born in Pennsylvania from 2004 to 2013, found negative health effects for infants born to mothers living within three kilometers of a fracking site during pregnancy.<sup>1188</sup> The researchers also found a 25% increase in the probability of a low-birth-weight newborn for mothers living within one kilometer of a fracking site and significant declines in average birth weight, as well as an index of other infant health issues.<sup>1189</sup>

In 2021, EQT, a Pittsburgh-based company, expanded its fracking operations in Knob Fork, West Virginia, prompting years of complaints from local community members.<sup>1190</sup> Several families specifically reported their health concerns to West Virginia environmental regulators, cit-

1187 Ridlington, E., Et al. (2015 October). Dangerous and Close Fracking Near Pennsylvania's Most Vulnerable Residents. *Frontier Group and Penn Environment Research & Policy Center*. [\[LINK\]](#); Jackson, B.R., Et al. (2013, July 9). Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction. *PNAS*. [\[LINK\]](#)

1188 Currie, J., Et al. (2017, December 13). Hydraulic fracturing and infant health: New evidence... *Science Advances*. [\[LINK\]](#)

1189 Ibid.

1190 Glabicki, Q. (2024, March 4). Hollowed Out. *Public Source*. [\[LINK\]](#)

ing symptoms of shortness of breath, rashes, dizziness, headaches, anxiety, and muscle weakness.<sup>1191</sup> One mother, Abby Tennant, began noticing her family’s health deteriorating, stating:

**“My head is killing me and my muscles, specifically my arms, are killing me. Like the poisons are still going through my system. Our home is no longer a home. It is a place of sickness, confusion and sadness.”**

When describing her daughter’s health condition, Tennant expressed:

**“It wasn’t like this before, she was a healthy little girl running around outside, swinging in her swing.”<sup>1192</sup>**

Abby Tennant, along with other families, have since permanently moved away due to chronic health conditions resulting from fracking operations.<sup>1193</sup> According to several studies, caregivers, who are often mothers, endure heightened stress levels from extended periods of caregiving, which can result in an overall decline in health for the caregiver.<sup>1194</sup>

Explosions of pipelines in the region cause additional environmental hazards. In February 2018, a gas well, owned by Exxon Mobil subsidiary XTO Energy,<sup>1195</sup> exploded in Belmont County, Ohio, which has a poverty rate over four percentage points above the national poverty rate.<sup>1196</sup> This explosion resulted in uncontrolled venting of natural gas estimated at 100 million cubic feet per day until March 2018.<sup>1197</sup> Over the course of 20 days, a total of more than 50,000 tons of methane was released near the Ohio-West Virginia border,<sup>1198</sup> which forced residents within a 1-mile radius to evacuate their homes for several weeks.<sup>1199</sup> A study showed that the emissions were “equivalent to a substantial fraction of the annual total anthropogenic emission of several European countries,” making it one of the worst leaks in U.S. history.<sup>1200</sup> The same year, Revolution Pipeline, owned by Energy Transfer, exploded in Beaver County, Pennsylvania.<sup>1201</sup> Energy Transfer has also been accused of illegally releasing industrial waste at 22 sites in 11 counties during the construction of its Mariner East pipeline.<sup>1202</sup> The company was found to have ruined the drinking water of at least 150 families statewide, and spilled thousands of gallons of drilling fluid which contaminated wetlands, a stream, and part of a 535-acre lake at Marsh Creek State Park outside Philadelphia.<sup>1203</sup> Companies who continue to finance and build fossil fuel projects are worsening the effects of the global water crisis, which has been proven to have significantly disparate impacts on women.<sup>1204</sup>

1191 Ibid.

1192 Ibid.

1193 Ibid.

1194 Mussida, C. (2020, December 11). Women’s Family Care Responsibilities, Employment and Health: A Tale of Two Countries. *Journal of Family and Economic Issues*. [\[LINK\]](#)

1195 Pflieger, P. (2019, December 19). A Fracking Explosion In Ohio Created One Of Worst Methane Leaks In History. *WOSU Public Media*. [\[LINK\]](#)

1196 United States Census Bureau. *QuickFacts Belmont County, Ohio*. [\[LINK\]](#)

1197 Pandey, S., Et al. (2019, December 16). Satellite observations reveal extreme methane leakage from a natural gas well blowout. *PNAS*. [\[LINK\]](#)

1198 Georgiou, A. (2019, December 18). Enormous Methane Leak From Ohio Gas Well Was One of Worst in American History, Satellites Reveal. *Newsweek*. [\[LINK\]](#)

1199 Pflieger, P. (2019, December 19). A Fracking Explosion In Ohio Created One Of Worst Methane Leaks In History. *WOSU Public Media*. [\[LINK\]](#)

1200 Pandey, S., Et al. (2019, December 16). Satellite observations reveal extreme methane leakage from a natural gas well blowout. *PNAS*. [\[LINK\]](#)

1201 Frazier, R. (2022, February 3). Energy Transfer Facing 9 Counts of Environmental Crimes for 2018 Pipeline Blast. *The Allegheny Front*. [\[LINK\]](#)

1202 Rubinkam, M. (2022, February 2). Company faces criminal charges over pipeline explosion. *AP News*. [\[LINK\]](#)

1203 Ibid.

1204 Cave, K., Et al. (2016, December 12). Water Song: Indigenous Women and Water. *Resilience*. [\[LINK\]](#)

Despite thorough research revealing the cruel impacts that drilling and refining have on the women in these communities, fossil fuel companies are turning to petrochemicals, and Appalachia has become a frontier for the plastics industry. Petrochemical plants are being planned and built across the region.<sup>1205</sup> For example, Dow Inc.'s Union Carbide Petrochemical Complex was constructed in 1943 in the city of Institute, West Virginia.<sup>1206</sup> Institute is notoriously underfunded by the state and is one of West Virginia's only majority Black communities, leading it to be a "sacrifice zone."<sup>1207</sup> West Virginia State University College (the largest historically Black college in the state located in Institute) is now suing Dow Inc. for contaminating Institute's groundwater and damaging Institute's national reputation. This damaged reputation can "cause property values to plummet, trapping neighborhoods in a vicious cycle of disinvestment."<sup>1208</sup> Research over the past two decades has shown that poverty rates among female-headed households, the fastest growing household demographic in Appalachia, remain highest; this indicates that decreasing property values due to fossil fuel derived pollution may have disparate impacts on women in the region.<sup>1209</sup>

In another instance, in November 2022, Shell completed construction of the Shell Polymers Monaca petrochemical plant in Beaver County,<sup>1210</sup> which has a median income below the national average<sup>1211</sup> and was the site of a 2018 pipeline explosion as detailed above.<sup>1212</sup> The giant ethane cracker in Beaver County is estimated to produce 1.8 million tons of plastic per year.<sup>1213</sup> Operation of just this single plastic project would negate all of Pittsburgh's work combating the climate crisis through 2030.<sup>1214</sup> According to the Center for Environmental Research and Education at Duquesne University, because shale gas wells have steep declines in production rates, Shell's ethane cracker will require more wells to be drilled to keep the plant running for decades to come.<sup>1215</sup> Shell claims to support the Paris Agreement<sup>1216</sup> and stated that it "will grow its business in areas it expects to be important in the energy transition, while reducing costs and improving [its] CO2-intensity performance."<sup>1217</sup> Thus far the \$6 billion project has not brought local residents the economic prosperity that was promised by Shell<sup>1218</sup>; instead, communities throughout the Ohio River Valley fear added health concerns due to reports of popping sounds and an orange glow around the plant, as well as decreased air quality, and foam on the water near the plant.<sup>1219</sup> Shell Chemicals Appalachia LLC received over ten notices of violations from the Pennsylvania Department of Environmental Protection since before the project was completed, and for exceeding emission limitations during operations.<sup>1220</sup> Environmental groups called to temporarily halt operations until Shell can

1205 Stone, J. Et al. (2022, August 29). Appalachia is Fueling a Global Petrochemical Buildout. *Ohio River Valley Institute*. [\[LINK\]](#)

1206 CLUI. (n.d.). Institute Plant, West Virginia. *The Center for Land Use Interpretation*. [\[LINK\]](#)

1207 Ward Jr., K. (2021, December 21). How Black Communities Become "Sacrifice Zones" for Industrial Air Pollution. *ProPublica*. [\[LINK\]](#)

1208 Ibid.

1209 Gallagher, H. (2019, December). The Feminization of Poverty: Rural Appalachia and Beyond. *Appalachian State University*. [\[LINK\]](#)

1210 Ohio River Valley Institute. (2023, June). *A Cautionary Tale of Petrochemicals from Pennsylvania*. [\[LINK\]](#)

1211 CDC. *Quick Facts Beaver County, Pennsylvania; United States*. [\[LINK\]](#)

1212 Food and Water Watch. (2020, September 21). *Cracked: The Case For Green Jobs Over Petrochemicals In Pennsylvania*. [\[LINK\]](#)

1213 The Allegheny. (2020, February 5). *Video: As the World Grapples with Plastic Pollution, PA's Ethane Cracker Promises More Plastic*. [\[LINK\]](#)

1214 Cunningham, N. (2019, March 21). A Fracking-Driven Industrial Boom Renews Pollution Concerns in Pittsburgh. *Yale School of the Environment; Yale Environment 360*. [\[LINK\]](#)

1215 Ibid.

1216 Shell. *Our Climate Target*. [\[LINK\]](#)

1217 Shell. *Shell Energy Transition Report*. [\[LINK\]](#)

1218 Ritenbaugh, S. (2023, June 29). Report: Shell's ethane plant in Beaver County has not spurred growth. *TRIBLive*. [\[LINK\]](#)

1219 Hurdle, J. (2023, February 3). Pennsylvania Advocates Issue Intent to Sue Shell's New Petrochemical Plant Outside Pittsburgh for Emissions Violations. *Inside Climate News*. [\[LINK\]](#)

1220 Ibid.

comply with pollution control laws and intend to sue the company for violating federal and state air quality standards.<sup>1221</sup>

Similarly, PTTGC America LLC (the U.S. subsidiary of Thailand's PTT Global Chemical) is planning ethane crackers to start in Belmont County, Ohio, which as previously mentioned has a poverty rate over two percentage points above the national average.<sup>1222</sup> Since 2020, PTT Global Chemical has been awaiting a final investment decision for its planned petrochemical complex in Mead Township, Ohio.<sup>1223</sup> The complex would be located along the Ohio River and capable of producing approximately 1.5 million tons of polyethylene plastic resin per year, which is used to make a variety of plastic products.<sup>1224</sup> While PTT Global Chemical reports that only PTTGC America believes the project to be viable,<sup>1225</sup> local officials say that even if these companies back out, they will “aggressively market the site” for another potential tenant.<sup>1226</sup> Terri Baumgardner, a member of the Beaver County Marcellus Awareness Community, referring to plastics said, “To me, it’s so obvious that they are trying to lock us into fossil fuels.”<sup>1227</sup> Residents vie for renewable energy alternatives at the site instead.<sup>1228</sup>

Liberty Mutual has provided significant insurance coverage for Energy Transfer’s Mariner East pipeline in Pennsylvania, the pipeline that illegally released industrial waste and “ruined the drinking water of at least 150 families” in Pennsylvania.<sup>1229</sup> As of March 31, 2024, Vanguard and BlackRock were among the top five shareholders investing in EQT, the company responsible for expanding natural gas fracking operations in West Virginia.<sup>1230</sup> As of January 31, 2024, Vanguard and JP Morgan are major investors in PTT Global Chemical, the company behind the giant ethane cracker planned for Ohio.<sup>1231</sup> Additionally, Vanguard, BlackRock, and JP Morgan Chase are among the top five largest investors in Dow Inc.,<sup>1232</sup> the company responsible for the Union Carbide Petrochemical Complex in the city of Institute, West Virginia.

### **6i. i Mountain Valley Pipeline (MVP) Project**

The Mountain Valley Pipeline (MVP) project, which includes both “Mainline” and “Southgate extension” construction lines, is one of the most expensive pipeline projects in the U.S. based on cost per mile.<sup>1233</sup> The MVP project continues to serve as an evolving case study in Appalachia, highlighting the integrated business structure and politics of pipeline construction, the undeniable burden of pollution from fossil fuel production, as well as structural inequities imposed on communities who suffer the worst deprivations of the climate crisis. The path of the pipeline is predominantly through rural communities: five of the census blocks are identi-

1221 Sokolow, J. (2020, August 10). Despite company claims, only a fraction of the Mountain Valley Pipeline is complete in Virginia. *Virginia Mercury*. [\[LINK\]](#)

1222 Brelsford, R. (2020, September 14). PTTGCA advances proposed Ohio petrochemical complex. *Oil & Gas Journal*. [\[LINK\]](#)

1223 Ibid.

1224 Ibid.

1225 Honda agreement needs to be serious. (2023, February 11). *The Marietta Times*. [\[LINK\]](#)

1226 Is the ethane cracker plant still coming to Belmont County? (2022, May 1). *WTRF*. [\[LINK\]](#)

1227 Holden, E. (2019, October 11). Will a push for plastics turn Appalachia into next ‘Cancer Alley’? *The Guardian*. [\[LINK\]](#)

1228 Partsch, L. (2022, November 22). An Ohio River Valley Epidemic: Ethane Cracker Plants. *The Athens Effect*. [\[LINK\]](#)

1229 Energy Insurance Mutual. Certificate of insurance for Sunoco Pipeline L.P. [\[LINK\]](#); Rubinkam, M. (2022, February 2). Company faces criminal charges over pipeline explosion. *AP News*. [\[LINK\]](#)

1230 NASDAQ, *Dow Inc. Common Stock (EQT)*. [\[LINK\]](#)

1231 PTT Global Chemical Public Company Limited (PTGCF). (January 31, 2024). *Yahoo Finance*. [\[LINK\]](#)

1232 NASDAQ, *Dow Inc. Common Stock (DOW)*. [\[LINK\]](#)

1233 Sokolow, J. (2020, August 10). Despite company claims, only a fraction of the Mountain Valley Pipeline is complete in Virginia. *Virginia Mercury*. [\[LINK\]](#)

fied as environmental justice communities and two of MVP's three West Virginia compressor stations are sited in counties where one in five residents live below the poverty line.<sup>1234</sup> MVP is routed through many counties with low-income, elderly, and medically underserved populations; construction has already negatively impacted sacred sites of Indigenous Tribes in the area, detailed more below.<sup>1235</sup>



Frontline leaders and community members from across Appalachia rally to stop MVP in DC. (Eman Mohammed | Survival Media Agency)

In July 2024, EQT Corporation acquired Equitrans Midstream Corporation, thereby making EQT the most recent owner and operator of MVP.<sup>1236</sup> The MVP project Mainline construction is a 303-mile natural gas pipeline from the Equitrans transmission system in Wetzel County, West Virginia to Transco's Zone 5 compressor station in Pittsylvania County, Virginia.<sup>1237</sup> An additional MVP project Southgate has been proposed which would extend from the Mainline at a site in Pittsylvania, Virginia to Rockingham, North Carolina.<sup>1238</sup> The route for MVP Southgate was formerly designated to end in Alamance County, North Carolina, but was shortened, likely as a result of both community members' opposition and the time and cost of acquiring land through eminent domain,<sup>1239</sup> which allows the government to acquire private land for public use and has been extensively employed along MVP's route.<sup>1240</sup> MVP Southgate extension project's construction will be completed by 2028.<sup>1241</sup>

1234 APP Voices. (2023, January). *The Status and Impact of the Mountain Valley Pipeline*. [\[LINK\]](#)

1235 Ibid.

1236 Soraghan, M. (2024, March 12). Largest US gas producer agrees to buy Mountain Valley developer. *E & E news*. [\[LINK\]](#)

1237 Mountain Valley Pipeline. *Mountain Valley Pipeline info*. [\[LINK\]](#)

1238 MVP Southgate. *American Pipeline delivering American Energy*. [\[LINK\]](#)

1239 Sorg, L. (2024, January 2). MVP Southgate natural gas pipeline will no longer cross Alamance County. *NC Newswire*. [\[LINK\]](#)

1240 Pierson, B. (2024, February 13). US appeals court rejects renewed challenge to Mountain Valley pipeline. *Reuters*. [\[LINK\]](#)

1241 MVP Southgate. *American Pipeline delivering American Energy*. [\[LINK\]](#)



In 2022, a fossil fuel facility owned by EQM Midstream Partners, whose parent company is Equitrans Midstream Corporation which was acquired by EQT in July 2024, had a leak at the Rager Mountain storage facility in Cambria County, Pennsylvania, emitting about 1.4 billion cubic feet in methane for 11 days.<sup>1242</sup> This is equivalent to burning more than 7,200 tanker trucks of gasoline.<sup>1243</sup> Pennsylvania environmental regulators issued EQM Midstream Partners a notice of five potential violations of state law including failures to properly maintain and operate the gas facility, creating a public nuisance and producing a “hazard to public health and safety,” and failing to provide state inspectors “free and unrestricted access” to the site.<sup>1244</sup> Federal laws note that all pipes must have an external coating in order to prevent corrosion.<sup>1245</sup> Although the National Association of Pipe Coating Applicators (NAPCA) advises that this coating should not be exposed to the sun for a period over 6 months, MVP’s pipe has been exposed for over six years, rendering the pipeline less safe and at higher risk of spills.<sup>1246</sup>

EQM Midstream Partners made statements that indicated there was no health risk to residents in Jackson Township, which is about 1.5 hours east of Pittsburgh, however residents reported smelling fumes and hearing the roar of pressurized gas.<sup>1247</sup> One mother who homeschools her two young children at her house about three miles away, said these impacts negatively impacted her family.<sup>1248</sup> She shared with the Associated Press that, “It’s unreal, the noise that’s coming, and it’s constant...Everybody just keeps telling us we’re safe. But it doesn’t feel safe if you can hear it and smell it.”<sup>1249</sup>

Despite these environmental injustices enacted by EQM Midstream Partners/Equitrans Midstream Corporation (now owned by EQT), the company persists in pushing through fossil fuel projects that will place more communities at risk. Previously EQM Midstream Partners’, and now EQT’s, MVP construction threatens nearly 430 bodies of water, that include regional watersheds, lakes, rivers, and groundwater supplies.<sup>1250</sup> Dr. Crystal Cavalier-Keck (Occaneechi Band of the Saponi Nation), Co-Founder of Seven Directions of Service and the Chair of the Environmental Justice Committee for the NAACP, lives in Mebane, North Carolina, an area already burdened with fossil fuel development and currently threatened by the impending MVP Southgate construction—which would come within five miles of her home. Crystal describes the impact fossil fuel operations, specifically pipelines, have on her community’s water and soil:

1242 Eiler, S. (2023, August 24). Cause of 2022 gas leak in Cambria County determined. *WJAC*. [\[LINK\]](#)

1243 Biesecker, M. (2022, November 20). Company: Leak at Pennsylvania gas storage well plugged. *AP News*. [\[LINK\]](#)

1244 Ibid.

1245 *Subpart I—Requirements for Corrosion Control*. (2024, April 11). Code of Federal Regulations. [\[LINK\]](#)

1246 The National Association of Pipe Coating Applicators. *NAPCA Bulletin 12-78-04 External Application Procedures*. [\[LINK\]](#)

1247 Biesecker, M, et al. (2022, November 18). Leak at Pennsylvania gas storage well spewing methane. *AP*. [\[LINK\]](#)

1248 Ibid.

1249 Ibid.

1250 Hammack, L. The Mountain Valley Pipeline nears completion (2024, January 16). *The Franklin News Post*. [\[LINK\]](#)

“With these pipelines, extractive companies are coming in with mining and air compression stations where they blow off chemicals or release toxins into the soil or the aquifers that go underground...Most of our water comes from springs that are underground...when you release the chemicals into the ground it gets into our water. Or it rains down...so you’re having the chemicals that are raining down on your food which in turn makes people eat poisons. So people are developing cancers at an alarming rate...We have a lot of cancer clusters in the areas around these pipelines, coal ash power plants, and compression stations...We have a lot more women with breast cancer. My aunt is dying of breast cancer. It has affected our people.”<sup>1251</sup>



Crystal Cavalier-Keck in Washington D.C. to demand Biden stop the Mountain Valley Pipeline (MVP) & restore NEPA. (Ashley Guardado | WECAN International)

Among the reasons for resistance to MVP is a lack of consideration for Indigenous communities and communities of color. Construction of MVP has already impacted sacred sites on the homeland of the Monacan Indian Nation, Occaneechi, Saponi, and Tutelo tribes, including a burial mound near Roanoke, Virginia, which dates back several thousand years.<sup>1252</sup> Dr. Crystal Cavalier-Keck also points out that MVP “would bring disproportionate exposure to health hazards for the people and species along its path.”<sup>1253</sup> The proposed MVP route affects African American/Black/African Diaspora, Latina, and low-income communities (e.g., Danville and Roanoke in Virginia and Eden in North Carolina).<sup>1254</sup> The racial inequities that ensue from MVP construction routes were so obvious that the Virginia Air Pollution Control Board denied its first air permit on environmental justice grounds in 2021.<sup>1255</sup> This air permit was for the Lambert Compressor, part of the MVP Southgate extension, which would have become the third compressor station to pump particulate pollution into a disproportionately burdened, predominantly Black community in Pittsylvania County, Virginia.<sup>1256</sup>

Particulate pollution from compressor plants includes neurotoxins such as hexane and carcinogens such as formaldehyde.<sup>1257</sup> Formaldehyde is a known genotoxin, causing DNA and chromosomal damage. Pregnant women exposed to formaldehyde can have major fetal neurodevelopmental deficits.<sup>1258</sup> Children are also more vulnerable to formaldehyde poisoning, such that women’s caretaking responsibilities would increase as they care for the needs of disabled and ill children.<sup>1259</sup> Anita Royston, President of the Pittsylvania County NAACP, describes how promises of economic prosperity fail to address the health consequences of MVP:

1251 Cavalier-Keck, C. (2022, May 18). WECAN Interview.

1252 APP Voices. (2023, January). *The Status and Impact of the Mountain Valley Pipeline*. [\[LINK\]](#)

1253 Radmacher, D., Et al. (2023, February 24). Press Release. *Appalachian Voices*. [\[LINK\]](#)

1254 United States Census Bureau. (2018-2022). *Quick Facts*. [\[LINK\]](#)

1255 Southern Environmental Law Center (2021, December 6). *Victory for Environmental Justice Mountain Valley Pipeline Compressor Station Permit Denied*. [\[LINK\]](#)

1256 Ibid.

1257 Campblin, K., Et al. (2021, November 26). Opinion: On environmental justice, the Mountain Valley Pipeline is an old story. *The Washington Post*. [\[LINK\]](#)

1258 Agency for Toxic Substances and Disease Registry (2022). *Medical Management Guidelines for Formaldehyde*. *Centers for Disease Control*. [\[LINK\]](#)

1259 Ibid.

“Pittsylvania County citizens had been hearing for months that hundreds of jobs and revenue were guaranteed because a new compressor station was going to be built. Well our environmental justice committee challenged the system that would infect the land and leave people with disease and greater healthcare debt than any job can ever provide. How can you work if you’re sick? How can your children learn if they’re ill from toxic fumes? What kind of future can one have when they are not well enough to enjoy the fruit of their labor?”<sup>1260</sup>



Photo of ruptured section of MVP pipe being hauled by a truck after a failed pressure testing. (Grace Terry)

Originally expected to be completed in 2018, MVP Mainline now runs six years behind schedule and nearly \$4 billion over budget.<sup>1261</sup> According to Equitrans Midstream Corporation, the cost of MVP rose to \$7.6 billion in 2024, as a result of challenging terrain, inflation, contractor settlements and increased security costs.<sup>1262</sup> In May 2024, a segment of the pipeline ruptured following a pressure test, a failure that exposes the serious safety risks of construction and future operations.<sup>1263</sup> As of June 14, 2024, MVP mainline (not the Southgate extension) is officially completed and fully operational.<sup>1264</sup> This update follows just a week after the pipeline ruptured for a second time during hydrostatic testing, where water is pumped at high pressure through the pipeline to demonstrate its integrity.<sup>1265</sup>

Many have stated that the project is unnecessary for natural gas demand and studies have concluded that MVP will have negative impacts on the local economy and livelihoods: it will reduce property values along the route, diminish the value of ecosystem functions— including clean water, food production, and aesthetics— and “diminish visitation, in-migration, tourism, small business development” resulting in “a loss of jobs and personal income those activities would otherwise support..”<sup>1266</sup> Moreover, the joint owners of Mountain Valley Pipeline LLC have incurred significant financial losses since the project’s inception. RGC Resources, parent company of Roanoke Gas (a 1% owner in the project), announced a \$29.6 million impairment charge on MVP in May 2022.<sup>1267</sup> NextEra (a 31% owner) announced an \$800 million loss in February 2022, and stated that it was reevaluating its investment in MVP.<sup>1268</sup>

Legal, bureaucratic, and physical challenges (e.g., lawsuits, long permit processes, and protestors blocking construction routes) have delayed construction, while the project has incurred millions in fines for environmental violations<sup>1269</sup> and billions of dollars worth of expenses

1260 Protect Our Water Heritage Rights (POWHR). (2022, April 12). *We Believe We Will Win - A Rally to Stop the Mountain Valley Pipeline*. [\[LINK\]](#)

1261 Mall, A. (2020, September 10). 5 Key Reasons to Stop the Mountain Valley Pipeline. *Natural Resources Defense Council*. [\[LINK\]](#)

1262 Strupp, J. (2023, October 4). Mountain Valley Pipeline delayed; cost rises to \$7.2B. *Utility Dive*. [\[LINK\]](#)

1263 Paullin, C. (2024, May 8). Mountain Valley Pipeline segment ruptures during test. *Virginia Mercury*. [\[LINK\]](#)

1264 Mountain Valley Pipeline. *Info*. [\[LINK\]](#); Shelley Moore Capito. (2024, June 14). *Capito Statement on the Mountain Valley Pipeline becoming Fully Operational*. [\[LINK\]](#)

1265 Tate, C. (2024, June 25). Report: Mountain Valley Pipeline Testing Released Water Again. *West Virginia Public Broadcasting*. [\[LINK\]](#)

1266 POWHR. *MVP Economic Study*. [\[LINK\]](#)

1267 APP Voices. (2023, January). *The Status and Impact of the Mountain Valley Pipeline*. [\[LINK\]](#)

1268 Ibid.

1269 Fields, Odyssey. (2024, February 20). Mountain Valley Pipeline delayed by 'unforeseen challenges and weather'. *WFXR Fox*. [\[LINK\]](#)

in legal battles, permit negotiations, and costly construction delays.<sup>1270</sup> Despite all of these setbacks, Congress expedited the MVP permit process without further court reviews or stipulations.<sup>1271</sup> Since federal legislation ratified all permits for MVP mainline,<sup>1272</sup> multiple legal challenges pursued by environmental organizations and landowners in the Fourth Circuit and DC Circuit Court of Appeals have been dismissed or rejected.<sup>1273</sup> Local residents remain undeterred by recent court dismissals and continue to resist construction through lawsuits against the use of eminent domain and peaceful demonstrations after inadequate erosion fines were administered to ETRN by Virginia's Department of Environmental Quality.<sup>1274</sup>

As of March 31, 2024, Vanguard and BlackRock were the second and fourth largest shareholders of EQT Corporation, collectively holding over 82 million shares worth over \$2.9 billion.<sup>1275</sup> Vanguard's shares alone are valued at \$1.85 billion.<sup>1276</sup> Bank of America and JPMorgan are also significant shareholders for EQT.<sup>1277</sup>

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1270 Ibid.

1271 Busse, M. (2023, June 1). Kaine's effort to remove Mountain Valley Pipeline provision from debt-limit deal fails. *Cardinal News*. [\[LINK\]](#)

1272 Chappell, B. (2023, June 1). The debt ceiling deal bulldozes a controversial pipeline's path through the courts. *NPR*. [\[LINK\]](#)

1273 Pierson, B. (2024, February 13). US appeals court rejects renewed challenge to Mountain Valley pipeline. *Reuters*. [\[LINK\]](#)

1274 Paullin, C. (2024, April 2). Mountain Valley Pipeline opponents ask Virginia agency to issue stop work order. *Virginia Mercury*. [\[LINK\]](#)

1275 NASDAQ. *EQT Corporation Common Stock (EQT) Institutional Holdings*. [\[LINK\]](#)

1276 Ibid.

1277 Ibid.

# FINANCIAL INSTITUTION IMPLEMENTATION GAPS REGARDING HUMAN RIGHTS AND THE ENVIRONMENT



Activists demand financial institutions to stop financing and insuring fossil fuels. (Katherine Quaid | WE CAN)

## Financial Institution Implementation Gaps Regarding Human Rights and the Environment

Fossil fuel company operations are only possible because businesses have banks, asset management firms, and insurance companies supporting their activities. It is essential to highlight financial institutions' responsibility in preserving the fossil fuel-based economy and financial institutions' complicity in the abuses against the environment, Indigenous women, women of color, low-income women, and the violation of human and Indigenous rights that stem from fossil fuel activity.

It is also important to acknowledge how the military-industrial complex has remained a significant factor to fossil fuel expansion and financing.<sup>1278</sup> While militarism is a key component of this complex and is vital to analyze, this issue extends beyond the scope of the report.

All businesses and financial institutions are tied to human rights protection duties under the UN Human Rights High Commissioner's Guiding Principles on Business and Human Rights (Guiding Principles).<sup>1279</sup> The Guiding Principles state "the scale and complexity of the means through which enterprises meet that responsibility may vary according to these factors and with the severity of the enterprise's adverse human rights impacts."<sup>1280</sup> Because fossil fuel activity poses particularly severe threats to human rights (delineated in sections five and six above), financial institutions backing fossil fuel companies have an even greater responsibility to monitor, mitigate, and conduct thorough due diligence in regard to adverse human rights impacts. Detrimental health and safety impacts affecting African American/Black/African Diaspora, Indigenous, Latina, and low-income women stemming from fossil fuel activity place the businesses financing, insuring, and investing in oil and gas infrastructure at the forefront of upholding human rights.

Shamyra Lavigne, a Member of RISE St. James, describes these breaches of intrinsic human rights resulting from fossil fuel activity in her community of St. James Parish, Louisiana:

**"Basic human rights have been violated...I believe as humans we have the right to clean air and clean water, and these [fossil fuel] industries prevent us from being able to have this constant need. And it is affecting our health here and it is causing people to have illnesses and to have cancer...So I do believe it's a human rights [violation]."**

This report identifies Vanguard, BlackRock, Capital Group, JPMorgan Chase, Citigroup, Royal Bank of Canada, Bank of America, and Liberty Mutual as some of the largest financial institu-

<sup>1278</sup> MIC. *What is the Military-Industrial Complex?* [LINK]; Crawford, N. (2019, November 13). *Pentagon Fuel Use, Climate Change, and the Costs of War*. *Watson Institute*. [LINK] Masciopinto, T. Et al. (2024, February). *How Values-Based Banks Foster Peace in a World of Increasing Conflict*. *Global Alliance for Banking on Values*. [LINK]

<sup>1279</sup> OHCHR. (2011). *Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework*. [LINK]

<sup>1280</sup> Ibid.

tions financing, insuring, and investing in fossil fuel companies operating across the U.S. and parts of Canada.

All eight of these financial institutions have voiced support of the Paris Agreement via internal statements or as participants of initiatives such as the United Nation Global Compact.<sup>1281</sup> Key objectives of the Paris Agreement include: (1) leveling-off global greenhouse gas emissions as soon as possible, and becoming carbon neutral no later than the second half of this century; and (2) requiring that the 186 countries responsible for 90% of global greenhouse gas emissions meet their carbon reduction targets, which are nationally determined.<sup>1282</sup> At the 2023 UN climate conference in Dubai (COP28), the world's governments recognized "transitioning away from fossil fuels in energy systems in a just, orderly, and equitable manner, accelerating action in this critical decade."<sup>1283</sup> Because China, the United States, and the nations that make up the European Union are the biggest contributors to global greenhouse gas emissions on an absolute basis, these countries have a greater responsibility to make reduction commitments.<sup>1284</sup> The United States is historically the largest contributor to greenhouse gas emissions and from 2000 to 2023 had the biggest total carbon dioxide emissions per capita per region.<sup>1285</sup>

Extensive research has exposed the unsuitability of fossil fuel extractive activities to the Paris Agreement targets; carbon emissions from the oil and gas industries "would take the world beyond 1.5°C [of warming]" and "[t]he potential carbon emissions from the oil, gas, and coal in the world's currently operating fields and mines would take us beyond 2°C of warming."<sup>1286</sup> The Paris Agreement also states that "[p]arties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities...as well as gender equality [and] empowerment of women."<sup>1287</sup>

All of the report's eight identified financial institutions, Vanguard, BlackRock, Royal Bank of Canada, JPMorgan Chase, Citigroup, Bank of America, Capital Group, and Liberty Mutual, have made commitments to environmental and human rights standards as signatories of national and international frameworks, as well as through their own internal policies and statements. For instance, Vanguard, BlackRock, Royal Banks of Canada, and Capital Group are signatories of the Principles for Responsible Investment (PRI). The PRI, launched by the UNEP Finance Initiative, is a set of voluntary standards which assess signatories' Environmental, Social and Corporate Governance (ESG) performances.<sup>1288</sup> The PRI joined several initiatives to act on climate change, including the Climate Action 100+, the Investor Agenda, the Montreal Carbon Pledge, the Net-Zero Asset Owner Alliance, Net-Zero Banking Alliance, Initiative Climat International, and the Transition Pathway Initiative, most of which commit to reducing carbon

1281 Task Force on Climate-related Financial Disclosures. (2024). *Climate change presents financial risk to the global economy*. [\[LINK\]](#)

1282 UNFCCC. *Key aspect of the The Paris Agreement*. [\[LINK\]](#); Denchak, M. (2021, February 19). Paris Climate Agreement: Everything You Need to Know. NRDC. [\[LINK\]](#)

1283 Blaine, T. (2023, December 14). At COP28, Transitioning Away from Fossil Fuels, But No Deal on a Phase Out. *United States Institute of Peace*. [\[LINK\]](#)

1284 Center for Climate and Energy Solutions. (2019). *Global Emissions*. [\[LINK\]](#)

1285 Ibid. International Energy Agency. (2024, February 27). *CO2 total emissions per capita by region, 2000-2023*. [\[LINK\]](#)

1286 Muttitt, G. (2016, September 22). The Sky's Limit: Why the Paris Climate Goals Require a Managed Decline of Fossil Fuel Production. *Oil Change International*. [\[LINK\]](#)

1287 UNFCCC. *The Paris Agreement*. [\[LINK\]](#)

1288 PRI. *What are the Principles for Responsible Investment*. [\[LINK\]](#)

investment to align with the Paris Agreement targets.<sup>1289</sup> In 2024, the PRI released a guide for identifying human rights risks and implementing due diligence; the responsibilities include “establish[ing] a policy commitment to respect human rights; implement[ing] due diligence processes to prevent and mitigate actual and potential negative human rights outcomes; and enabl[ing] or provid[ing] access to remedy.<sup>1290</sup> Notably, the PRI uplifted an initiative that “urge[s] businesses to adopt the UN Declaration on the Rights of Indigenous Peoples as a reconciliation framework and to apply its principles, norms and standards to corporate policy and core operational activities involving Indigenous peoples and their lands and resources.”<sup>1291</sup> JPMorgan Chase, Bank of America, and Citigroup have been signatories of the PRI, however, it appears that in the 2024 PRI signatory database that the banks are not listed.<sup>1292</sup> It remains unclear from available research, as well as lack of transparency, what the status of these banks are in relation to the PRI.

In early 2024, JPMorgan Chase, Bank of America, Citigroup, and other large U.S. banks withdrew from the Equator Principles (EP), a voluntary framework which establishes minimum standards for managing social and environmental risks when financing polluting and extractive projects.<sup>1293</sup> These banks’ decisions to pull out of the EP raises concerns around the companies’ commitments to climate reduction targets, risk management, and human rights standards.<sup>1294</sup> As the negative impacts from climate change exponentially increase, risking the health and safety of the entire planet, these banks’ departure from the EP creates questions about how the banks will be held accountable for conducting social and environmental reviews, monitoring and reporting environmental and social risks/impacts, disclosing climate change and human rights risks/impacts, and carrying out due diligence regarding the companies and projects that the banks finance.<sup>1295</sup>

Despite their departure from the EP, JPMorgan Chase, Bank of America, and Citigroup remain accountable to their own internal policies and commitments to environmental and human rights standards. For example, in their environmental and social frameworks, climate reports, and other statements and policies, all of the banks mention the importance of and responsibilities to climate reduction targets in line with the Paris Climate Agreement, mitigating biodiversity loss, adherence to FPIC through the International Finance Corporation Performance Standard 7, and implementing human rights standards as outlined in the United Nations Guiding Principles on Business and Human Rights and the United Nations Universal Declaration of Human Rights.<sup>1296</sup>

International Financial Corporation (IFC) Performance Standard 7 paragraphs 13-17 detail the special circumstances that require the Free, Prior and Informed Consent (FPIC) of affect-

1289 PRI. *Climate Change*. [\[LINK\]](#)

1290 Whistler, S., et al. (2023, June 7). Human rights due diligence for private markets investors: a technical guide. *Principles for Responsible Investment*. [\[LINK\]](#)

1291 PRI. (2021, November 2). *Reconciliation and Responsible Investment Initiative*. [\[LINK\]](#)

1292 PRI. (2024). *Signatory directory*. [\[LINK\]](#)

1293 Lakhani, N. (2024, March 5). US banks abandon ‘bare minimum’ environmental standards project, alarming climate groups. *The Guardian*. [\[LINK\]](#)

1294 Ibid.

1295 Equator Principles. (2020, July). *Equator Principles*. [\[LINK\]](#)

1296 JPMorgan Chase & Co. (2023) *Environmental Social Governance Report*. [\[LINK\]](#); JPMorgan Chase & Co. (2023). *Climate Report*. [\[LINK\]](#); J.P. Morgan Asset Management. (2020, June). *JPMorgan Investment Funds - Global Macro Sustainable Fund*. [\[LINK\]](#); CITI. (2024, April). *Respecting the Rights of Indigenous Peoples*. [\[LINK\]](#); CITI. (2023). *2023 Citi Climate Report: Our Approach to Climate Change and Net Zero*. [\[LINK\]](#); CITI. (2024, July). *Environmental and Social Policy Framework*. [\[LINK\]](#); Bank of America. (2023, December). *Bank of America Corporation Environmental and Social Risk Policy (ESRP) Framework*. [\[LINK\]](#); Bank of America. *Annual Report 2023*. [\[LINK\]](#)



ed Indigenous Peoples...”<sup>1297</sup> And yet, despite expressing support of environmental and social risk management and Indigenous rights protections in their individual policies, Royal Bank of Canada, JPMorgan Chase, Bank of America, and Citigroup continue to provide financing for Enbridge, NextDecade, and other fossil fuel projects and companies whose operations are harming communities and the environment, and are violating Indigenous rights. Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, states the importance of meaningful engagement with Indigenous communities and the current failure of the fossil fuel industry to take these interests into consideration:

“When financial institutions make decisions it impacts the lives of Indigenous people, of Indigenous women, every single day. And usually those decisions that they make are centered in harm and in wrongdoing...Fossil fuel companies come to our communities and there’s a higher rate of human trafficking and domestic violence and sexual violence than we saw previously...We have seen centuries of our communities treated in a certain way. I don’t think these fossil fuel companies realize that they’re doing exactly the same thing—they’re not taking our interests into consideration, they only take it into consideration to dismiss it. To really break down centuries of colonization, fossil fuel companies and financial institutions must adopt an Indigenous viewpoint. If you were looking at those seven generations ahead you would not be doing what you’re doing today. They don’t care—they only care about their bottom line. If you cared about the planet and you cared about the land and the water and our natural resources you would not be doing what you’re doing today...I don’t think they could even begin to understand any of that without being invested in Indigenous communities and understanding our way of life.”<sup>1298</sup>

Financial institutions must ensure that their clients implement the engagement, consideration, and heeding that Whitney Gravelle describes.

Frontline communities and environmental and human rights groups are advocating for financial institutions to adhere to international guidelines and internal policies, while urging financial institutions and corporate leaders to consider climate change in terms of long term growth plans and to assess social impacts as part of good business practice.

Over the past years, some financial institutions have brought climate concerns into the discussion, however there has not been a strong commitment to policies and actions commensurate with the urgency of community harms and ecological degradation. In various instances, there even has been backpedaling after announcements have been made by financial institutions in terms of addressing climate change and adhering to international human rights standards. Some factors impacting this backpedaling include booms in oil prices, a looming recession, and new regulation. In the past three years over three dozen states, including Texas, Louisiana,

<sup>1297</sup> Ibid.

<sup>1298</sup> Gravelle, W. (2023, June 6). WECAN Interview.

North Carolina, West Virginia, and others, proposed or passed anti-ESG legislation that penalizes companies for fossil fuel divestment, companies that take climate considerations and sustainability into account, companies that offer ESG funds, and companies that incorporate other environmental and social conscious business practices.<sup>1299</sup> Through anti-ESG campaigns, states, and the fossil companies lobbying for anti-ESG legislation,<sup>1300</sup> have been targeting climate action and social progress taken by financial institutions by barring state pension funds and restricting government agencies and boards from doing business with financial institutions that consider environmental and human risks in their business practices.<sup>1301</sup> Financial institutions should not utilize anti-ESG laws to interfere with progress toward a Just Transition. State bans remove financial institutions' access to state funds, including pension funds, which can lead to short term profit loss.<sup>1302</sup> In the long term, maximizing short term profits at the expense of forward looking, good business practice will result in huge losses for the entire planet, including financial institutions, as well as their clients and stakeholders, which rely upon a habitable planet to operate. Additionally, such bans drastically limit investors' ability to harness the manifold opportunities the energy transition brings for their clients. Being prepared for future changes is smart and simply represents sound, responsible business actions.

Financial institutions must continue to vigorously improve and implement climate policies, reduce their exposure to polluting, risky industries, factor climate risk into all of their investment decisions, adhere to international human rights standards, immediately phase out fossil fuels, and invest in the Just Transition.<sup>1303</sup> Preventing financial institutions from factoring tangible risks into investment decisions is in breach of fiduciary duty and is incompatible with good business practice.<sup>1304</sup> Specifically, anti-ESG legislation forces financial institutions to ignore risks, increase costs for taxpayers,<sup>1305</sup> place people's retirement security in danger,<sup>1306</sup> and dismantle worker's rights to decide where their retirement assets are invested.<sup>1307</sup> For example, a 2024 study from Texas Association of Business Chambers of Commerce Foundation found that Texas's 2021 anti-ESG laws, which ban banks that restrict funding to oil and gas companies, reportedly cost the state \$669 million in lost economic activity in the 2022-2023 fiscal year, more than 3,000 jobs, and over \$37 million in tax revenues.<sup>1308</sup> Additionally, by forcing banks out of municipal bond markets, Texas's anti-ESG laws raised interest rates and fees costing taxpayers an additional \$270 million.<sup>1309</sup> The anti-ESG movement, whether through baseless antitrust claims or legislation banning investment strategies, should not change financial

1299 Quinlan, C. (2023, January 14). States that limit business with banks that boycott fossil fuels could pay high cost, study says. *Kansas Reflector*. [\[LINK\]](#); Donefer, C. (2023, May 31). State ESG laws in 2023: The landscape fractures. *Thomson Reuters*. [\[LINK\]](#); Ropes & Gray. (2024). *Navigating State Regulation of ESG*. [\[LINK\]](#)

1300 InfluenceMap. (2023, May). *Anti-ESG and the Fossil Fuel Sector: An InfluenceMap Briefing*. [\[LINK\]](#)

1301 Ibid.; Pleiades Strategy. (2023). *2023 Statehouse Report: Anti-ESG State Legislation Tracker & Analysis*. [\[LINK\]](#)

1302 Kerber, R. (2022, February 17). Facing Texas pushback, BlackRock says it backs fossil fuels. *Reuters*. [\[LINK\]](#); BlackRock tells UK 'no' to halting investment in coal, oil and gas. (2022, October 18). *Reuters*. [\[LINK\]](#)

1303 Goldstein, M., Et al. (2022, December 23). BlackRock's Pitch for Socially Conscious Investing Antagonizes All Sides. *The New York Times*. [\[LINK\]](#)

1304 Bluestein, A. (2022, October 26). These states are trying to ban ESG investing. *Fast Company*. [\[LINK\]](#)

1305 Albright, A., Et al. (2022, June 13). Texas' Wall Street Showdown Costing Cities Hundreds of Millions. *Bloomberg*. [\[LINK\]](#); ESI Consult Solutions Inc. (2023, January 12). *Memorandum*. [\[LINK\]](#)

1306 Kerber, R. (2023, February 7). Anti-ESG bill could cut Indiana pension returns by \$6.7 bln -analysis. *Reuters*. [\[LINK\]](#); Nuveen ATIAA Company. (2023, February 2). *Nuveen Survey: Investors Want More Information From Companies About ESG Issues*. [\[LINK\]](#)

1307 Ibid.

1308 Schwertner, Et al. (2024). The Potential Economic and Tax Revenue Impact of Texas' Fair Access Laws. *TXP Inc.* [\[LINK\]](#)

1309 Ibid.

institutions' core business practices; they can and must continue to pursue good core business strategies that center long-term success for assets, customers, people, and the planet.

This anti-ESG movement also brings to concern the question of how financial institutions are going to take the necessary action to implement human and Indigenous rights guidelines, ecological standards, and social and environmental commitments. Financial institutions need to address how they are going to adhere to these international standards, when governments are not upholding and enforcing these standards. This gap must be filled so that the global community can make forward movement on a Just Transition. Any backpedaling by financial institutions is a setback for communities being devastated by air and water pollution, human rights abuses, and the stripping of Tribal sovereignty. It's crucial that financial institutions uplift their own standards and use their position to advocate for stronger government interventions. There is a great deal of work that remains to be done to broaden, implement, and enforce climate justice and human rights policies to sufficiently protect and support communities and natural systems. This is not a time for financial institutions to backtrack from progress towards investing in healthy communities and divesting from global warming enterprises.

The following section of the report outlines how the eight identified financial institutions have made statements and signed frameworks specifying their support of sustainability, the Paris Agreement, and human and Indigenous rights international standards. Despite these institutions signing frameworks and making sustainability statements, as of June 2022, renewable energy investments comprise only 5% of total energy investments, with a majority of investments continuing to be in fossil fuels.<sup>1310</sup> A September 2022 study linked almost half of all global carbon emissions from the largest energy companies to ten financial institutions, including BlackRock, Vanguard, and Capital Group. The study concludes that “a concentrated number of investors have the potential to influence the strategic direction and governance of these firms” financing climate instability.<sup>1311</sup> Given the fact that these financial institutions have such an enormous amount of power and sway, they have the opportunity to shift the direction of climate finance and move the world toward the Just Transition, redirecting their investments to people and the planet.

We are providing a partial listing of some of these financial institutions' signed human rights and environmental frameworks, internal ESG guidelines, and other international guidelines and instruments to highlight the gap between the financial institutions' claimed objectives and the actual implementation and achievements of what has been stated and signed. As a result of our research findings, we are calling for real action: uphold the International Bill of Human Rights and the UN Guiding Principles on Business and Human Rights, and provide genuine consultative processes with affected communities with special attention to Free, Prior and Informed Consent. This gap must be remedied— for detailed recommendations concerning how financial institutions can chart a path forward we advise, amongst others, the following

<sup>1310</sup> Record clean energy spending is set to help global energy investment grow by 8% in 2022. (2022, June 22). *International Energy Agency*. [\[LINK\]](#)

<sup>1311</sup> Dordi, T., Et al. (2022, September). Ten financial actors can accelerate a transition away from fossil fuels. *Environmental Innovation and Societal Transitions*. [\[LINK\]](#)

reports: *Free, Prior and Informed Consent Due Diligence Questionnaire*<sup>1312</sup> and *Consent is Everybody's Business: Why banks need to act on free, prior and informed consent.*<sup>1313</sup> For further reference, the November 2022 report from the UN High-Level Expert Group on the Net-Zero Emissions Commitments of Non-State Entities recommended that non-state actors detail absolute emissions reduction targets for the immediate and long term future and report relative emission reduction targets across their value chain that are at a minimum in line with the most recent IPCC net zero targets.<sup>1314</sup> Although this may be a part of addressing climate chaos, this must not be at the expense of incorporating tangible absolute emissions reductions.<sup>1315</sup>



Climate activists rallying in New York to demand that banks enact actionable climate resolutions before annual shareholders meetings. (Judith Crosbie | Fossil Free Citi)

1312 First Peoples Worldwide: University of Colorado Boulder. *Free, Prior and Informed Consent Due Diligence Questionnaire*. [\[LINK\]](#)

1313 Hawkes, S. (2019, August 20). *Consent is Everybody's Business: Why banks need to act on free, prior and informed consent*. Oxfam. [\[LINK\]](#)

1314 United Nations' High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities. *Integrity Matters: Net Zero Commitments By Businesses, Financial Institutions, Cities and Regions*. [\[LINK\]](#)

1315 Merleaux, A. Et al. *Banking on Climate Chaos: Fossil Fuel Finance Report*. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

## 7a. Citigroup

Citigroup is the second largest banker of fossil fuels and the largest banker of companies undertaking fossil fuel expansion since the Paris Climate Agreement, with over \$396.3 billion in fossil fuel financing from 2016 to 2023.<sup>1316</sup> In 2023, the bank was the largest financier of Arctic oil and gas, second largest financier of fracked oil and gas, and fourth largest financier of fossil fuel expansion.<sup>1317</sup> Additionally, Citigroup is the biggest U.S. banker of coal.<sup>1318</sup> Providing massive amounts of financing to the highest emitting industries in the world is not in alignment with Citigroup’s claims to be “help[ing] responsibly transition to a low-carbon economy” and “working with [their] clients to help decarbonize their business.”<sup>1319</sup> As the fourth largest U.S. banking institution by asset size as of 2023,<sup>1320</sup> Citigroup has significant power to shift the global economy away from carbon intensive energy and toward a Just Transition.

Citigroup’s 2024 Environmental and Social Policy Framework and 2023 Climate Report boldly emphasize its advancement of the Paris Climate Agreement and the Just Transition, while committing to 2030 and 2050 Net Zero GHG reduction targets.<sup>1321</sup> The bank commits to “Engag[ing] with and assess[ing] clients to determine transition opportunities” and identifying “key considerations that will frame client engagement include public disclosure of GHG emissions and reduction targets, climate risk ratings, and transition plans.”<sup>1322</sup> Additionally, in the past five years the bank has committed financing to companies such as Chevron<sup>1323</sup> ConocoPhillips,<sup>1324</sup> and ExxonMobil,<sup>1325</sup> all of which reportedly have grossly insufficient climate plans based on 10 measured criteria, including stopping exploration and declining oil and gas production.<sup>1326</sup> Specifically, since the Paris Climate Agreement, Citigroup has committed more than \$5.1 billion to Chevron,<sup>1327</sup> which is responsible for the cumulative climate pollution of all investor-owned companies in the world and is second among all corporations.<sup>1328</sup> These actions are not in alignment with the bank’s stated commitments to move toward a Just Transition. Similarly, Citigroup’s departure from the Equator Principles,<sup>1329</sup> which set minimum standards around social and environmental commitments, is inconsistent with its repeated pledges to reduce GHGs and align with the Paris Climate Agreement.

Citigroup’s 2018 Statement on Human Rights claims: “One of our Areas of High Caution and salient human rights issues is potential impacts to Indigenous Peoples” and that “...project sponsors are expected to have engaged in meaningful consultation with directly affected Indigenous Peoples, with the goal of achieving Free Prior and Informed Consent (FPIC)...in

1316 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1317 Ibid.

1318 Schuecking, H. Et al. Commercial Banks Still Deep into Coal 8 Years After Paris. *Urgewald*. [\[LINK\]](#)

1319 Citi. (2023). *Sustainability*. [\[LINK\]](#)

1320 Murray, C. (2024, May 14). The Largest Banks in the U.S. *Market Watch*. [\[LINK\]](#)

1321 Citi. (2024, July). *Environmental and Social Policy Framework*. [\[LINK\]](#); Citi. (2023). *2023 Citi Climate Report Our Approach to Climate Change and Net Zero*. [\[LINK\]](#)

1322 Citi. (2021, March). *Citi’s Net Zero Commitment*. [\[LINK\]](#)

1323 Banking on Climate Chaos. (2024). *Bank & Client Profiles: Chevron Corp.* [\[LINK\]](#); 198 Methods. (2024, June 18). *Citi + Chevron = Money and fuel for genocide*. [\[LINK\]](#)

1324 Gopal, K. (2024, April 25). Dozens of Climate Activists Arrested at Citibank Headquarters in New York City During Earth Week. *Inside Climate News*. [\[LINK\]](#)

1325 Stand.earth. (2023, October 11). *Citi involvement in Exxon-Pioneer merger is ‘pure hypocrisy’, say climate groups*. [\[LINK\]](#)

1326 Johnson-Kurts, A. (2024, May 21). Press Release: Big Oil Reality Check: Oil and Gas Companies Failing on Climate. *Oil Change International*. [\[LINK\]](#)

1327 Banking on Climate Chaos. (2024). *Bank & Client Profiles: Chevron Corp.* [\[LINK\]](#); 198 Methods. (2024, June 18). *Citi + Chevron = Money and fuel for genocide*. [\[LINK\]](#)

1328 Ibid.; Gopal, K. (2024, April 25). Dozens of Climate Activists Arrested at Citibank... *Inside Climate News*. [\[LINK\]](#)

1329 Jessop, S. (2024, March 6). Leading U.S. banks leave ESG project finance group. *Reuters*. [\[LINK\]](#)

project-related lending for projects involving involuntary resettlement of indigenous communities, significant impacts on land and natural resources traditionally used by the community, or significant impacts on critical cultural heritage...”<sup>1330</sup> These statements are inconsistent with Citigroup’s financing of Enbridge’s Line 5. Native Nations, including the Squamish Nation and the Tseil-Waututh Nation along TMX and the Bad Rivers Band along Line 5, have brought lawsuits, emphasizing the threats to the communities’ significant cultural sites and traditional foods and practices, against the actors involved in these projects.<sup>1331</sup> Through these lawsuits, as well as letters, statements, and protests, Native Nations have clearly stated their opposition to these projects and expressed nonconsent.<sup>1332</sup> Additionally, Citigroup previously committed financing to ExxonMobil,<sup>1333</sup> which is behind the major polluting facility, the Sarnia Refinery Plant, located directly next to the Aamjiwnaang First Nation (AFN) in Canada. This project releases high levels of air pollution contributing to AFN women disproportionately experiencing high levels of miscarriage and stillbirth.<sup>1334</sup> This demonstrates that Citigroup is not adequately considering impacts to Indigenous Peoples as an area of highest caution. By continuing to finance these companies and projects, Citigroup is not adhering to its commitments to FPIC nor managing for “significant impacts on land and natural resources traditionally used by the community” and “significant impacts on critical cultural heritage.”<sup>1335</sup>

In April 2024, 26% of Citigroup’s shareholders voted for a resolution on Indigenous rights filed by New Jersey nuns. Juan Mancias, who is the tribal chairman of the Carrizo Comecrudo Tribe of Texas—which opposes Enbridge’s Rio Bravo Pipeline—presented the resolution at Citigroup. He states:

**“Citi has provided Enbridge with over \$5 billion in financing enabling the Rio Bravo pipeline which Enbridge is trying to build on Carrizo Comecrudo land. Citi clients like Enbridge will destroy acres of wetlands and the habitats of threatened and endangered plant and animal species. These projects affect us as a tribe. Société Générale and BNP Paribas have withdrawn funding from the Rio Bravo project because they see this risk in financing indigenous rights violations. We urge Citi to stop investing in companies that steal Indigenous land and exploit our environment.”<sup>1336</sup>**

Citigroup has also made numerous statements about its commitment to diversity and gender equality.<sup>1337</sup> Simultaneously, the bank is one of the largest financiers of companies expanding LNG, projects of which are rapidly increasing across the Gulf South in predominantly Black, Latine, and Indigenous communities (see Section 6.a).<sup>1338</sup> For example, Citigroup advised Sem-

1330 Citi. (2018, November). *Statement on Human Rights*. [\[LINK\]](#)

1331 Kozłowski, K. (2023, October 19). Michigan AG files brief in support of tribe’s bid to shut Enbridge pipeline on reservation. *Detroit News*. [\[LINK\]](#); (2020, July 2). Supreme Court rejects Indigenous challenge to Trans Mountain pipeline approval. *CBC*. [\[LINK\]](#)

1332 Ibid.

1333 Stand.earth. (2023, October 11). *Citi involvement in Exxon-Pioneer merger is ‘pure hypocrisy’, say climate groups*. [\[LINK\]](#)

1334 Macdonald, E. (2019, June). Return to Chemical Valley 2019. *Ecojustice*. [\[LINK\]](#); Jackson, D. (2010, January). Shelter in place: a First Nation community in Canada’s Chemical Valley. *Interdisciplinary Environmental Review*. [\[LINK\]](#)

1335 Citigroup. (2024). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1336 Fossil Free Citi. (2024, April 30). *Investors Support Remains Strong on Indigenous Rights Resolution at Citi*. [\[LINK\]](#)

1337 Citi. *Progressing Gender Equity*. [\[LINK\]](#); Reuters. (2022, September 20). *Citigroup sets new diversity goals for workforce by 2025*. [\[LINK\]](#)

1338 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

pra and committed financing for its Port Arthur LNG project,<sup>1339</sup> which will release up to 7.7 million tons of greenhouse gasses, 1,895 tons of nitrogen oxides, and 428 tons of particulate matter into a predominantly Black and Latine community.<sup>1340</sup> As described in Section 5, these pollutants have particularly adverse health impacts for women. Financing LNG projects which place the health of Black, Latine, and Indigenous communities, and particularly women, at risk, is contradictory to Citigroup’s statements about advancing diversity and equality.

At an Earth Day hearing on Citigroup’s environmental racism in 2024, Roishetta Ozane, Founder of the Vessel Project of Louisiana, describes how Citigroup’s financing contributes to adverse health impacts in her community and calls on Citigroup to halt further injustices:

**“The petrochemical facilities Citigroup funds are not bringing economic development in our communities. They’re polluting the air and water and making us sick, including my own children, three of whom suffer from asthma and one from eczema. Citigroup is hurting our communities, and it’s especially hurting Black community in the Gulf South. We want Citigroup to stop funding fossil fuels and to stop hurting our communities and our families.”<sup>1341</sup>**

According to its own analysis, nearly half of Citigroup’s loans lack plans to reduce GHG emissions and only 8% of the bank’s energy clients have a “comprehensive and ambitious transition plan targeting Scopes 1-3 emissions reductions and demonstrated ability to execute.”<sup>1342</sup> “Scopes” are measurements used by Citigroup to analyze plans to reduce emissions in 3 categories.<sup>1343</sup> As Citigroup “continu[es] to develop risk identification, assessment and measurement capabilities to support [its] efforts with respect to climate risk management” and “integrate climate-related matters into [its] overarching risk management framework,”<sup>1344</sup> the bank must immediately take responsibility for its role as one of the largest financiers of climate risk and manage for this risk by immediately phasing out fossil fuel financing. This is especially important for its immense financing of fossil fuel expansion at large and specifically LNG expansion—which are further locking in a fossil fuel-based economy and coal—which is the dirtiest energy sector. In order to align with its commitments to adhering to FPIC, advancing racial and gender equality, and mitigating human rights abuses, Citigroup must genuinely listen to front-line community members and genuinely implement their statements by halting all financing to the companies included in this report.

1339 ESG Review. (2023, December 27). *Port Arthur LNG Lands Financing And Long-Term Contracts*. [\[LINK\]](#); Stop The Money Pipeline. (2023). *Shame on Citi & Chase for financing Sempra’s environmental racism*. [\[LINK\]](#)

1340 Pelton, T. (2023, November 15). *Federal Court Strikes Down Permit for Construction of Port Arthur LNG Terminal*. *Environmental Integrity Project*. [\[LINK\]](#)

1341 Fossil Free Citi. (2024, April 22). *Black and Indigenous Environmental Leaders slam Citigroup for Funding Fossil fuels and Driving Environmental Racism*. [\[LINK\]](#)

1342 Citi. (2023). *2023 Citi Climate Report Our Approach to Climate Change and Net Zero*. [\[LINK\]](#)

1343 Binnie, Isla. (2024, March 28). *Citi says 42% of energy clients lack climate transition plans*. *Reuters*. [\[LINK\]](#)

1344 Citi. (2023). *2023 Citi Climate Report Our Approach to Climate Change and Net Zero*. [\[LINK\]](#)

## 7b. Bank of America

According to Rainforest Action Network, BankTrack, Indigenous Environmental Network, Oil Change International, Reclaim Finance, Sierra Club, Center for Energy, Ecology, and Development, and Urgewald's 2024 annual fossil fuel finance report, since 2016, Bank of America is the third largest financier of the fossil fuel industry in the world.<sup>1345</sup> Since 2016, the year when the Paris Agreement was adopted, the bank has poured over \$333.15 billion into the fossil fuel industry.<sup>1346</sup> In 2023 alone, Bank of America financed \$33.16 billion to the fossil fuel industry, with \$3.89 billion going towards fracking activities and \$14.74 billion towards companies expanding fossil fuel.<sup>1347</sup> Additionally, in 2023 Bank of America was the third largest financier of fracked oil and gas companies and eighth largest financier of LNG companies,<sup>1348</sup> making it a significant contributor to water and air pollution, jeopardizing the health and safety of communities near fossil fuel activity.<sup>1349</sup>

Bank of America's 2023 Environmental and Social Risk Policy Framework was considerably weakened compared to prior versions and entirely removed fossil fuel exclusion policies.<sup>1350</sup> The updated finance exclusion policies for coal and Arctic oil and gas now state that projects will be screened for "enhanced due diligence"; whereas previously, the bank restricted financing for these activities and "was unable to engage."<sup>1351</sup> In 2023, Bank of America lifted its ban on financing coal and Arctic drilling projects and has still failed to enact sufficient policies restricting the financing of tar sands and fracked oil and gas.<sup>1352</sup> The bank significantly altered its policies stating that it would "not directly finance" oil and gas development in the Arctic or new coal projects; instead, Bank of America weakened its policy to solely apply "enhanced due diligence."<sup>1353</sup> These regressive actions diminish Bank of America's credibility and ability to effectively achieve its own 2030 emission reduction targets. In 2023, over 28% of Bank of America shareholders voted in support of a resolution that would provide a climate transition plan to reduce GHG emissions by 2030.<sup>1354</sup> The bank must clearly outline and operationalize specific concrete goals (e.g., excluding financing for coal, Arctic drilling, tar sands, and fracked oil and gas) to make this plan actionable and effective.

Bank of America has voluntarily committed to many sustainability and carbon reduction initiatives, including the Carbon Disclosure Project, Task Force on Climate-related Financial Disclosures, the Green Bond Principles, the Partnership for Carbon Accounting Financials, the Carbon Principles, the Greenhouse Gas Protocol, the Business of Environmental Leadership Council, and the Net-Zero Banking Alliance, and the UN Global Compact.<sup>1355</sup> In its 2023 Environmental and Social Risk Policy Framework, the bank commits to the goals set-out by the

<sup>1345</sup> Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

<sup>1346</sup> Ibid.

<sup>1347</sup> Ibid.

<sup>1348</sup> Ibid.

<sup>1349</sup> Buonocore, J. Et al. (2023, May 8). Air pollution and health impacts of oil & gas production in the United States. *Environmental Research: Health*. [\[LINK\]](#)

<sup>1350</sup> Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

<sup>1351</sup> Ibid.

<sup>1352</sup> Bank of America Corporation Environmental and Social Risk Policy Framework. (2023, December). *Bank of America*. [\[LINK\]](#)

<sup>1353</sup> Ibid.

<sup>1354</sup> Shareholders Call on Bank of America to Disclose a Climate Transition Plan. (2023, April 25). *As You Sow*. [\[LINK\]](#)

<sup>1355</sup> Bank of America. (2024). *BankTrack*. [\[LINK\]](#)



Paris Agreement, explicitly stating its efforts to achieve Net Zero emissions [not Real Zero, see Section 3] before 2050 from all Bank of America “operations, supply chain and financing activities.”<sup>1356</sup> This framework also mentions its 2030 GHG reduction targets for its supply chain (i.e., vendors) and operations, which includes reducing energy use by 55% and location-based GHG emissions by 75%.<sup>1357</sup> These reduction goals are rendered virtually negligible when juxtaposed with the fact that the bank committed \$14.7 billion into companies expanding fossil fuels in the single year of 2023.<sup>1358</sup> These statements regarding reducing emissions and “financ[ing] the transition to a low-carbon, sustainable economy,”<sup>1359</sup> do not align with Bank of America’s current status as the third largest banker of fossil fuels.<sup>1360</sup>

Furthermore, in 2024, Bank of America, was among the four largest U.S. based banks that exited the Equator Principles, which is a framework that establishes minimum standards around assessing environmental and social risks of projects.<sup>1361</sup> There is concern about this action weakening the validity of its international commitments to climate targets, risk management, and human rights.

In terms of energy transport, Bank of America states: “we are engaging more deeply to understand our clients’ challenges in the energy transport space and to support our clients’ efforts to increase safety, reduce impacts and improve community and stakeholder engagement.”<sup>1362</sup> By financing companies behind expansionist pipelines, including the Rio Bravo Pipeline Project, Mountain Valley Pipeline (MVP) pipeline, Line 3 and 5,<sup>1363</sup> and others, Bank of America is not engaging with local communities’ opposition nor reducing the safety and health impacts from nearby fossil fuel activity. In Bank of America’s 2022 Human Rights Statement, the company states that it “seek[s] to prevent or mitigate adverse human rights impacts that are directly linked to [its] operations, products or services.”<sup>1364</sup> By providing financing to Enbridge’s Line 3, whose Man Camps have contributed to human trafficking and perpetuated violence against Indigenous women,<sup>1365</sup> Bank of America is not in alignment with the it’s own human rights statement. There is concern that if Enbridge’s Line 5 permits are approved, its construction will bring Man Camps and threaten Indigenous women in communities near pipeline construction sites.<sup>1366</sup> By investing in companies at any level that result in the sexual abuse of Indigenous women, Bank of America is not conducting proper due diligence or adhering to their own Human Rights Policy.

Notably, Bank of America’s section on financing projects that impact Indigenous People’s states: “We conduct enhanced due diligence for transactions in which the majority use of proceeds is attributed to identified activities that may negatively impact an area used by or tradi-

1356 Bank of America Announces Actions to Achieve Net Zero Greenhouse Gas Emissions before 2050. (2021, February 11). Bank of America. [\[LINK\]](#)

1357 Ibid.

1358 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1359 Ibid.

1360 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1361 Hawser, A. (2024, March 13). Major US banks back out of the Equator Principles. *The Banker*. [\[LINK\]](#)

1362 Bank of America Corporation Environmental and Social Risk Policy Framework. (2023, December). *Bank of America*. [\[LINK\]](#)

1363 Ambrose, S. (2023, November 9). Bank of America: funding fossil fuel expansion... *Rainforest Action Network*. [\[LINK\]](#)

1364 Bank of America. (2022). *Bank of America Corporation Human Rights Statement*. [\[LINK\]](#)

1365 Lovrien, J. (2021, February 23). 2 arrests in human trafficking sting were Line 3 workers. *Duluth New Tribune*. [\[LINK\]](#)

1366 Jodway, B. (2022, April 29). Sex trafficking a concern with Line 5 ‘man camps... *WCMU Public Media*. [\[LINK\]](#)

tionally claimed by an indigenous community...we expect our clients to demonstrate alignment with the objectives and requirements of the IFC Performance Standard 7, which addresses impacts to Indigenous Peoples including free, prior and informed consent.”<sup>1367</sup> Bank of America has provided loans and bonds to Enbridge, who is responsible for the proposed reroute and reconstruction of Line 5 pipeline and the deteriorating original Line 5 pipeline, both of which threaten Indigenous cultural sites [see Section 6h]. Despite a federal judge ruling that Enbridge was trespassing on Bad River land, a lawsuit by the Bad River Band, and opposition from other Indigenous communities (e.g., Red Cliff Tribe and Bay Mills Tribe), Enbridge forges ahead with Line 5 permitting and construction.<sup>1368</sup> Bank of America’s statement to respect FPIC and abide by legal treaties is not being implemented.

In its 2023 Human Rights statement, Bank of America reiterated its commitment to addressing “systemic racism and to remove barriers to equality and economic opportunity for all,” and declared that it aims “to align our company with international standards including the principles laid out in the United Nations Universal Declaration of Human Rights, United Nations Guiding Principles on Business and Human Rights (UNGPs), and the International Labor Organization’s (ILO) Fundamental Conventions.”<sup>1369</sup> Financing companies in the Permian Basin, which have been cited for emitting unsafe levels of sulfur dioxide emissions into communities with majority Latinx populations,<sup>1370</sup> disregards communities’ right to health and perpetuates racial inequality rather than alleviating it. Financing companies in northern Colorado, such as Occidental Petroleum and Chevron, whose oil spills and fracking wastewater threaten to contaminate communities’ water—releasing endocrine disruptors that have especially harmful effects on women’s health<sup>1371</sup>—is not in line with basic human rights outlined in the human rights declarations.

Bank of America has publicly committed to measure the full carbon footprint of its financing, with a “focus...on reducing emissions from key carbon intensive sectors.”<sup>1372</sup> In order to address these assessments and reduce the bank’s financed emissions, the bank must halt financing to companies with large carbon footprints. Bank of America is a significant shareholder of Chevron,<sup>1373</sup> the company holding ownership of the ethylene and polyethylene integrated complex in Orange, Texas, which is one of the fifteen facilities in Texas expected to release an additional 1.1 million pounds of carbon dioxide per year.<sup>1374</sup> According to data collected between 2016 to 2023, Chevron released 745 million metric tons of carbon dioxide.<sup>1375</sup> By continuing to finance and/or invest in NextDecade, Chevron, and other fossil fuel companies, Bank of America is not adequately addressing its carbon footprint to reach net-zero carbon emissions by 2050.<sup>1376</sup> Additionally, Bank of America has signed onto the Net-Zero Banking

<sup>1367</sup> Bank of America. (2023, December). *Bank of America Corporation Environmental and Social Risk Policy Framework*. [\[LINK\]](#)

<sup>1368</sup> Gover, D.L., Et al. Enbridge's Line 5 Pipeline. *Native American Rights Fund*. [\[LINK\]](#)

<sup>1369</sup> Bank of America Corporation Environmental and Social Risk Policy Framework. (2023, December). *Bank of America*. [\[LINK\]](#)

<sup>1370</sup> Levin, Ilan. (2019, May 19). Sour Wind in West Texas. *Environmental Integrity Project*. [\[LINK\]](#)

<sup>1371</sup> Rattan, S., Et al. (2017, June). Exposure to endocrine disruptors during adulthood: consequences for female fertility. *Journal of Endocrinology*. [\[LINK\]](#)

<sup>1372</sup> Bank of America. (2023). *Managing our Transition to a Sustainable Future*. [\[LINK\]](#); Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

<sup>1373</sup> NASDAQ. (2024, July 18). *Chevron Corporation Common Stock (CVX) Institutional Holdings*. [\[LINK\]](#)

<sup>1374</sup> Abbott, M., Et al. (2023, March 20). New petrochemical facilities in Texas adding 1.1 million pounds of CO2 every year. *Environment Texas*. [\[LINK\]](#)

<sup>1375</sup> Tiseo, I. (2024, June 25). Annual greenhouse gas emissions released by Chevron from 2016 to 2023. *Statista*. [\[LINK\]](#)

<sup>1376</sup> IPCC. *Special Report: Global Warming of 1.5 °C*. [\[LINK\]](#)

Alliance (NZBA), which commits signatories to “aligning portfolios with a well-below 2°C and striving for 1.5°C trajectory...”<sup>1377</sup> Providing financial support to Chevron and other oil and gas companies that are not aligned with 1.5°C emissions pathways,<sup>1378</sup> Bank of America is not upholding its signed NZBA commitment.

In February 2021, Bank of America committed to Net Zero financed emissions by 2050.<sup>1379</sup> In an April 2022 press release Bank of America released their 2021 sustainability progress, the company stated that it “mobilized and deployed approximately \$250 billion in sustainable finance activity of which approximately \$155 billion was for climate and environmental transition.”<sup>1380</sup> While the updated policy makes important acknowledgments about the need to preserve biodiversity and respect Indigenous rights, Bank of America has continued to finance and invest in companies engaged in extreme extractive and polluting activities, such as Chevron, Occidental Petroleum, ConocoPhillips, ExxonMobil, Cheniere Energy Inc, and others. Notably, ExxonMobil was Bank of America’s top fossil fuel client cumulatively between 2016 and 2022, receiving \$14.1 billion in financing from the bank;<sup>1381</sup> ExxonMobil is the oil company with the seventh largest short term upstream oil and gas expansion plans according to the Global Oil and Gas Exit List.<sup>1382</sup> In 2024, Bank of America released a document outlining its sustainability trends providing a framework for a Just Transition, combatting biodiversity loss, increasing investments in “green energy technology,” and focusing on the social facet of ESG.<sup>1383</sup> Bank of America is simultaneously financing fossil fuel companies such as Shell—a company which in a single year was responsible for the emission of 1,377 million tonnes of carbon dioxide equivalent,<sup>1384</sup> recently weakened and backtracked its carbon reduction targets,<sup>1385</sup> has multiple pending environmental and climate change-related lawsuits against it,<sup>1386</sup> and invests in false solutions.<sup>1387</sup> [See section 3]. Bank of America’s failure to maintain a ban on financing coal and Arctic oil drilling projects hinders efforts to advance a Just Transition and prevent biodiversity loss; this backpedaling also threatens the health and safety of women and communities [See section 5c and 5d].

1377 UN Environment Programme. *The Commitment: Net-Zero Banking Alliance*. [\[LINK\]](#)

1378 Tong, D. (2022, May). Big Oil Reality Check: Updated Assessment of Oil and Gas Company Climate Plans. *OilChange International*. [\[LINK\]](#)

1379 Bank of America Announces Actions to Achieve Net Zero... (2021, February 11). *Bank of America*. [\[LINK\]](#)

1380 Bank of America (2022, April 13). *Bank of America Announces 2030 Financing Activity Targets...* [\[LINK\]](#)

1381 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1382 Urgewald. (2023, November 15). *The 2023 Global Oil & Gas Exit List: Building a Bridge to Climate Chaos*. [\[LINK\]](#)

1383 Cook, V. (2024, January 22). What to watch: Four trends for 2024. *Bank of America*. [\[LINK\]](#)

1384 ClientEarth. *Greenwashing Files: Shell*. [\[LINK\]](#)

1385 Bousso, R. (2024, March 14). Shell weakens 2030 carbon emissions reduction target. *Reuters*. [\[LINK\]](#)

1386 Laville, S. (2023, February 2). Nearly 14,000 Nigerians take Shell to court over devastating impact of pollution. *The Guardian*. [\[LINK\]](#); Climate Case Chart. (2019). *Milieudefensie et al. v. Royal Dutch Shell plc*. [\[LINK\]](#)

1387 Rainforest Action Network. (2023, November). *Bank of America's Role in Fossil Fuel Expansion and Violation of Human Rights*. [\[LINK\]](#); ClientEarth. *Greenwashing Files: Shell*. [\[LINK\]](#)

## 7c. Liberty Mutual



Activists outside of Liberty Mutual's Boston headquarters demand Liberty Mutual to stop insuring fossil fuels. (Rainforest Action Network)

Insure Our Future's 2023 annual report ranked Liberty Mutual among the worst of global insurers in terms of its policies on insuring and investing in coal, oil, and gas.<sup>1388</sup> According to the report, Liberty Mutual has the weakest fossil fuel restrictions and the insurer is one of lowest scoring companies for its inadequate oil and coal underwriting policies and fossil fuel related investment policies.<sup>1389</sup> Liberty Mutual continues to insure projects, including the Trans Mountain Pipeline and Arctic oil and gas drilling, that many other insurance companies have ruled out. A 2024 report by Rainforest Action Network, Insure our Future, and Public Citizen, exposed Liberty Mutual as a top insurer of proposed LNG projects in the United States.<sup>1390</sup> Additionally, of the methane export terminals included in the study, Liberty Mutual is underwriting half of them.<sup>1391</sup>

Fossil fuel insurance is notoriously opaque; the fossil fuel industry regularly petitions energy regulators to keep insurance backers of its projects a secret, citing increased reluctance from insurance companies to offer insurance publicly.<sup>1392</sup> This lack of transparency makes it particularly difficult to calculate the extent of Liberty Mutual's, and other insurance companies', fossil

<sup>1388</sup> Insure Our Future. (2023). *Liberty Mutual 2023 Scorecard on Insurance, Fossil Fuels and the Climate Emergency*. [\[LINK\]](#)

<sup>1389</sup> Ibid.

<sup>1390</sup> Rainforest Action Network. (2024, February). *Risk Exposure: The Insurers Secretly Backing the Methane Gas Boom in the US Gulf South*. [\[LINK\]](#)

<sup>1391</sup> Ibid.

<sup>1392</sup> Trans Mountain Canada Inc. (2021, February 22). "Request to Treat Certificate of Insurance Information Confidentially" submission to Canada Energy Regulator. [\[LINK\]](#)

fuel insurance. As of May, 2024, Liberty Mutual had at least \$8.9 billion invested in fossil fuel companies.<sup>1393</sup> In contrast, the company states that it has invested over \$1.23 billion in renewable energy.<sup>1394</sup> Describing gas as a clean energy obscures the fact that gas is a fossil fuel that directly results in greenhouse gas emissions and perpetuates continued reliance on fossil fuels. Additionally, the discrepancy in Liberty Mutual’s fossil fuels versus renewable energy investments [See Section 3] is taking the company further away from its commitment to “reduce emissions and support the energy transition” and achieve net zero by 2050.<sup>1395</sup>

In September 2023, a report released by Reclaim Finance and Public Citizen found that Liberty Mutual violated its own coal policy.<sup>1396</sup> In its 2022 Task Force on Climate-Related Financial Disclosures Report, Liberty Mutual stated that it would “no longer accept underwriting risk for companies where more than 25 percent of their exposure arises from the extraction and/or production of energy from thermal coal” and it would “divest existing investments in companies that exceed this threshold by 2023.”<sup>1397</sup> By underwriting Bull Mountains Mine No. 1, which is owned by a company that acquires at least 90% of its revenue from coal business, Liberty Mutual “appears to violate its coal policy,” which states that it would phase out coverage and investments for energy companies with coal production surpassing 25% of total revenue.<sup>1398</sup> Liberty Mutual must clearly define coal “exposure,” if the company is serious about “advanc[ing]... commitment to transparency.”<sup>1399</sup>

Liberty Mutual has been a signatory of the PRI since 2020 and claims to consider the UN Global Compact in its businesses; both of these initiatives aim to align with the Paris Agreement targets.<sup>1400</sup> Its ongoing insuring of carbon intensive projects and companies is not in alignment with these initiatives. Liberty Mutual’s insurance coverage of TMX (in addition to other undisclosed projects) for over \$250 million<sup>1401</sup> is not in alignment with the UN Global Compact’s first principle: “Businesses should support and respect the protection of internationally proclaimed human rights;” international rights include the rights of Indigenous Peoples and FPIC.<sup>1402</sup> While 18 other insurance companies refused to renew coverage for TMX, in 2022, Liberty Mutual remained silent on whether the company renewed its coverage, leading Indigenous groups and climate activists to believe it is still insuring the project.<sup>1403</sup> Nearly 250,000 community members, Indigenous Peoples, and climate activists signed a petition urging Liberty Mutual to withdraw its insurance coverage from TMX and tar sands projects.<sup>1404</sup> Multiple other petitions have been delivered calling on Liberty Mutual to stop insuring tar sands oil projects, including TMX.<sup>1405</sup> TMX has not “obtained the Free, Prior, and Informed Consent of impacted Indigenous communities”<sup>1406</sup> and

1393 Insure Our Future. (2024, March 26). *Liberty Mutual Stop Insuring Tar Sands*. [\[LINK\]](#)

1394 Liberty Mutual Insurance. (2023). *2023 Purpose & Impact Report*. [\[LINK\]](#)

1395 Liberty Mutual Insurance. (2022). *2022 Task Force on Climate-Related Financial Disclosures Report*. [\[LINK\]](#)

1396 Public Citizen. (2023, September 28). *Covering Coal: The Top Insurers of U.S. Coal Mining*. [\[LINK\]](#)

1397 Liberty Mutual Insurance. (2022). *2022 Task Force on Climate-Related Financial Disclosures Report*. [\[LINK\]](#)

1398 Ibid.; Public Citizen (2023, September 28). *Covering Coal: The Top Insurers of U.S. Coal Mining*. [\[LINK\]](#)

1399 Ibid.

1400 Liberty Mutual Insurance. (2024). *Sustainable Growth*. [\[LINK\]](#)

1401 Biggs, S. (2020, May 27). URGENT: Insuring the Trans Mountain Pipeline. *Stand.earth*. [\[LINK\]](#)

1402 The Ten Principles of the UN Global Compact. *UN Global Compact*. [\[LINK\]](#)

1403 Liberty’s Climate Crisis. (2022, September, 10). *Is Liberty Mutual Still Funding Trans Mountain?* [\[LINK\]](#)

1404 Ibid.

1405 Insure Our Future. (2022, October 10). *A Global Movement is Demanding that Liberty Mutual Drop Trans Mountain*. [\[LINK\]](#)

1406 Biggs, S. (2020, May 27). URGENT: Insuring the Trans Mountain Pipeline. *Stand.earth*. [\[LINK\]](#)

thus Liberty Mutual's continuous insuring of the project is not respecting Indigenous Peoples' rights. Such operations are clear breaches of internationally recognized Indigenous rights.

In 2019, the company expressed its commitment to a long term decarbonization strategy which involves "supporting the transition to a low-carbon economy" and expanding its investments in renewable energy production.<sup>1407</sup> That same year, Liberty Mutual integrated an ESG Review to monitor the environmental impact of oil and gas in credit research.<sup>1408</sup> Although Liberty Mutual has previously committed to reducing its exposure to coal,<sup>1409</sup> its coal "policies leave the door open for the company to insure 'hundreds of coal expansion projects.'"<sup>1410</sup> Liberty Mutual does not mention any restrictions on insuring oil and gas and continues to cover the expansion of the dirty tar sands pipeline system in North America.<sup>1411</sup> The company's involvement with the disastrous social and environmental impacts of the Trans Mountain Expansion project in Canada and Freeport LNG in Freeport, Texas, does not align with the company's stated consideration to the UN Sustainable Development Goals: 3 "Good Health and Wellbeing," 10 "Reduce... Inequalities," and 13 "Climate Action."<sup>1412</sup>

Liberty Mutual has also expressed its dedication to align business activities with the principles "guided by the Universal Declaration on Human Rights, [and] the UN Guiding Principles on Business and Human Rights..."<sup>1413</sup> Liberty Mutual's *Statement on Human Rights* also mentions its commitment to health, safety, and fundamental human rights "when interacting with [its] customers, employees, agents, and business partners."<sup>1414</sup> Despite these statements and commitments, the company continues to insure projects that are risking communities health and safety. For example, Liberty Mutual has provided significant insurance coverage for Energy Transfer's Mariner East pipeline, which illegally released industrial waste and "ruined the drinking water of at least 150 families" in Pennsylvania.<sup>1415</sup> In Liberty Mutual's 2023 *Task Force on Climate-Related Financial Disclosures Report*, the company states its goals are "to support... clients and advance action and dialogue on the transition to a low-carbon economy."<sup>1416</sup> Liberty Mutual's insurance coverage of Freeport LNG, TMX, Rio Grande LNG, and other pending LNG projects<sup>1417</sup> is contributing to increased GHG emissions and does not support a transition to a low-carbon economy.

In January 2023, Tim Sweeney became Liberty Mutual's new CEO; advocacy groups hoped he might steer Liberty Mutual in a new direction, but Liberty Mutual's annual meeting and sustainability reports released in April 2023 showed that Sweeney and the company would not be

1407 Cision PRNewswire. (2019, December 13). *Liberty Mutual Insurance Appoints First Chief Sustainability Officer to Oversee Continued Development of Environmental, Social and Governance Agenda*. [\[LINK\]](#); Liberty Mutual. (2019). *Environmental, Social and Governance Review 2019*. [\[LINK\]](#)

1408 Liberty Mutual. (2019). *Environmental, Social and Governance Review 2019*. [\[LINK\]](#)

1409 Turner, H.A (2020, October 20). Liberty Mutual Faces Backlash for 'Fueling the Climate Crisis.' *Property Casualty 360°*. [\[LINK\]](#)

1410 Ibid.

1411 Ibid.

1412 Ibid.

1413 Ibid.

1414 Liberty Mutual Insurance. (2024). *Sustainable Resources*. [\[LINK\]](#)

1415 Energy Insurance Mutual. Certificate of insurance for Sunoco Pipeline L.P. [\[LINK\]](#); Rubinkam, M. (2022, February 2). Company faces criminal charges over pipeline explosion. *AP News*. [\[LINK\]](#)

1416 Ibid.

1417 Davis, P. (2024, February). Risk Exposure: The insurers secretly backing the methane gas boom in the U.S. Gulf South. *Insure Our Future*. [\[LINK\]](#); Is Liberty Mutual Still Funding Trans Mountain? (2022, September, 10). *Liberty's Climate Crisis*. [\[LINK\]](#); Soraghan, M. (2023, May 5). A new energy battleground: Insurance for LNG terminals. *E&E News by Politico*. [\[LINK\]](#)

heeding advocacy organizations and frontline communities' calls to restrict oil and gas underwriting.<sup>1418</sup> 69% of Liberty Mutual board members are closely tied to, and are profiting from, extractive industries.<sup>1419</sup>

Although Liberty Mutual is aware of the moral and business risks associated with fossil fuels, it opposes any drastic divestment from fossil fuels claiming that divestment would cause “more harm than good” because the world lacks alternatives to the fossil fuel sector.<sup>1420</sup> This viewpoint fails to recognize that renewable sources of energy (wind, solar, and water), and the technologies necessary for their transmission, are available right now.<sup>1421</sup> Liberty Mutual's 2023 Sustainability Review acknowledged the financial risks associated with insuring fossil fuels,<sup>1422</sup> but did not mention any resolutions to phase-out fossil fuels. In June of 2023, the U.S. Senate Budget Committee made requests for Liberty Mutual and other U.S based insurers to disclose their investments in fossil fuels and reveal their human rights policies.<sup>1423</sup>

## 7d. BlackRock



Activists in front of BlackRock's Manhattan headquarters demanding that BlackRock exclude companies expanding fossil fuel production from its active and passive funds. (Ashley Guarado | WE CAN)

BlackRock is the world's second largest institutional investor in fossil fuels.<sup>1424</sup> As of July 2024, BlackRock holds \$400 billion of investments in fossil fuel companies and holds large stakes in companies operating in the report's case studies.<sup>1425</sup> BlackRock is also the second top investor in

1418 Sulakshana, E. (2023, April 19). Liberty Mutual's Annual Policyholder Meeting is Fossil Fuel Business as Usual. *Rainforest Action Network*. [\[LINK\]](#)

1419 Bitar, Y. (2022, May 26). Liberty Mutual's Climate Conflicts Deepen as Jay Hooley Takes Helm of Exxon Mobil Board. *Eyes on the Ties*. [\[LINK\]](#)

1420 Ibid.

1421 Jacobson, M. (2023, February). *No Miracles Needed*. Cambridge University Press. [\[LINK\]](#)

1422 Liberty Mutual. (2023). *Corporate Sustainability*. [\[LINK\]](#)

1423 Bosshard, P. (2023, November). *Fifty Years Of Climate Failure. Insure Our Future*. [\[LINK\]](#)

1424 Urgewald. (2023, April). Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors. *Investing in Climate Chaos*. [\[LINK\]](#)

1425 Urgewald. (2024, July 9). *Investing in Climate Chaos 2024: Institutional Investors \$4.3 Trillion Deep Into the Fossil Fuel Industry*. [\[LINK\]](#)

fossil fuel bonds, with \$939.19 million in 50 fossil fuel developers.<sup>1426</sup> Notably, BlackRock holds approximately 8.2% in Phillips 66, 8.3% in ConocoPhillips, 6.9% in ExxonMobil, and 8.4% in Valero Energy.<sup>1427</sup> BlackRock remains the world's largest asset manager with \$10.5 trillion managed assets,<sup>1428</sup> giving the investment company considerable influence over numerous companies.<sup>1429</sup> As of February 2022, BlackRock held \$109 billion worth of shares and bonds in the coal sector, \$34 billion of which is for ongoing coal expansion projects—making it the largest bond holder of coal companies with expansion plans.<sup>1430</sup> Notably, because holdings are voluntarily reported by asset managers, accessibility of investment data is limited;<sup>1431</sup> this lack of disclosure is taking BlackRock further away from “continu[ing] to increase transparency”<sup>1432</sup> and its NZAM commitment to “publicly disclose the proportion of assets to be managed in line with net zero and the interim targets set”.<sup>1433</sup> As of June 2024, BlackRock has failed to commit to stop investing in new, passive, and active funds from coal, oil, and gas developers.<sup>1434</sup>

Historically, CEO Larry Fink expressed dedication to holding sustainable investments, placing climate risk at the center of BlackRock's investment strategy, and highlighted the importance of “transition[ing] to a net zero economy...to keep global warming well below 2°C.”<sup>1435</sup> These statements, amongst others that commit to ESG standards and reducing greenhouse gas emissions, are not in alignment with BlackRock's actual fossil fuel financing practices described in the report and the fact that it remains one of the world's largest investors in coal.<sup>1436</sup>

In his 2023 Letter to CEOs, Fink noted that the energy transition will be determined by “government policy, technological innovation, and consumer preferences” and it is not BlackRock's role “to engineer a particular outcome in the economy” highlighting that “we don't know the ultimate path and timing of the transition.”<sup>1437</sup> His stated main goal of the letter is “to ensure companies are going to generate durable, long-term investment returns for [its] clients.”<sup>1438</sup> Financing climate destruction (i.e. coal, oil, and gas) is not a dependable long term plan for clients.<sup>1439</sup> In 2023, BlackRock voted against 93% of environmental and shareholder related proposals, citing them as “lacking economic merit” or being “poor quality.”<sup>1440</sup> Rejecting shareholder proposals that address climate risks is not “acknowledg[ing] low-carbon transition as an investment factor that can be a material risk.”<sup>1441</sup> In his 2024 Letter, Fink refrained from referencing ESG, stating he would no longer use the term as it created political controversy around

1426 Fossil Free Funds. (2024). *Major Fund Manager BlackRock/iShares*. [\[LINK\]](#); Cuvelier, L., Et al. (2023, June). Report: Who's managing your future? *Reclaim Finance*. [\[LINK\]](#)  
 1427 Fintel. (2024). *BlackRock Inc. Ownership in COP / Conoco Phillips*. [\[LINK\]](#); Fintel. (2024, June). *BlackRock Inc. Ownership in XOM / Exxon Mobil Corp.* [\[LINK\]](#) CNN Business. (2024). *Valero Energy Corp.* [\[LINK\]](#); Simply Wall St. (2024, June). *Phillips 66 (NYSE: PSX) is a favorite amongst institutional investors who own 80%*. [\[LINK\]](#)  
 1428 Basil, A. Et al. (2024, April 12). *BlackRock assets hit record \$10.5 trillion as markets surge*. *Reuters*. [\[LINK\]](#) Fossil Free Funds. (2024, February 28). *BlackRock Global Allocation Fund*. [\[LINK\]](#)  
 1429 Norrestad, F. (2020, October). *December Largest Asset Management Companies Worldwide in 2019, by Managed Assets (in trillion U.S. dollars)*. *Statista*. [\[LINK\]](#)  
 1430 Urgewald. (2022, February 15). *New Research Reveals Banks and Investors Behind the World's Worst Climate Offenders*. [\[LINK\]](#); Cuvelier, L., Et al. (2022, April). *The Asset Managers Fueling Climate Chaos*. *Reclaim Finance*. [\[LINK\]](#)  
 1431 Cuvelier, L. (2024, March). *Unmasking Greenwashing: A call to clean up passive funds*. *Reclaim Finance*. [\[LINK\]](#)  
 1432 Blackrock. (2021). *Principles for Responsible Investment*. [\[LINK\]](#)  
 1433 Net Zero Asset Managers Initiatives. *The Net Zero Asst Managers Commitment*. [\[LINK\]](#)  
 1434 Reclaim Finance. (2024). *Unmasking Greenwashing: A call to clean up passive funds*. [\[LINK\]](#)  
 1435 Fink, L. (2021). *Letter to CEOs: Larry Fink's 2021 Letter to CEOs*. [\[LINK\]](#); Fink, L. (2020). *Letter to CEOs: A Fundamental Reshaping of Finance*. [\[LINK\]](#)  
 1436 BlackRocks Big Problem. *Vanguard and BlackRock are the world's biggest investors in coal*. [\[LINK\]](#)  
 1437 Fink, L. (2023). *Larry Fink's Annual Chairman's Letter to Investors*. *BlackRock*. [\[LINK\]](#)  
 1438 Ibid.  
 1439 Chung, C. Et al. (2024, February 8). *Financial rationale for investing in fossil fuel industry continues to unravel*. *IEEFA*. [\[LINK\]](#)  
 1440 Ligon, C. (2023, August 23). *BlackRock voted against a record 91% of all shareholder proposals in 2023 proxy season*. *Pensions & Investments*. [\[LINK\]](#)  
 1441 Chang, D. (2024, February 29). *BlackRock Updated 2024 U.S. Proxy Voting Guidelines*. *Harvard Law School Forum*. [\[LINK\]](#)



pension divestments in 2023.<sup>1442</sup> Fink’s backpedaling<sup>1443</sup> from his previous statements about “focus[ing] on sustainability,”<sup>1444</sup> “confront[ing] the global threat of climate change more forcefully,”<sup>1445</sup> and working to “better understand the deep interdependence between environmental and social issues,”<sup>1446</sup> diminishes the asset manager’s ability to achieve genuine emissions reductions and uplift human rights.

In March 2024, BlackRock was served a cease-and-desist by Mississippi state officials for its “false and misleading statements” on its ESG funds, which were allegedly found to be exposed to investments in coal, oil, and gas.<sup>1447</sup> As the second largest asset manager in the world,<sup>1448</sup> BlackRock has influence, power, and responsibility to address the climate crisis. In order to align with its own Net Zero goals and international climate disclosure standards, BlackRock must be a leader in setting and implementing ambitious and transparent emission reduction targets divesting from fossil fuel and deforestation, and investing in a Just Transition.<sup>1449</sup>

BlackRock’s stated intentions do not fully account for how the asset manager will address and mitigate ecological catastrophe and human rights abuses while government regulations are insufficient and not moving fast enough to mitigate the health and safety issues detailed in this report, which will persist and grow in the meantime. By continuing to finance fossil fuel companies and not outlining its plan to ensure due diligence in terms of human rights, Indigenous rights, and environmental protection, BlackRock is not in alignment with its signed commitments and is not mitigating clients’ long-term investment risks. The destruction of Earth that will result if the global community does not transition away from fossil fuels will eventually prevent any client from existing, let alone operating.

BlackRock is a signatory of agreements aligned with the Paris Agreement targets, including the PRI, Net Zero Asset Managers initiative (NZAM), and the UN Global Compact.<sup>1450</sup> The UN Global Compact is a set of Ten Principles that establish human rights and environmental responsibilities.<sup>1451</sup> BlackRock adopted disclosure tools such as the Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainable Accounting Standards Board as a standard for its clients to adhere to. The asset management firm also states that it expects the companies it finances to “include [a] plan for operating under a scenario where the Paris Agreement’s goal of limiting global warming to less than two degrees is fully realized ...”<sup>1452</sup> BlackRock also manages Climate Finance Partnership, a public-private finance vessel composed of public and private actors which share the position that “aggressive action

1442 McGowan, J. (2024, March 27). BlackRock’s Fink Calls For Energy Pragmatism, Omits ESG From Annual Letter. *Forbes*. [\[LINK\]](#)

1443 Responsible Asset Owners Global Symposia. *BlackRock’s Shift from ESG Investing to Transition: A Bold Move Towards Sustainable Transformation*. [\[LINK\]](#); Binnie, I. (2023, June 26). BlackRock’s Fink says he’s stopped using ‘weaponised’ term ESG. *Reuters*. [\[LINK\]](#)

1444 BlackRock. (2022). *Larry Fink’s 2022 Letter to CEOs: The Power of Capitalism*. [\[LINK\]](#)

1445 BlackRock. (2021). *Larry Fink’s 2021 letter to CEOs*. [\[LINK\]](#)

1446 Ibid.

1447 Yasmin, M. (2024, March 27). BlackRock issued warning over ‘misleading statements’ tied to ESG funds. *Reuters*. [\[LINK\]](#)

1448 Urgewald. (2024, July 9). *Investing in Climate Chaos 2024: Institutional Investors \$4.3 Trillion Deep Into the Fossil Fuel Industry*. [\[LINK\]](#)

1449 International Energy Agency. (2023, October 24). *The energy world is set to change significantly by 2030, based on today’s policy settings alone*. [\[LINK\]](#); Pitt, H. Et al. (2024, February 1). *Fueling a Transition Away from Fossil: The Outlook for Global Fossil Fuel Demand*. *Rhodium Group*. [\[LINK\]](#); Shepard, A. (2023, October 24). *Global Fossil-Fuel Demand Can Peak Before 2030—Here’s How*. *Scientific American*. [\[LINK\]](#)

1450 BlackRock. (2021). *Principles for Responsible Investment*. [\[LINK\]](#); BlackRock. (2024). *Corporate Sustainability*. [\[LINK\]](#)

1451 UN Global Compact. *The Ten Principles of the UN Global Compact*. [\[LINK\]](#)

1452 Fink, Larry (2020). *Letter to CEOs: A Fundamental Reshaping of Finance*. [\[LINK\]](#)

is necessary in order to limit climate change to well below 2°C, keeping a view to a 1.5°C limit, in a manner that harnesses the economic opportunities embedded in the transition to a global low-carbon economy.”<sup>1453</sup>

Despite signing numerous climate and human rights pledges, BlackRock continues to support companies expanding fossil fuels. CEO Larry Fink stated in his 2022 CEO address that, “BlackRock does not pursue divestment from oil and gas companies as a policy,” while oppositely also promising “aggressive action” towards a low-carbon economy.<sup>1454</sup> At the end of 2022, BlackRock told the British Parliamentary committee that it would not stop investing in coal, oil and gas<sup>1455</sup> and in 2023, wrote a letter to Texas officials stating that it will continue to support fossil fuels.<sup>1456</sup>

While in the past, BlackRock has made positive statements about mitigating its climate and human rights impacts, the fact remains that BlackRock continues to pour billions of dollars into fossil fuel companies and still lacks a policy that explicitly recognizes the rights of Indigenous Peoples and FPIC.<sup>1457</sup> In BlackRock’s 2024 statement on human rights risks, the company specifically recognizes “community harm or displacement, particularly using contested land or infringing on Indigenous Peoples” as a human rights-related risk.<sup>1458</sup> Yet, BlackRock has failed to clearly enact policies consistent with its own framing, and further failed to ensure that the companies it manages disclose their human rights impacts, adhere to FPIC, and monitor decisions that impact cultural heritage sites; this is not in alignment with its commitment to the UN Global Compact.

BlackRock is an investor of nearly every project in this report, underscoring its power and influence in the marketplace. By retreating from ESG commitments, failing to outline clear and robust human-rights and FPIC policies, and voting against a majority of environmental proxy proposals, BlackRock is not adhering to its responsibilities to the PRI, UN Global Compact, and NZAM, nor is BlackRock in alignment with its own goals to achieve Net Zero by 2050 and ensure 75% of its asset owners implement science-based targets by 2030.<sup>1459</sup>

1453 Businesswire. (2020, January, 22). *Davos 2020 Climate Finance Partnership Press Release*. [\[LINK\]](#)

1454 Fink, L. (2022). *Larry Fink’s 2022 Letter to CEO’s: The Power of Capitalism*. BlackRock. [\[LINK\]](#)

1455 Reuters. (2022, October 18). *BlackRock tells UK ‘no’ to halting investment in coal, oil and gas*. [\[LINK\]](#)

1456 Ivanova, I. (2022, February 18). *BlackRock touts investment in fossil fuels after threat from Texas official*. CBS News. [\[LINK\]](#)

1457 BlackRock’s Big Problem. *The Problem: Fossil Fuels*. [\[LINK\]](#)

1458 BlackRock. (2024). *Our approach to engagement on corporate human rights risks*. [\[LINK\]](#)

1459 BlackRock. (2024). *BlackRock’s 2030 net zero statement*. [\[LINK\]](#)

## 7e. Royal Bank of Canada (RBC)



Canadian climate activists in Vancouver paint a street mural to read “RBC Stop Funding Fossil Fuels” on the eve of COP26 to protest RBC’s financing fossil fuels. (Stand.earth)

In 2023, Royal Bank of Canada (RBC) was the seventh largest banker of fossil fuels, with over \$256.4 billion in fossil fuel financing from 2016 to 2023.<sup>1460</sup> RBC is also the fifth largest banker of fracked oil and gas, committing over \$31.9 billion from 2016 to 2023.<sup>1461</sup> During this period, RBC was also the second largest banker of tar sands oil, committing over \$13.4 billion to Alberta Tar Sands Projects (e.g., Enbridge Line 5 and Trans Mountain Pipeline).<sup>1462</sup>

In RBC’s 2024 policy document, *Client Engagement Approach on Climate*, the bank stated that it’s prepared to “step away if a client, after repeated engagement, does not demonstrate sufficient planning for the energy transition.”<sup>1463</sup> Additionally, as a signatory of the EP, RBC states that it is committed to minimizing and mitigating climate risks.<sup>1464</sup> By previously committing financing to Cheniere,<sup>1465</sup> the owner of the Corpus Christi Stage III LNG expansion project, which would release an estimated 51 million metric tons of GHG emissions annually, RBC is not appropriately managing climate risks nor is it sufficiently implementing its client engagement goals.<sup>1466</sup>

<sup>1460</sup> Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

<sup>1461</sup> Ibid

<sup>1462</sup> Ibid.

<sup>1463</sup> Climate Engagement Approach on Climate. (2024, March). *Royal Bank of Canada*. [\[LINK\]](#)

<sup>1464</sup> Equator Principles. (2020, July). *Equator Principles*. [\[LINK\]](#)

<sup>1465</sup> Rainforest Action Network. (2024). *Financing By Year & Sector*. [\[LINK\]](#)

<sup>1466</sup> Gracey, K. (2021, October). Greenhouse Gas Pollution Estimates of Proposed U.S. Fossil Fuel Infrastructure Projects. *Oil Change International*. [\[LINK\]](#); Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

Given that Cheniere also lacks outlined goals to transition to renewable energy,<sup>1467</sup> RBC should divest from Cheniere and any other company that fails to implement transition policies towards renewable energy. RBC also adopted a policy in 2020 to exclude financial support for oil and gas projects in the Arctic National Wildlife Refuge, but its definition of the Arctic is very restrictive and does not prohibit projects in the broader region where the majority of assets are located.<sup>1468</sup>

By financing and/or investing in fossil fuel companies such as Enbridge (owner of Line 5 projects),<sup>1469</sup> ConocoPhillips (owner of Willow Project),<sup>1470</sup> and Cheniere (owner of Corpus Christi Stage III LNG pipeline),<sup>1471</sup> RBC is not in alignment with its 2023 Climate Report, which is guided by the Task Force on Climate-related Financial Disclosures that lists the following “commitments” and “actions:”<sup>1472</sup>

- To achieve Net Zero emissions in lending by 2050
- To invest in climate data to improve climate risk measurements within RBC’s investment approach
- To engage with issuers for whom climate change is a material financial risk if they do not have a Net Zero target or action plan<sup>1473</sup>

In October 2023, the Competition Bureau—a Canadian law enforcement agency equivalent to the U.S. Federal Trade Commission—initiated an investigation into RBC’s alleged misleading and contradictory statements on their climate commitments.<sup>1474</sup> This action was a result of a 2022 complaint filed by the environmental organization, Ecojustice, which alleged that RBC misrepresented its climate goals by promoting itself as an institution dedicated to addressing climate change, while concurrently financing massive fossil fuel projects.<sup>1475</sup>

In September 2020, RBC expressed that it will “lend to new clients that get some revenue from [fossil fuel] industries if they can show they’re moving away from coal or reducing their greenhouse gas emissions.”<sup>1476</sup> This policy remains in effect as of 2024.<sup>1477</sup> RBC’s corporate finance policy, however, exempts existing clients from finance restrictions intended to minimize fossil fuel finance; these provisions are exclusively applied to new clients.<sup>1478</sup> RBC’s 2023 Climate Report states that “RBC’s commitment to achieve net-zero emissions in our lending by 2050 and sustainable finance commitment do not include the activities of and the assets under management or administration by RBC Global Asset Management and RBC Wealth

1467 Cheniere Energy, Inc. (2024). *Climate*. [\[LINK\]](#)

1468 Montgomery, E. (2024, April 11). Bank of America said it would stop financing drilling in the Arctic Refuge. Now it’s backtracking. *Environment America*. [\[LINK\]](#)

1469 NASDAQ. (2024, August 16). *Enbridge Inc Common Stock (ENB) Institutional Holdings*. [\[LINK\]](#)

1470 Banking on Climate Chaos. (2024). *Bank & Client Profiles*. [\[LINK\]](#)

1471 Ibid.

1472 RBC Global Asset Management. (2021). *Task Force on Climate-Related Financial Disclosures, 2021 Report*. [\[LINK\]](#)

1473 Royal Bank of Canada. (2024, March). *Climate Engagement Approach on Climate*. [\[LINK\]](#)

1474 Kalegha, M. (2023, October 5). The Royal Bank of Canada’s climate policy has come under close scrutiny from its stakeholders. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1475 Ibid.

1476 Weber, B. (2020, October 2). RBC Announces New Restrictions On Financing Coal, Oil Developments. *Global News*. [\[LINK\]](#)

1477 Policy Guidelines for Sensitive Sectors and Activities. *Royal Bank of Canada*. [\[LINK\]](#)

1478 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

Management.”<sup>1479</sup> By continuing to exempt large portions of assets and failing to comprehensively exclude clients receiving revenue from fossil fuel industries, RBC is not moving towards its goal of achieving Net Zero in lending by 2050.<sup>1480</sup>

RBC’s website states its commitment to Indigenous communities: “we are unwavering in our determination to progress as a bank that stands for Indigenous inclusion and prosperity—now, and for all generations to come.”<sup>1481</sup> However, in June 2023, a delegation of Indigenous, Black, and frontline leaders attending RBC’s Annual General Meeting (AGM) were excluded from the main meeting room despite having authorized proxies to participate in the meeting.<sup>1482</sup> Further contradicting its statement about inclusion and prosperity, RBC has financed ConocoPhillips, the company behind Willow Project, which local Indigenous community members have not given consent to and have publicly opposed, highlighting that the project threatens Inupiaq’s sovereignty, subsistence foods, air and water pollution, and traditional way of life.<sup>1483</sup> Rather than moving the world toward Net Zero and reducing greenhouse gas emissions, ConocoPhillips is entrenching the hold of fossil fuels and inflicting socially devastating consequences on Indigenous communities, especially Indigenous women in terms of food insecurity and subsequent caretaking responsibilities, the threat of incoming Man Camps, and more [see Section 6b].<sup>1484</sup> By committing financing to ConocoPhillips and denying equitable participation from Black and Indigenous leaders at RBC’s 2023 AGM, RBC is not in line with its social and environmental commitments, and is violating FPIC.

RBC is affiliated with the following several climate-risk monitoring authorities whose data can influence RBC’s investment approach:<sup>1485</sup>

- Global Reporting Initiative
- Sustainability Accounting Standards Board
- Net-Zero Banking Alliance
- Financial Stability Board Task Force on Climate-related Financial Disclosures
- Carbon Disclosure Project
- UNEP Finance Initiative

In February, 2021, Royal Bank of Canada announced its commitment to “net-zero emissions in its lending by 2050.”<sup>1486</sup> In RBC’s 2024 AGM, in response to pressure from frontline Indigenous and Black leaders to divest from fossil fuels, CEO Dave McKay stated, “I couldn’t agree more that we need to continue to evolve our energy strategy. We can continue to, need to,

1479 Royal Bank of Canada. (2024, March). *Climate Report 2023*. [\[LINK\]](#)

1480 Ibid.

1481 Royal Bank of Canada. *Indigenous Peoples and RBC*. [\[LINK\]](#)

1482 Climate Votes. (2023, June 28). *RBC sets forceful segregation of Black and Indigenous proxy attendees*. [\[LINK\]](#)

1483 Native Movement. *The Threat of the Proposed Willow Project*. [\[LINK\]](#); Baswan, M. The Willow Project and its impacts on Indigenous communities. *The Indigenous Foundation*. [\[LINK\]](#)

1484 Harball, E. (2019, May 8). How a small, Arctic village found itself in the middle of Alaska’s new oil boom. *Alaska Public News*. [\[LINK\]](#); Iron Eyes, T. (2023, March 27). The Willow Project: Inevitable Disaster for People and Planet. *Lakota People’s Law Project*. [\[LINK\]](#)

1485 BankTrack. (2020, May 4). *Royal Bank of Canada (RBC)*. [\[LINK\]](#)

1486 RBC. (2021, February 25). *RBC announces progress on its climate strategy including new sustainable finance target of \$500 billion by 2025*. [\[LINK\]](#)

evolve towards a net-zero future.”<sup>1487</sup> By committing financing to and investing in companies such as ConocoPhillips, owner of the Willow Project, which will release 9.2 million metric tons of carbon emissions annually,<sup>1488</sup> RBC is moving in the opposite direction of emission reductions and Net Zero. The bank remains one of the largest bankers of fossil fuels in Canada.<sup>1489</sup>

RBC is also a signatory of the EP and the PRI, and has stated its alignment with the Social Bond Principles.<sup>1490</sup> The Social Bonds Principles are voluntary process guidelines that increase transparency to investors and promote social goods such as “affordable basic infrastructure (e.g. clean drinking water, sewers, sanitation, transport, energy), food security and sustainable food systems...[and] socio-economic advancement and empowerment (e.g. equitable access to and control over assets, services, resources, and opportunities; and equitable participation and integration into the market and society...”<sup>1491</sup> The Social Bonds Principles target vulnerable groups such as women and “excluded and/or marginalized populations and/or communities.”<sup>1492</sup> Such targets are contradictory to the disastrous environmental and social impacts resulting from the companies and projects that RBC finances.

## 7f. JPMorgan Chase

As of 2024, JPMorgan Chase is reportedly the largest banker of fossil fuels, with over \$430 billion in fossil fuel financing from 2016 to 2023.<sup>1493</sup> JPMorgan Chase committed over \$19 billion in 2023 to companies undertaking fossil fuel expansion and committed over \$40.8 billion to fossil fuel financing generally.<sup>1494</sup> JPMorgan Chase is the largest banker of Arctic oil and gas and fracked oil and gas, and the second largest banker of companies undertaking fossil fuel expansion, tar sands oil, and LNG from 2016 to 2023.<sup>1495</sup> According to Urgewald, JPMorgan Chase has \$89,334 million invested/managed in 432 companies related to oil and gas and coal.<sup>1496</sup>

In 2020, JPMorgan Chase approved a “financing commitment” aligned to the goals of the Paris Agreement: JPMorgan Chase’s president and chief operating officer, Daniel Pinto, expressed support for “turn[ing] the goals of Paris into a reality.”<sup>1497</sup> JPMorgan Chase increased its financing to the fossil fuel industry from 2022 to 2023 by \$2 billion, which does not align with this commitment.<sup>1498</sup> Before 2023, JPMorgan Chase had a weak target of reducing 15% of financed emissions for oil and gas clients.<sup>1499</sup> In its 2023 Climate Report, JPMorgan Chase removed this target and replaced its Oil & Gas End Use target with an “energy mix” target, which combines finance reporting for oil and gas with solar, wind, hydropower, biomass, nuclear, and geothermal

1487 Bickis, I. (2024, April 11). RBC faces questions on climate, Indigenous rights at annual general meeting. *Financial Post*. [\[LINK\]](#)

1488 Puko, T. (2023, February 1). Biden team gives nod to huge Alaska oil project, setting up climate fight. *Washington Post*. [\[LINK\]](#)

1489 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1490 Royal Bank of Canada. (2024, March). *Sustainable Finance Framework*. [\[LINK\]](#)

1491 Social Bond Principles: Voluntary Process Guidelines for Issuing Social Bonds. (2023 June). *International Capital Market Association*. [\[LINK\]](#)

1492 Ibid.

1493 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1494 Ibid.

1495 Ibid.

1496 Urgewald. (2023, August 8). JPMorgan Chase (United States). *Investing in Climate Chaos*. [\[LINK\]](#)

1497 Harker, V. (2020, December 1). Banks Attack Carbon Emissions Through Lending And Investment. *Chamber Business News*. [\[LINK\]](#)

1498 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1499 Ibid.

projects.<sup>1500</sup> This action significantly reduces transparency allowing the bank to simultaneously finance clean renewable energy and fossil fuels and describe it as “zero-carbon energy sources...”<sup>1501</sup> The bank’s 2023 Climate Report also lacks a transparent transition plan outlining how the bank will reduce exposure to climate-related risks—floods, wildfires, tropical storms, sea-level rise, high temperatures, etc.—or how it will manage companies that fail to set emission reduction standards.<sup>1502</sup> All of which are germane to a sound fiscal and fiduciary plan.

In JPMorgan Chase’s 2023 ESG Report, the company stated its commitment to “engag[ing] with [its] clients who operate in carbon-intensive industries, with a goal of helping them facilitate their low-carbon transition and encouraging near-term actions that will set a path for global net zero emissions by 2050.”<sup>1503</sup> Despite this statement, JPMorgan Chase continues to be the largest banker of climate chaos, financing companies behind pipeline expansion projects and new LNG terminals.<sup>1504</sup> In May 2023, over 1,300 scientists, including scientists from Harvard Kennedy School, Union of Concerned Scientists, Global Carbon Project, and other institutions, signed a letter addressed to JPMorgan Chase shareholders calling on them to vote ‘yes’ for Proposal 6, a resolution to phase out financing (including loans, bonds, and underwriting) to companies undertaking fossil fuel expansion.<sup>1505</sup> Despite this effort, the majority of JPMorgan Chase shareholders voted against Proposal 6, essentially ignoring this call to action.<sup>1506</sup> In early 2024, a shareholder resolution filed by the New York City pension systems, requested JPMorgan Chase to divulge its lending ratios for “clean” energy compared to fossil fuels, which the company later agreed to in March 2024.<sup>1507</sup> This is a step in the right direction, however, JPMorgan Chase must ensure the public has access to this lending ratio and that energy sources, such as hydrogen, nuclear, biofuel, among other false solutions, are not listed as “clean” energy to meet the goal of mitigating climate risk.

In JPMorgan Chase’s Environmental and Social Policy Framework—last updated in October 2021—the bank claimed that it “expect[s] our clients to demonstrate alignment with objectives and requirements...including with respect to circumstances requiring Free, Prior, and Informed Consent.”<sup>1508</sup> Despite this internal policy, JPMorgan Chase continues to support clients who have demonstrated a disregard for tribal leadership and nonconsent.<sup>1509</sup> For example, JPMorgan Chase finances Suncor, Glenfarne Group, and Enbridge, who have all committed Indigenous and human rights violations through the Suncor Sarnia Oil Sands Refinery project (Section 6g.), Texas LNG export plant, and Enbridge’s Line 5 oil pipeline (Section 6h.i.). Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community, states that Line 5 “raises very serious treaty rights questions for tribal nations in the state of Michigan.”<sup>1510</sup> The ongo-

1500 Cleaveland, G (2023, November 15). New Climate Report from JPMorgan Chase is a Mixed Bag on Disclosures, Emissions Reduction Targets. *Sierra Club*. [\[LINK\]](#); JPMorgan Chase and Co. (2023). *Climate Report*. [\[LINK\]](#)

1501 Ibid.

1502 Ibid.

1503 JPMorgan Chase & Co. (2024, April 5). *2023 Environmental Social Governance Report*. [\[LINK\]](#)

1504 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

1505 Mulva, K. (2023, April 13). Memo to JPMorgan Chase Shareholders: Stop Banking on Climate Chaos. *Union of Concerned Scientists*. [\[LINK\]](#)

1506 Silva, S. (2023, May 16). JPMorgan Chase Shareholders Vote against Climate Action, for Financing Fossil Fuel Expansion. *Union of Concerned Scientists*. [\[LINK\]](#)

1507 Johnson, L. (2024, March 26). Citi agrees to disclose green financing ratios, following JPMorgan. *Banking Dive*. [\[LINK\]](#)

1508 JPMorgan Chase. (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1509 Amazon Watch (2021, November 11). COP26: Frontline Communities Confront JPMorgan Chase on Violating Indigenous Rights and Financing the Climate Crisis [Press Release]. [\[LINK\]](#)

1510 Gravelle, W. (2023). WECAN Interview.

ing financing of projects and companies that systematically contaminate Indigenous Peoples' lands contravening Indigenous women's rights to health, to life, and to healthy food and water, does not align with JPMorgan Chase's stated commitment to respect human rights,<sup>1511</sup> which is specified in the bank's Code of Conduct.<sup>1512</sup>

JPMorgan Chase is also a shareholder of EQT, the owner of Mountain Valley Pipeline (MVP),<sup>1513</sup> which poses numerous health and safety risks. In May 2024, a spokesperson from MVP took accountability for contributing to ecological disturbances and water release that resulted from pressure testing.<sup>1514</sup> In May 2024, a segment of the pipeline ruptured following a pressure test—a failure that exposes the severe safety risks that accompany MVP's construction and future operations.<sup>1515</sup> As a shareholder of EQT, JPMorgan Chase is demonstrating that the bank's social risk assessments do not stop it from indirectly supporting harm. Financing fossil fuel companies does not align with human rights or these financial institutions' signed principles, which claim to support socially and environmentally responsible businesses.

The bank's 2021 Environmental and Social Policy Framework also claims that "JPMorgan Chase will not provide lending, capital markets or advisory services to clients deriving the majority of their revenues from the extraction of coal," and that, "by the end of 2024, [it] will also phase out our remaining credit exposure to such clients."<sup>1516</sup> In JPMorgan Chase's 2023 ESG report, the bank maintained it would "phase out remaining credit exposure to such clients" by the end of 2024.<sup>1517</sup> JPMorgan Chase coal investments amount to less than 0.6% of JPMorgan Chase's overall fossil fuel spending between 2017 and 2020.<sup>1518</sup> While coal exclusion is deeply critical, the bank must also focus on other parts of its fossil fuel phase out policy in addition to coal. The bank must commit to stopping all fossil fuel financing and develop strong policies to halt financing to companies with expansion plans for coal, oil, and gas. JPMorgan Chase has no restrictions on oil sands development, other than submitting any oil sands development translation to "Enhanced Review," which promises to assess "the client's management of water discharge, use of freshwater, impacts to biodiversity, interactions with First Nations communities, the type of technology deployed (and its environmental footprint)."<sup>1519</sup> The framework restricts transactions with clients involved in oil sands development by subjecting them to "enhanced review," however, it does not mention any prohibitions.<sup>1520</sup>

In 2024, JPMorgan Chase was among the four U.S. based banks to exit the Equator Principles, claiming that it hired ESG experts and "matured" its risk management procedures, rendering its EP membership as unnecessary.<sup>1521</sup> In March 2024, JPMorgan Chase agreed to disclose its

1511 JPMorgan Chase & Co. *Human Rights*. [\[LINK\]](#)

1512 JPMorgan Chase & Co. (2014, June). *Code of Conduct*. [\[LINK\]](#)

1513 NASDAQ. *EQT Corporation Common Stock (EQT) Institutional Holdings*. [\[LINK\]](#)

1514 Paullin, C. (2024, May 8). Mountain Valley Pipeline segment ruptures during test. *Virginia Mercury*. [\[LINK\]](#)

1515 Ibid.

1516 JPMorgan Chase. (2023, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1517 JPMorgan Chase and Co. (2023). *Environmental Social Governance Report*. [\[LINK\]](#)

1518 Harder, A. (2020, February 24). JPMorgan Chase To Pull Support For Some Fossil Fuels. *Axios*. [\[LINK\]](#)

1519 JPMorgan Chase. (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1520 JPMorgan Chase. (2020, February). *Environmental and Social Policy Framework as of February 2020*. [\[LINK\]](#)

1521 Hawser, A. (2024, March 13). Major US banks back out of the Equator Principles. *The Banker*. [\[LINK\]](#)



financing ratio for “low carbon” energy compared to fossil fuels.<sup>1522</sup> Although this is a step in the right direction, “low carbon” could translate to a multitude of false solutions, including perpetuating more fossil fuels, hydrogen, nuclear, or bioenergy. [For more on False Solutions, see Section 3]. JPMorgan Chase must disclose its financing portfolio ratio and clearly differentiate between clean renewable energy (solar and wind), non-renewable energy (oil, gas, and coal), and false and contested solutions (hydrogen, nuclear, and bioenergy). As of May 2024, JPMorgan does not provide sufficient information on its clients’ transition progress in reaching Net Zero by 2050, nor does the company provide adequate information to measure its progress in achieving JPMorgan’s 2030 targets.<sup>1523</sup> JPMorgan Chase must disclose its clients transition progress to align with its own commitments to reaching 2030 emission reduction targets and 2050 Net Zero goals.

## 7g. Vanguard

As of 2024, Vanguard is the biggest institutional investor in fossil fuels, with holdings in coal, oil, and gas worth \$413 billion.<sup>1524</sup> Notably, Vanguard is also the top investor in newly-issued fossil fuel bonds, with \$1.2 billion in 18 fossil fuel developers.<sup>1525</sup> The asset manager has invested in at least one company from every case study in the report and is therefore complicit in the numerous detrimental impacts on communities stemming from fossil fuel activity.<sup>1526</sup>

In 2023, Vanguard released its updated approach to climate change, including a vague outline of disclosure expectations on the climate competence of boards of directors and risk mitigation targets.<sup>1527</sup> Although accountability is valuable (since the coal industry at large has no transition plan and will inevitably become a stranded asset), this policy is not sufficient in order to meet the 1.5°C benchmark set by the Paris Climate Agreement. As the largest equity investor on the planet and the largest financier of the coal industry, Vanguard has the largest capacity and responsibility to influence coal corporations.<sup>1528</sup>

Vanguard also pledged to “continue to raise [its] voice on climate change” in a 2020 statement.<sup>1529</sup> Vanguard explicitly supports the Paris Agreement standards and “encourages companies to set targets that align with these goals and to disclose them.”<sup>1530</sup> In August 2023, Vanguard disclosed that the company supported just 2% of U.S. environmental and social shareholder resolutions throughout the 2023 proxy season.<sup>1531</sup> Additionally, the company states its goal is “to safeguard long-term shareholder returns and encourage responsible action on climate change,” however, Vanguard has not released transparent documentation on how this is being accomplished.<sup>1532</sup> Despite expressing commitment to a climate response in

1522 Bindman, P. (2024, March 22). Citigroup follows JPMorgan by agreeing to disclose green financing ratio. *Energy Monitor*. [\[LINK\]](#)

1523 As You Sow. (2023, December 4). *JPMorgan Chase & Co: Report on Climate Transition Planning*. [\[LINK\]](#)

1524 Ganswindt, K. (2023, August 8). Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors. *Urgewald*. [\[LINK\]](#)

1525 Cuvelier, L., Et al. (2023, June). Report: Who’s managing your future? *Reclaim Finance*. [\[LINK\]](#)

1526 Ibid.

1527 Vanguard. (2022, April 21). *Vanguard’s approach to climate change*. [\[LINK\]](#)

1528 #BlackRocksBigProblem. (2022, January 13). *Vanguard has made it from 1999 to 2010 on coal...* [\[LINK\]](#)

1529 Vanguard. (2020, June, 24). *Vanguard Investment Stewardship Insights: How Vanguard Addresses Climate Risk*. [\[LINK\]](#)

1530 Ibid.

1531 Kerber, R. (2023, August 29). Vanguard joins BlackRock, cuts support for shareholder items on climate, social issues. *Reuters*. [\[LINK\]](#)

1532 Ibid.

accord with the Paris Agreement as well as acknowledging its current lagging progress, Vanguard has claimed that “while companies, asset managers, and individual investors can all play a role in mitigating climate risk, we firmly believe that governments must lead the way.”<sup>1533</sup> This statement places the responsibility and leadership of climate mitigation onto governments, as regulators, even though Vanguard holds tremendous financial power, as the second largest asset manager in the world.<sup>1534</sup> In this time of climate emergency every sector is responsible for the phase out of fossil fuels and investment in renewable energy.<sup>1535</sup>

Vanguard currently continues to finance companies behind dangerous projects in all nine regions in this report. For example, on June 30, 2024, Vanguard was listed as the largest institutional shareholder of ExxonMobil.<sup>1536</sup> The fossil fuel company is one of the largest producers in the Permian Basin, where drilling is causing record-breaking numbers of earthquakes and releasing unsafe levels of sulfur dioxide into nearby communities.<sup>1537</sup> Vanguard is also a major shareholder of EQT, the owner and operator of MVP, a project expected to contribute 89 million metric tons of greenhouse gas emissions.<sup>1538</sup> Many other companies financed and/or invested in by Vanguard continue to expand fossil fuel development, and Vanguard’s reluctance to take responsibility for its role in fossil fuel expansion will continue to exacerbate the gendered and racial health impacts [discussed in Section 6].

Vanguard uses ESG index funds, coined as “socially responsible investment,” as a way to address the climate crisis.<sup>1539</sup> The ESG funds are based on a screening process that excludes companies involved in harmful activities, such as oil and coal producing companies,<sup>1540</sup> and companies that exhibit activities detrimental to the UN Global Compact Principles.<sup>1541</sup> Vanguard also describes the ESG ETFs as an important step to the group’s goal to reach the UN Sustainable Development Goals,<sup>1542</sup> however only 0.38% of its total \$8.1 trillion is invested in ESG funds.<sup>1543</sup> In 2020, Vanguard voted against every climate resolution proposed by Climate Action 100+.<sup>1544</sup> In 2021, a report estimated that Vanguard could lose \$3 trillion by 2050 in equity investments if it does not take necessary measures to address climate change.<sup>1545</sup> At the end of 2022, Vanguard dropped out of the Net Zero Asset Managers Initiative and still has no clear outline for how it will place restrictions on climate-chaos investments.<sup>1546</sup> Vanguard’s exiting of climate initiatives, failure to support environmental and social shareholder resolutions, and continuous financing of companies committing human rights abuses, has dire consequences in the short and long term for itself and the planet.

1533 Vanguard. (2022, April 21). *Vanguard’s approach to climate change*. [\[LINK\]](#)

1534 Largest asset managers worldwide as of June 2024, by value of managed assets. *Statista*. [\[LINK\]](#)

1535 Vanguard. (2022, April 21). *Vanguard’s approach to climate change*. [\[LINK\]](#)

1536 NASDAQ. (2024, August 19). *Exxon Mobil Corporation Common Stock (XOM) Institutional Holdings*. [\[LINK\]](#)

1537 Elser, H., et al. (2020, October 8). Petro-riskscape and environmental distress in West Texas: Community perceptions of environmental degradation, threats, and loss. *Energy Research & Social Science*. [\[LINK\]](#)

1538 Seidman, D. (2024, March 28). Six Things Everyone Should Know About the Mountain Valley Pipeline. *Little Sis Public Accountability Initiative*. [\[LINK\]](#); Price of Oil. (2017, February). *The Mountain Valley Pipeline Greenhouse Gas Emissions Briefing*. [\[LINK\]](#)

1539 Ibid; Vanguard. *ESG Strategies*. [\[LINK\]](#)

1540 Fox Business. (2020, September). *Vanguard, Blackrock Add New Climate-focused ETFs As Demand Soars*. [\[LINK\]](#); Vanguard. *ETFs Explained*. [\[LINK\]](#)

1541 Vanguard. (2020, September 24). *Vanguard Launches ESG U.S. Corporate Bond ETF*. *CISION PR Newswire*. [\[LINK\]](#)

1542 Jones, M. (2018, September 18). Opinion: As Vanguard Launches A Sustainable-investing ETF, Its Low Fees Are Only One Of The Factors To Consider. *MarketWatch*. [\[LINK\]](#); Miralles-Quirós, J.L., et al. (2020, June 29). Sustainable Development Goals and Investment Strategies: The Profitability of Using Five-Factor Fama-French Alphas. *Sustainability*. [\[LINK\]](#)

1543 Vanguard S.O.S. *Vanguard’s ship will sink*. [\[LINK\]](#)

1544 Ibid.

1545 Kishan, S. (2021, September 22). Vanguard Comes Up Short on the Climate Front, Think Tank Says. *Bloomberg*. [\[LINK\]](#)

1546 Urgewald. (2023, April). Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors. *Investing in Climate Chaos*. [\[LINK\]](#)

## 7h. Capital Group

In a 2023 Reclaiming Finance report investigating NZAM investor members, Capital Group was identified as the third largest fossil fuel investor, holding \$94 billion in fossil fuel expansion.<sup>1547</sup> In total, Capital Group holds \$179.05 billion in fossil fuel investments.<sup>1548</sup> The company has invested at least \$28.94 billion in 139 coal industry holdings as of August 2024,<sup>1549</sup> and has no policy to phase out of or divest from its thermal coal exposure.<sup>1550</sup> Based on data collected by Morningstar, the company also has no reported funds with sustainability mandates as of June 2024.<sup>1551</sup>

Capital Group systematically incorporates ESGs to screen its investments, and states that “Climate change is one of the ESG topics [it] view[s] as material across many companies and sectors” claiming to “have a consistent set of metrics across [its] ESG investment frameworks, and on which [it] regularly engage[s] with companies.”<sup>1552</sup> In its 2024 ESG Policy Statement, Capital Group explains how its investment frameworks inform the company’s engagement process, which involves dialogue around “relevant climate risks and opportunities” including “emission-reduction plans or oversight of material climate-related issues.”<sup>1553</sup> Capital Group’s April 2024 ESG policy statement reiterates the asset manager’s support of the Paris targets, its “acknowledgement” of the Universal Declaration of Human Rights, and its “leverage” of the UN Global Compact,<sup>1554</sup> which sets clear principles on businesses’ human rights duties and responsibilities to protect the environment. ESG issues that Capital Group claims to monitor include climate change, water use, biodiversity and environmental degradation, and human rights.<sup>1555</sup> Capital Group states that it “instills confidence, transparency, and accountability,”<sup>1556</sup> however, detailed transparency of their monitoring methodologies are not disclosed to the public.<sup>1557</sup>

In 2021, Capital Group’s then CEO Tim Armour stated that Capital Group plans “to achieve more than 25% reduction over the next five years through a variety of measures, including use of cleaner energy sources, expanded investments in solar power and lower travel-related emissions.”<sup>1558</sup> In a 2023 post, Capital Groups stated: “Failure to invest now in renewable infrastructure results in the risk of companies being disrupted later on,” mentioning environmental, social and governance concerns and the risk of market share loss.<sup>1559</sup> As a significant shareholder of EQT,<sup>1560</sup> the owner of the Mountain Valley Pipeline, whose compressor plants release neurotoxins that have been known to cause major fetal neurodevelopmental deficits,<sup>1561</sup> Capital Group is not in alignment with these mentioned initiatives and human rights

1547 Reclaim Finance. (2023). *Throwing Fuel on the Fire: GFANZ financing of fossil fuel expansion*. [\[LINK\]](#)

1548 Fossil Fuel Funds. (2024). *American Funds/Capital Group*. [\[LINK\]](#)

1549 Ibid.; Urgewald. (2024, July 9). *Investing in Climate Chaos 2024: Institutional Investors \$4.3 Trillion Deep...* [\[LINK\]](#)

1550 Coal Policy Tracker. (2023). *Analysing the quality of coal policies*. [\[LINK\]](#)

1551 Fossil Fuel Funds. (2024). *American Funds/Capital Group*. [\[LINK\]](#)

1552 Capital Group. (2024, May). *Stewardship report 2024*. [\[LINK\]](#)

1553 Capital Group. (2024, April). *ESG policy statement*. [\[LINK\]](#)

1554 Ibid.

1555 Capital Group. (2024, April). *ESG Policy Statement*. [\[LINK\]](#)

1556 Ibid.

1557 Ground, J. (2024). *Our ESG framework builds on over 90 years of research legacy*. *Capital Group*. [\[LINK\]](#)

1558 Capital Group. (2021). *2021 Task Force on Climate-related Financial Disclosures (TCFD) Report*. [\[LINK\]](#)

1559 Beacock, C., Et al. (2023, February 23). *5 trends driving energy markets in 2023*. *Capital Group*. [\[LINK\]](#)

1560 NASDAQ. *EQT Corporation Common Stock (EQT)*. [\[LINK\]](#)

1561 Agency for Toxic Substances and Disease Registry. (2022). *Medical Management Guidelines for Formaldehyde*. *Centers for Disease Control*. [\[LINK\]](#)

documents. According to an assessment by *ShareAction* in 2020, Capital Group is among the poorest performers on human rights.<sup>1562</sup>

Capital Group is a part of several alliances that aim to decarbonize financing, including the PRI, NZAM, CDP, UN Global Compact, and the International Corporate Governance Network (ICGN).<sup>1563</sup> The ICGN states a commitment to align with the UN SDGs and calls on investors to “address systemic risks and other externalities” particularly as a result of climate change, and to “understand how company boards are addressing systemic risks and externalities at investee companies.”<sup>1564</sup> Additionally, Capital Group’s 2023 voluntary carbon market disclosure document states its own goal of achieving a 25% GHG emission reduction by 2025.<sup>1565</sup> By investing in Total Energies (owner of the the Port Arthur Refinery),<sup>1566</sup> ConocoPhillips (owner of the Willow Project),<sup>1567</sup> Cheniere Energy (owner of the Stage 3 Liquefaction Project),<sup>1568</sup> and other companies developing and operating fossil fuel projects, Capital Group is engaging in activity that conflicts with its commitments to addressing systemic climate risks and achieving emission reduction targets.

1562 ShareAction. (2020, May, 14). *The world’s largest asset managers pay lip service to preventing human rights abuse.* [\[LINK\]](#)

1563 Capital Group. (2024, April). *ESG Policy Statement.* [\[LINK\]](#); Policies and Disclosures. (2024). Capital Group. [\[LINK\]](#); ICGN. *ICGN Policy Priorities 2019/2020.* [\[LINK\]](#)

1564 Ibid.

1565 Capital Group. (2023, December 22). *Capital Group 2023 voluntary carbon market disclosure.* [\[LINK\]](#)

1566 NASDAQ. (2024, August 19). *TotalEnergies SE (TTE) Institutional Holdings.* [\[LINK\]](#)

1567 NASDAQ. (2024, August 19). *ConocoPhillips Common Stock (COP) Institutional Holdings.* [\[LINK\]](#)

1568 NASDAQ. (2024, August 19). *Cheniere Energy, Inc. Common Stock (LNG) Institutional Holdings.* [\[LINK\]](#)

# MARKET AND FINANCIAL RISKS



Photo taken one day after a several explosions took place, displaying a black plume of smoke rising from the Texas Petroleum Chemical plant in Sephard, Texas. (Julie Dermansky)

## Market and Financial Risks

Financial institutions backing the fossil fuel industry, on any level, are exposed to the physical and transition risks of the climate crisis, and are simultaneously heightening these risks by providing financial support to companies whose activities exacerbate accelerating climate chaos.<sup>1569</sup> These risks arise from the physical threats climate change poses to company's assets and profits, e.g. extreme weather and climate disaster risks, and from the transition risks arising from the move to a lower carbon economy, e.g. regulatory and reputational risks. These risks could strand carbon intensive assets and impact the values of other assets.<sup>1570</sup> In 2023, several of the world's major fossil fuel companies reported a 30% decline in annual profits.<sup>1571</sup> This reveals the volatility of the fossil fuel industry, which is predicted to become more unstable as cheaper renewable energy outcompetes fossil fuels and regulation of the fossil fuel industry expands.<sup>1572</sup>

Many financial institutions isolate risks to their own exposure, e.g., stranded assets, credit risks, etc. These standard risks are framed by short term planning and thinking. This report aims to open up the definition of risks, in terms of climate destruction and threats to communities. Long term, financial institutions' ongoing finance of fossil fuels, risks the continued existence of a habitable planet. Without a planet upon which to live, financial institutions will not be able to operate, profit, nor invest, finance, and insure anything—let alone fossil fuel companies. The timing for redefining risk assessments is imminent: ultimately if the planet is destroyed, it is a risk for the entire world, including financiers. Financial institutions must reorient their definitions and perceptions of risks to consider long-term impacts.

Recent military operations are contributing to a shift in world markets and supply chains, allowing fossil fuel projects to proliferate.<sup>1573</sup> This acceleration in oil and gas demand is temporary and occurring amidst an overarching global transition toward cleaner energy.<sup>1574</sup> Renewable energy investments have risen faster than fossil fuel investments for several years—especially during the anomalous period of acceleration in demand for global oil in 2022 due to issues related to Russia's invasion of Ukraine.<sup>1575</sup> On the other hand, the oil and gas industry has been gradually declining: in the 1980s the fossil fuel sector held a weight of 30% in the S&P 500 Index, while today the industry comprises a weight of just 3.9%.<sup>1576</sup>

According to UN Secretary General António Guterres, investing in fossil fuels is now considered “bad economics.”<sup>1577</sup> Financial institutions must center divestment from fossil fuels and

1569 Gelzini, G., Et al. (2019, November 21). Climate Change Threatens the Stability of the Financial System. *Center for American Progress*. [\[LINK\]](#)

1570 Ibid.

1571 Chung, C. Et al. (2024, February 8). Passive investing in a warming world. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1572 Ibid.

1573 Jao, N. (2024, January 8). Oil up 3% on Gaza ceasefire rejection and US fuel stocks data. *Reuters*. [\[LINK\]](#); Zhang, Q. Et al. (2024, January 2). The impact of Russia-Ukraine war on crude oil prices: an EMC framework. *Humanities and Social Science Communications*. [\[LINK\]](#); Harvey, F. (2024, April 9). World's biggest economies pumping billions into fossil fuels in poor nations. *The Guardian*. [\[LINK\]](#)

1574 IEA. *Russia's War on Ukraine*. [\[LINK\]](#)

1575 IEA. (2023). *Overview and key findings*. [\[LINK\]](#); Gaffen, D. (2022, December 15). How the Russia-Ukraine war accelerated a global energy crisis. *Reuters*. [\[LINK\]](#)

1576 Vetter, D. (2024, February 9). Dumping Oil And Gas Stocks Improves Investment Returns: New Report. *Forbes*. [\[LINK\]](#) Mason, D. Et al. (2020, December).

1577 Holder, M. (2020, August 28). UN Chief António Guterres: 'The coal business is going up in smoke.' *Business Green*. [\[LINK\]](#)

invest in the Just Transition in order to mitigate the following risks to themselves, communities, and the planet.

## 8a. Regulatory Risks

As the climate crisis exponentially accelerates, and increasing harms to the health and safety of communities arise from climate chaos, fossil fuel companies are exposed to regulatory risks. The potential restrictions from legislative powers and lawsuits are strengthened by the scientific attribution of climate change to anthropogenic activities, and the fact that fossil fuels are the largest source of greenhouse gasses.<sup>1578</sup>

Regulatory risks, i.e., governments' restrictions to the use of fossil fuels, are an even greater threat in the past several years with state governments like California making moves to halt issuances of new fracking permits by 2024 [See Section 6e], move the state toward phasing out oil extraction entirely by 2045, and reduce demand for oil by ending the sale of new gas-powered cars by 2035.<sup>1579</sup> Additional states that are proposing fossil fuel phaseout legislation include Colorado, Hawaii, Maine, Massachusetts, Minnesota, Nebraska, New Jersey, New Mexico, Rhode Island, Virginia, and several others.<sup>1580</sup> In April 2024, Oregon passed the Clean Oregon Asset Legislation (COAL) Act—legislation that would require divestment of approximately \$1 billion in thermal coal producers from the Public Employee Retirement System.<sup>1581</sup> Additionally, Vermont's Climate Superfund Act, a law that recently passed in April 2024, is charging fossil fuel companies for their GHG emissions that have caused health, economic, and ecosystem damages and reinvesting those funds into mitigation and adaptation solutions.<sup>1582</sup>

In 2024, the Environmental Protection Agency's (EPA) established a final rule on carbon pollution standards for fossil fueled-power plants, which requires fossil fuel power plants to reduce their carbon footprint by at least 90% by 2032.<sup>1583</sup> The EPA predicts that the ruling will induce the closure of most of the country's coal plants by 2040.<sup>1584</sup> Rules such as this result in a greater risk of stranded assets for financial institutions invested in fossil fuel companies. As of May 2024, there have been closure announcements from 23 of the 114 coal plants that will be subjected to the emission regulation;<sup>1585</sup> these announcements are already increasing the risk of coal plants becoming stranded assets.<sup>1586</sup>

Increasing fossil fuel regulations, such as the EPA's 2024 rule, also increase costs for fossil fuel development.<sup>1587</sup> Studies have determined it will be cheaper and less risky to replace coal and gas with wind and solar energy rather than retrofitting operations to meet the new

1578 The Causes of Climate Change. (2024). NASA. [\[LINK\]](#)

1579 Office of Governor Gavin Newsom. (2021, November 11). *Governor Newsom Announces California has Joined New Global Alliance Committed to Ending Reliance on Fossil Fuels.* [\[LINK\]](#)

1580 5.7.4 State and Local Fossil Phaseout Legislation Generally. (2024). *Sabine Center for Climate Change Law.* [\[LINK\]](#)

1581 Baumhardt, A. (2024, March 5). Legislature passes bill to rid Oregon's Public Employee Retirement System of coal investments. *Oregon Capital Chronicle.* [\[LINK\]](#)

1582 Noor, D. (2024, May 31). 'Game-changing': Vermont becomes first state to require big oil to pay for climate damages. *The Guardian.* [\[LINK\]](#)

1583 Carbon Pollution Standards for Fossil Fuel-Fired Power Plants.. (2024, April 25). EPA. [\[LINK\]](#)

1584 Whitehouse Statements and Releases. (2024, January 26). *FACT SHEET: Biden-Harris Administration Announces Temporary Pause on Pending Approvals of Liquefied Natural Gas Exports.* [\[LINK\]](#)

1585 Plautz, J. (2024, May 22). What EPA's carbon rule means for the highest-emitting coal plants. *E&E News.* [\[LINK\]](#)

1586 Chemnick, J. (2024, April 25). New Pollution Regulations Could Largely Eliminate Coal Power by the 2030s. *Scientific American.* [\[LINK\]](#)

1587 Zullo, R. (2024, April 26). New EPA rules will force fossil fuel power plants to cut pollution. *NC Newsline.* [\[LINK\]](#)

standards.<sup>1588</sup> The pressure of regulation that results in escalating costs and risks for fossil fuel companies and projects, exposes the volatility of the fossil fuel sector. In contrast, clean renewable energy is a safer and less risky long-term investment.<sup>1589</sup>

In January 2024, the Biden administration enacted an LNG pause, halting new and pending LNG export applications for an undetermined period.<sup>1590</sup> Although this pause was later overruled by a federal judge in Louisiana in July 2024, it serves as an example of how increasing federal regulation on fossil fuel companies incurs risks of stranded assets for fossil fuel invested financial institutions. In October 2020, Capital Group recognized that regulatory risks affect its business model and its duty to provide low-carbon solutions.<sup>1591</sup>

Additionally, there has been an increase in regulation around climate risk oversight and reporting requirements on banks and asset managers themselves.<sup>1592</sup> For example, at the beginning of 2023, the U.S. Federal Reserve released its scenario analysis looking into banks' climate risks and climate-risk management; analyses showing that the banks are not meeting their own targets expose them to financial, reputational, and litigation risk. There have also been moves toward more stringent reporting standards on exposure to climate risks and financed emissions. In late 2023, the Federal Reserve, Office of the Currency, and the Federal Deposit Insurance Corporation established joint principles to address climate risks for financial institutions with over \$100 billion in assets.<sup>1593</sup> Although currently non-binding, the principles have the potential to inform future legislation by providing guidance for management to provide updates on climate risks, and its responsibility to track and assess risks, while reporting those risks to board members.<sup>1594</sup> The Securities and Exchange Commission completed its climate-related disclosure rule in March 2024, which would require publicly traded companies to disclose their GHG emissions and outline climate-related risks on their operations.<sup>1595</sup> The rule is currently paused due to legal challenges.<sup>1596</sup> Canada has already implemented climate disclosure requirements: by 2024, all federally regulated Canadian banks will be required to report climate-related risks.<sup>1597</sup> Continuing to finance climate chaos places firms at risk of further regulatory costs, reputational injury, and lawsuits for misleading clients and greenwashing.

In the past, government regulations have forced divestment from fossil fuels: increased regulation of carbon emitting projects influenced BlackRock's decision to divest from its thermal coal exposure.<sup>1598</sup> Other regulators are calling for more restrictions; a group of Senators, Representatives, and lawyers in Massachusetts denounced Liberty Mutual's financial choices

1588 Lancaster University. (2019, April 8). *Renewables are a better investment than carbon capture for tackling climate change*. [\[LINK\]](#); Energy Innovation. (2023, January 29). *Coal Cost Crossover 3.0: Local Renewables Plus Storage Create New Opportunities For Customer Savings And Community Reinvestment*. [\[LINK\]](#); Lashof, D. (2024, May 3). *4 Things to Know About US EPA's New Power Plant Rules*. [\[LINK\]](#)

1589 Doniger, D. (2024, April 26). *EPA's Power Plant Carbon Standards: 10 Questions & Answers*. NRDC. [\[LINK\]](#)

1590 Whitehouse Statements and Releases. (2024, January 26). *FACT SHEET: Biden-Harris Administration Announces Temporary Pause on Pending Approvals of Liquefied Natural Gas Exports*. [\[LINK\]](#)

1591 Capital Group. (2020, October). *Task Force on Climate-related Financial Disclosures (TCFD): Statement of Support*. [\[LINK\]](#)

1592 Climate Votes. (2023). *Shareholder Actions to Address Climate Risk to Banks Exposed to High-emitting Sectors*. [\[LINK\]](#)

1593 Costa, M. (2023, October 26). *US regulators release climate-related financial risk guidelines for banks*. *Green Central Banking*. [\[LINK\]](#)

1594 *Ibid.*

1595 U.S. Securities and Exchange Commission. (2024, March 6). *SEC Adopts Rules to Enhance and Standardize Climate-Related Disclosures for Investors*. [\[LINK\]](#)

1596 Naishadham, S. (2024, April 5). *Amid legal challenges, SEC pauses its climate disclosure rule*. *PBS News*. [\[LINK\]](#)

1597 Climate Votes. (2023). *Shareholder Actions to Address Climate Risk to Banks Exposed to High-emitting Sectors*. [\[LINK\]](#)

1598 Buckley, T., Et al. (2020, January 29). *\$7tn Investor BlackRock Announces Coal Divestment, But Not Across All Funds*. *Energy Post*. [\[LINK\]](#)



and “request[ed] the insurer cease insuring new coal projects or companies actively expanding their coal-related business, refuse to cover tar sands projects [such as the Trans Mountain pipeline], and make its underwriting and investments completely emissions-free by 2050.”<sup>1599</sup> More recently, in 2023, U.S. lawmakers launched an investigation into seven insurance companies, including Liberty Mutual, looking into how these companies insure, underwrite, and profit from fossil fuel projects which in turn exacerbate the climate crisis causing the insurers to raise premiums on homeowners and drop policyholders.<sup>1600</sup> Senator Sheldon Whitehouse mentioned that “By underwriting and investing in new and expanded fossil fuel projects, U.S. insurers are helping Big Oil bring us closer to the worst runaway climate scenarios, which threaten lives, livelihoods, and the federal budget.”<sup>1601</sup> The Senate Budget Committee sent letters to the companies demanding answers about how the insurers profit from the fossil fuel industry and how they plan to align with the Paris Climate Agreement.

As an example of an intergovernmental organization taking action: in March, 2021, a group of UN human rights experts called for a halt to further pollution in “Cancer Alley,” and described the pollution-emitting chemical plants as environmental racism that “poses serious and disproportionate threats to the enjoyment of several human rights of its largely African American residents, including the right to equality and non-discrimination, the right to life, the right to health, right to an adequate standard of living and cultural rights.”<sup>1602</sup> Both Vanguard and BlackRock are large investors in Formosa—the company behind the giant plastic plant—which is expected to emit an extra 13.6 million tons of carbon pollution per year in this region.<sup>1603</sup> Formosa has encountered numerous regulatory hurdles, resulting in an over three year delay to Formosa’s “Sunshine Project” (Section 6d.). For example, a Baton Rouge District judge denied Formosa air permits on the basis of environmental justice (the first time in history) and the EPA’s 2023 more stringent regulations on exposure to Eto pollution places Formosa’s planned petrochemical plant at further risk.<sup>1604</sup> In part due to increasing regulations, Formosa’s Clean Air Act license was suspended in 2022, but was reauthorized in 2024 after a state of appeals court ruling.<sup>1605</sup> Although the original ruling was overturned, other fossil fuel projects have faced indefinite construction halts as a result of denied permits; for example, in 2022, the EPA rejected an air permit for the Bluewater Texas Terminal—an offshore oil terminal proposed near Corpus Christi—stating the project would need to reduce emissions by 95%.<sup>1606</sup> Changing EPA standards, stricter rules, and legal action could lead to stranded assets.<sup>1607</sup>

Financial institutions’ continuous exposure to fossil fuel infrastructure contravenes international efforts to regulate carbon-intensive activities and consequently exposes these companies to potential regulatory risks. As a result, an emerging body of financial experts are warn-

<sup>1599</sup> Shemkus, S. (2020, June 18). Massachusetts Lawmakers Ask Liberty Mutual To Stop Financing Fossil Fuels. *Energy News Network*. [\[LINK\]](#)

<sup>1600</sup> Buffett, W., et. al. (2023, June 9). *Budget Committee Letters to Insurance Companies*. [\[LINK\]](#)

<sup>1601</sup> Sacks, B. (2023, June 9). Lawmakers launch probe of insurance firms’ funding of fossil fuel industry. *The Washington Post*. [\[LINK\]](#)

<sup>1602</sup> UN News (2021, March 2). *Environmental racism in Louisiana’s ‘Cancer Alley’; must end, say UN human rights experts*. [\[LINK\]](#)

<sup>1603</sup> Fintel. TW:1301 / *Formosa Plastics Corp - Institutional Ownership and Shareholders*. [\[LINK\]](#); Muller, W. (2024, January 26). Appeals court rules in favor of Formosa Plastics facility in St. James. *Louisiana Illuminator*. [\[LINK\]](#)

<sup>1604</sup> Dermansky, J. (2022, November 23). Fenceline Community Groups in Louisiana’s Cancer Alley Celebrate Mounting Victories. *DeSmog*. [\[LINK\]](#); EPA. (2023, April 11). EPA Proposes New Standards to Protect Public Health, Reduce Exposure to Ethylene Oxide Pollution. *EPA*. [\[LINK\]](#)

<sup>1605</sup> Muller, W. (2024, January 26). Appeals court rules in favor of Formosa Plastics facility in St. James. *Louisiana Illuminator*. [\[LINK\]](#)

<sup>1606</sup> Environmental Integrity Project. (2022). *Cleaner Air and Water, a Healthier Climate, and Community Empowerment*. [\[LINK\]](#)

<sup>1607</sup> LSE. (2022, July 27). *What are stranded assets?* [\[LINK\]](#)

ing about the threat of carbon financing to financial stability.<sup>1608</sup> Although over the last several years, companies have been profiting off of fossil fuel expansion due to recent global violent conflicts<sup>1609</sup> and there is still a lack of strong fossil fuel regulation, this will not always be the case. As the international community eventually shifts from fossil fuels, risks of national financial stability will be heightened.<sup>1610</sup> Because regulators have “a legal obligation to protect the prudential safety of banks and other financial firms,”<sup>1611</sup> restrictions on fossil fuel financing will become more and more severe. This would have a grave effect on financial—especially banking—stability: syndicated loans are massively constituted of oil and gas financings, so damage of these loans could cause serious harms to the entire banking sector.<sup>1612</sup>

## 8b. Credit risks and stranded assets

Financing and investing in fossil fuel projects is not financially viable: relevant experts increasingly report “climate change could...be the cause of the next systemic financial crisis.”<sup>1613</sup> One U.S. federal regulator suggested that “the potential damage from climate change could end up being as severe as the fallout from the mortgage crisis triggering the 2008 financial crisis.”<sup>1614</sup> Financial institutions are slowly recognizing how climate change poses a risk to shareholders: Vanguard “considers climate change—and the evolving global policy responses required to mitigate its impact—to be a material and fundamental risk to companies and to their shareholders’ long-term financial success.”<sup>1615</sup>

Banks with carbon-intensive fundings are exposed to credit risk stemming from borrowers’ inability to repay their debts.<sup>1616</sup> This can lead to higher “loss-given-default,” or banks losing money as a result of loan defaults.<sup>1617</sup> For example, a report published by Ceres estimates that climate risks could lead to substantial losses for banks: the largest U.S. banks, such as JPMorgan Chase, are risking an estimated average wide impact loss on syndicated loan portfolios of 18%.<sup>1618</sup> In their 2023 Climate Report, JPMorgan Chase stated that “Climate change is viewed as a driver of risk that may impact existing types of risks (credit & investment, market, operational and strategic) managed by the Firm.”<sup>1619</sup> As one of the world’s top financiers of extreme oil and gas in Canada,<sup>1620</sup> Royal Bank of Canada’s (RBC) loans are at very high risk. Due to the numerous risks attached to fossil fuel infrastructure, many banks have withdrawn funding from fossil fuel companies, which places increased dependence on the remaining banks

1608 Ellfeldt, A. (2021, October 22). Top regulators warn of climate havoc to financial system. *E&E News by Politico*. [\[LINK\]](#)

1609 Sweney, M. (2024, February 18). World’s largest oil companies have made \$281bn profit since invasion of Ukraine. *The Guardian*. [\[LINK\]](#); Investigating the countries and companies behind Israeli crude oil and fuel supply chains. (2024, March 8). *Oil Change International*. [\[LINK\]](#)

1610 Gasparini, M. Et al. (2024, April 2). Model-based financial regulations impair the transition to net-zero carbon emissions. *Nature Climate Change*. [\[LINK\]](#)

1611 Ford, G. (2020, August 10). Fossil Fuel Lending is a Financial Stability Issue. *Environmental Finance*. [\[LINK\]](#)

1612 Ibid.

1613 Bolton, P., Et al. (2020, January). The Green Swan: Central Banking and Financial Stability In The Age Of Climate Change. *Banque de France*. [\[LINK\]](#)

1614 Deloitte. *How insurance companies can prepare for risk from climate change*. [\[LINK\]](#)

1615 Vanguard. (2024). *Vanguard’s approach to ESG investing*. [\[LINK\]](#)

1616 Bolton, P., Et al. (2020, January). The Green Swan: Central Banking and Financial Stability In The Age Of Climate Change. *Banque de France*. [\[LINK\]](#)

1617 Ibid.

1618 Ceres (2020, October 19). *Financing a Net-Zero Economy: Measuring and Addressing Climate Risk for Banks*. [\[LINK\]](#)

1619 JPMorgan Chase. (2023). *2023 Climate Report*. [\[LINK\]](#)

1620 Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

financing oil, gas, and petrochemical companies, e.g. RBC, Citigroup, JPMorgan Chase, and Bank of America.<sup>1621</sup>

Fossil fuel assets are increasingly depreciated.<sup>1622</sup> It is estimated that the value of stranded assets for fossil fuels, i.e., assets that have lost their value, could surpass \$4 trillion by 2050.<sup>1623</sup> The financial institutions spotlighted in the report are at risk of climate-related asset stranding. Oil, gas, and coal reserves are at risk of becoming stranded assets because of their unpredictability: “[oil, gas, and coal could] become unusable depending on climate legislation.”<sup>1624</sup> According to the 2023 International Energy Agency’s (IEA) report, 75% of LNG projects currently under construction will not recover their invested capital in the Net Zero Emissions by 2050 Scenario (NZE).<sup>1625</sup> UN financial and economic experts stated that fossil fuel companies and financial institutions that fail to set and achieve NZE emission targets face the potential for stranded assets.<sup>1626</sup> Additionally, the IEA has determined that demand for LNG will decline after 2030, reducing global market prices and resulting in stranded assets for investors.<sup>1627</sup> The IEA’s 2023 *Annual Energy Outlook* displays no indication that gas consumption will increase now through 2050,<sup>1628</sup> which highlights the risk and uncertainty of investing in LNG projects, such as MVP.<sup>1629</sup> The IEA’s 2021 report stated that stranded assets in LNG infrastructure were already estimated to be worth \$75 billion.<sup>1630</sup>

Additionally, though fossil fuel companies have made windfall profits over the last year,<sup>1631</sup> the upward trend in climate litigation cases,<sup>1632</sup> increase in global climate change laws,<sup>1633</sup> and transition towards mandatory disclosures of climate change-related financial risks,<sup>1634</sup> indicate that long-term, fossil fuel financing is a risk for stranded assets. On top of all these conditions, the price of renewable energy is becoming ever more cost effective than fossil fuels,<sup>1635</sup> which further creates a risk of stranded assets.

A report from the Institute for Energy Economics and Financial Analysis stated that from 2009 to 2019, BlackRock lost its investors over \$90 billion in value destruction and opportunity cost in just a few select holdings of mostly fossil fuel heavy investments, which is due largely to ignoring the global climate crisis.<sup>1636</sup> Pacific Gas & Electric, the utility giant in California, filed for bankruptcy in 2019 due to over \$20 billion in potential liabilities associated with the California wildfires; the *Wall Street Journal* called this “The first climate-change bankruptcy.”<sup>1637</sup> BlackRock

1621 Hudson, M. Et al. (2019, January 11). Finance, Fossil Fuels, and Climate Change: Networks of Power in Canada. *Transnational Institute*. [\[LINK\]](#)

1622 Krane, J. (2017, April 1). Climate Change and Fossil Fuel: An Examination of Risks For The Energy Industry and Producer States. *MRS Energy & Sustainability: A Review Journal*. [\[LINK\]](#)

1623 Whieldon, E. (2022, April 27). IPCC report outlines decarbonization pathways, warns of stranded. *S&P Global*. [\[LINK\]](#)

1624 Ibid.

1625 IEA. (2023). *World Energy Outlook 2023*. [\[LINK\]](#)

1626 Meredith, S. (2021, October 21). UN’s Mark Carney says ‘enormous’ stranded assets show the need for a rapid energy transition. *CNBC*. [\[LINK\]](#)

1627 International Energy Agency. (2023, December). *The Oil and Gas Industry in Net Zero Transitions*. [\[LINK\]](#)

1628 Energy Information Administration. (2023, March 16). *Annual Energy Outlook 2023*. [\[LINK\]](#)

1629 Ibid.

1630 International Energy Agency. (2021, December). *World Energy Outlook 2021*. [\[LINK\]](#)

1631 Zandt, Florian. (2024, February 9). Oil & Gas Giants Cash in Tens of Billions. *Statista*. [\[LINK\]](#)

1632 UN Environment Programme. (2023, July 27). *Global Climate Litigation Report: 2023 Status Review*. [\[LINK\]](#)

1633 Eskander, S. Et al. (2021). Global Lessons from Climate Change Legislation and Litigation. *Chicago Journals*. [\[LINK\]](#)

1634 Beyene, W., Et. al. (2022, June). Financial institutions’ exposures to fossil fuel assets. *European Parliament*. [\[LINK\]](#)

1635 Way, R. Et al. (2022, September 13). Empirically grounded technology forecasts and the energy transition. *CellPress Open Access*. [\[LINK\]](#)

1636 Buckley, T., Et al. (2019, August). Inaction is BlackRock’s Biggest Risk During the Energy Transition Still Lagging in Sustainable Investing Leadership. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1637 Gold, R. (2019, January 18). PG&E: The First Climate-Change Bankruptcy, Probably Not the Last. *The Wall Street Journal*. [\[LINK\]](#)

owned 5% of Pacific Gas & Electric in 2018.<sup>1638</sup> Between 2015 and 2020, over 150 oil and gas companies filed for bankruptcy; this trend exposes the volatility of the fossil fuel industry.<sup>1639</sup>

Capital Group is aware of its exposure to stranded assets and downgrades, but as the third largest investor in the global coal industry as of 2021, the asset manager is exposed to a depreciation of such shares.<sup>1640</sup> The EPA's 2024 ruling on carbon pollution standards, requiring coal operators to capture and bury their emissions using carbon capture and storage (CCS) technology or potentially face closure, is heightening the risks of investors' assets becoming stranded.<sup>1641</sup> Although CCS is a false solution to fossil fuel pollution [see Section 3 for further analysis],<sup>1642</sup> the high cost of this technology could force coal companies to shut down operations.

Financial institutions that do not align their financing and investing with lowering carbon emissions and with the targets of the Paris Agreement, which most recently calls for keeping 60% of oil and fossil methane gas and 90% of coal to remain in the ground in order to limit warming to 1.5 °C by 2050,<sup>1643</sup> will risk major financial losses as the world more assertively addresses the climate crisis. According to the Institute for Energy Economics and Financial Analysis, major oil and gas companies such as ExxonMobil should transform their business model or in the long term "they will face bankruptcy or significant shareholder wealth destruction (beyond those already incurred over the last decade), and often much faster than is anticipated, and with dire implications for investors, company employees and communities."<sup>1644</sup> In addition, between 2012 and 2022, over 63 U.S. coal companies fell into bankruptcy.<sup>1645</sup> The Institute for Energy Economics and Financial Analysis reports that fossil fuel investments over the last 10 years are underperforming, while investment portfolios without oil, gas, and coal stocks are producing competitive returns.<sup>1646</sup> A report by the International Energy Agency, indicates that there will be a surplus of global oil supplies by 2030, suggesting rising challenges in profitability for the fossil fuel industry.<sup>1647</sup> The risk of competitive clean renewable technology, increased interest rates, and expanding regulations threaten the longevity of the oil and gas industry.<sup>1648</sup>

1638 Buckley, T., Et al. (2019, August). Inaction is BlackRock's Biggest Risk During the Energy Transition Still Lagging in Sustainable Investing Leadership. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1639 Statista. (2024). *Quarterly number of oil and gas exploration and production (E&P)*. [\[LINK\]](#)

1640 Bingler, J., Et al. (2021, February 25). Groundbreaking Research Reveals Top Financiers of the Global Coal Industry. 350. [\[LINK\]](#)

1641 Daly, M. (2024, April 25). Strict new EPA rules would force coal-fired power plants to capture emissions or shut down. *Associated Press*. [\[LINK\]](#); Nature. (2023, June 13). *The US EPA's proposed regulation could help to kill off fossil-fuel plants. Good on it*. [\[LINK\]](#)

1642 Robertson, B., Et al. (2022, September 1). Carbon capture: a decarbonisation pipe dream. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1643 Welsby, D., Et al. (2021, September 8). Unextractable fossil fuels in a 1.5 °C world. *Nature*. [\[LINK\]](#)

1644 Buckley, T., Et al. (2019, August). Inaction is BlackRock's Biggest Risk During the Energy Transition Still Lagging in Sustainable Investing Leadership. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1645 Pham, S. (2023, April 26). How We Measured the Environmental Cost of Bankrupt Mines. *ProPublica*. [\[LINK\]](#)

1646 Vetter, D. (2024, February 9). Dumping Oil And Gas Stocks Improves Investment Returns: New Report. *Forbes*. [\[LINK\]](#) Mason, D., Et al. (2020, December). Insuring our Future: The 2020 Scorecard on Insurance, Fossil Fuels and Climate Change. *Insure Our Future*. [\[LINK\]](#)

1647 IEA. (2024). *Oil 2024 Analysis and forecast to 2030*. [\[LINK\]](#); Meredith, S. (2024, June 12). Big Oil given stark warning as peak crude and a major supply surplus expected by 2030. *CNBC*. [\[LINK\]](#)

1648 Chronis, A. Et al. (2023, December 1). 2024 oil and gas industry outlook. *Deloitte*. [\[LINK\]](#); EIA. *The Electricity Mix in the United States Shifts from Fossil Fuels to Renewables*. [\[LINK\]](#)

## 8c. Insurance Risks



Gulf South and NYC-based activists carry signs reading “Stop Underwriting Destruction” and “Insure Our Future, Not Fossil Fuels” while marching through midtown Manhattan. (Keerti Gopal)

The degrading value of fossil fuel projects can also impact insurers. A 2023 report from Ceres, Environmental Resources Management, and Persefoni, found that in 2019, 77% of U.S. insurance companies held fossil fuel-related assets worth \$536 billion.<sup>1649</sup> As investors and underwriters of the fossil fuel industry, insurance companies are at risk of the same stranded-asset exposure as banks and asset managers<sup>1650</sup>—described in more detail in the previous section.

Insuring fossil fuel companies can also lead to litigation risks: at the end of 2022, there were over 2,100 climate lawsuits, a number that has more than doubled since 2017.<sup>1651</sup> Additionally, there are several pending international court decisions, which are expected to set new legal precedents for obligations regarding climate change.<sup>1652</sup> Because of climate material risks, insurance companies are decreasingly insuring fossil fuel companies.<sup>1653</sup> This is in part because insurers of fossil fuel companies face losses from extreme weather changes as a consequence of climate change. A 2024 report by Aon—a company that analyzes Risk Capital and Human

<sup>1649</sup> Ceres. *The Changing Climate for the Insurance Industry*. [\[LINK\]](#)

<sup>1650</sup> *Ibid.*; Ceres. *Assets or Liabilities? Fossil Fuel Investments of Leading U.S. Insurers*. [\[LINK\]](#)

<sup>1651</sup> Mallien, A. (2023, January 18). Trends in climate litigation. *Lyens Loeff*. [\[LINK\]](#)

<sup>1652</sup> Spring, J. (2024, May 29). Climate court cases that could set precedents around the world. *Reuters*. [\[LINK\]](#)

<sup>1653</sup> McComber, K. (2020, April 22). Why the Insurance Industry Must Stop Supporting Fossil Fuels. *Property Casualty 360°*. [\[LINK\]](#)

Capital—found that in 2023, there were 398 global disasters costing \$118 billion in insurance losses and \$380 billion in economic losses.<sup>1654</sup> Hence, oil and gas companies are seeing an increase of insurance groups opting out or refusing to cover damages (e.g., property damages).<sup>1655</sup> A 2023 report released by Insure Our Future found that 45 insurance companies now have coal exit policies, making it increasingly challenging for coal companies to secure insurance coverage.<sup>1656</sup> These policies underscore the influence that insurance companies can exert on the transition away from fossil fuels.<sup>1657</sup>

Insurance companies are also facing pressure from frontline communities, advocacy groups, and businesses to stop insuring fossil fuels. Efforts such as these result in reputational risks for the insurers. In September, 2020, for instance, a group of businesses called on the insurance industry, e.g. Liberty Mutual, to stop “insuring and investing in the fossil fuels driving climate change.”<sup>1658</sup> In another example, more than 140 frontline community organizations and allies from Texas to California signed an open letter in June 2023 calling on the biggest global insurers, including Liberty Mutual, to stop insuring methane gas export terminals and LNG facilities—more than 20 of these operations are currently proposed for the Gulf Coast.<sup>1659</sup> The letter also demands that insurance companies meet with and genuinely engage with the communities being impacted by this infrastructure. Roishetta Ozane, Founder of The Vessel Project and Community Organizer for HealthyGulf, describes these risks:

**“It’s time for insurance companies to stop insuring LNG terminals, which are not only a major contributor to climate change, but also pose a significant risk to surrounding communities. These facilities have a history of accidents and explosions, and the potential for catastrophic incidents is too great to continue insuring them. Not only that, but the high insurance prices are disproportionately affecting low-income families who live near these terminals, as they are often unable to afford the high premiums. It’s time for insurance companies to prioritize the safety and well-being of communities over profits and take a stand against these dangerous facilities.”<sup>1660</sup>**

While insurance companies such as Liberty Mutual, are underwriting LNG and other fossil fuel projects in the Gulf coast, several leading insurers are refusing to provide coverage for hurricanes and wildfires to homeowners and businesses in the same region, citing climate change as too great of a risk.<sup>1661</sup> Despite the fact that LNG projects pose severe public safety risks and exacerbate risks for community members, insurance companies are prioritizing providing insurance to fossil fuel companies over people. This action underscores the insurance companies’ inconsistencies in their assessments of risk and inequitable practices. Bekah Hinojosa,

1654 Lörinc, M. (2024). Climate and Catastrophe Insight. Aon. [\[LINK\]](#)

1655 Krane, J. (2017, April 1). Climate Change and Fossil Fuel: An Examination of Risks For The Energy Industry and Producer States. *MRS Energy & Sustainability: A Review Journal*. [\[LINK\]](#)

1656 Robinson, K. (2023, November). Fifty Years of Climate Failure 2023 Scorecard on Insurance, Fossil Fuels and the Climate Emergency. *Insure Our Future*. [\[LINK\]](#)

1657 Ibid.

1658 Green America. (2020, September 17). *In Industry first, 60 Companies Call on US Insurers to Drop Fossil Fuels*. [\[LINK\]](#)

1659 Garcia, J. (2023, June 8). One Year After Explosion in Freeport, 140+ Grounds Demand Insurance Companies Stop Insuring Dangerous Methane Gas Expansion. *Insure our Future*. [\[LINK\]](#)

1660 Insure Our Future. (2023, June 8). *One Year After Explosion in Freeport, 140+ Groups Demand Insurance Companies Stop Insuring Dangerous Methane Gas Expansion*. [\[LINK\]](#)

1661 Brown, T. (2023, July 24). Property insurance disappears for Louisianans – but not for gas facilities. *The Guardian*. [\[LINK\]](#)

Co-Founder of the South Texas Environmental Justice Network, calls on insurers to halt coverage for polluting companies that are intensifying climate-related risks in her community:

**“If built, Texas LNG, Rio Grande LNG, and their proposed Rio Bravo Pipeline would destroy our low-income Latine community’s way of life. Pollution from these mega LNG/methane export terminals would degrade the waterways where shrimp lay their eggs, and our people fish to feed their families. We’re calling on these insurance companies to stop insuring LNG/methane terminals because they are blatant environmental racism.”<sup>1662</sup>**

## 8d. Reputational risks

As the accelerating climate crisis continues to place the entire world at risk—and particularly marginalized communities at even greater risk—resistance within society has continued to grow to address and curtail this rapidly growing threat. Groups and movements across the world are organizing in an effort to hold the biggest drivers of environmental destruction and climate change accountable, which includes fossil fuel companies and financial institutions supporting those companies on any level.<sup>1663</sup>

By continuing to finance, insure, and invest in fossil fuel companies and their projects, financial institutions are exposing themselves to increased reputational risks (i.e., “damage to brand value or reputation, lost revenue, or additional capital expenditures”).<sup>1664</sup> Institutions providing financing to carbon assets and fossil fuel companies are subject to increasing scrutiny. Campaigns that publicize the environmental damage and human and Indigenous rights abuses associated with financing Alberta tar sands projects, the Willow Project, plastic refineries in “Cancer Alley,” and other fossil fuel infrastructure, encourage members of society, including customers, employees, and investors, to request policies that limit financing to these companies.<sup>1665</sup> Reputational risks, which can also result in regulatory risks described in Section 9a. above, may reduce the attractiveness of a financial institution on the market resulting in a lower overall demand for its services.<sup>1666</sup> In particular, Vanguard and BlackRock have been accused of “total greenwash[ing]” because of their complete lack of concern for climate risks and insufficient performative sustainable portfolios.<sup>1667</sup> Vanguard and BlackRock had some of the largest declines in voting support of climate-related and social proposals in 2023—2%<sup>1668</sup> and 7% respectively<sup>1669</sup>—while RBC, Bank of America, Citigroup, and JPMorgan Chase’s voting support also declined in 2023.<sup>1670</sup> A report published by economists working for JPMorgan Chase warned of dreadful environmental and financial risks of global warming.<sup>1671</sup> This acknowledg-

<sup>1662</sup> Davis, P. (2024, February 21). Risk Exposure: The insurers secretly backing the methane gas boom in the U.S. Gulf South. *Insure Our Future*. [\[LINK\]](#)

<sup>1663</sup> Salam, E. (2023, April 25). Climate protesters call out US banks for funding fossil fuel. *The Guardian*. [\[LINK\]](#)

<sup>1664</sup> Fulton, M., Et al. (2015, July). Carbon Asset Risk: Discussion Framework. *World Resources Institute and Finance UNEP Initiative*. [\[LINK\]](#)

<sup>1665</sup> Ibid.

<sup>1666</sup> Krane, J. (2017, April 1). Climate Change and Fossil Fuel: An Examination of Risks For The Energy Industry and Producer States. *MRS Energy & Sustainability: A Review Journal*. [\[LINK\]](#)

<sup>1667</sup> Mooney, A. (2020, October 25). Chris Hohn Blasts BlackRock and Vanguard Over Climate Change. *Financial Times*. [\[LINK\]](#)

<sup>1668</sup> Ghosh, P. (2023, August 29). Vanguard support for ESG shareholder proposals down from last proxy year. *Pensions & Investments*. [\[LINK\]](#)

<sup>1669</sup> Johnson, L. (2023, September 1). Vanguard joins BlackRock in pouring cold water on ESG proposals. [\[LINK\]](#)

<sup>1670</sup> RBC Global Asset Manager. (2024, April 29). 2024 Proxy Voting Season Preview. [\[LINK\]](#); Dockerty, C. (2024, April 23). Climate change, stifled mergers and other challenges facing banks and investors. *American Banker*. [\[LINK\]](#)

<sup>1671</sup> Greenfield, P., Et al. (2020, February 9). JPMorgan Economists Warn Climate Crisis Is Threat To Human Race. *The Guardian*. [\[LINK\]](#)

ment spotlights the fact that JPMorgan Chase knowingly funds climate change.<sup>1672</sup> Liberty Mutual’s ongoing insurance coverage of the Trans Mountain Pipeline has also been massively contested by climate and Indigenous rights activists and lawyers; organizations representing more than 24 million members sent an open letter calling on Liberty Mutual, and other insurance companies, to stop supporting Trans Mountain.<sup>1673</sup> In part because of insurance companies’ failure to comment or respond to requests for transparency, in 2021, Indigenous and environmental groups sent another letter to 20 insurance companies, including Liberty Mutual, that have not ruled out insuring the Trans Mountain pipeline network.<sup>1674</sup> Similarly, Indigenous community members who are impacted by the Willow Project are opposing the project, stating their concerns and imploring consultation.<sup>1675</sup>

A February 2024 open letter from over 100 frontline organizations, climate groups, and allies demanding an end to insurance coverage, bank financing, and private equity investments for methane gas expansion and LNG, depicts advocacy groups and activists’ dedication to protecting communities, as well as the action they are willing to take in order to ensure their health and safety. Roishetta Ozane, Founder of the Vessel Project, articulates the advocacy community’s commitment to fight the fossil fuel industry and its financiers:

**“If there is no response, we will move forward with a public campaign. We will address these concerns with the international media, the supporters of nonprofits, and policymakers, and we will organize protests at your offices. We are no strangers to big fights. We’ve won multi-million dollar lawsuits, are involved in the highest level of federal policy conversations, and are living with the impacts of this industry daily.”<sup>1676</sup>**

<sup>1672</sup> Ibid.

<sup>1673</sup> Adriano, L. (2020, August 6). Major petition urges insurers to drop Trans Mountain coverage. *Insurance Business Canada*. [\[LINK\]](#)

<sup>1674</sup> Sulakshana, E. (2021, September 2). Open Letter Calls on Insurers to Cut Ties with Trans Mountain, As Key Pipeline Insurance Policy Expires. *Insure Our Future*. [\[LINK\]](#)

<sup>1675</sup> SILA. *Sovereign Inupiat For a Living Arctic*. [\[LINK\]](#); Native Movement. *The Threat of the Proposed Willow Project*. [\[LINK\]](#); Baswan, M. The Willow Project and its impacts on Indigenous communities. *The Indigenous Foundation*. [\[LINK\]](#)

<sup>1676</sup> Crosibe, J. (2024, February 5). Climate & frontline groups demand banks, insurance, & private equity end LNG backing. *Stand.earth*. [\[LINK\]](#)



# RECOMMENDATIONS



Protester holds Real Zero Not Net Zero poster. (Bjanka Kadic | Alamy)

## Recommendations

**“The world and our nations must work together to capture and make financial systems accountable. We must make our financial institutions serve the people to protect our planet’s resources for our collective future and well-being.”**

– Michelle Cook, (Diné/Navajo)  
Human Rights Lawyer and Founder of Divest Invest Protect<sup>1677</sup>

Addressing the Major Economies Forum, António Guterres, UN Secretary-General stated:

**“I urge you to accelerate your move away from fossil fuels and towards a fair and just decarbonization of every sector. Renewables can deliver—on access, affordability, and energy security. And the science is clear: new fossil fuel projects are entirely incompatible with 1.5 degrees. Yet many countries are expanding capacity. And I urge you to change course: Phase out coal by 2030 in OECD countries and 2040 in all others. End all licensing or funding—both public and private—of new fossil fuel projects.”<sup>1678</sup>**

There have been some encouraging signs toward a transition off of fossil fuels and adhering to international rights standards, in that several of the financial institutions in this report have been working to improve their policies on fossil fuel extraction and infrastructure, and human and Indigenous rights. That said, the steps are too slow and incremental given the accelerating climate crisis, ongoing rights violations, and concomitant harms to affected communities demand more immediate and stronger action commensurate with the crises at hand. Furthermore, there continues to be a significant need for robust consultation on the ground with frontline communities, Indigenous Peoples, and all affected communities.

While information obtained directly from investee companies is appropriate for certain disclosures (such as GHG emissions or alignment with the EU Taxonomy), it is insufficient to identify other impacts, such as impacts on human rights. Forest Peoples Programme’s report, *Ground-truthing*, has shown that relying upon self-reported information from companies on human rights in deforestation-risk supply chains is inadequate for identifying actual environmental and human rights impacts;<sup>1679</sup> financial institutions must go beyond companies’ self-reports to improve due diligence. Effective due diligence requires that companies make use of “information about the actual situation on the ground, gathered from primary or secondary sources that are independent of companies in the supply chain, as opposed to paper-based compliance indicators and company self-reporting.”<sup>1680</sup> Investors relying on self-disclosed information versus direct contact with impacted communities can lead to undermining the purpose of due diligence under the UN Guiding Principles on Business and Human Rights and OECD Guidelines for Multinational Enterprises.

<sup>1677</sup> WECAN/DIP. (2018, May 3). *Calls For Justice Raised By Indigenous Women's Divestment Delegation During Meetings With Fossil Fuel Funders*. [\[LINK\]](#)

<sup>1678</sup> Youtube. (2023, December 1). *Stop Burning Fossil Fuels | Secretary-General | United Nations*. [\[LINK\]](#)

<sup>1679</sup> Forest Peoples Programme. (2020, March 11). *Discussion paper: Ground-truthing to improve due diligence on human rights in deforestation-risk supply chains*. [\[LINK\]](#)

<sup>1680</sup> Ibid.

## JPMorgan Chase, Bank of America, Citigroup, Royal Bank of Canada, and other banks must:

- I. Halt all forms of financing for fossil fuel expansion and infrastructure.
- II. Explicitly commit to phasing out all forms of financing, including project finance and general corporate finance, for fossil fuel projects and companies.
- III. Necessitate all clients with any level of fossil fuel exposure to outline robust plans to phase out fossil fuels in line with the Paris Climate Agreement to limit warming to 1.5°C. This would need to include an emissions decline of at least 50% by 2030,<sup>1681</sup> reaching Real Zero by 2050 with the aim of achieving this target as soon as possible.<sup>1682</sup>
- IV. Exclude all financing to companies that do not have a clear and explicit timeline to phase-out of fossil fuels in alignment with limiting global warming to 1.5°C.
- V. Adopt and implement a full sectoral exclusion policy regarding financing for coal power, tar sands, offshore oil drilling, fracked oil and gas, and methane gas projects/companies within the time frames set by limiting global warming to 1.5°C.
- VI. Do not allow fringe actors to impact business from pursuing the necessary strategies that safeguard people and the planet, and are at the core of good business practices.
- VII. Commit to reducing the bank's climate impact to Real Zero by 2050 at the latest, and explicitly define an immediate phaseout of fossil fuels year-on-year from 2024. Define an actionable plan and transparently share it publicly. Phaseout plans should be based on absolute emission reductions— not Net Zero targets [see Section 3].
- VIII. Adhere to and implement mandatory policies that uphold Indigenous Peoples' rights, including the right to Free, Prior and Informed Consent as outlined in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the UN Guiding Principles on Business and Human Rights.\* End financing for projects that do not adhere to FPIC or violate human rights.
- IX. Include direct consultation with Indigenous, frontline, and local communities in decision-making processes in areas where operations impact those communities.
- X. Hire independent consultants to ensure proper engagement with communities so that the burden to prove harm is not solely the responsibility of impacted community members. This requires practicing in-depth due diligence and implementing rights policies that adhere to international standards and internal bank's policies about human and Indigenous rights.
- XI. Adhere to and implement policies that uphold human rights protection in accordance with the International Bill of Human Rights and the UN Guiding Principles on Business and Human Rights.

<sup>1681</sup> World Resources Institute. (2022, September 19). *US Government Sets Target to Reduce Emissions 50-52% by 2030*. [\[LINK\]](#)

<sup>1682</sup> United Nations Climate Change. *What is the Paris Agreement*. [\[LINK\]](#)

- XII. Increase financing for renewable energy (see Section 3 for definition of renewable energy) that is low-carbon, ecologically friendly, adheres to human and Indigenous rights standards, and implements a Just Transition (see Section 3).
- XIII. Provide public and transparent annual reports on the above recommendations.

\*JPMorgan Chase, Citigroup, and Bank of America all mention the IFC Performance Standard 7 (which addresses Indigenous rights and FPIC) in their internal policies, but we are calling on them to adhere to and implement this standard.

### **BlackRock, Vanguard, Capital Group, and other asset managers must:**

- I. Change proxy voting:
  - A. Vote in favor of Paris Agreement compliance shareholder resolutions to move companies away from oil and gas extraction and other fossil fuel activities.
  - B. Improve transparency on voting policies and provide shareholders with ample time and accessible materials.
  - C. Halt voting in favor of U.S. energy-proposed resolutions which protect fossil fuel intensive activities.
- II. Make any engagement with companies transparent.
  - A. Set clear expectations for the fossil fuel sector and require publicly available portfolios on how companies manage risks and reduce emissions.
- III. Vanguard and Capital Group must sign up for the Climate Action 100+ which pressures the largest fossil fuel producers to meet carbon dioxide reduction targets.
- IV. Prioritize creating more “climate safe” (i.e fossil fuel free) funds and place these funds as the default option for all clients and investors across its product offerings, and require an opt-in for non climate safe options.
- V. Create higher standards for ESG product screenings and disclose scope 1, 2, and 3 GHG emissions reduction targets and progress.<sup>1683</sup>
- VI. Expand policies to exclude high emitting companies, including tar sands, fracked oil and gas (including LNG), and other notorious polluters.
- VII. Do not allow fringe actors to impact business from pursuing the necessary strategies that safeguard people and the planet, and are at the core of good business practices.
- VIII. Commit to reducing the institution’s climate impact to Real Zero by 2050 at the latest, and explicitly define an immediate phaseout of fossil fuels year-on-year from 2024. Phase-out plans should be based on absolute emission reductions—Net Zero targets [see Section 3].

<sup>1683</sup> Companies reporting progress on their emission goals, may report their Scope 1, 2, and 3 emissions, which are categories that measure different types of direct and indirect emissions. Scope 1 emissions are considered direct emissions that can be traced directly to the company during everyday operations. Scope 2 emissions are indirect emissions from electricity used in company buildings. Scope 3 emissions include all of the indirect emissions (excluding scope 2) coming from the company’s entire operations at the office and throughout the supply chain. Examples of this include upstream and downstream emissions from workers that commute, waste generated, investments, and leased assets. [\[LINK\]](#)

- IX. Expand policies to include the entire global coal exit list, which accounts for all sectors involved in the coal industry, not just thermal coal production companies.
- X. Eliminate exposure to all coal power, tar sands, offshore oil drilling, fracked oil and gas, and methane gas projects/companies and fossil fuel assets companies that do not outline robust plans to phase out fossil fuels in line with the Paris Climate Agreement to limit warming to 1.5 °C. This would need to include an emissions decline of at least 50% by 2030,<sup>1684</sup> reaching Real Zero by 2050 with the aim of achieving this target as soon as possible.<sup>1685</sup>
- XI. Adhere to and implement policies requiring all investee companies to uphold Indigenous Peoples' rights, including the right to Free, Prior and Informed Consent, as outlined in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and the UN Guiding Principles on Business and Human Rights.
- XII. Include direct consultation with Indigenous, frontline, and local communities in decision-making processes in areas where operations impact those communities.
- XIII. Adhere to and implement policies requiring all investee companies uphold human rights in accordance with the International Bill of Human Rights and the UN Guiding Principles on Business and Human Rights. End financing for projects that do not adhere to FPIC or violate human rights.
- XIV. Hire independent consultants to ensure proper engagement with communities so that the burden to prove harm is not solely the responsibility of impacted community members. This requires practicing in-depth due diligence and implementing rights policies that adhere to international standards and their own statements about human and Indigenous rights.
- XV. Increase financing for renewable energy (see Section 3 for definition of renewable energy) that is low-carbon, ecologically friendly, adheres to human and Indigenous rights standards, and implements a Just Transition.
- XVI. Provide public and transparent annual reports on the above recommendations.

<sup>1684</sup> WRI. (2022, September 19). *US Government Sets Target to Reduce Emissions 50-52% by 2030*. [\[LINK\]](#)

<sup>1685</sup> United Nations Climate Change. *What is the Paris Agreement*. [\[LINK\]](#)

### Liberty Mutual and other insurance companies must:

- I. Halt all insuring of coal, oil, and gas companies, existing or new.
- II. Make any engagement with fossil fuel companies transparent and available to the public.
- III. Divest all assets (including those managed for third parties) from coal power, tar sands, offshore oil drilling, fracked oil and gas, and methane gas projects/companies that do not outline robust plans to phase out fossil fuels in line with the Paris Climate Agreement to limit warming to 1.5 °C. This would need to include an emissions decline of at least 50% by 2030,<sup>1686</sup> reaching Real Zero by 2050 with the aim of achieving this target as soon as possible.<sup>1687</sup>
- IV. Commit to reducing its climate impact to Real Zero by 2050 at the latest, and explicitly define an immediate phase-out of fossil fuels year-on-year from 2024. The phase-out plan should be based on absolute emission reductions, not Net Zero targets [see Section 3].
- V. Develop transparent underwriting and investment policies that are annually screened for progress on absolute emission reductions and Scope 1-3 emissions.
- VI. Adopt a clear and mandatory policy to cease insuring companies that don't uphold Indigenous Peoples' rights, including the right to Free, Prior and Informed Consent, as outlined in the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the UN Guiding Principles on Business and Human Rights.
- VII. Include direct consultation with Indigenous, frontline, and local communities in decision-making processes in areas where operations impact those communities.
- VIII. Adhere to and implement policies that require companies receiving insurance to uphold human rights in accordance with the International Bill of Human Rights and the UN Guiding Principles on Business and Human Rights. End financing for projects that do not adhere to FPIC or violate human rights.
- IX. Hire independent consultants to ensure proper engagement with communities so that the burden to avoid harm is not solely the responsibility of impacted community members. This requires practicing in-depth due diligence and implementing rights policies that adhere to international standards and their own statements about human and Indigenous rights.
- X. Investigate and implement pathways to hold fossil fuel companies accountable in court for their contribution in escalating the costs of climate disasters that primarily fall on the insurance customers.
- XI. Increase insurance coverage for renewable energy (see Section 3 for definition of renewable energy) that is low-carbon, ecologically friendly, adheres to human and Indigenous rights standards, and implements a Just Transition.
- XII. Provide public and transparent annual reports on the above recommendations.

<sup>1686</sup> WRI. (2022, September 19). *US Government Sets Target to Reduce Emissions 50-52% by 2030*. [\[LINK\]](#)

<sup>1687</sup> United Nations Climate Change. *What is the Paris Agreement*. [\[LINK\]](#)

# STEPS FORWARD



Global climate justice leaders hold a sign demanding an equitable Just Transition during the Global Day of Action for Climate Justice at COP28 in Dubai, 2023. (Katherine Quaid | WECAN International)

## Steps Forward

The report aims to describe the harmful gendered and racial impacts from fossil fuel activity, and spotlight several of the specific financial institutions as drivers of these injustices in the United States and parts of Canada. The report's intent was not to research in-depth the vital topic of solutions. That said, we believe that it is critical to outline several important steps forward as a basis for framing how financial institutions can pivot their activities toward a just, equitable, and healthy future.

With international attention on financial actors' roles in climate injustice, institutions such as La Banque Postale (holding \$901.7 billion) have committed to groundbreaking policy that suspends support for “all companies expanding oil and gas, and commits the bank to exit oil and gas financing entirely by 2030.”<sup>1688</sup> The bank also uses a framework from the Science Based Targets Initiative to clearly set scope 1-3 emissions\* reduction goals and timelines.<sup>1689</sup> La Banque Postale provides a model of what aggressive divestment policies can look like; however, these policies must also close bureaucratic loopholes that can be exploited to continue fossil fuel financing.

Financial institutions must also support and implement human rights standards, climate reduction goals, and the Just Transition through participating in and signing onto international and national frameworks and initiatives. For example, in April 2024, 17 members of the Global Alliance for Banking on Values<sup>1690</sup>—a network of banks, credit unions, and microfinance institutions that promote sustainable development—signed the Fossil Fuel Non-Proliferation Treaty initiative, which is a mechanism for governments around the world to transition off of fossil fuels and promote a Just Transition.<sup>1691</sup>

It should also be noted that crises—such as military conflicts—should not be used to increase fossil fuel extraction and development. In response to ongoing global conflict, there have been aggressive efforts to increase fossil fuel development in the U.S. and Canada.<sup>1692</sup> Instead of doubling down on fossil fuel extraction during crises, the long term solution is to immediately begin the transition away from fossil fuels to renewable and regenerative energy.

Communities across the U.S. and Canada are demanding an immediate phase out of fossil fuels to address the climate crisis. Instances that show our reliance on unstable energy sources provide an opportunity to accelerate a Just Transition<sup>1693</sup> toward decentralized and localized renewable energy solutions. Additionally, women and their wisdom must be centered in solutions to combating climate chaos and transitioning to the Just Transition. Studies and data

<sup>1688</sup> Merleaux, A. Et al. Banking on Climate Chaos: Fossil Fuel Finance Report. (2024, May 13). *Rainforest Action Network*. [\[LINK\]](#)

<sup>1689</sup> La Banque Postale. (2020). *Science Based Targets*. [\[LINK\]](#)

\*See Recommendations for definition.

<sup>1690</sup> Global Alliance for Banking on Values. *We put finance at the service of people and the planet*. [\[LINK\]](#)

<sup>1691</sup> Clark, N. (2024, April 22). Seventeen banks from the Global Alliance for Banking on Values join global call for binding Treaty to end use of fossil fuels. *Fossil Fuel Treaty*. [\[LINK\]](#); Cavalier-Keck, C. The River is My Kinfolk. It Deserves More Rights than Dirty Pipelines. [\[LINK\]](#)

<sup>1692</sup> IEA. *How the energy crisis started, how global energy markets are impacting our daily life, and what governments are doing about it*. [\[LINK\]](#); Barbarà, L., Galea, C. (2024, March 12). 4 ways geopolitical tensions are increasing carbon emissions. *World Economic Forum*. [\[LINK\]](#)

<sup>1693</sup> Refer to Just Transition in definitions



across the world have shown that when women are leading and given agency, societies experience immense benefits.<sup>1694</sup> Research indicates that involving women in environmental management and decision-making leads to more successful outcomes and improvements in conservation.<sup>1695</sup> In this context, women in frontline communities are at the forefront of providing innovative solutions to challenge fossil fuel extraction and expansion.

For example, Kendra Pinto (Diné)—Four Corners Indigenous Community Field Advocate at Earthworks—has been a leader in a lawsuit against the state of New Mexico to hold it accountable for its constitutional duty to protect the environment.<sup>1696</sup> Additionally, *Pollution Reporter*,<sup>1697</sup> an app created by Vanessa Gray (Anishinaabe Kwe and Bear Clan), Co-Founder of The Land and the Refinery, allows residents in Aamjiwnaang First Nation to report health concerns, which are then compiled and can be used in legal cases against the fossil fuel industry; the app also educates the community about health harms associated with specific pollutants.<sup>1698</sup> Roishetta Ozane, Founder of The Vessel Project and Community Organizer for HealthyGulf, has created an expansive mutual aid network to support and empower her own and other communities in Louisiana: the Vessel Project organizes a web of social relations that provides basic necessities and care throughout the year to those struggling with hurricane recovery, homelessness, and poverty.<sup>1699</sup> The Descendants Project, co-founded and co-directed by Jo Banner, supports the well-being of the Black descendant community in “Cancer Alley” through healing and restorative efforts, addressing legacies of slavery such as pollution-related health risks, poverty, and land dispossession while uplifting the community’s voice and advocating for positive change.<sup>1700</sup> Elida Castillo, Director at Chispa Texas, focuses her efforts on increasing voter participation and holding elected officials accountable to improve her community’s health and well-being.<sup>1701</sup> These women’s advocacy and initiatives are leading their communities toward a more just and sustainable future. Not only in the U.S. but across the world, women in frontline communities are spearheading innovative solutions to challenge fossil fuel extraction and expansion.<sup>1702</sup>

Patricia Espinosa, Executive Secretary of the United Nations Framework Convention on Climate Change, emphasizes the importance of women in climate solutions:

**“Climate change or any other challenge of humanity cannot be addressed if we leave half of the population of the world behind. Women are often the key providers of food, water and energy, and at the same time, they bear the brunt of the climate crisis. They are critical to crafting climate solutions, but are often marginalized from climate leadership, whether at the grass-roots, regional or national levels. We must ensure that women are fully empowered to participate, to contribute and to lead very strong climate action all over the world.”<sup>1703</sup>**

1694 Morris, H. (2022, August 16). Women’s Leadership Can Help Drive Climate Solutions. *UCDavis*. [\[LINK\]](#)

1695 WECAN. *Why Women*. [\[LINK\]](#)

1696 Pinto, K. (2023, June 30). WECAN Interview.; Prokop, D. (2024, April 12). Court considers arguments to toss constitutional O&G pollution suit. *Source NM*. [\[LINK\]](#)

1697 Technoscience Research Unit. (2019). *Pollution Reporter. The Land and the Refinery*. [\[LINK\]](#)

1698 Gray, V. (2023, June 2). WECAN Interview.

1699 Harding, M. (2022, January 10). No one will fall through the crack. *American Press*. [\[LINK\]](#)

1700 The Descendants Project. *What is the Descendants Project?* [\[LINK\]](#)

1701 Chispa Texas. *Meet the Team, Elida Castillo*. [\[LINK\]](#)

1702 WECAN. *Women Speak*. [\[LINK\]](#)

1703 United Nations. *Patricia Espinosa: Climate calls for a unity of purpose*. [\[LINK\]](#)



Woman carrying a sign to fight against a petrochemical expansion project proposed at the Anacortes Refinery. (Simon Bakke | RE Sources)

These frontline communities have had decades long experience living with fossil fuel extraction and infrastructure and fighting the injustices that spawn from industrial activity. It is critical to amplify this first-hand knowledge of the issues, include their voices and leadership in decision-making, and implement strategies proposed by women leaders and communities living in sacrifice zones. The transition away from fossil fuels must focus on a Just Transition for workers, clean regenerative and renewable energy, accountability and justice, new economic frameworks, and community-led solutions. Examples of a Just Transition can be seen across the U.S. where the voices and experiences of historically marginalized community members are uplifted while advancing an economy with Just Transition principles.<sup>1704</sup> WeSolar, founded by Kristal Hansley, strives to distribute affordable solar energy in her community in Maryland. By providing solar energy to her community, Kristal is providing green job opportunities while ensuring access to renewable energy. Understanding the inequities that are present in owning solar energy, she notes that:

**“There’s a clean-energy divide...So why not be the bridge and go into communities that have been left for dead.”<sup>1705</sup>**

<sup>1704</sup> Climate Justice Alliance. *Just Transition A Framework for Change*. [\[LINK\]](#)

<sup>1705</sup> WeSolar. *Solving America’s Solar Inequality Starts in the Neighborhood*. [\[LINK\]](#)

Wahleah Johns (Diné), Director of the U.S. Department of Energy Office of Indian Energy Policy and Programs, has initiated the Navajo Clean Energy Program, bringing solar energy to Native communities while paving the way for the first generation of Navajo solar installers.<sup>1706</sup> Under this community-driven program, Wahleah is helping to enhance tribal sovereignty, energy independence, and actively involving community members on green energy solutions:

**“Tribes have been leading the way in [the energy] transition because many of these communities and Nations, they are in rural and remote locations and they have been feeling the impacts of climate change. And in preparation for whether it’s fires or flooding, they have been investing in hardware technology like solar, battery storage, wind, to prepare themselves for the next potential climate impact that could have on their community, their people.”<sup>1707</sup>**



Light-up sign reading “Real Zero Not Net Zero” during an action at the COP26 in Gasglow. (Katherine Quaid | WECAN)

Financial institutions’ and governing bodies’ recent Net Zero by 2050 announcements and pledges have given the public the perception that a shift towards a greener future has occurred.<sup>1708</sup> The original formulation of Net Zero was not necessarily flawed as a scientific concept, but rather has become unsound through trends that reduce climate action to numerical target setting, focus on mid-century timelines, reliance on Carbon Dioxide Removal, and overall abstraction from the local social/ecological contexts.<sup>1709</sup>

Net Zero approaches seek to “cancel out” emissions through land and market-based

methods including bioengineering, Carbon Capture and Storage (CCS), carbon pricing, carbon offsets, among others.<sup>1710</sup> As an example, in the process of removing and storing carbon, CCS technology also contributes to carbon emissions, so that they at best, only reduce, rather than eliminate, emissions. Projected CCS infrastructure also exacerbates particulate and toxin exposure to frontline communities, most often already marginalized. Economic research also reveals that there “are no significant market ends” for CCS and that “scaling of CCS is not economically viable.”<sup>1711</sup>

In contrast with Net Zero goals, Real Zero approaches argue for reducing and preventing carbon emissions before they enter the atmosphere, holding institutions accountable and eliminating the reliance on market-based carbon offsets. A Real Zero approach requires a just

<sup>1706</sup> Horn, P. (2021, April 22). Power Is In Our Hands: Native Renewables. *Cooper Hewitt*. [\[LINK\]](#)

<sup>1707</sup> Johns, W. (2023, November 6). Episode #5 - Wahleah Johns, Director of the U.S. Department of Energy (DOE) *American Resilience Project*. [\[LINK\]](#)

Office of Indian Energy Policy and Programs. *Wahleah Johns, Director, Office of Indian Energy*. [\[LINK\]](#)

<sup>1708</sup> United Nations. (2023). *Net-Zero Pledges Grow; Ambition Falls Short*. [\[LINK\]](#)

<sup>1709</sup> Estrada, M. Et al. The Need for Real Zero Not Net Zero: Shifting from False Solutions to Real Solutions and a Just Transition. *WECAN*. [\[LINK\]](#)

<sup>1710</sup> Feit, S. (2021, August 8). Too Many Loopholes in the Net: “Net-Zero” Promises Ring Hollow Without “Zero Fossil Fuel” Pledges. *Center for International Environmental Law (CIEL)*. [\[LINK\]](#)

<sup>1711</sup> Gerhardt, T. (2021, November 10). The Problem With “Net Zero”. *SierraClub*. [\[LINK\]](#)

<sup>1711</sup> *Ibid.*

and rapid phase-out of fossil fuels, a fair and democratic renewable energy transition, a shift to both agroecology and small-scale farming, Indigenous and community-led forest protection, an end to all fossil fuel subsidies, policies that halt fossil fuel expansion, and the prioritization of women's leadership.<sup>1712</sup> Net Zero frameworks are used widely in climate agreements and pledges and although Net Zero goals fail to address and reduce emission at the source, we aim to make Net Zero approaches as productive as possible while simultaneously pushing global discussions towards Real Zero goals.

Additionally, a transition away from fossil fuels into renewable energy must avoid exchanging one extractive industry for another. For example, lithium mining produces many of the same air, water, and soil pollution hazards as tar sands extraction.<sup>1713</sup> Current renewable energy metal mining processes are oftentimes just as environmentally hazardous as fossil fuel extraction and development. Similarly, disposal, storage, and offsets of carbon waste will fall disproportionately on the Global South and Indigenous territories in the Global North.<sup>1714</sup> A transition to renewable energy must account for current human rights and health violations, and ensure that these issues do not repeat in the renewable energy sector. A transition must also consider communities who have become economically dependent on the fossil fuel industry, such as Kern County in California, which receives a majority of its revenue from fossil fuel activity and has a 26.02% poverty rate.<sup>1715</sup> In order to safely transition communities and workers currently reliant on the fossil fuel industry, the transition must provide equitable training for new renewable energy sectors and well paying jobs. Renewable energy cannot perpetuate the extraction, destruction, and violence seen in the fossil fuel industry.

This transition requires an entire paradigm shift in the role of the economy and who it benefits. Current economic models use Gross Domestic Product (GDP) as a measure of economic growth;<sup>1716</sup> however, GDP does not reflect how modern capitalism disproportionately benefits wealthy shareholders over workers.<sup>1717</sup> Other metrics such as the Gross National Happiness (GNH) Index may be more useful than GDP in measuring the wellbeing of an average person rather than the economic success of whole countries. GNH analyzes 33 indicators which are divided into four pillars: good governance, sustainable socio-economic development, cultural preservation, and environmental conservation.<sup>1718</sup> Currently, Bhutan is the only country calculating its GNH index and developing policies that incorporate GNH principles.<sup>1719</sup>

The model of Buen Vivir, which has roots in the Quechua term, Sumak Kawsay, and developed in South America, provides a healthy, positive pathway away from western capitalism. Loosely translating to “good living,” Buen Vivir describes a model of living that is “community-centric,

1712 Real Zero Europe. (2023, May 16). *Net Zero is not Zero*. [\[LINK\]](#)

1713 Kingsbury D.V., (2021, July 20). 'Green' Extractivism and the Limits of Energy Transitions: Lithium, Sacrifice, and Maldevelopment in the Americas. *Georgetown Journal of International Affairs*. [\[LINK\]](#)

1714 ClimateFalseSolutions. (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

1715 Plumer B. (2022, July 7). Quitting Oil Income Is Hard, Even for States That Want Climate Action. *The New York Times*. [\[LINK\]](#); WorldPopulationReview. (2023). Kern County, California Population 2023. [\[LINK\]](#)

1716 European Union. *Alternative measures of progress beyond GDP*. [\[LINK\]](#)

1717 The Daily, (2022, April 24). The Sunday Read: 'How Many Billionaires Are There, Anyway?' *The New York Times*. [\[LINK\]](#)

1718 Ura, K. Et al. (2012, May). An extensive analysis of GNH Index. *Centre for Bhutan Studies*. [\[LINK\]](#)

1719 Sharma, L. (2021, October 25). What Bhutan Got Right about Happiness - and What Other Countries Can Learn. *World Economic Forum*. [\[LINK\]](#)

ecologically balanced, and culturally sensitive.<sup>1720</sup> This model would include a collaborative consumption and sharing economy, which lies in contrast with extractive capitalism.<sup>1721</sup> These principles of Buen Vivir, including small-scale production, reduction of consumption, and harmony between people and the planet, must be constituted into a transition to renewable energy.<sup>1722</sup>

A Just Transition benefits from a feminist analysis of a circular economy—one in which industrial and economic practices are restorative, regenerative, and mitigate/eliminate waste. Furthermore, a feminist economy rectifies and addresses forms of unpaid caretaking. Addressing unpaid care labor and including it in the economy simultaneously furthers gender equality since a majority of caretaking labor is performed by women. The International Labor Organization (ILO) reports that the global care workforce represents 11.5% of total employment, and that the unpaid caretaking workforce is over 75% women.<sup>1723</sup> Women participate more in renewable energy-related matters when care work is redistributed, reduced, rewarded, and recognized.<sup>1724</sup> Implementation of the care economy coupled with circular principles, has the potential to create dignified jobs, address gender inequities, and diminish demand for material extraction.<sup>1725</sup>

Addressing the climate crisis must involve addressing the disproportionate impact fossil fuel activity has on African American/Black/African Diaspora, Indigenous, Latina, and low-income women. A central component of this process involves financial institutions acknowledging their role in perpetuating these injustices and being accountable to change their practices. In particular, Royal Bank of Canada, Bank of America, JPMorgan Chase, Citigroup, BlackRock, Vanguard, and Liberty Mutual must be held accountable for their role in financing, insuring, and investing in abuses against women and the planet. Their financial transactions and business relationships must reflect the agreements and commitments made in their policies and statements. The global community, and frontline women especially, need divestment from fossil fuels and respect for human and Indigenous rights immediately.

As of May 2024, the United States alone has suffered through seven climate disasters that cost over \$1 billion each; this number is expected to increase through the summer.<sup>1726</sup> This year was an extraordinary one for the planet: people were impacted across the globe by record-breaking temperatures, hurricanes, and massive floods.<sup>1727</sup> Extraordinary tornadoes in 2023 left fatalities over three times higher than in 2022.<sup>1728</sup> The summer of 2023 broke records for being the hottest summer ever recorded, with one study estimating that 11,000 deaths were caused by extreme heat.<sup>1729</sup> Recent data suggests that the summer of 2024 is on track to be even hotter.<sup>1730</sup>

1720 Balch, O. (2013, February 4). Buen vivir: the social philosophy inspiring movements in South America. *The Guardian*. [\[LINK\]](#)

1721 Ibid.

1722 Bristow, R. (2011, June 10). Collaborative consumption - Rachel Botsman live Q&A. *The Guardian*. [\[LINK\]](#)

1723 Bilecik N., (2020, July 21). Feminist Economics Perspectives on Covid-19: Caring Labor, Care Economy and Gender Equality. *Columbia Global Centers*. [\[LINK\]](#); Rodriguez, L. (2021, September 13). Unpaid Care Work: Everything You Need to Know. *Global Citizen*. [\[LINK\]](#)

1724 Carpenter, C. Et al. (2023, March 14). New Economics for Sustainable Development Purple Economy (Care Economy+). *United Nations Economist Network*. [\[LINK\]](#)

1725 Ibid.; Albaladejo, M. Et al. (2022, March). Why adopting a gender-inclusive approach towards Circular Economy matters. *Industrial Analytics Platform*. [\[LINK\]](#); Wiesen, C. (2022, May 26). The tactics to drive a gender-inclusive circular economy. *UNDP*. [\[LINK\]](#)

1726 NOAA. (2024, July 9). *Billion-Dollar Weather and Climate Disasters Overview*. [\[LINK\]](#);

1727 Ramirez, R. (2023, June 16). Without climate change, these extreme weather events would not have happened. *CNN*. [\[LINK\]](#); Cappucci, M., Et al. (2023, July 21). Inside the most

extreme heat wave the Southern U.S. has faced. *The Washington Post*. [\[LINK\]](#)

1728 Livingston, I. (2023, April 6). Tornado deaths in 2023 are already more than double last year's total. *The Washington Post*. [\[LINK\]](#)

1729 NASA. (2023, September 14). *NASA Announces Summer 2023 Hottest on Record*. [\[LINK\]](#); Borenstein, S. (2024, May 31). AP analysis finds 2023 set record for US heat deaths, killing in areas that used to handle the heat. *AP News*. [\[LINK\]](#)

1730 Abnett, K., Wither, A. (2024, July 8). 2024 could be world's hottest year as June breaks records. *Reuters*. [\[LINK\]](#)

Mark Paul, a Rutgers University Professor and co-author of the IPCC Report, summarizes the urgency of this moment:

**“We actually need to stop extracting and burning fossil fuels, there’s just no way around it.”<sup>1731</sup>**

Reducing current rates of greenhouse gas emissions through an immediate year on year phase-out of fossil fuels, and transitioning to an economy based on clean, regenerative, renewable energy is essential for all countries. As this occurs, it is vital that the transition places frontline women’s wisdom and solutions at the heart of the movement.

In May 2023, the European Parliament held the Beyond Growth conference, which aimed to redefine societal goals to create a systemic and transformative change in global economic, social, and environmental sustainability frameworks.<sup>1732</sup> A reflection from the conference indicated that the United States and other country’s steadfast prioritization of material economic growth and development is increasingly incompatible with conserving the natural world and uplifting human rights.<sup>1733</sup> At the Beyond Growth conference, many civil society organizations, new economy leaders, and frontline activists who have been working on these issues for years, explored post-growth economic frameworks [see Section 3 for a definition of post-growth].<sup>1734</sup>

The post-growth economy provides a framework to restructure dominant systems of consumption and build human-environment relations composed of reciprocity and respect. A post-growth economy is rooted in the revitalization of communities, reorientation of organizations, and reimagining of economies; post-growth advocates work to alter individualist capitalist worldviews to place “people’s needs ahead of corporate greed” and build an “economy that gives more than it takes from our life-supporting environment.”<sup>1735</sup> A post-growth economic framework accounts for and properly measures holistic long-term gains and losses. Adopting and financing a post-growth framework is necessary given the interlocking climate, environmental and social crises. This restructuring of the economy provides financial institutions with a model to rethink market capitalism, which is currently based on infinite material growth on a finite planet. Tim Jackson, ecological economist and author of *Post Growth: Life after Capitalism*, notes:

**“We’ve heard it already: exponential economic growth is unsustainable, resources are finite and planetary boundaries should lead decision-making processes. However, politicians, corporations, and economists alike still lead us to believe that our prosperity is intrinsically connected to growing GDP and a buoyant stock market. To provide prosperity for all while respecting planetary boundaries, it is imperative we transcend both the conventional growth-centered worldview and our growth-dependent economic and social systems.”<sup>1736</sup>**

<sup>1731</sup> Winters, J. (2023, March 24). The IPCC says we need to phase down fossil fuels, fast. Here’s how the US could do it. *Grist*. [\[LINK\]](#)

<sup>1732</sup> BeyondGrowth. (2023). *Beyond Growth 2023 Conference*. [\[LINK\]](#)

<sup>1733</sup> Bester, L. (2022, September 23). What does a post-growth economy look like? One social entrepreneur explains. *World Economic Forum*. [\[LINK\]](#)

<sup>1734</sup> See definition of *post-growth*

<sup>1735</sup> Post Growth Institute. *The Post Growth Institute is an international, not for profit*. [\[LINK\]](#)

<sup>1736</sup> The Bulletin. (2023, May 16). *Tim Jackson: Imagining a ‘post-growth’ economy*. [\[LINK\]](#)

“If we are going to be able to create a new economic vision, companies will need to rethink every aspect of their operations; their bottom lines, ownership structures, demands on financial returns, how they raise capital. For example, an ethical company would say it should only take a fair share of the planet’s resources and campaign on this.”<sup>1737</sup>

Kate Raworth, economist and Co-founder of Doughnut Economics Action Lab, further describes the necessity of creating sustainable economies that work within the planet’s ecological limits:

“It’s time to think again, to reimagine the shape of progress, because today, we have economies that need to grow, whether or not they make us thrive, and what we need, especially in the richest countries, are economies that make us thrive whether or not they grow.”<sup>1738</sup>

Doughnut Economics is an economic framework that was conceptualized by Kate Raworth, co-founder of Doughnut Economics Action Lab.<sup>1739</sup> The framework emphasizes that a flourishing economy should not rely on endless exponential growth to meet the basic needs of living beings and balance planetary boundaries.<sup>1740</sup> The Doughnut Economy is represented with two rings: the inner ring symbolizes a foundation that ensures food, shelter, water, and human rights are guaranteed, while the outer ring represents ecological limitations including water, air, biodiversity, and other ecological systems needed to sustain life.<sup>1741</sup> This economic framework aims to redistribute wealth, restore resources, and provide conditions for living beings to thrive.

When adopting new economic frameworks, women play an essential role in reshaping societal narratives, policies, and practical lived experiences. Studies across the world have shown that when women are uplifted, there are immense benefits to entire communities and societies overall. Sustainable and local economies grow,<sup>1742</sup> and children’s health and education improve<sup>1743</sup>—all of which are foundations for a sustainable path forward. Research indicates that involving women in environmental management and decision-making leads to more successful outcomes and improvements in conservation. For example, when allowed to actively participate in disaster planning and response, women show a unique and vital knowledge base and set of skills for effective community rescue, support, rebuilding, and conflict management.<sup>1744</sup>

In order to support the efforts of frontline women and their communities, the United States and Canada must implement a Just Transition that invests in workers and historically marginalized communities. The Climate Justice Alliance (CJA), which represents frontline communities across the U.S., outlines a Just Transition in a set of principles that are rooted in low-income communities of color who have witnessed firsthand the harm industries have had on the

1737 Ibid.

1738 Raworth, K. (2018). A healthy economy should be designed to thrive, not grow. *TED*. [\[LINK\]](#)

1739 Raworth, K. (2018). Doughnut economics: Seven ways to think like a 21st-century economist. *British Journal of General Practice*. [\[LINK\]](#)

1740 Ibid.

1741 Ibid.

1742 Shearman, S. (2019, July 30). Want to add trillions to the global economy? Black female founders. *Reuters*. [\[LINK\]](#)

1743 Heaton, T. (2015, December 11). Are Improvements in Child Health Due to Increasing Status of Women in Developing Nations? *Biodemography and Social Biology*. [\[LINK\]](#)

1744 WECAN. Why Women. [\[LINK\]](#)

health of their communities and the planet.<sup>1745</sup> In alliance with these frontline communities, CJA defines a transition away from polluting industries that also “redress[es] past harms and creat[es] new relationships of power for the future through reparations.”<sup>1746</sup> The process cannot cost workers or community residents their jobs or economic assets: the transition must create new renewable energy job opportunities and compensate for job losses, especially for workers who will be directly impacted by changing industries.<sup>1747</sup> In May 2023, CJA, along with the Center for Biological Diversity and the Indigenous Environmental Network, sent President Biden a letter laying out specific actions Congress can take to support a Just Transition.<sup>1748</sup> This includes expanding funding for energy-efficient technology that prioritizes disadvantaged communities, jumpstarting a circular economy, and increasing community engagement.<sup>1749</sup> In April 2024, UN Secretary-General António Guterres expressed his frustration surrounding the lack of action and accountability in regard to solving the climate crisis:

**“Countries are far off track in meeting climate promises and commitments. I see a lack of ambition. A lack of trust. A lack of support. A lack of cooperation. And an abundance of problems around clarity and credibility...It’s time to wake up and step up. It’s time to rebuild trust based on climate justice. It’s time to accelerate the just transition to a green economy. Limiting the rise in global temperature to 1.5°C is still possible. We must consider this as a moment of hope. But it will require carbon emissions to be cut by 45% by 2030.”<sup>1750</sup>**

The Feminist Green New Deal coalition advocates for an intersectional and feminist perspective surrounding the Green New Deal that lays out goals and principles in order to transition to renewable energy.<sup>1751</sup> The feminist perspective emphasizes the need to create a regenerative economy, which moves away from an extractive economy in order to protect communities and nature, and that incorporates feminist economics and care work; “women around the world have...disproportionately performed labor like housework, raising children, and elder work” which is “almost always unpaid, undervalued, and invisibilized in economic and social policies.”<sup>1752</sup> The Principles for a Feminist Green New Deal states the need to transition away from fossil fuels, “transforming an extractive, unjust status quo into new, socially just and environmentally sustainable economies that respect and balance nature’s regenerative capacity.”<sup>1753</sup>

Traditional Ecological Knowledge is an essential framework for addressing the climate crisis and a Just Transition. For thousands of years Indigenous Peoples have observed and interpreted changes in the environment; Indigenous knowledge holds abundant expertise and techniques for land management, economic paradigms that respect reciprocity with the natural world, and an ethos of living in harmony with nature.<sup>1754</sup> Indigenous Peoples’ vast body

1745 Climate Justice Alliance. *Just Transition: A Framework for Change*. [\[LINK\]](#)

1746 Ibid.

1747 Justice Transition Alliance. *What is Just Transition*. [\[LINK\]](#)

1748 Biological Diversity. (2023, May 10). *A Better Path Forward to Achieving a Just and Renewable Energy Future*. [\[LINK\]](#)

1749 Biological Diversity. (2023, May). *Pursuing a Just and Renewable Energy System*. Biological Diversity. [\[LINK\]](#)

1750 United Nations Meetings Coverage and Press Releases. (2023, June 15). *Press Conference by Secretary-General António Guterres at United Nations Headquarters*. [\[LINK\]](#)

1751 Ocasio-Cortez, A. Et al. (2019, February 7). *Recognizing the duty of the Federal Government to create a Green New Deal*. H.R. 116th Cong. [\[LINK\]](#)

1752 Feminist Green New Deal. (2018). *Principles*. [\[LINK\]](#)

1753 Francis, K. (2021, December 13). *Honoring Traditional Ecological Knowledge Is Critical*. UNETINC. [\[LINK\]](#)

1754 Ibid.



of knowledge and land caring practices must be a foundation for adaptation and mitigation strategies, and Indigenous leaders must be at the forefront of decision-making efforts regarding the climate crisis and solutions. Rauna Kuokkanen (Sápmi), Research Professor of Arctic Indigenous Studies at the University of Lapland, Finland, describes an economy that centers care and reciprocity:

**“We must restore the principle of mothering as the basis of humanity and reestablish gift giving as the key social value. What this principle of mothering means is that we must generalize the value of nurturing and care so that they apply to both men and women. Rather than use the principle of the gift paradigm to justify the exploitation of women and their domestic labor we can reorganize the institutions and structures of society to reflect the principles of gift giving. For me the gift is the foundation of an Indigenous worldview—characterized by the perception that the natural environment is a living entity which gives its gifts and abundance to people provided that we observe certain responsibilities and provided that we treat it with respect and gratitude. Central to this perception is that social ties that apply to everyone and everything including the land... through which the social order is renewed and secured. The gift is the manifestation of reciprocity...”<sup>1755</sup>**

In order to secure a Just Transition, fossil fuels must be left out of the new economy. Oil and gas refineries and other large industrial plants often cause economic turmoil in the communities where they are located, e.g. decreasing property values.<sup>1756</sup> Fossil fuel companies force out other businesses, which in turn restrict job opportunities for local residents, forcing workers into industry jobs. Barbara Washington, a Member of RISE St. James, describes the economic impact in her community of St. James Parish in Louisiana:

**“From one end of the parish to the next end of the parish we can’t buy a pair of shoes...we have to go outside of our parish to shop for big things that we want...they’re saying they need the revenue that comes from the plant...they give them tax exemptions...we don’t see any of that.”<sup>1757</sup>**

Investing in clean renewable energy is a lower risk investment opportunity that allows financial institutions to comply with their commitments to the Paris Agreement. When solar or wind generated electricity is made available, it replaces natural gas and coal fired energy in the U.S. and almost every country.<sup>1758</sup> The Energy Information Administration projected that more than 81% of new U.S. electric-generating capacity in 2024 has the potential to come from solar energy and battery storage.<sup>1759</sup> New studies find that renewables are by far the cheapest form of energy.<sup>1760</sup> Francesco La Camera, the Director General of the International Renewable

<sup>1755</sup> WECAN. (2020, May 28). *Structuring an Economy for People and Planet in the Time of Climate Crisis and COVID-19*. [\[LINK\]](#)

<sup>1756</sup> Staudinger, C. (2021, February). *St. John Takes, Marathon Takes. Antigravity*. [\[LINK\]](#)

<sup>1757</sup> Washington, B. (2020, November 25). WECAN Interview.

<sup>1758</sup> Bird, L. Et al. (2020, May 12). *Setting the Record Straight About Renewable Energy*. *World Resources Institute*. [\[LINK\]](#)

<sup>1759</sup> Ray, S. Et al. (2024, February 15). *Solar and battery storage to make up 81% of new U.S. electric-generating capacity in 2024*. *EIA*. [\[LINK\]](#); *EIA*. (2023, February 6). *More than half of new U.S. electric-generating capacity in 2023 will be solar*. [\[LINK\]](#)

<sup>1760</sup> Way, R. Et al. (2022, September 21). *Empirically grounded technology forecasts and the energy transition*. *Joule*. [\[LINK\]](#); IRENA. (2022, July 13). *Renewable Power Remains Cost-Competitive amid Fossil Fuel Crisis*. [\[LINK\]](#)

Energy Agency (IRENA) notes how “renewables present countries tied to coal with an economically attractive phase-out agenda that ensures they meet growing energy demand while saving costs, adding jobs, boosting growth and meeting climate ambition.”<sup>1761</sup> Financial institutions have the opportunity to be a part of the rapidly growing future of renewable energy and to invest in frontline communities.



Activists carry banner reading “Invest in Frontline Communities Not Their Destruction” in front of Blackrock’s Manhattan headquarters. (Ashley Guarado | WECAN)

Crucially, we must ensure justice is respected in the transition to 100% renewable energy. Any solution that does not safeguard the dignity and flourishing of people and the planet must be rejected. Climate False Solutions’ 2021 report, *Hoodwinked in the Hothouse*, describes how false solutions, such as increased natural gas extraction; mega-dams that cause irreversible damage to biodiversity, food sovereignty and livelihoods; geo-engineering; bioenergy; carbon trading schemes; and carbon capture and storage, have no place in the Just Transition.<sup>1762</sup> Failing to harness, store, and transmit energy from wind, water, and solar sources will lead to accelerated and catastrophic climate damage, loss of biodiversity, and economic, social, and political instability.<sup>1763</sup>

As mentioned in Section 7, for important guidance on respecting and upholding human and Indigenous rights, we recommend, amongst others, the following two reports: *Free, Prior and Informed Consent Due Diligence Questionnaire*<sup>1764</sup> and *Consent is Everybody’s Business: Why banks need to act on free, prior and informed consent*.<sup>1765</sup> As Freda Huson (Unist’ot’en – Wet’suwet’en People), leader and spokesperson for the Unist’ot’en camps, describes:

1761 Ibid.

1762 ClimateFalseSolutions. (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

1763 Ibid.

1764 First Peoples Worldwide: University of Colorado Boulder. *Free, Prior and Informed Consent Due Diligence Questionnaire*. [\[LINK\]](#)

1765 Hawkes, S. (2019, August 20). *Consent is Everybody’s Business: Why banks need to act on free, prior and informed consent*. *Oxfam*. [\[LINK\]](#)

“These [fossil fuel] corporations, what they have should be enough, but it is not enough for them, what they want is more, more, more, more; and that is what is destroying the planet and that is what is destroying everything. They set up a system that has become very corrupt and they try to cover up everything that they did wrong and still try to push forward. There is no money to be made in LNG and fracked gas...we have to do the protecting now, or else Mother Earth will fight back, and all of us will have to pay.”<sup>1766</sup>

To begin to heal the abuses against the environment and harm done to African American/ Black/African Diaspora, Indigenous, Latina, and low-income women, the global community must immediately embark upon the Just Transition to a democratized, decentralized, renewable energy future, and remedy social, racial, gender, and economic injustices. This is what is best for all of our communities, and this is a necessity in the fight for a livable and just world for future generations.

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<sup>1766</sup> Quaid, K. (2020, October 19). Indigenous Women Leaders Warn Global Financial Companies to Stop Support for Tar Sands Oil [Press Release] *Women's Earth & Climate Action Network (WECAN)*. [\[LINK\]](#)

# CONCLUSION



Feminists march in New York City during Climate Week to demand climate justice and an end to fossil fuels. (Ashely Guarado | WECAN)

## Conclusion

The fossil fuel industry perpetuates the contamination of land, water, and air, as well as the marginalizing of communities. Due to structural racism and institutional sexism, African American/Black/African Diaspora, Indigenous, Latina, and low-income women are disproportionately impacted by the extraction and infrastructure of the fossil fuel industry's destruction towards the Earth. These abuses by the fossil fuel industry are perpetuated by the financial institutions who finance, insure and invest in fossil fuel companies; the harm and the drivers of the harm must be reckoned with and there must be remedy for injustices. It is critical to address the specific interlocking issues of violence against the land and violence against women when approaching environmental justice.

Based on the analysis of first-hand women's accounts, peer-reviewed scientific articles, and other published papers, this report identifies a myriad of links between the fossil fuel activity that particular financial institutions support and threats to the health and safety of African American/Black/African Diaspora, Indigenous, Latinas, and low-income women. These harmful impacts have been clearly documented in the eight regions highlighted in the report. However, we recommend that much further research be conducted because impacts to frontline women are still under-researched and underreported.

Extraction zones are extensively associated with sexual violence against Indigenous women and girls. As the Willow Project moves forward with its development, residents are concerned about the establishment of Man Camps, as these temporary housing sites have been linked to increased rates of violence, further contributing to the Missing and Murdered Indigenous Peoples crisis.<sup>1767</sup> By financing ConocoPhillips, JPMorgan Chase, Royal Bank of Canada, Bank of America, BlackRock, Vanguard, and Capital Group are perpetuating safety threats to Indigenous women and girls, violating the right to Free, Prior, and Informed Consent,<sup>1768</sup> and jeopardizing natural and cultural resources crucial for local villages' subsistence and cultural practices.<sup>1769</sup> Because of the deep and sacred connection between Indigenous Peoples' identity, livelihood and survival, and the land, destroying land and water on Indigenous lands is in essence committing cultural genocide.

Women experience disproportionate health impacts from fossil fuel pollution. For example, air pollution and water contamination have been linked to breast cancer, ovarian diseases, and risks to women's pregnancies.<sup>1770</sup> Proximity to fracking has been linked to adverse birth outcomes, including premature births and high risk pregnancies.<sup>1771</sup> Fossil fuel activity places additional burdens on women as primary caretakers.<sup>1772</sup> Health risks from pollution and fossil fuel

1767 The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#); Hulac, Benjamin. (2023, February 15). As Willow project decision nears, Alaska ponders ties to oil. *Roll Call*. [\[LINK\]](#)

1768 Baswan, M. The Willow Project and its impacts on Indigenous communities. *The Indigenous Foundation*. [\[LINK\]](#)

1769 Native Movement. (2023, February 6). *The Threat of the Proposed Willow Project*. [\[LINK\]](#)

1770 Wahlang, B. (2018). Exposure to persistent organic pollutants: impact on women's health. *Review on Environmental Health*. [\[LINK\]](#)

1771 Cairncross, Z. (2022, June 1). Association Between Residential Proximity to Hydraulic Fracturing Sites and Adverse Birth Outcomes. *PubMed*. [\[LINK\]](#)

1772 Patterson, J. (2020, May 2). WECAN Interview. See Section 5b for further information.

driven climate change, heighten and impede women's daily work and responsibilities. When children, elders, or other family members suffer from illnesses triggered by the proximity of polluting industries—e.g. asthma—women are, in most cases, the ones who end up having to stay home and take care of the sick.<sup>1773</sup> The interlocking issues between caretaking and pollution can be seen in Weld, Broomfield, and Adams counties in Colorado, where instead of focusing on their education, young students have to be given steroid treatments multiple times a week due to constant exposure to harmful fossil fuel emissions, and mothers cannot leave their children at school without constant stress and worry.<sup>1774</sup> Or in Appalachia, where particulate pollution from compressor plants leaves children vulnerable to formaldehyde poisoning, heightening mothers' anxieties and responsibilities as they care for their sick children.<sup>1775</sup>

Financial institutions must acknowledge their role in perpetuating these and other devastating impacts and others delineated in the report. For too long, these financial actors have profited off the direct disenfranchisement and oppression of Indigenous women, women of color, and low-income women. By continuing to finance, insure, and invest in fossil fuels, banks, asset managers, and insurance companies are neglecting their commitments to adhere to the goals and targets of the Paris Agreement, are breaching international human rights law and treaties, including Indigenous Peoples' right to Free, Prior and Informed Consent, and are neglecting their internal ESG guidelines and agreements regarding frameworks such as the UN Guiding Principles on Business and Human Rights.

As the climate crisis accelerates and the global community transitions to cleaner energy, financial institutions who continue to support fossil fuel companies are exposed to physical and transitional risks, including regulatory, reputational, and financial (i.e. credit risks and stranded assets), as well as specific insurance risks.

Financial institutions have been complicit in the violations against frontline women described in the report. JPMorgan Chase, Bank of America, Citigroup, Royal Bank of Canada, BlackRock, Vanguard, and Liberty Mutual must immediately divest from and stop insurance coverage of fossil fuels. These financial institutions must adhere to and implement mandatory policies upholding human and Indigenous rights, and include direct consultation with Indigenous, frontline, and local communities in decision-making processes in areas where operations impact those communities. These are necessary steps in order for the global community to begin to heal and move towards a Just Transition to a regenerative renewable energy future that values all humans equally, regardless of race or gender.

Because the financial, epidemiological, and social research in the report is by no means exhaustive, we hope that the information presented may serve as an antecedent for future research. Due to lack of monitoring and the difficulty of conducting long-term health studies, impacts from fossil fuel pollution and activity need to be more rigorously analyzed to doc-

1773 Sauer, E. (2022, March 9). The Gender Gap in Caregiving and Why Women Carry It. *UMKC Women's Center*. [\[LINK\]](#)

1774 Garcia-Nelson, P. (2023, June 2). *WECAN Interview*.

1775 Agency for Toxic Substances and Disease Registry (2022). *Medical Management Guidelines for Formaldehyde*. *Centers for Disease Control*. [\[LINK\]](#)

ument the full extent of harms. It is imperative that future research investigates what these links mean, especially in areas where systemic racism and patriarchy have left communities with inadequate economic and social benefits.

While the report specifically focuses on the gendered and racial impacts of significant fossil fuel companies and financial institutions in North America, these impacts and experiences are not unique to North American women, but also exist throughout the world. Women in other countries also face death threats and violence because of their resistance to fossil fuel extraction and infrastructure in their communities. In 2023, the Human Rights Defender Memorial documented the deaths of over 300 people in 28 countries, with over half of them having lost their lives while defending land, environmental, and Indigenous Peoples' rights.<sup>1776</sup>

While this report is specific to North America, its findings, implications, and recommendations can have a global impact for financial institutions supporting the fossil fuel industry elsewhere in the world.

Frontline women have been leading efforts to stop extractive industries, and this report honors the hard work and numerous achievements of individual women and women-led organizations fighting to protect their communities and the Earth worldwide.<sup>1777</sup>

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<sup>1776</sup> Front Line Defenders. (2023/2024). *Global Analysis 2023/24*. [\[LINK\]](#)

<sup>1777</sup> WECAN. *Women Speak*. [\[LINK\]](#)

# About WECAN

The Women's Earth and Climate Action Network (WECAN) is a solutions-based, multi-faceted 501c3 non-profit organization established to engage women worldwide in policy advocacy, on-the-ground projects, direct action, trainings, and movement building for global climate justice. Our primary work is with women globally on the frontlines of climate change; in particular, Indigenous women, women of color, low-income women, and underserved communities. We also know that it is essential to work with decision-makers, and, thus, our network also engages with women at the highest levels of government and business.

Due to unequal gender norms globally, women are impacted first and worst by the climate crisis and socio-ecological degradation, and yet one of the untold stories is how women are simultaneously essential actors in local and global solutions. Study after study shows that we must involve women's leadership if we are to succeed in areas of just climate solutions, social equality, and bold transformative change.<sup>1778</sup> Gender and climate justice are at the core of WECAN's mission.<sup>1779</sup> African American/Black/African Diaspora, Indigenous, Latina, and low-income women are central leaders in the intergenerational fight for climate justice. Amongst other program areas, WECAN works with frontline women and communities to organize strategic campaigns and programs to protect their communities and lands.

<sup>1778</sup> WECAN. *Why Women*. [\[LINK\]](#)

<sup>1779</sup> WECAN. *About Women's Earth and Climate Action Network, International (WECAN)*. [\[LINK\]](#)