

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

Third Edition | September 2023



WE CAN

Women's Earth & Climate Action Network, International



Women are the creators, we give birth to life on this planet and for us women, it's natural to want to protect and to take care. All I can say to the financial institutions making investments in these destructive and extractive industries is that they are investing in the wrong thing.¹

Patricia Garcia-Nelson

(WIXÁRIKA TRIBES OF MEXICO AND THE CHICHIMECA)
COLORADO FOSSIL FUEL JUST TRANSITION ADVOCATE



Whenever I do my blood work, I get my iron infused in the same place where women get chemotherapy. Every time I'm there, even when I get my iron treatment, I'm always thinking "what if the next time I come, I have to get chemotherapy." I do live in "Cancer Alley" so it's those things that play on your mind and the reality of it that's really detrimental... We're also dealing with climate change and being impacted by hurricanes; the amount of greenhouse gases produced in our area alone is massive... it's a lot of different intersections that come into play. There are ways financial institutions can invest to improve our health and also support our communities instead of contributing to harming them.²

Jo Banner

CO-FOUNDER AND CO-DIRECTOR OF THE DESCENDANTS PROJECT



When we're getting into these fights over water, and trying to protect water and not having anyone else respect water, it is very frustrating. As an Anishinaabe woman you want to do what you need to do—to know the depth of your teachings and to understand why you need to protect the water...It does have ceremonial impacts not only on myself but on our community. Who would want to go and perform a water ceremony, if the water is surrounded by oil? No one. If that place is destroyed, if the Straits of Mackinac are destroyed, our ceremonies are destroyed, those Waters Spirits are destroyed, those beings, we can no longer communicate with them...and so it becomes a threat to our Indigenous spirituality, our Indigenous lifeway, when we can no longer really be who we are. If the water is destroyed it's also the land—it's not just nor right.³

Whitney Gravelle

(ANISHINAABE)
PRESIDENT OF THE BAY MILLS INDIAN COMMUNITY

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

2 Banner, J. (2023, July). WECAN Interview

3 Gravelle, W. (2023, June). WECAN Interview

Third Edition

Published by the Women's Earth and Climate Action Network (WECAN) International: WECAN is a solutions-based, multi-faceted 501c3 non-profit organization established to engage women worldwide in policy advocacy, on-the-ground projects, trainings, and movement building for global climate justice. WECAN is based in the San Francisco Bay Area, California.

Copyright 2023

Authors:

Allison Fabrizio: Research and Policy Associate, Women's Earth and Climate Action Network (WECAN)

Livia Charles: Researcher, Women's Earth and Climate Action Network (WECAN)

Osprey Orielle Lake: Founder/Executive Director, Women's Earth and Climate Action Network (WECAN)

Case Study Research/Writing Contributions:

Michaela Anang: Researcher, Women's Earth and Climate Action Network (WECAN)

Conceptualization:

Osprey Orielle Lake

Reviewers:

Zorka Milin: Policy Director, Financial Accountability and Corporate Transparency (FACT) Coalition

Tamara Toles O'Laughlin: Founder, Climate Critical, Environmental Advocate

Vishnu Laalitha Surapaneni, MD, MPH: Assistant Professor, General Internal Medicine

Cover Art:

Cover art created by **Katherine Quaid (Nez Perce, Cayuse, Paiute):** Communications and Outreach Coordinator, Women's Earth and Climate Action Network (WECAN)

Table of Contents

1	Executive Summary	5	7	Financial Institution Implementation Gaps Regarding Human Rights and the Environment	141
2	Introduction	17	a.	Bank of America	148
3	Definitions and Scope	21	b.	Liberty Mutual	151
4	Research Methods	32	c.	BlackRock	152
5	Gendered and Race-Based Impacts of the Fossil Fuel Industry	36	d.	Royal Bank of Canada	154
	a.	Environmental Racism and Breaches of Indigenous Rights	e.	JPMorgan Chase	156
		37	f.	Vanguard	158
	b.	Caretaking Role	g.	Capital Group	160
		39	8	Financial and Market Risks	162
	c.	Pollution	a.	Regulatory Risks	163
		42	b.	Credit Risks and Stranded Assets	165
		i.	c.	Insurance Risks	168
		Air Quality	d.	Reputational Risks	169
		42	9	Recommendations	172
		ii.	10	Steps Forward	177
		Water Contamination	11	Conclusion	188
		46	12	About WECAN	192
		iii.			
		Soil and Food Insecurity			
		49			
		iv.			
		Heat Islands			
		52			
	d.	Fertility, Medical, and Reproductive Rights			
		55			
	e.	Man Camps			
		59			
	f.	Mental Health			
		62			
6	Selected Regions	65			
	a.	Texas Gulf Coast			
		66			
	b.	The Willow Project			
		74			
	c.	Permian Basin and Eagle Ford Shale			
		79			
	d.	“Cancer Alley”, Louisiana			
		85			
	e.	California: Kern County and Surrounding Areas			
		94			
		i.			
		Kern County			
		98			
	f.	Northern Colorado: Broomfield and Weld County			
		102			
	g.	“Chemical Valley”, Canada			
		108			
	h.	Alberta Tar Sands and Affected Regions: Enbridge Line 3, Enbridge Line 5, Trans Mountain Expansion Project			
		114			
		i.			
		Enbridge Line 3 Replacement Project			
		118			
		ii.			
		Line 5			
		122			
		iii.			
		Transmountain Pipeline			
		128			
	i.	Appalachia: Pennsylvania, West Virginia, Virginia, North Carolina and Ohio			
		131			
		i.			
		Mountain Valley Pipeline Project			
		136			

EXECUTIVE SUMMARY



Children participating in a Christmas Parade in front of a refinery in Norco, Louisiana (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.⁴ 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/Chicana, and low-income women and their communities experience disproportionate harm⁵ due to the consequences from pollution, environmental degradation, and the climate crisis.⁶

Fossil fuel activity results in the pollution and degradation of air, water, and land.⁷ The essential nature of the fossil fuel industry is extractive and is not possible without the contamination of the Earth and 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.⁸ Due to institutional patriarchy and male dominated power structures, sexism, and traditional capitalist labor valuations⁹, the pollution and destruction from fossil fuel extraction and infrastructure disproportionately impacts women in communities of color and low-income communities.¹⁰

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, the 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/Chicana, and low-income women's health, safety, and

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*. [\[LINK\]](#)

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*. [\[LINK\]](#)

human rights in the U.S. and parts of Canada. Specifically, fossil fuel derived air, water, and soil pollution impact women’s fertility, mental health, and daily work and responsibilities. The negative effects from 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.¹¹ 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 abuse and safety threats¹² to Indigenous women, girls, and two-spirit people,¹³ contributing to the Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2S) epidemic.¹⁴

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.¹⁵ 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. ”

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

11 Ekwurzel, B., Et al. (2017). The rise in global atmospheric CO₂, surface temperature, and sea level from emissions traced to major carbon producers. *Climatic Change*. [\[LINK\]](#)

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

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

14 C-Span. (2020, September 23). *Human Trafficking in the U.S.* [\[LINK\]](#)

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

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.¹⁶ Compressor plants release particulate pollution, including formaldehyde, which places pregnant women at higher risk of fetal neurodevelopmental deficits and other reproductive health problems.¹⁷ Additionally, because women continue to unequally shoulder the burden of family caretaking,¹⁸ and children are more vulnerable to air pollution and formaldehyde poisoning,¹⁹ when contamination and illness spawn from MVP facilities, African American/Black/African Diaspora, Indigenous, Latina/Chicana, 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 poor, Indigenous, and communities of color; LNG sites opening or expanding in 2023 and beyond could emit an additional 90 million tons of greenhouse gases per year.²⁰ One example is Glenfarne Group's export plant (which is awaiting a final investment decision) slated for Brownsville, Texas, where Latinx people account for 94.7% of the population.²¹ LNG terminals release numerous pollutants, including volatile organic compounds, nitrogen oxides, benzene, and particulate matter,²² all of which pose disparate risks to pregnant women and maternal health, as well as a myriad of other health risks for children and the elderly. Therefore, LNG expansion in Brownsville, and other parts of the Gulf Coast, disproportionately threaten Latina/Chicana mother's health and increase women's caretaking responsibilities. Texas LNG would also cross through Garcia Pasture, a burial site that is sacred to the Carrizo Comecrudo, and will be especially harmful to Indigenous women, as knowledge holders and mothers²³ [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, Minnesota, Wisconsin, Michigan, and Canada, posing inordinate biophysical threats to Indigenous women, women of color, and low-income women, as well as 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 seven financial actors backing companies with many of the most egregious health impacts on low-income women, Indigenous women, and women of color. Twenty-nine 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. Seven of the leading financial institutions backing these specific companies in the United States and

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

17 Campblin K., Et al. (2021, November 26). Opinion: On environmental justice, the Mountain Valley Pipeline is an old story. *The Washington Post*. [\[LINK\]](#); Agency for Toxic Substances and Disease Registry (2022). *Medical Management Guidelines for Formaldehyde*. *Centers for Disease Control*. [\[LINK\]](#)

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

19 Ibid.

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

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

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

23 SierraClub. (2022, October). *Rio Grande Valley*. [\[LINK\]](#); United Nations Department of Economic and Social Affairs. *Environment*. [\[LINK\]](#)

Canada, and other fossil fuel companies across the world are Vanguard, BlackRock, Capital Group, JPMorgan Chase, 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 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"> • Cheniere Energy Inc • Chevron • Civitas Resources Inc • ConocoPhillips • Crescent Energy Company • Diamondback Energy • Dow Inc. • DuPont de Nemours Inc' • Duke Energy Corporation • EQM Midstream Partners • Enbridge • ExxonMobil • Formosa Plastic Corporation • Glenfarne Group • Huntsman Corporation • Marathon Petroleum • NextDecade • Occidental Petroleum • PDC Energy • Phillips 66 • Pioneer Natural Resources • Suncor • TotalEnergies • Valero • Westlake Chemical • Williams Companies Inc. 	<ul style="list-style-type: none"> • Bill Greehey Refinery • Canadian Government Trans Mountain Expansion Project • Cheniere Energy's Stage 3 Liquefaction Project • Chevron Wattenberg Gas Field • Commerce City Refinery • ConocoPhillips' Willow Project • Dawn Corunna Hub: natural gas storage hub • Denka Petrochemical Plant • Dow Inc. Union Carbide Corp South Charleston Facility • Enbridge Line 3 and Line 5 • Ethane Cracker in Corpus Christi • Ethylene Plant in Orange County • Ethylene/ Polyethylene integrated complex on Sabine River • ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields • Formosa "Sunshine Project" Ethane Cracker • Galveston Bay Refinery, Texas City • Golden Pass LNG Project • Line 1 (Rocky Mountain Pipeline Project) • Mountain Valley Pipeline • NGL Pipeline Expansion • Occidental Petroleum Permian Basin • Port Arthur Coker Project • Rio Bravo Pipeline • Rio Grande LNG • Sarnia Industrial Pipeline Reinforcement Construction Project • Suncor Sarnia Oil Sands Refinery • Sweeny Refinery

<p>BlackRock</p>	<p>Asset Manager</p>	<ul style="list-style-type: none"> • Cheniere Energy Inc • Chevron • Civitas Resources Inc • ConocoPhillips • Crescent Energy Company • Diamondback Energy • Dow Inc. • DuPont de Nemours Inc • Duke Energy Corporation • EQM Midstream Partners • ExxonMobil • Formosa Plastic Corporation • Glenfarne Group • Huntsman Corporation • Marathon Petroleum • NextDecade • Occidental Petroleum • PDC Energy • Phillips 66 • Pioneer Natural Resources • Shell • TotalEnergies • Valero • Westlake Chemical • Williams Companies Inc. 	<ul style="list-style-type: none"> • Bill Greehey Refinery • Cheniere Energy's Stage 3 Liquefaction Project • Chevron Wattenberg Gas Field • ConocoPhillips' Willow Project • Corunna Refinery-Sarnia Manufacturing Unit • Denka Petrochemical Plant • Dow Inc. Union Carbide Corp South Charleston Facility • Enbridge Line 3 and Line 5 • ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields • Formosa "Sunshine Project" Ethane Cracker • Golden Pass LNG Project • Mountain Valley Pipeline • NGL Pipeline Expansion • Occidental Petroleum Permian Basin • Port Arthur Coker Project • Rio Grande LNG • Shell Deer Park
<p>Capital Group</p>	<p>Asset Manager</p>	<ul style="list-style-type: none"> • Cheniere Energy Inc • Chevron • ConocoPhillips • Diamondback Energy • Dow Inc. • Duke Energy Corporation • EQM Midstream Partners • ExxonMobil • Huntsman Corporation • Occidental Petroleum • Pioneer Natural Resources • TotalEnergies 	<ul style="list-style-type: none"> • Cheniere Energy's Stage 3 Liquefaction Project • Chevron Wattenberg Gas Field • ConocoPhillips' Willow Project • Dow Inc. Union Carbide Corp South Charleston Facility • Enbridge Line 3 and Line 5 • ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields • Golden Pass LNG Project • Mountain Valley Pipeline • Occidental Petroleum Permian Basin • Sempra Energy's Port Arthur LNG • Suncor Sarnia Oil Sands Refinery
<p>JPMorgan Chase</p>	<p>Investment Bank</p>	<ul style="list-style-type: none"> • Cheniere Energy Inc • Chevron • ConocoPhillips • Diamondback Energy • Dow Inc. • EQM Midstream Partners • Enbridge • Energy Transfer • ExxonMobil • Formosa Plastic Corporation • Glenfarne Group • Occidental Petroleum • PDC Energy Inc • Phillips 66 • Pioneer Natural Resources • The Canadian Government • TotalEnergies • Valero • Williams Companies Inc. 	<ul style="list-style-type: none"> • Canadian Government Trans Mountain Expansion Project • Cheniere Energy's Stage 3 Liquefaction Project • Chevron Wattenberg Gas Field • ConocoPhillips' Willow Project • Dawn Corunna Hub: natural gas storage hub • Dow Inc. Union Carbide Corp South Charleston Facility • Enbridge Line 3 and Line 5 • ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields • Formosa "Sunshine Project" Ethane Cracker • Golden Pass LNG Project • Mountain Valley Pipeline • Occidental Petroleum Permian Basin • Port Arthur Coker Project • Rio Bravo Pipeline • Sarnia Industrial Pipeline Reinforcement Construction Project • Sempra Energy's Port Arthur LNG • Suncor Sarnia Oil Sands Refinery • Valley Crossing Pipeline

<p>Royal Bank of Canada</p>	<p>Bank</p>	<ul style="list-style-type: none"> • Chevron • ConocoPhillips • Dow Inc. • Duke Energy Corporation • Enbridge • ExxonMobil • Marathon Petroleum • Occidental Petroleum • PDC Energy • Phillips 66 • Shell • Suncor • Sunoco • The Canadian Government • TotalEnergies • Williams Companies Inc. 	<ul style="list-style-type: none"> • Canadian Government Trans Mountain Expansion Project • Commerce City Refinery • ConocoPhillips' Willow Project • Corunna Refinery-Sarnia Manufacturing Unit • Dawn Corunna Hub: natural gas storage hub • Dow Inc. Union Carbide Corp South Charleston Facility • Enbridge Line 3 and Line 5 • ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields • Galveston Bay Refinery, Texas City • Golden Pass LNG Project • Line 1 (Rocky Mountain Pipeline Project) • Occidental Petroleum Permian Basin • Rio Bravo Pipeline • Sarnia Industrial Pipeline Reinforcement Construction Project • Sempra Energy's Port Arthur LNG • Shell Deer Park • Suncor Sarnia Oil Sands Refinery • Valley Crossing Pipeline
<p>Bank of America</p>	<p>Investment Bank</p>	<ul style="list-style-type: none"> • Chevron • ConocoPhillips • Diamondback Energy • Dow Inc. • DuPont de Nemours Inc • EQM Midstream Partners • Enbridge • Energy Transfer • ExxonMobil • Formosa Plastic Corporation • Glenfarne Group • Huntsman Corporation • Marathon Petroleum • NextDecade • Occidental Petroleum • PDC Energy Inc • Phillips 66 • Pioneer Natural Resources • Shell • Sunoco • TotalEnergies • Valero • Westlake Chemical • Williams Companies Inc. 	<ul style="list-style-type: none"> • Chevron Wattenberg Gas Field • ConocoPhillips' Willow Project • Corunna Refinery-Sarnia Manufacturing Unit • Dawn Corunna Hub: natural gas storage hub • Denka Petrochemical Plant • Dow Inc. Union Carbide Corp South Charleston Facility • Enbridge Line 3 and Line 5 • ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields • Mountain Valley Pipeline • Occidental Petroleum Permian Basin • Rio Grande LNG • Sarnia Industrial Pipeline Reinforcement Construction Project • Shell Deer Park • Suncor Sarnia Oil Sands Refinery • "The Sunshine Project" Ethane Cracker
<p>Liberty Mutual</p>	<p>Insurance Company</p>	<ul style="list-style-type: none"> • Energy Transfer • ExxonMobil • Marathon Petroleum • Sunoco • The Canadian Government 	<ul style="list-style-type: none"> • Canadian Government Trans Mountain Expansion Project • NOVA Chemicals Corunna Cracker Expansion

*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).²⁴ 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 seven of the financial institutions identified in this report have directly or indirectly expressed some commitments to align to the goals set forth 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, most of the seven financial institutions identified in this report, including Vanguard, BlackRock, Capital Group, Royal Bank of Canada, Liberty Mutual, JPMorgan Chase, and Bank of America, have committed to the Principles for Responsible Investment (PRI),²⁵ which assesses signatories' Environmental, Social and Corporate Governance (ESG) performances, and requests that companies adhere to international initiatives, including global human rights standards,²⁶ the right to Free, Prior and Informed Consent as outlined by the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),²⁷ and the UN Global Compact.²⁸ For example, by financially supporting Suncor and Exxon Mobil, 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,²⁹ Vanguard is not in alignment with the PRI. Similarly, there is an alignment issue with JPMorgan Chase, Bank of America, and Royal Bank of Canada, who have signed the Equator Principles (EP),³⁰ 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."³¹

JPMorgan Chase finances ConocoPhillips, the company developing the Willow Project, an oil and gas project with a pipeline, airstrips, a gravel mine, and processing facilities, slated for Alaska's western Arctic near Nuiqsut and other Indigenous communities' land. Approved in March 2023, the Willow Project will be the largest oil and gas project in the U.S. and 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. 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

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

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

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

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

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

29 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*. [\[LINK\]](#)

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

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

would impact critical caribou habitat, integral for sustenance and spiritual well-being, as well as fish and other food sources that will unduly impact Indigenous women's food security.³² 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 impact women's mental and physical health.³³ Furthermore, Man Camps will inevitably come into the region during construction, which will threaten the safety and well-being of Indigenous women in the region [see Section 5e for more details].³⁴ Importantly, local Indigenous communities, including the Native Village of Nuiqsut and Nunamiut people, have not given consent and have publicly opposed ConocoPhillips' project.

By financing 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 human rights or these financial institutions' signed principles, which claim to support socially and environmentally responsible businesses.³⁵

Financial institutions are also tied to a set of Guiding Principles on Business and Human Rights enacted by the United Nations Human Rights High Commission.³⁶ The impacts from fossil fuel activity on women of color, Indigenous women, and low-income women clearly violate these human rights standards. For example, the threats to Indigenous women's and Latinx women's safety posed by Man Camps along the Trans Mountain Expansion Project and in the Permian Basin are a threat to human rights. As another example, Enbridge's Line 5 pipeline is operating 20 years past its engineered lifespan and is trespassing on Indigenous territories without their consent.³⁷ Enbridge's reroute construction and proposed tunnel project also threatens Indigenous territories and their watersheds;³⁸ all of these projects place communities at risk of further environmental and cultural injustice. The financial institutions backing Enbridge 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 assets, 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, and instead, to focus on a rapid investment in a Just Transition to a decentralized, renewable energy future that supports communities, human and Indigenous rights, and workers who have been dependent on the fossil fuel industry.

32 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*. [\[LINK\]](#)

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

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

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

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

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

38 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)*. [\[LINK\]](#)

Divesting from fossil fuel extraction and infrastructure is necessary 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 our atmosphere is possible 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.



Climate advocates holding up the Earth in protest (Mick Tsikas | Australian Associated Press)

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/Chicana, 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.³⁹

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

³⁹ 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.⁴⁰ 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.⁴¹ 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.⁴² In many countries, women improve environmental and social legislation when they are elected to public office.⁴³ 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.⁴⁴

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 quoted and interviewed for this report (named in order of their appearance in the report): Patricia Garcia-Nelson (Oraricha Tribes of Mexico and the Chichimeca), Colorado Fossil Fuel Just Transition Advocate; Jo Banner, Co-Founder and Co-Director of The Descendants Project; Whitney Gravelle (Anishinaabe), President of the Bay Mills Indian Community; Kendra Pinto, (Diné, Navajo Nation) Four Corners Indigenous Community Field Advocate at Earthworks; Dr Fatih Birol, Executive Director of the International Energy Agency; Judith Enck, Former EPA Director and a Founder of Beyond Plastics; Roishetta Ozane, Founder of The Vessel Project and Community Organizer for HealthyGulf; 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); Dianne Rocheleau, Feminist Scholar; 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); 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

40 WECAN. *Why Women*. [\[LINK\]](#)

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

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

43 WECAN. *Why Women*. [\[LINK\]](#)

44 WECAN. *Women Speak*. [\[LINK\]](#)

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); Serena Williams, former professional tennis player; 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; Christa Mancias (Esto'k Gna), Tribal Secretary of the Carrizo Comecrudo Tribe of Texas and Activist; Rebekah Hinojosa, Gulf Coast Campaign Representative at the Sierra Club; 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; Sharon Lavigne, Resident of St. James Parish; Liz Gordon, Activist in Baton Rouge; Magali Sanchez-Hall, Environmental Justice Advocate and Wilmington Resident; Gabriela Ojeda, Arvin Resident in Kern County, California; Lena Gonzalez, California State Senator; Beze Gray, 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; Mysti Babineau (Red Lake Nation), Climate Justice Organizer with MN350; Carrie Chesnik (Oneida Nation Wisconsin), Executive Assistant RISE Coalition; Jannan J. Cornstalk (Little Traverse Bay Bands of Odawa Indians), Director for Water is Life Festival; Julie Goodwin, Earthjustice Attorney; 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; 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; Freda Huson (Unist'ot'en – Wet'suwet'en People), Leader and Spokesperson for the Unist'ot'en Camps

INTRODUCTION



Home in Front of Meraux Refinery in Louisiana (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/Chicana, 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/Chicana 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.⁴⁵ For example, fossil fuel-derived soil pollution in Northern Colorado, “Cancer Alley”, Appalachia, and other regions, results in a myriad of health impacts specific to low income women, women of color, and Indigenous women living disproportionately near fossil fuel sites and the subsequent soil toxicity. Benzene contamination, a result of oil spills like those in Weld County, reduces the value, productivity, and health of the land,⁴⁶ impacting women farmers who depend upon healthy soil to grow crops and raise livestock in order to make a living and feed their families. Benzene can also lead to a higher risk of acute myeloid leukemia and harm to reproductive organs.⁴⁷ Compressor stations, like those in the MVP project, threaten to release toxins into soil and groundwater: when compressor stations release pollutants



Oil spilling from a pipeline onto the soil (Adobe Stock)

⁴⁵ Schieder, J., Et al. (2016, July 20). “Women’s work” and the gender pay gap. *Economic Policy Institute*. [\[LINK\]](#)

⁴⁶ ATSDR. Benzene. *Agency for Toxic Substances and Disease Registry*. [\[LINK\]](#)

⁴⁷ Ibid.

like sulfuric acid and nitrous oxides into the air, they can produce acid rain that harms food and water supplies.⁴⁸ In all of these cases, soil pollution disproportionately impacts women as heads of households, as caretakers, and child bearers.⁴⁹

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.); “Cancer Alley”, Louisiana (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.).

African American/Black/African Diaspora and Latina/Chicana women in frontline communities in Louisiana,⁵⁰ Texas, Colorado, and California have experienced and witnessed their families suffer from cancer and asthma due to the proximity of barely monitored oil refineries and petrochemical plants,⁵¹ 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.⁵² This result in higher levels of psychosocial and physical stress⁵³ and increases the severity and intensity of caretaking responsibilities for mothers.⁵⁴

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 and mental health of lower income women from rural areas of Pennsylvania, West Virginia, Virginia, North Carolina, Ohio, and Texas.⁵⁵ 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, Capital Group, and Liberty Mutual). It 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 Equator Principles (EPs). 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.

48 Environmental Protection Agency (2022, June 24). *What is Acid Rain?* [LINK]; Water Science School. (2019, August 2). *Acid Rain and Water*. USGS. [LINK]

49 ATSDR. *Benzene. Agency for Toxic Substances and Disease Registry*. [LINK]

50 Baurick, T., Et al. (2019, October 30). *Polluter’s Paradise: Welcome to “Cancer Alley,” Where Toxic Air Is About to Get Worse*. *ProPublica*. [LINK]

51 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]

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

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

54 *Ibid.*

55 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]

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 systemic internal guidelines and implementation standards on climate and human rights issues to be in line with the agreements they have signed.

Section 10 describes, in brief, the women-led solutions 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 Transition⁵⁶ to a renewable, regenerative energy economy that uplifts communities most impacted by environmental degradation, pollution, and the climate crisis.

African American/Black/African Diaspora, Indigenous, Latina/Chicana, 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, 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.

⁵⁶ See Section 3, Definitions and Scope, for a definition of A Just Transition.

DEFINITIONS AND SCOPE



A crowd gathers at the smokestacks of a Navajo Generating Station (Cassidy Araiza | High Country News)

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/Chicana, 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 of African peoples.⁵⁷ 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.⁵⁸ The term Black rose to prominence with sociologists and activists like W.E.B. Du Bois,⁵⁹ Stokely Carmichael,⁶⁰ 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.⁶¹ 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...”⁶² 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.”⁶³

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 common 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

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

58 Ibid.

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

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

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

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

63 Ibid.

a material in road paving.⁶⁴ 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.⁶⁵ This lengthy refining process requires immense amounts of water and energy and is very expensive. CNN Money ranked the Kearl Oil Field (operated by ExxonMobil and Imperial Oil, see financial supporters in Section 7.) in the Alberta Tar Sands as the eighth most expensive energy project in the world.⁶⁶ ABC called bitumen “the world’s dirtiest oil.”⁶⁷

Buen Vivir: In English, Buen Vivir roughly translates to “good living.” 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.⁶⁸

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.⁶⁹

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.⁷⁰ 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 2050.⁷¹ As IEA’s Executive Director,



Shell Ethane Cracker Petrochemical Plant under construction in Beaver County (Mark Dixon | Flickr)

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

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

66 CNN Money. (2012, August 27). *10 Most Expensive Energy Projects in the World*. [\[LINK\]](#)

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

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

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

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

71 Ghaddar, A., Et al. (2018, October 5). Rising Use of Plastics to Drive Oil Demand to 2050: IEA. *Reuters*. [\[LINK\]](#)

Dr. Fatih Birol, pointed out: “Petrochemicals are one of the key blind spots in the global energy debate, especially given the influence they will exert on future energy trends. In fact, our analysis shows they will have a greater influence on the future of oil demand than cars, trucks and aviation.”⁷² 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.⁷³ 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 and industry, at least 300 million tons of plastic waste will end up in the ocean by 2030.⁷⁴ 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 future⁷⁵ that is going to be hard to recover from.”⁷⁶ Many of these projects were underway at the beginning of 2021.⁷⁷ 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 2020.⁷⁸ Despite suspended permits and widespread resistance, Formosa remains steadfast in its intention to construct and operate the petrochemical facility.⁷⁹

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.⁸⁰ 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.⁸¹ 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,” ani-

⁷² International Energy Agency. (2018, October 5). *Petrochemicals set to be the largest driver of world oil demand, latest IEA analysis finds*. [\[LINK\]](#)

⁷³ 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*. [\[LINK\]](#)

⁷⁴ Sexton, C. (2020, January 25). *By 2030, there could be 300 million tons of plastic in the oceans*. *Earth.com*. [\[LINK\]](#)

⁷⁵ Cocklin, J. (2020, September 29). *Work on Shell’s Pennsylvania Ethane Cracker Progressing, but Schedule Clouded by Covid-19*. *NGI*. [\[LINK\]](#)

⁷⁶ Gardiner, B. (2019, December 19). *The Plastics Pipeline: A Surge of New Production Is on the Way*. *Yale E360*. [\[LINK\]](#)

⁷⁷ Crowley, K., Et. al. (2019, June 13). *Exxon, Saudis Bet on Plastics Growth in Giant Gulf Coast Plant*. *Bloomberg*. [\[LINK\]](#)

⁷⁸ Muller, W. (2020, November 9). *Formosa Plastics permit suspended by Army Corps*. *The Louisiana Weekly*. [\[LINK\]](#)

⁷⁹ Hioe, B. (2022, September 24). *Formosa Plastics Likely to Resist Legal Ruling Against Sunshine Project*. *New Bloom*. [\[LINK\]](#)

⁸⁰ Brown, A. (2020, December 23). *Landmark Climate Policy Faces Growing Claims of Environmental Racism*. *Pew Trusts*. [\[LINK\]](#)

⁸¹ *Ibid*.

mal agriculture methane digesters, and nature based offsets.⁸² Carbon offsets, intended to create a marketplace mechanism to mitigate climate change, have been found to be ineffective and lacking credibility.⁸³ 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.⁸⁴

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.⁸⁵ Additionally, carbon offsets are not in alignment with successful forest management practices of Indigenous Peoples.⁸⁶ 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.⁸⁷
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.⁸⁸
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.⁸⁹ 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.⁹⁰ Even in the remaining 5% of CCS, CCS technology actually adds back carbon emissions, in the process of removing and storing carbon, so that the practice at best only reduces, rather than eliminates, emissions.⁹¹ 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.⁹² Economic research also reveals that there “are no significant market ends” for CCS and that “scaling of CCS is not economically viable.”⁹³ Projected CCS infrastructure

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

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

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

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

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

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

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

89 Greenpeace. (2018). *False Hope: Why carbon capture and storage won’t save the climate*. [\[LINK\]](#)

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

91 Roberts, D., (2019, December 6). Could squeezing more oil out of the ground help fight climate change? *Vox*. [\[LINK\]](#)

92 Ibid.

93 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)*. [\[LINK\]](#)

exacerbates particulate and toxin exposure to frontline communities.⁹⁴ 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 gasses and carbon removal via land and market based methods.⁹⁵ 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,⁹⁶ Net Zero pledges are generally not legally binding, and many states do not have detailed annual schedules describing their path to Net Zero.⁹⁷

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.⁹⁸ Two-thirds of the global care workforce is women, suggesting that care work is a significant source of work for women throughout the world.⁹⁹ Unpaid care work includes all unpaid services provided within the household, such as cooking, cleaning, and child-rearing.¹⁰⁰ 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.¹⁰¹

Fossil Fuel: A subcategory of non-renewable resources, fossil fuels refer to coal, 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 companies are turning to plastics and petrochemicals as a source of continued revenue.¹⁰² 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

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

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

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

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

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

99 Ibid.

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

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

102 Dunlea R. (2021, May 3). *The Corpus Christi Water Wars*. *Rolling Stone*. [\[LINK\]](#)

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).¹⁰³ FPIC allows Indigenous Peoples 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.¹⁰⁴

Gender/ Sex:

- “Sex” refers to biological attributes, including physical and physiological features such as hormone levels, gene expression, chromosomes, etc.¹⁰⁵ 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.¹⁰⁶

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, and asexual (2SLGBTQQIA) peoples. Two-spirit refers to someone who “[identifies] as having both a masculine and a feminine spirit, and is used by some Indigenous People to describe their sexual, gender and/or spiritual identity.”¹⁰⁷ 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.

¹⁰³ Food and Agriculture Organization (2022). Indigenous Peoples. *Food and Agriculture Organization of the United Nations*. [\[LINK\]](#)

¹⁰⁴ 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*. [\[LINK\]](#)

¹⁰⁵ Tseng, J. (2008, July). Sex, Gender, and Why the Differences Matter. *AMA Journal of Ethics*. [\[LINK\]](#)

¹⁰⁶ Ibid.

¹⁰⁷ University of Toronto Dalla Lana School of Public Health (2022). *Two-Spirit Community*. [\[LINK\]](#)

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,¹⁰⁸ which has been increasingly used from the 2000’s onwards. It pollutes groundwater, contaminates surface water, and destroys species’ habitats.¹⁰⁹ Although classified as a new, or unconventional method of extraction in the past, fracking is now being used in 95% of new wells.¹¹⁰ As of 2022, approximately 17.6 million people live within one mile of a fracking well in the U.S.¹¹¹ 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 drilling¹¹² 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.

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.¹¹³ The transition centers frontline com-

¹⁰⁸ US Geological Survey. *What is hydraulic fracturing?* [\[LINK\]](#)

¹⁰⁹ Soeder, D.J. (2018, July 10). Groundwater Quality and Hydraulic Fracturing: Current Understanding and Science Needs. *The Groundwater Association*. [\[LINK\]](#)

¹¹⁰ 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)*. [\[LINK\]](#)

¹¹¹ Hurdle, J. (2022, November 17). As Evidence Mounts, New Concerns About Fracking and Health. *YaleEnvironment360*. [\[LINK\]](#)

¹¹² 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*. [\[LINK\]](#)

¹¹³ International Trade Union Confederation. (2015, March). *Climate Frontlines Briefing - No Jobs on a Dead Planet*. [\[LINK\]](#)

munities and workers to envision and build new economies that are aligned with local communities and ecosystems in the present moment.¹¹⁴ 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.¹¹⁵ 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.”¹¹⁶

Latinx: WECAN is an organization working across all gender spectrums and uses the word “Latinx” to respect non-binary individuals and the entire spectrum of gender in the Latinx community. In the case of this report, the women interviewed requested to be identified as Latina and Chicana so this will be the language used throughout the report when referring to Latinx women-identifying individuals. When referring to population data or any community that includes non-women identifying individuals, the report will use the term “Latinx.” “Hispanic women” also appears in the report because several of the studies presented employ this language.

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.¹¹⁷ Many identify by their country of origin or heritage. Some Mexican Americans identify as Chicana, which is a term that became popular in the 1960s to express pride in a shared cultural, community, and ethnic identity.¹¹⁸ 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.¹¹⁹ The report uses the term Latinx in order to be inclusive; Latinx 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.¹²⁰ Latinx is a description of culture, and a Latinx identifying individual can be of any race or color.¹²¹

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).¹²² 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

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

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

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

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

118 *Ibid.*

119 *Ibid.*

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

121 *Ibid.*

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

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).¹²³ 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.¹²⁴

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.¹²⁵ 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.¹²⁶ Cumulatively, Net Zero approaches greenwash climate action by creating the impression that Net Zero climate policies are more productive than they really are.¹²⁷

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.¹²⁸ 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 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.¹²⁹ As scientists have pointed out, the current commitments for CO2 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.¹³⁰ 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).¹³¹

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

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

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

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

126 Ibid.

127 Ibid.

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

129 Ibid.

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

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

adherence to economic justice, social well-being, and ecological regeneration as an intervention to avoid social and ecological collapse.¹³²

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 and a moratorium on fossil fuel expansion. 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.¹³³ 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.¹³⁴ As Canada warms at twice the rate as the rest of the world,¹³⁵ 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,¹³⁶ and emissions from the oil sands in Canada are approximately 30% more than what has been reported by the industry.¹³⁷ 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 more carbon from entering the atmosphere, and subsequent warming.¹³⁸ 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.¹³⁹ 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.

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

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

134 Ibid.

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

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

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

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

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

RESEARCH METHODS



Protesters during Sol2Sol mobilization in San Francisco, California. (Brooke Anderson | Climate Justice Alliance)

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 women living in affected frontline communities. Wherever possible, sources were filtered for reliability as per the Ad Fontes Media Bias Chart.¹⁴⁰

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 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 seven identified financial institutions.

Based on an examination of companies operating in the eight regions, seven financial actors arose as prominent financiers, insurers, and investors of these companies. Criteria leading to identifying the three asset managers, three 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*,¹⁴¹ 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.

¹⁴⁰ Ad Fontes Media. *Media Bias Chart*. [\[LINK\]](#)

¹⁴¹ 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 only the top thirty (on *Nasdaq*) and the top ten (on *Yahoo Finance!*) institutional holders and shareholders shown on the fossil fuel company's page. 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 various financial relationships included in the tables will be described directly below each figure. The tables are limited to the seven 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 and food insecurity, 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 August 1, 2023. The scope of the shareholding was analyzed at the most recent date: August 1, 2023. 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,¹⁴² however, the U.S. Census remains the most approximate national population data publicly accessible.

The seven 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 on the subject.

¹⁴² 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



Rene Ann Goodrich (Native Lives Matter Great Lakes), Elder of Bad River Band of Lake Superior Chippewa at Defend the Sacred: Community Water Festival (to Stop Line 5). (Sophia Lovato | 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 territories¹⁴³ in the U.S. and Canada.¹⁴⁴ 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 and Community Organizer for HealthyGulf, 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.”¹⁴⁵

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.¹⁴⁶ As Jacqueline Patterson, Founder and Executive Director of The Chisholm Legacy Project: A Resource Hub for Black Frontline Climate Justice Leadership, describes:

“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.”¹⁴⁷



Jacqueline Patterson (left) alongside Casey Camp Horinek (right) (Katherine Quaid | WECAN International)

The impacts of fossil fuel activity violate internationally recognized substantive human rights, including the right to health, food, water, housing, work, and life itself,¹⁴⁸ 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 empirically proves the relationship between environmental racism, fossil fuel activity (flaring), and reproductive injustice:

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

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

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

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

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

148 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 Latinx 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.”¹⁴⁹

Tribal sovereignty, the ability to govern and protect the health, safety, and welfare of citizens within a tribal territory,¹⁵⁰ is integral to the survival of Indigenous Peoples—culturally, physically, and economically.¹⁵¹ 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.¹⁵² 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.”¹⁵³



Whitney Gravelle (Adam Joseph Wells)

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.”¹⁵⁴ This destruction can be clearly seen in Canada, where over 4,400 federal contaminated sites are located on Indigenous land; this equates to over 20% of Canada’s total contaminated sites, even though Indigenous reserves make up only 0.5% of the total land mass.¹⁵⁵ Fossil fuel contamination located on or near Indigenous territories hinders women’s ability to act as cultural bearers—to maintain and pass

149 Johnston, J. (2022, May 23). WECAN Interview.

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

151 Bishop, K. (2001, May). This Land Knows Me: Indigenous Land Rights. *Cultural Survival*. [\[LINK\]](#)

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

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

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

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

down traditions to future generations.¹⁵⁶ 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.”¹⁵⁷ 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.”¹⁵⁸

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.¹⁵⁹ Similarly, regions in the Southeast that are low-income and have the largest African American/Black/African Diaspora populations are at the highest risk.¹⁶⁰ 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.¹⁶¹ Because women make up 80% of the people displaced by climate change globally¹⁶², 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.¹⁶³ Additionally, when looking for work, men may leave women behind, increasing household responsibilities for women.¹⁶⁴ The number of people displaced by climate disruption will be increased and accelerated under current projections for fossil fuel extraction.

5b. Caretaking Role

Fossil fuel activity increases women’s burden as caretakers.¹⁶⁵ 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.

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

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

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

159 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*. [\[LINK\]](#)

160 Ibid.

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

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

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

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

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

Due to persisting patriarchal structures, women continue to be disproportionately responsible for reproductive labor.¹⁶⁶ Also known as the “second shift,”¹⁶⁷ women are often the ones performing unpaid household and childcare duties such as cooking, washing clothes, child and elderly care, and bearing children.¹⁶⁸ This work remains extremely undervalued by conventional economic models.¹⁶⁹ 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.”¹⁷⁰

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.”¹⁷¹ 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. Roishetta Ozane—the Founder of The Vessel Project, a mutual aid organization in Louisiana, and an Organizer with Healthy Gulf—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.”¹⁷²

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 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



Fracking infrastructure behind playground at Bella Romero Academy in Greeley, Colorado. (Andy Bosselman | Colorado Newswire)

166 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*. [\[LINK\]](#)

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

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

169 Ibid.

170 Ibid.

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

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

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."¹⁷³

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.¹⁷⁴ 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.¹⁷⁵ Given that Central California is predominantly agricultural, women are forced outside 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]."¹⁷⁶

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/Chicana, and low-income women, which will be demonstrated in part by referring to women's labor as primary caretakers.

5c. Pollution

Globally, air pollution from burning fossil fuels is responsible for one in five deaths.¹⁷⁷ The 2023 report, *State of the Air*, found that despite progress to clean up sources of air pollution, more than 1 in 3 U.S. residents still live in places with unhealthy levels of air pollution.¹⁷⁸ In the U.S, 350,000 premature, avoidable deaths in 2018 were attributed to fossil fuel related pollution.¹⁷⁹ Air pollution in 2016 from the oil and gas sector in the US resulted in \$77 billion in

173 Garcia-Nelson, P. (2023). WECAN Interview.

174 Migration Policy Institute. (2018). *Profile of the Unauthorized Population: Kern County, CA*. [\[LINK\]](#)

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

176 Ibid

177 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*. [\[LINK\]](#)

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

179 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*. [\[LINK\]](#)

total health impacts.¹⁸⁰ In 2021, the states with the highest fossil fuel related deaths per capita were Pennsylvania, Ohio, and West Virginia¹⁸¹ (further discussed in Appalachia Section 6i.).

5c.i. Air Quality

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.¹⁸² Small particulates have been classified by the WHO as a Group 1 carcinogen.¹⁸³ 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.¹⁸⁴

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 start-up or shutting-down of facilities and during unplanned operational interruptions like power outages.¹⁸⁵ A 2023 study found that flaring is associated with premature death, adverse birth outcomes, as well as respiratory and cardiovascular-related hospitalizations in nearby communities.¹⁸⁶ 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.”¹⁸⁷ 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.).¹⁸⁸ USC Environmental Health Scientist Jill Johnston noted:

“A significant number of Black, Indigenous and Latinx 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.”¹⁸⁹

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.¹⁹⁰ These mothers often have to take on enhanced caretaking responsibilities if children are disabled via flare chemicals.

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

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

182 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*. [\[LINK\]](#)

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

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

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

186 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*. [\[LINK\]](#)

187 Ibid.

188 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)*. [\[LINK\]](#)

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

190 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*. [\[LINK\]](#)

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.¹⁹¹ 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 Bruno, California, leaving 38 homes destroyed, 8 people killed, and 50 injured.¹⁹² Since 2010, gas leaks across the United States have killed over 140 people, while leaving over 700 people injured.¹⁹³ 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,¹⁹⁴ which are attributed to incorrect operation, corrosion, or material and equipment failures.¹⁹⁵



Emergency crews work to put out the last fires the day after a ruptured 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.¹⁹⁶ 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”¹⁹⁷—in other words, low-income communities of color and Indigenous communities shoulder an unfair burden of dangerous natural gas leaks.

Researchers calculated that in 2018, air pollution—and specifically particulate matter less than 2.5 micrometers in diameter—caused by the burning of oil and gas was responsible for over 9 million premature deaths worldwide.¹⁹⁸ 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.”¹⁹⁹ In 1970 and 1980, Imperial Oil, an ExxonMobil subsidiary, acknowledged the concerns that fossil fuel derived air pollution caused “among mothers who worried

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

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

193 Ibid.

194 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*. [\[LINK\]](#)

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

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

197 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*. [\[LINK\]](#)

198 Milman, O. (2021, February 9). ‘Invisible killer’: fossil fuels caused 8.7m deaths globally in 2018, research finds. *The Guardian*. [\[LINK\]](#); Bendix, A. (2022, May 17). Pollution’s fatal threat gains urgency after 9 million died in one year. *NBC News*. [\[LINK\]](#)

199 Ibid.

about possible smog effects” and “birth defects among industry worker offspring.”²⁰⁰ 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.²⁰¹ 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 Latinx communities far beyond safe levels.²⁰²

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.”²⁰³



Vanessa Gray protesting with her community in “Chemical Valley” (Vanessa Gray)

Women are disproportionately vulnerable to the health threats from air pollution. Biologically, female bodies experience higher accumulation of inhaled particles in their lungs and are more sensitive to toxicological exposure.²⁰⁴ 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.²⁰⁵ 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 reproductive outcomes, such as stillbirth, fetal growth restriction, and birth defects.²⁰⁶ Constant exposure to air pollution is damaging and debilitating, and can leave women and their families torn apart and feeling powerless.²⁰⁷ Frontline women across Louisiana, California, and Minnesota report “terrible smells,” “horrible tastes,” and “toxic...burn[ing] air” from pollution.²⁰⁸ 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:

200 Ibid.

201 Ibid.

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

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

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

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

206 More will be described in the fertility discussion below.

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

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

“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.”²⁰⁹

Because toxic and polluting industries are disproportionately developed in communities of color, and on or near Indigenous territory²¹⁰ in the U.S. and Canada,²¹¹ such communities are facing greater risks from particulate matter and air pollutants. A study done by the National 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 Latinx people 1.2 times more than non-Hispanic whites.²¹² Moreover, communities near fossil fuel infrastructure—disproportionately African American/Black/African Diaspora, Indigenous and Latinx communities—are exposed to benzene and other aromatic chemicals released by fossil fuel activities.²¹³

In 2023, over 100 million people in the U.S. live in counties with failing ozone grades.²¹⁴ 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.²¹⁵ 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 Latinx, or over 23 million Latinx people, live in areas that violate this standard.²¹⁶ While 3.6% of the general population live near oil and gas wells, 4% of the Latinx community live within one-half mile of an oil or gas well;²¹⁷ and over 1.78 million Latinx people living in the U.S. are subjected to cancer risks above the EPA’s level of concern due to toxic air pollution from oil and gas facilities. Latinx 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.²¹⁸ A higher percentage of Latinx children are entering the emergency room from asthma attacks than non-Latinx.²¹⁹ These discrepancies are exacerbated by high levels of poverty and relatively low rates of health insurance coverage within Latinx 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.”²²⁰

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

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

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

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

213 Earthworks. *Air Pollutants*. [\[LINK\]](#)

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

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

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

217 Earthworks. *Oil and Gas Health Effects*. [\[LINK\]](#)

218 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 and NHMA*. [\[LINK\]](#)

219 Ibid.

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

Women are also impacted by air pollution through the additional burden the fossil fuel extractive industry imposes on women as caretakers.²²¹ 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 are, in most cases, the ones staying home to take care of the sick.²²² 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.²²³

Fossil fuel activity is zoned and permitted in high concentrations in African American/Black/African Diaspora, Indigenous, Latinx, 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.

5c.ii. Water Contamination



Polluted water flowing out of pipe. (Shutterstock)

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

222 Ibid.

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

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.²²⁴ The analysis showed that people of color, low-income people, and non-native English speakers were especially impacted by water violations.²²⁵ 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.²²⁶

As one of the main industries responsible for water contamination, the fossil fuel industry directly contributes to this grave issue.²²⁷ 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.”²²⁸

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.²²⁹ 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.²³⁰ This water contamination can cause cancers, birth defects, and neurological damage.²³¹ 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.²³²

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.²³³ Elida Castillo, Program Director of Chispa Texas, and Daughter of the Coastal Bend, describes how fossil fuel industries contaminate local water supplies:

“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 Riv-

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

225 Ibid.

226 Ibid.

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

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

229 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*. [\[LINK\]](#)

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

231 Ibid.

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

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

er), 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.”²³⁴

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.”²³⁵

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.”²³⁶

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.²³⁷ 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, reproductive defects, increased cholesterol levels, interference with the body’s natural hormones, and a weakened immune system.²³⁸ Fossil fuel corporations avoid disclosing chemicals entered into the local ecosystem under the pretense of protecting “trade secrets.”²³⁹ Between 2011 and 2021, 368 million pounds of unidentified chemicals were labeled as “trade secrets” and subsequently hidden from the public in Weld County.²⁴⁰ 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.²⁴¹

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

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

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

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

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

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

240 Ibid.

241 Ibid.

5c.iii. Soil 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.²⁴² Environmental racism and socio-spatial segregation in the United States and Canada leaves African American/Black/African Diaspora, Indigenous, and Latinx 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 Latinx, farmers.²⁴³ 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 frontline of soil pollution and its epidemiologic consequences.²⁴⁴

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, and pre-term birth. Coal combustion also increases soil levels of mercury, and can lead to higher frequencies of low birth weight and infant death. 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.²⁴⁵ 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.²⁴⁶ Cancer causing-toxins such as dioxins (generated via fossil fuel burning and waste incineration of plastics), settle into the soil. These dioxins can cause reproductive and developmental problems and perturbations of the endocrine system by interfering with hormones.²⁴⁷ More than 90% of human exposure to dioxins is through food, particularly meat and dairy products, fish, and shellfish.²⁴⁸ 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.²⁴⁹ Oil contamination can lead to a loss of organic matter and topsoil, soil nutrient depletion, changes in soil pH, salinization, and soil degradation.²⁵⁰ According to the 2017 Census of Agriculture, the U.S. has over 1.2 million female producers, accounting for

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

243 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*. [\[LINK\]](#)

244 Ibid.

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

246 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*. [\[LINK\]](#)

247 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*. [\[LINK\]](#)

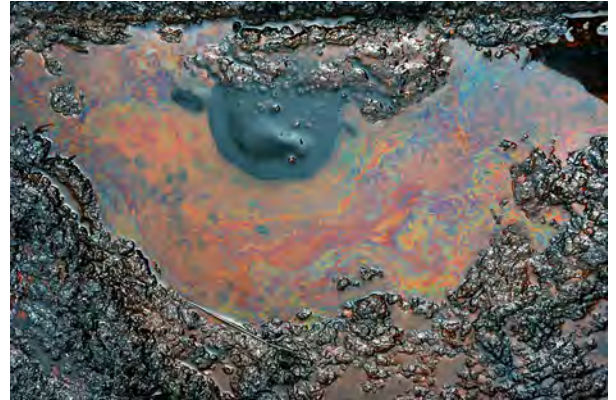
248 Environmental Protection Agency (2022, June 1). *Learn about Dioxin*. [\[LINK\]](#)

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

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

38% of U.S. agricultural sales and 43% of U.S. farmland—and the number of female producers increased by 27% between 2012-2017.²⁵¹ 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, Colorado²⁵²—can lead to a higher risk of acute myeloid leukemia and harm to reproductive organs.²⁵³ Both of these impacts disproportionately affect women as caretakers and child bearers.

Soil pollution from fossil fuel infrastructure also impacts the ability to grow food, and by extension, women’s ability to feed their families. Brine spills²⁵⁴ 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.”²⁵⁵ 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.²⁵⁶ In particular, cadmium can cause a “reduction of root, stem and leaf growth, decreasing net photosynthesis and water use efficiency and altering nutrient uptake.”²⁵⁷



Spills of crude oil on the soil surface (Mykola | Shutterstock)

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.²⁵⁸ This in turn results in excessive salt levels that are lethal to plants and increased biocides that cause biodegradation.²⁵⁹ Oil refineries, manufacturing (petrochemical facilities), and the burning of fossil fuels contribute to over two thirds of the pollutants sulfur dioxide (SO₂) and nitrogen oxide (NO_x).²⁶⁰ When SO₂ and NO_x react with water, these pollutants create acid rain. Acid rain later contaminates water and soil.²⁶¹ Barbara Washington, a Member of RISE St. James, who lives a mile from Occidental’s chemical plant in St. James Parish, Louisiana,

251 USDA. (2019). *Census of Agriculture Highlights: Female Producers*. [\[LINK\]](#)

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

253 Agency for Toxic Substances and Disease Registry *Benzene*. [\[LINK\]](#)

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

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

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

257 *Ibid.*

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

259 *Ibid.*

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

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

describes her family's garden, "The okra...muscle green...none of that is doing well anymore... because the soil is contaminated."²⁶²

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]."²⁶³ Secondly, Dr. Crystal Cavalier-Keck describes how chemicals get into her community's food:

"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."²⁶⁴

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."



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

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

²⁶² Washington, B. (2020, November 25). WECAN Interview.

²⁶³ Cavalier-Keck, C. (2022, June 5). WECAN Interview.

²⁶⁴ Ibid.

Indigenous women. Women are 40% more likely to report food insecurity in the U.S.,²⁶⁵ and women-headed households were 75% more likely to be food insecure than men-headed households.²⁶⁶ Furthermore, during the Covid-19 pandemic, food insecurity rose (parallel to unemployment rates) with Black, Latinx, and Indigenous women seeing the greatest increase in food insecurity.²⁶⁷ 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).²⁶⁸ 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.²⁶⁹

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.²⁷⁰ On average, more than 65,000 people go to the emergency room with heat-related illnesses every summer,²⁷¹ and over the last year, heat has been the single largest contributor to weather-related deaths.²⁷² 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.²⁷³ The largest source of greenhouse gas emissions from human activity is the burning of fossil fuels.²⁷⁴

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.²⁷⁵ 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



Photo Sign of Cooling Centre (Margarita Young | Shutterstock)

265 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*. [\[LINK\]](#)

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

267 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*. [\[LINK\]](#)

268 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*. [\[LINK\]](#)

269 Ibid.

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

271 Ibid.

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

273 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. (2022, July 20). The Increasing Death Toll in the U.S. From Extreme Heat. *TIME*. [\[LINK\]](#)

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

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

Hispanics, 53% for Asian Americans, and 27% for white people between 2005 and 2015.”²⁷⁶ According to First Street modeling,²⁷⁷ 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.²⁷⁸

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.²⁷⁹ Historically, African American/Black/African Diaspora neighborhoods were primarily targeted by redlining and today this injustice continues, now also impacting Latinx and Indigenous communities.²⁸⁰ Heat Islands²⁸¹ 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.²⁸² 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 Latinx students.²⁸³

Additionally, heat stress poses threats to pregnant women and can have disastrous consequences for fetal health. Studies have exposed links between heat exposure and premature birth,²⁸⁴ low birth weight,²⁸⁵ birth defect,²⁸⁶ and stillbirth.²⁸⁷ 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.²⁸⁸ Premature births further affect families by creating heavy financial costs and emotional tolls.²⁸⁹ 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.”²⁹⁰ 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.

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

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

278 Pulver, D. (2022, August 15). Florida, Texas, Central US could see biggest increase in hot days, new modeling shows. *USA Today*. [\[LINK\]](#)

279 Ibid.

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

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

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

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

284 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*. [\[LINK\]](#)

285 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*. [\[LINK\]](#)

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

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

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

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

290 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*. [\[LINK\]](#)

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/Chicana women face worse heat effects to their pregnancy health and birth outcomes than wealthy white women.²⁹¹ 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.²⁹² 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.²⁹³

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.”²⁹⁴ 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%.²⁹⁵ 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.”²⁹⁶ These detrimental effects on birth outcomes impact women’s rights 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).²⁹⁷

Extreme heat has also been associated with intimate partner violence.²⁹⁸ In the United States, one in four women and one in nine men experience intimate partner violence.²⁹⁹ 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 Latinx 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...”³⁰⁰

291 Ibid.

292 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*. [\[LINK\]](#)

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

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

295 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*. [\[LINK\]](#)

296 Ibid.

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

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

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

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

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. These are often lifelong impacts affecting the mental and physical health of women and children.³⁰¹

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 endocrine disruptors.³⁰² According to the WHO,³⁰³ 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.³⁰⁴

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.³⁰⁵ 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.³⁰⁶ Fossil fuel activity requires 24/7 monitoring, and requires lighted worksites to maintain safety.³⁰⁷

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.³⁰⁸ 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. Women were found to give birth to babies that were 1.3 ounces (36 grams) smaller than those further away from active sites. This difference in weight can hinder the development of newborns and increase their risks for chronic health problems. 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.³⁰⁹ 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.³¹⁰

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

302 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)*. [\[LINK\]](#)

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

304 Johnson, J. (2019, June 19). "We Need to Ban Fracking": New Analysis of 1,500 Scientific Studies Details Threat to Health and Climate. *Common Dreams*. [\[LINK\]](#)

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

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

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

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

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

310 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*. [\[LINK\]](#)

Infants born small for gestational age are at increased risk of perinatal morbidity, persistent short stature, and metabolic alterations in later life.³¹¹ 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.³¹² Women who lived in the closest proximity to the most active wells had the highest rates of these reproductive complications.³¹³ 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.”³¹⁴

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.³¹⁵ 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.³¹⁶ 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.³¹⁷ 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.³¹⁸

Rates of premature birth in the U.S. have been growing significantly for five years in a row since 2019.³¹⁹ According to the CDC, African American/Black/African Diaspora women’s pregnancies end in premature birth 50% more often than those of white women.³²⁰ 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.³²¹ March of Dimes, an organization fighting premature birth in the U.S., found that Hispanic and Native American women also have worse

311 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*. [\[LINK\]](#)

312 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*. [\[LINK\]](#)

313 Ibid.

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

315 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*. [\[LINK\]](#)

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

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

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

319 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*. [\[LINK\]](#)

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

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

birth outcomes than white women.³²² Pregnant people living in frontline communities, such as those in Louisiana, are being forced to take additional measures to protect their children. As Roishetta Ozane, Founder of The Vessel Project and Community Organizer for HealthyGulf describes:

“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].”³²³

In healthcare spaces broadly, independent of climate chaos, studies show that women face longer waits to be diagnosed with cancer³²⁴ and heart disease,³²⁵ are treated less aggressively for traumatic brain injury than men,³²⁶ and are less likely to be offered pain medication than men.³²⁷ Furthermore, people of color receive poorer quality care; doctors are more likely to describe Black patients as pain tolerant,³²⁸ and non-compliant.³²⁹ 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.³³⁰ Black celebrities, such as tennis icon Serena Williams, have been vocal about the dangers Black women face during childbirth. As Serena Williams shares:

“In the other room, I spoke to the nurse. I told her: “I need to have a CAT scan of my lungs bilaterally, and then I need to be on my heparin drip.” She said, “I think all this medicine is making you talk crazy.” I said, “No, I’m telling you what I need.”³³¹

These underlying health disparities nationally make it so African American/Black/African Diaspora, Indigenous, Latina/Chicana, 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

³²² March of Dimes. (2020). *Report Card for United States*. [\[LINK\]](#)

³²³ Ozane, R. (2022, May 19). WECAN Interview.

³²⁴ 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*. [\[LINK\]](#)

³²⁵ Maas, A., Et al. (2010). Gender differences in coronary heart disease. *Netherlands Heart Journal*. [\[LINK\]](#)

³²⁶ Mikolić, A., Et al. (2020, December 31). Differences between Men and Women in Treatment and Outcome after Traumatic Brain Injury. *Journal of Neurotrauma*. [\[LINK\]](#)

³²⁷ Chen, E.H., Et al. (2008, May 15). Gender disparity in analgesic treatment of emergency department patients with acute abdominal pain. *Academic Emergency Medicine*. [\[LINK\]](#)

³²⁸ Sabine, J.A. (2020, January 6). How We Fail Black Patients in Pain. *Association of American Medical Colleges*. [\[LINK\]](#)

³²⁹ Frakt, A. (2020, July 8). Bad Medicine: The Harm That Comes From Racism. *The New York Times*. [\[LINK\]](#)

³³⁰ Williams, S. (2022, April 5). How Serena Williams Saved Her Own Life. *ELLE*. [\[LINK\]](#)

³³¹ Ibid.

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."³³²

Rosanna Esparza, a Community Organizer and Environmental Researcher, expresses her concern for the young Latina women and their future children in the heavily fracked region of Kern County:

"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."³³³

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."³³⁴

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.³³⁵ 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.³³⁶

³³² Castillo E. (2022, May 12). WECAN Interview.

³³³ Esparza, R. (2020, December 18). WECAN Interview.

³³⁴ Boden, S. (2019, August 2). Fracking Linked To Anxiety, Depression In Pregnant Women. *WESA 90.5 Pittsburgh's NPR News Station*. [\[LINK\]](#)

³³⁵ McHenry, K.A. (2017, October 10). Fracking women: a feminist critical analysis of hydraulic fracturing in Pennsylvania. *UFAB: International Journal of Feminist Approaches to Bioethics*. [\[LINK\]](#)

³³⁶ 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.³³⁷ 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.³³⁸ 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.³³⁹ 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.³⁴⁰

The extractive industry's Man Camps contribute to the iniquitous Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2S) epidemic.³⁴¹ 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.”³⁴² 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.”³⁴³ 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.³⁴⁴

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



Community members gather in protest to raise awareness of Missing and Murdered Indigenous Women and Persons (Nicholas Vides | For The Press Democrat)

337 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*. [\[LINK\]](#)

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

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

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

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

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

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

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

regions where fossil fuel extraction companies set up Man Camps to house workers.”³⁴⁵ 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.³⁴⁶ 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%.³⁴⁷ In contrast, rates of violent victimization in the same period declined by 8% in the nation.³⁴⁸

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.³⁴⁹ 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.”³⁵⁰ 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 making process that is abusive towards survivors.³⁵¹ 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.”³⁵²

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

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

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

347 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*. [\[LINK\]](#)

348 Ibid

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

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

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

352 Quid, 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)*. [\[LINK\]](#)

heightened due to the lack of adequate health services and testing capabilities in these areas.³⁵³ 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.³⁵⁴

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.³⁵⁵
- The rotational schedules, in combination with a lack of childcare, make it difficult for mothers to join the workforce.³⁵⁶

The gender-based violence towards Indigenous women perpetuated by the extractive industry and its financial backers, also creates intergenerational trauma among Indigenous children.³⁵⁷ 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:

“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.”³⁵⁸

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.”³⁵⁹ Despite this bill, Indigenous women’s safety continues to be harmed by fossil fuel Man Camps³⁶⁰ and new fossil fuel projects resulting in transient



Line 5 pipeline protest in Minnesota (Chasity Hunt)

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

354 Ibid.

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

356 Ibid.

357 Ibid.

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

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

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

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.³⁶¹

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.”³⁶²

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.³⁶³ 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.³⁶⁴

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.³⁶⁵ 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/Chicana, 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.³⁶⁶ 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.³⁶⁷ 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:

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

362 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*. [\[LINK\]](#)

363 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*. [\[LINK\]](#)

364 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*. [\[LINK\]](#)

365 Ibid.

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

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

“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.”³⁶⁸

A paper 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.³⁶⁹ 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 Latinx 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.”³⁷⁰

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.”³⁷¹

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.³⁷² 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.³⁷³ 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.³⁷⁴ 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

³⁶⁸ Garcia-Nelson, P. (2023, June 2). WECAN Interview.

³⁶⁹ Malin, S. (2020, December).

³⁷⁰ Lavigne, S. (2020, November, 25). WECAN Interview.

³⁷¹ Gravelle, W. (2023, June 6). WECAN Interview.

³⁷² Boden, S. (2019, August 2). Fracking Linked To Anxiety, Depression In Pregnant Women. WESA 90.5 Pittsburgh’s NPR News Station. [\[LINK\]](#)

³⁷³ Ibid.

³⁷⁴ Ibid.

to developmental issues among infants.³⁷⁵ Roishetta Ozane, Founder of The Vessel Project and Community Organizer for HealthyGulf, describes how financial insecurity—caused by hurricanes (exacerbated by continued fossil fuel development, which increases climate disruptions³⁷⁶), costs of chronic illness (often a result of fossil fuel pollution³⁷⁷) and poor disaster aid—can precipitate mental health crises, especially amongst single mothers:

“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.”³⁷⁸

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

“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.”³⁷⁹

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,³⁸⁰ and the effects of fossil fuel development must be integrated in broader mental health campaigns.

375 Ibid.

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

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

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

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

380 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



The W. H. Sammis Power Plant behind a vacant playground in Stratton, Ohio (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	TotalEnergies	(1) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Capital Group (2) Vanguard , (3) BlackRock	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) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	N/A
(1) Terminal in Beaumont, (2) Sweeny Refinery	Phillips 66	(1) Bank of America , (2) JPMorgan Chase	(1) Vanguard , (2) BlackRock	N/A
Galveston Bay Refinery, Texas City	Marathon Petroleum	(1) Bank of America , (2) Royal Bank of Canada	(1) Vanguard , (2) BlackRock	N/A
Shell Deer Park	Shell	(1) Bank of America , (2) Royal Bank of Canada	(1) BlackRock	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) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	N/A
Ethane Cracker in Point Comfort, TX	Formosa Plastic Corporation	(1) JP Morgan Chase	(1) Vanguard	N/A
Occidental Chemical Corporation Ingleside Plant	Occidental Petroleum	(1) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	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>JP Morgan Chase</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>	(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> (3) <u>Royal Bank of Canada</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>JPMorgan Chase,</u> (2) <u>Bank of America</u>	N/A	N/A
(1) Brookshire Petrochemical Plant, (2) Deer Park Petrochemical Plant, (3) Longview Petrochemical Plant	Westlake Chemical	(1) <u>Bank of America</u>	(1) <u>Vanguard,</u> (2) <u>BlackRock</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) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
Texas LNG	Glenfarne Group (facility delivery: Samsung Engineering and Technip Energies)	(1) JPMorgan Chase, (2) Bank of America	(1) Vanguard, (2) BlackRock	N/A
Rio Grande LNG	NextDecade	(1) Bank of America	(1) Vanguard, (2) BlackRock	N/A
Freeport LNG Texas export facility	Freeport LNG	N/A	N/A	Liberty Mutual

All data in the chart is derived from financial databases/platforms (*Nasdaq/CNN Monday/Fintel*), Rainforest Action Network's 2023 published report, *Banking on Climate Chaos*, or the financial institution's website.

*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.

The Texas Gulf Coast holds the highest concentration of oil refineries and petrochemical plants in the United States.³⁸¹ In 2019, the Environmental Integrity Project (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, and six of these refineries are located in the eastern Texas Gulf Coast.³⁸² Of these six petroleum refineries, five are located near communities that are predominantly Latinx and African American/Black/African Diaspora. The sixth (Shell's plant in Deer Park) is near a city with a Latinx community approximately double the nation's average.³⁸³ TotalEnergies's petrochemical refinery, which was cited emitting benzene at 148% above the EPA's action level,³⁸⁴ is located in Port Arthur, a city with a poverty rate more than double the state of Texas and a population of 72.7%³⁸⁵ African American/Black/African Diaspora and Latinx people.³⁸⁶ In 2022, the Houston Chronicle reported that various Houston refineries (including Shell and Marathon owned facilities) were flaring, releasing toxins that "exceed the permitted levels they are allowed to emit for the entire year."³⁸⁷ Notably, Houston's eastern neighborhoods (downwind from flares) house numerous low-income communities of color and are therefore the most exposed to flare toxins.³⁸⁸ Air and water pollutants have an increased impact on women's reproductive and endocrine health (as discussed in Section 5d), such that women living in East Houston are especially vulnerable to flaring toxins.

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

382 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*. [\[LINK\]](#)

383 Ibid.

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

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

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

387 Drane, A. (2022, February 7). Deer Park may join the list of Houston refineries flaring. *Houston Chronicle*. [\[LINK\]](#)

388 Benedictus, L. (2017, May 12). Blowing in the wind: why do so many cities have poor east ends? *The Guardian*. [\[LINK\]](#)

The EIP emphasizes that long-term exposure to the levels of pollution emitted by such refineries can cause adverse health effects, including impacts to the blood and nervous systems, and an increased risk of cancer. 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.”³⁸⁹ 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 Latinx people) the nickname “Cancer Belt.”³⁹⁰ 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.³⁹¹

Accelerating climate change, driven by the fossil fuel industry, has further intensified risks to communities living in this area. In the past few decades the Gulf Coast has been host to a number of climate-related disturbances: notably increasing sea level rise in the Gulf of Mexico which consequently impacts the rise of storm surges, hurricanes and flooding events which have all led to increased mental health anxieties and water and air contamination.³⁹²

During Hurricane Harvey in 2018, coastal refineries reportedly leaked up to 28,5000 pounds of benzene into

the air, although leaks are often underreported due to industry self-reporting.³⁹³ Almost a decade prior, BP Oil spilled over 4.9 million barrels of oil into the Gulf of Mexico.³⁹⁴ 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.³⁹⁵ 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.”³⁹⁶ Despite the EIP’s findings and growing concerns about climate chaos, the Gulf Coast



Deepwater Horizon Offshore Drilling Platform on Fire (Ideum | Flickr)

389 Environmental Integrity Project. (2020, February 6). *Monitoring for Benzene at Refinery Fencelines*. [\[LINK\]](#)

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

391 Ibid.

392 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*. [\[LINK\]](#)

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

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

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

396 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,

continues to be a hub for fossil fuel expansion, with numerous new LNG sites and offshore drilling permits being proposed and approved.

Environmental racism is of notable concern across counties in the Texas Gulf Coast. TotalEnergies's petrochemical refinery, which was cited emitting benzene at 148% above the EPA's action level, is located in Port Arthur, a city with a poverty rate more than double the poverty rate for the state of Texas and a population of 72.7%³⁹⁷ African American/Black/African Diaspora and Latinx people.³⁹⁸ As early as 2001, studies revealed that 80% of Port Arthur's African American/Black/African Diaspora residents suffered heart and lung ailments.³⁹⁹ Nearly two decades later, in 2017, an NAACP report remarked that Black people had 15 percent higher cancer rates than the Texas average and 40% higher cancer mortality rate than the Texas average.⁴⁰⁰ Studies reported that these communities are over 4 times more likely than people 100 miles upwind of refineries to have respiratory problems, skin disorders, and headaches.⁴⁰¹ Three refineries in Port Arthur release hundreds of thousands of pounds of pollution per year into a bayou that has become so contaminated that fish no longer can live there.⁴⁰²

Additionally, the past and current developments in Corpus Christi are an egregious example of the oil and gas industry's history of environmental racism against African American/Black/African Diaspora and Latinx communities in the Texas Gulf Coast. 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;⁴⁰³ in 2014 Citgo was found guilty on two Clean Air Act counts of conviction;⁴⁰⁴ and in 2016, an oil spill rendered the tap water for 85% of the county undrinkable.⁴⁰⁵ Two companies from the 2019 EIP report are located in Corpus Christi: Valero and Flint Hills Resources (FHR). Nearly two-thirds of people living within a mile of Valero's Corpus Christi plant are Latinx;⁴⁰⁶ Corpus Christi also has a poverty level five percentage points higher⁴⁰⁷ than the national average.⁴⁰⁸ The Flint Hills Resources (FHR) and Valero refineries were reportedly 79% and 44% over the acceptable benzene levels respectively in 2019.⁴⁰⁹ Enbridge (the company behind Line 3 pipeline) is also seeking to build a pipeline linking the Port of Corpus Christi to Line 3.⁴¹⁰ In December 2022, 335 barrels of light crude oil spilled into the Corpus Christi Bay due to a crack in FHR's pipeline.⁴¹¹ FHR is currently seeking a permit to continue to operate its LLC Marine Terminal in San Patricio County, which has a Latinx population more than twice the national average.⁴¹² Environmental justice groups are fighting and organizing against the

March 23). The Polluter's Playbook How Loopholes and Lax Enforcement Harm Air Quality in Texas. *Environmental Integrity Project*. [\[LINK\]](#)

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

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

399 Bach, T. (2020, January 2). 'Sentenced to Death': What It's Like Living in a Cancer-Plagued Oil Town. *VICE*. [\[LINK\]](#)

400 Ibid.

401 Ibid.

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

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

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

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

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

407 Ibid.

408 U.S. Census Bureau, (2022, January). *National Poverty in America Awareness Month: January 2022*. [\[LINK\]](#)

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

410 Bernd, C. (2021, November 18). Gulf Coast Tribe Vows to Resist Enbridge's New Pipeline Expansion Plans. *Truthout*. [\[LINK\]](#)

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

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

terminal's approval, highlighting the fact that FHR is categorized as a "high-priority violator" under the Clean Air Act ⁴¹³

The pollution and contamination of low-income Latinx communities is a clear example of environmental racism within the Texas Gulf Coast. Of major concern to residents in the area are the new and proposed export terminals for LNG clustered in a line from Louisiana to Texas. As of June 2023, five LNG terminals were operating, six were under construction or expanding, seven were approved, and five were under review—some companies behind these projects include Exxon Mobil, Qatar Energy, and Total Energies.⁴¹⁴ The LNG export terminals operating in 2020 alone emitted nearly 10 million metric tons of carbon dioxide equivalent.⁴¹⁵ New pipelines are also being proposed and built to further facilitate the transfer of greater amounts of oil and natural gas to ports and refineries in the Texas Gulf. As mentioned, Enbridge has made multiple development plans, including a pier and oil export terminal over the eastern portion of Corpus Christi Bay, which once completed will make it the largest oil export terminal in the U.S; four other proposed deepwater oil terminals off the Louisiana and Texas coast are awaiting approval, which, if approved, would collectively add eight million barrels of crude oil per day in export capacity and 319 miles of additional pipeline.⁴¹⁶

NextDecade's Rio Bravo Pipeline Project (expected to begin construction in 2023) would run between Nueces County and Brownsville County⁴¹⁷ and Glenfarne Group's Texas LNG export plant (final investment decision expected later in 2023) slated for Brownsville. Both of these projects disregard sacred land of the Estok-Na Tribe (also known as the Carrizo Comecrudo Tribe) located in present-day Texas. The Rio Grande LNG site is on sacred land and the Texas LNG terminal site would cross Garcia Pasture, a burial site that is sacred to the Carrizo Comecrudo.⁴¹⁸ 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.⁴¹⁹ 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, regulatory and financiers failed to consult the Tribe regarding their projects and their impacts to Carrizo Comecrudo wellbeing and traditions.⁴²⁰ Given that Indigenous women often play key roles in knowledge holding and transmission of culture,⁴²¹ the destruction of sacred sites may be especially detrimental to the Indigenous women in this region.

Christa Mancias (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 In-

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

414 Bussewitz, C., Et al. (2022, June 2). As natural gas expands in Gulf, residents fear rising damage. *AP News*. [\[LINK\]](#); Donaghy, T. (2023, June 23). Gulf Coast Terminal Build Out. *Green-peace*. [\[LINK\]](#)

415 Ibid.

416 Phillips, A. (2023, March 8). Wave of new oil export terminals looms over Gulf Coast. *News Oil and Gas Watch*. [\[LINK\]](#)

417 Enbridge (2020, February 13). *Rio Bravo Pipeline Project*. [\[LINK\]](#)

418 SierraClub. (2022, October). *Rio Grande Valley*. [\[LINK\]](#)

419 Ibid.

420 Ibid.

421 United Nations Department of Economic and Social Affairs. *Environment*. [\[LINK\]](#)

formed Consent and threatening “sacred sites, land, air, water, and climate.”⁴²² In discussing her children, Christa Mancias states:

“I want them to live in a society where they are not afraid to be who they are. When they go to school and learn about Native people, they get the truth. That comes from stopping these pipelines so that the state recognizes that there are sacred sites that deserve to be preserved.”⁴²³

Energy Transfer has also recently completed construction of the Gulf Run LNG Pipeline which started transporting natural gas from Texas’s Haynesville Shale to Louisiana (discussed further in Section 6b.) and the Texas Gulf Coast. Referring to the fracked gas companies looking to build facilities to ship liquefied natural gas in Texas,⁴²⁴ Rebekah Hinojosa, a Gulf Coast Campaign Representative at the Sierra Club, who lives in Brownsville, Texas stated:

“Yet there are still more than 20 gas export facilities proposed for the Gulf Coast, many of which would disproportionately affect communities of color in Texas and Louisiana...Regardless of the fossil fuel industry hype, CCS [carbon capture storage] can’t change the fact that drilling for oil and gas is driving the climate crisis and threatening the health and safety of the communities forced to live near their fracking sites, pipelines, refineries, petrochemical plants, and LNG export terminals.”⁴²⁵



Rebekah Hinojosa (LinkedIn)

Other LNG plants are expected to open in the upcoming years including the Golden Pass LNG project—a QatarEnergy (formerly Qatar Petroleum) and ExxonMobil joint venture—which will add around 16 million tonnes of natural gas production capacity by 2024.⁴²⁶ 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 2025.⁴²⁷ 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.⁴²⁸ Numerous large petrochemical facilities are slated for the region in the near future.⁴²⁹ For example, Chevron Phillips Chemical and QatarEnergy plan to build an ethylene and polyethylene integrated complex in Orange Texas—a city with an African American/Black/African Diaspora population more than double the national average.⁴³⁰ This project 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.⁴³¹

422 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*. [\[LINK\]](#)

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

424 Hinojosa, R., Et al. (2021, July 19). There Are No Magic Solutions for Fracked Gas Pollution. *Sierra Club*. [\[LINK\]](#)

425 Ibid.

426 Gardner, T. (2019, February 5). Qatar Petroleum, Exxon invest in \$10 billion Texas LNG project. *Reuters*. [\[LINK\]](#)

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

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

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

430 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*. [\[LINK\]](#)

431 Ibid.

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 and Latinas/Chicanas 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 and the carcinogenic nature of these chemicals, there is need for more data and research into the effects this pollution is having on pregnant women and newborns. Elida Castillo, Program Director of Chispa Texas and Daughter of the Coastal Bend, 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.”⁴³²

In 2022, the world’s largest 60 banks provided \$10.1 billion to TotalEnergies, the company behind the Port Arthur Refinery.⁴³³ From 2016-2021, JPMorgan Chase and Bank of America provided TotalEnergies, with \$2.8 billion and \$2.1 billion, respectively, in fossil fuel financing.⁴³⁴ As of March 31, 2023, Bank of America was in the top five largest shareholders of TotalEnergies, and Capital Group was in the top 15 largest shareholders of TotalEnergies.⁴³⁵ As of March 31, 2023, Vanguard and BlackRock were the top two largest shareholders of both Valero,⁴³⁶ the company behind the Bill Greehey Refinery in Corpus Christi emitting benzene above acceptable levels, and Cheniere Energy,⁴³⁷ the company behind the Stage 3 Liquefaction Project. As of March 31, 2023, JPMorgan Chase, Bank of America, and Capital Group were also in the top 15 largest shareholders of Cheniere Energy.⁴³⁸

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

433 Rainforest Action Network, et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]

434 Rainforest Action Network et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [LINK]

435 NASDAQ, TotalEnergies SE (TTE). [LINK]

436 NASDAQ, Valero Energy Corporation Common Stock (VLO). [LINK]

437 NASDAQ, Cheniere Energy, Inc. Common Stock (LNG). [LINK]

438 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) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock (3) Capital Group	N/A

All data in the chart is derived from financial databases/platforms (Nasdaq/Fintel), or the Rainforest Action Network's 2023 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 hosts a vital battle against climate change. This is where ConocoPhillips has been approved to build the historic Willow Project pipeline,⁴³⁹ the largest proposed oil and gas project on U.S. public lands, with anticipated 267 miles of pipelines, 30 miles of roads, an airstrip, and a gravel mine.⁴⁴⁰ 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.⁴⁴¹

The National Petroleum Reserve where the project is slated for construction has become a sacrifice zone,⁴⁴² and threatens Indigenous ways of life, including food security for residents who practice a traditional subsistence lifestyle.⁴⁴³ Food insecurity has been shown to be significantly associated with higher indicators of psychological distress as well as higher rates of diabetes in women.⁴⁴⁴ This uniquely affects Indigenous women who are the most vulnerable to malnourishment and hunger.⁴⁴⁵ 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."⁴⁴⁶

The Willow Project's footprint includes areas within the Teshekpuk Lake Special Area, "a critical ecological area



Washington D.C. rally to stop Willow Master Development Project (Zizani | WECAN International)

439 StopWillow. (2023). *Protect the Western Arctic: America's largest piece of undisturbed public land*. [LINK]

440 Earthjustice. (2023, March 13). *Biden Administration Says Yes to the Willow Project. We'll See Them in Court*. [LINK]

441 Ibid.

442 (2023, January 31). 38 Indigenous Led Organizations Sign On to Stop Willow Plan. *Sovereign Inupiat for Living Arctic*. [LINK]

443 Ibid.

444 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]

445 Imam, S. (2020). The Effects of Food Insecurity on Indigenous Women in Maine. *University of Maine*. [LINK]

446 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]

which is home to migratory birds and is a primary calving area and migration corridor for the Teshekpuk caribou herd.”⁴⁴⁷ Studies note that “few places outside the proposed project’s area match the importance 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, Atkasuk, Point Lay and Wainwright.⁴⁴⁸ Over three-quarters of residents in Nuiqsut, for example, live off the fish they catch, the whales they harvest and the caribou they hunt.⁴⁴⁹ Over the past decade, a third of 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.⁴⁵⁰ 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.”⁴⁵¹

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.”⁴⁵² Despite local Indigenous communities’ stated concerns and lack of consent, the Biden Administration approved the project in March, 2023.⁴⁵³

With 1.9 million acres of Alaska’s North Slope already currently under lease by oil and gas companies⁴⁵⁴ and given that the Arctic area is warming at a faster rate than the rest of the world, ConocoPhillips’ Willow Project raises grave concern for the goal of maintaining global temperature increase to below 1.5°C.⁴⁵⁵ 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.”⁴⁵⁶ Biden’s approval of this project makes it nearly impossible for his Administration from achieving his own stated environmental goals of reducing carbon emissions by 50% by 2030.⁴⁵⁷ The Willow Project alone would emit more

447 Friedman, L. (2023, February 1). Biden Clears the Way for Alaska Oil Project. *NYTimes*. [\[LINK\]](#)

448 Petersen, V. (2022, August 3). Alaska’s Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

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

450 Brubaker, M., Et al. (2016). Climate Change in Nuiqsut, Alaska. *ANTHC Center for Climate and Health*. [\[LINK\]](#)

451 Funes, Y. (2023, March 6). The Willow Project Would Be a Public Health Crisis for Alaska. *The Frontline*. [\[LINK\]](#)

452 Hugo, C. (2023, March 7). Willow Project Threatens Traditional Caribou Hunting: Naqsragmiut Tribal President Writes Letter to the DOI Requesting Consultation. *NDN Collective*. [\[LINK\]](#)

453 Nilsen, E. (2023, March 14). Biden administration approves controversial Willow oil project in Alaska, which has galvanized online activism. *CNN*. [\[LINK\]](#)

454 Magill, B. (2022, October, 20). Alaska Auctions Taiwan-Sized Area of Arctic for Oil Drilling (1). *Bloomberg Law*. [\[LINK\]](#)

455 Safdie, S. (2023, May 31). Why is the ConocoPhillips’ Willow Project Controversial in the US? *Greenly*. [\[LINK\]](#)

456 Earthjustice. *Challenging the Willow Oil & Gas Project in Alaska’s Western Arctic*. [\[LINK\]](#)

457 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*. [\[LINK\]](#)

than 280 million metric tons of greenhouse gasses over the next 30 years.⁴⁵⁸ These emissions are close to the annual equivalent of 35 coal fired power plants (more than all U.S. coal plants) and 278 million cars (more cars and trucks than exist in the U.S.).⁴⁵⁹ Residents in the area note that “the SEIS [supplemental environmental impact statement] still has the same major concerns from our end: climate change, subsistence adversely affected, mental health adversely affected and little benefit for the most impacted community.”⁴⁶⁰ The SEIS outlines several ways in which the community would be impacted, including noise, light and chemical pollution, and threats to Indigenous food security.⁴⁶¹ Specifically, the SEIS noted the environmental degradation and human rights violations that will occur due to the development of the Willow Project.⁴⁶² The persistence of these forms of pollution disproportionately threatens women’s physical and mental health.⁴⁶³

The health of surrounding communities is already considered high risk with airborne pollutants released at each stage of the oil extraction process.⁴⁶⁴ Especially concerning pollutants being released include methane, volatile organic compounds (VOCs), particulate matter (including black carbon), and ozone.⁴⁶⁵ 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. BC exposure in pregnant women is uniquely harmful as it can reach the fetus by contaminating the placenta. This can result in the thinning of the placenta or placental inflammation within the last trimester, causing an increased risk of adverse birth effects, including preterm birth, low birth weight, and preeclampsia.⁴⁶⁶ 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.⁴⁶⁷

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.⁴⁶⁸ 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.⁴⁶⁹ Both the City of Nuiqsut and the Native Village of Nuiqsit have publicly voiced their opposition to the Willow Project due to its threat to their health, food sources, air quality, and cultural practices.⁴⁷⁰ As generations of residents

458 Earthjustice. (2023, March 13). *Biden Administration Says Yes to the Willow Project. We'll See Them in Court.* [\[LINK\]](#); Safdie, S. (2023, May 31). *Why is the ConocoPhillips' Willow Project Controversial in the US? Greenly.* [\[LINK\]](#)

459 (2023, January 31). *38 Indigenous Led Organizations Sign On to Stop Willow Plan. Sovereign Iñupiat for Living Arctic.* [\[LINK\]](#)

460 Petersen, V. (2022, August 3). *Alaska's Willow Project promises huge amounts of oil - and huge environmental impacts.* *HighCountryNews.* [\[LINK\]](#)

461 Ibid.

462 U.S. Department of the Interior. (2023, January). *Willow Master Development Plan.* [\[LINK\]](#)

463 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.* [\[LINK\]](#)

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

465 Ibid.

466 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.* [\[LINK\]](#)

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

468 Brubaker, M, Bell, B, Dingman, H., Et al. (2016). *Climate Change in Nuiqsut, Alaska.* *ANTHC Center for Climate and Health.* [\[LINK\]](#)

469 Ibid.

470 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.* [\[LINK\]](#)

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.⁴⁷¹

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.⁴⁷² 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.⁴⁷³ 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. The cause of the leak was unknown but was called natural seepage.⁴⁷⁴ Even before this traumatic event, the community had a “longstanding mistrust of the government and oil companies in the region.”⁴⁷⁵ Indeed, 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.⁴⁷⁶ In March 2022, the monitor was down for routine maintenance at the time of the explosion which caused the leak.⁴⁷⁷ 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.”⁴⁷⁸ 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.”⁴⁷⁹ Because women unequally shoulder caretaking 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.⁴⁸⁰ As the Willow Project moves forward with its development, concerns also arise with the “inevitable” establishment of Man Camps.⁴⁸¹ 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.⁴⁸²

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,⁴⁸³ but also as a carbon sink by storing carbon in per-

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

472 Naiden, A., Et al. (2022, March 8). ConocoPhillips Alaska employees evacuated due to prolonged natural gas leak on the North Slope. *ADN*. [\[LINK\]](#)

473 DEC. (2012). Repsol Q2 Pad Gas and Mud Release. *State of Alaska*. [\[LINK\]](#)

474 Clifford, L. (2023, April 14). Nuiqsut residents express concern over ConocoPhillips natural gas leak. *News-Miner*. [\[LINK\]](#)

475 Petersen, V. (2022, August 3). Alaska’s Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

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

477 Ibid.

478 Petersen, V. (2022, August 3). Alaska’s Willow Project promises huge amounts of oil - and huge environmental impacts. *HighCountryNews*. [\[LINK\]](#)

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

480 Funes, Y. (2023, March 6). The Willow Project Would Be a Public Health Crisis for Alaska. *The Frontline*. [\[LINK\]](#)

481 Slater, D., Et al. (2023, March 10). The Willow Project Is Not A “Both Sides” Story. *Revolving Door Project*. [\[LINK\]](#)

482 Slater, D., Et al. (2023, March 10). The Willow Project Is Not A “Both Sides” Story. *Revolving Door Project*. [\[LINK\]](#); Eyes, T. I. (2023, March 27). The Willow Project: Inevitable Disaster for People and Planet. *Lakota People’s Law Project*. [\[LINK\]](#)

483 Ralls, E. (2023, June 13). Additional heat is being transferred to the Arctic Ocean as the climate warms. *Earth.com*. [\[LINK\]](#)

mafrost and ocean sediments;⁴⁸⁴ 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, where temperatures 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.⁴⁸⁵ The accelerated melting of snow and ice is driving sea level rise, which poses a grave threat to communities and ecosystems globally.⁴⁸⁶ 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. 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.⁴⁸⁷



Starving Polar Bear on Melting Arctic Ice. (Kerstin Langenberger)

As of March 31, 2023, Vanguard, BlackRock, and JPMorgan Chase were the top three largest shareholders of ConocoPhillips, collectively owning over 262 million shares valued at over \$30.3 billion.⁴⁸⁸ Additionally, Capital Group was the sixth largest shareholder, holding over 29 million shares of ConocoPhillips worth over \$3 billion.⁴⁸⁹ As of 2023, ConocoPhillips expects to spend \$8 billion on the Willow Project,⁴⁹⁰ which is “more than any other oil project on the table nationwide.”⁴⁹¹ 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.

484 Alfred Wegener Institute. (2023, January 14). Trapping Millions of Tons of CO₂ - Researchers Have Discovered an Arctic Carbon Conveyor Belt. *SciTechDaily*. [\[LINK\]](#); MIT. (2022, August 4). Permafrost. *MIT Climate Portal*. [\[LINK\]](#)

485 Arctic Council. *The Arctic In A Changing Climate*. [\[LINK\]](#)

486 National Oceanic and Atmospheric Administration. (2022). *2022 Sea Level Rise Technical Report*. [\[LINK\]](#)

487 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*. [\[LINK\]](#)

488 NASDAQ. ConocoPhillips Common Stock (COP). [\[LINK\]](#)

489 Ibid.

490 AlJazeera. (2023, March 14). *Willow oil drilling project in Alaska: Here's what to know*. [\[LINK\]](#)

491 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 Inc.)	(1) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	Liberty Mutual
(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	(1) JPMorgan Chase , (2) Bank of America	(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 , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	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) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(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	(1) JPMorgan Chase , (2) Bank of America	N/A	N/A
(1) Clearfork, Spraberry, Wolfcamp, Cline, Strawn and Atoka formations	Diamondback Energy	(1) JPMorgan Chase , (2) Bank of America	(1) Vanguard , (2) BlackRock , (3) Capital Group	
(1)NGL Pipeline Expansion	Crescent Energy Company (owned by KKR, a private equity company)	N/A	(1) Vanguard , (2) BlackRock	

All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), or the Rainforest Action Network's 2023 published report, *Banking on Climate Chaos*.

*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.

Injustices occurring in West Texas and Eastern New Mexico against African American/Black/African Diaspora women, Indigenous women, and Latinas/Chicanas can be seen plainly in fossil fuel companies' past and current activity in the Permian Basin and along the Eagle Ford Shale basin. The Permian Basin, which extends from West Texas to Southeastern New Mexico, is the largest oil and gas producing basin in the U.S.; its natural gas and liquids output is expected to increase by 10% in 2023 alone.⁴⁹² The Russian invasion of Ukraine has spurred an increase in U.S. oil production in the name of “energy security”⁴⁹³ [see Section 7 for further analysis] with a majority of proposed development in the Permian Basin⁴⁹⁴; fossil fuel companies in this region made huge profits in 2022 and continue to ramp up operations into 2023.⁴⁹⁵ At the end of 2022, oil production reached an all-time high, with 5.51 million barrels of oil being produced per day—an 8.6% increase in oil production and a 20.3% increase in rig count since the previous year.⁴⁹⁶ It is estimated that the region will reach 5.71 million barrels per day in 2023, with new “blockbuster” deals and expanded development.⁴⁹⁷ The Permian Basin is expected to lead the global oil supply in crude oil over the next seven years.⁴⁹⁸ It is currently one of the biggest single sources of carbon emissions on the planet⁴⁹⁹ and its greenhouse gas

492 East Daley Analytics. (2023, February 17). *Permian Producers guide to Growth in 2023*. [\[LINK\]](#)

493 Rozansky, R., Et al. (2022, October). Gas Bubble U.S Edition 2022: Global Surge in New LNG Export Terminals Led by U.S., Russia, Canada. *Global Energy Monitor*. [\[LINK\]](#); IEA. (2023, February 28). *Natural gas markets remain tight as uncertainty persists around Chinese LNG demand and further supply cuts by Russia*. [\[LINK\]](#); Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [\[LINK\]](#); Muta, T., Et al. (2023, February 16). The global energy crisis pushed fossil fuel consumption subsidies to an all-time high in 2022. *IEA*. [\[LINK\]](#)

494 Ibid.

495 Roy, M. (2023, April 19). Permian in spotlight as energy dealmaking gathers steam. *Reuters*. [\[LINK\]](#)

496 Federal Reserve Bank of Dallas. (2023, March 1). *Permian Basin Economic Indicators*. [\[LINK\]](#)

497 Roy, M. (2023, April 19). Permian in spotlight as energy dealmaking gathers steam. *Reuters*. [\[LINK\]](#); Mathews, C. (2023, May 18). Permian, Haynesville Driving U.S. Oil, Gas Production Growth. *HartEnergy*. [\[LINK\]](#)

498 Wire Services (2018, March 5). U.S. oil production, led by the vast Permian Basin, is expected to supply the world. *The Dallas Morning News*. [\[LINK\]](#)

499 Pskowski, M., Et al. (2023, January 13). EPA moves away from Permian Basin air pollution crackdown. *Texas Tribune*. [\[LINK\]](#)

emissions are projected to grow over the next few years.⁵⁰⁰ 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.⁵⁰¹ Further, 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.⁵⁰² 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.⁵⁰³ In 2022, the EPA considered designating the Permian Basin in violation of ozone standards, yet their proposal “was moved to a back burner in the agency’s annual agenda.”⁵⁰⁴

Due to this lack of monitoring, in 2017, the EIP used computer modeling and self-reports from the industry to finally identify 782 reported events of unpermitted sulfur dioxide emissions in Ector County, and 320 events in Crane County.⁵⁰⁵ Ector County is 62.6% Latinx and Crane County is 66.1% Latinx.⁵⁰⁶ Both counties have Latinx populations that are 3.5 times above the national average.⁵⁰⁷ 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.⁵⁰⁸ 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.⁵⁰⁹ As the primary caretakers, Latinas/Chicanas 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 Latinx families.

Studies have found that due to unequal gender and cultural norms and the unequal distribution of power and resources, women disproportionately suffer impacts from extreme weather events and other disasters, such as earthquakes.⁵¹⁰ These impacts are particularly felt in places like the Permian Basin, which had a record-breaking 2,000 increasingly intense earthquakes in 2021. 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.⁵¹¹ 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.⁵¹²

500 Bingler, Jacey., Et al. (2020, February 10). Five Years Lost: How Finance is Blowing the Paris Carbon Budget. *Urgewald*. [\[LINK\]](#)

501 Trout, K. (2019, January 16). Drilling Towards Disaster: Why U.S. Oil and Gas Expansion is Incompatible with Climate Limits. *Oil Change International*. [\[LINK\]](#)

502 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*. [\[LINK\]](#)

503 Ibid.

504 Pskowski, M., Et al. (2023, January 13). EPA moves away from Permian Basin air pollution crackdown. *Texas Tribune*. [\[LINK\]](#)

505 Levin, I. (2019, May 9). Sour Wind in West Texas. *Environmental Integrity Project*. [\[LINK\]](#)

506 Census Bureau. (2021, July 1). *Quickfacts: Crane County, Texas, Ector County, Texas*. [\[LINK\]](#)

507 Census Bureau. (2021, July 1). *Quickfacts: United States*. [\[LINK\]](#)

508 Langford, C. (2019, May 9). Texas Oil Boom Linked to Spike in Air Pollution. *Courthouse News Service*. [\[LINK\]](#)

509 Faiz, A.S., Et al. (2012, August 15). Ambient Air Pollution and the Risk of Stillbirth. *American Journal of Epidemiology*. [\[LINK\]](#)

510 Ibid.

511 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*. [\[LINK\]](#)

512 Elser, H., Et al. (2020, October 8). Petro-risksapes and environmental distress in West Texas: Community perceptions of environmental degradation, threats, and loss. *Energy Research & Social Science*. [\[LINK\]](#)

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 crime⁵¹³ that often disproportionately harm women.⁵¹⁴ 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.⁵¹⁵ Sharon Wilson, director at Oilfield Witness, describes how undocumented immigrant women are trafficked by “coyotes”⁵¹⁶ (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.”



Sharon Wilson with optical gas imaging camera (Sharon Wilson)

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.⁵¹⁷ 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.⁵¹⁸ Additionally, in January 2023, Conservation Groups filed a lawsuit challenging the Biden Administration’s approval of 32 oil and gas leases spanning nearly 6,000 acres in southern New Mexico.⁵¹⁹ 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.”⁵²⁰ These lawsuits pose both regulatory and reputational risks to firms financing Permian Basin companies [see Section 8].

513 Wiencek, H. Boomtown, USA: An Historical Look at Fracking. *UTexas*. [\[LINK\]](#)

514 (2022, December 4). Man Camps: An Oil Industry Business that Affects Native American Women. *Real Archaeology*. [\[LINK\]](#)

515 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*. [\[LINK\]](#)

516 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*. [\[LINK\]](#)

517 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*. [\[LINK\]](#)

518 Evans, G., Et al. (2023). *Complaint to Enforce Constitutional Rights for a Healthful and Beautiful Environment and Protection of Natural Resources from Despoilment due to Oil and Gas Pollution, and to Enforce the Rights of Frontline Communities, Indigenous Peoples, and Youth to Life, Liberty, Property, Safety, Happiness, and Equal Protection in the Face of the State’s Permitting of Oil and Gas Production and Pollution, and for Declaratory and Injunctive Relief*. [\[LINK\]](#)

519 Citizens Caring For The Future., Et al. (2023, January 23). *Carlsbad NM lease sale complaint*. [\[LINK\]](#)

520 Center for Biological Diversity. (2023, January 23). *Lawsuit Aims to Defend Climate, Clean Air From Fracking in New Mexico’s Permian Basin*. [\[LINK\]](#)

In the Eagle Ford Shale, which spans from Northwest to Southwest Texas, majority Hispanic census blocks had a higher number of flares within 5 kilometers than census blocks with less Hispanic residents.⁵²¹ 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.⁵²² 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.⁵²³ 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.”⁵²⁴ 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.⁵²⁵ This suggests that impacts from flaring to pregnant women (predominantly Latinas/Chicanas 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.⁵²⁶



Gas flaring from burning natural gas (FreezeFrames | Shutterstock)

Rather than heeding the implications of these numerous studies elucidating 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’s giant plastic plant (“The Sunshine Project”) in Louisiana.⁵²⁷

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. All with an exemplary safety and environmental record.”⁵²⁸ Government bodies and companies ignore the disastrous impacts of compounding environmental pressures and environmental laws.⁵²⁹

521 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. *Environ. Res. Lett.* [\[LINK\]](#)

522 Ibid.

523 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.* [\[LINK\]](#)

524 Ibid.

525 American Lung Association. (2023). *Midland-Odessa, TX.* [\[LINK\]](#)

526 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. *Environ. Res. Lett.* [\[LINK\]](#)

527 Buckner, E. (2020, February 14). Why We’re Challenging Formosa Plastics’ Massive Proposed Petrochemical Plants in Court. *EarthWorks.* [\[LINK\]](#)

528 Occidental Petroleum. *Producing energy efficiently, reliably and responsibly worldwide.* [\[LINK\]](#)

529 Wright, S. (2021). *Fracking on Federal Lands.* *MSU Denver.* [\[LINK\]](#)

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.”⁵³⁰

Other companies have recently obtained new drilling permits: in the period from late March to late June in 2023, 215 drilling permits were issued in the Eagle Ford Shale⁵³¹ and from mid May to early June approximately 850 drilling permits were issued in the Permian Basin.⁵³² ExxonMobil grew its Permian Basin production by 25% during the first half of 2022, with an estimated 460,000 oil-equivalent barrels per day.⁵³³ The company plans to grow its Permian output to “one million oil-equivalent barrels per day by 2024.”⁵³⁴ 87.6% of the U.S.’s total oil production was projected to come from the Permian Basin in 2022⁵³⁵ and the oil production in the Permian is expected to grow by 500,000 barrels per day in 2023.⁵³⁶ ExxonMobil has indicated that it will boost Permian Basin energy production by 100,000 barrels a day, and Chevron is increasing its output by 60,000 barrels per day.⁵³⁷ Valero, Marathon Petroleum, Chevron, ExxonMobil, among others, reported record level growth and profits in the Permian Basin in 2022, and plan to further expand and optimize their operations in 2023.⁵³⁸ According to EIA’s latest forecast, crude oil production in the Permian Basin is set to hit a record 350,000 barrels per day in 2024.⁵³⁹ This continued development will significantly increase natural gas production in the U.S., with estimates reaching 42.1 trillion cubic feet by 2050.⁵⁴⁰

Some of the top drillers in this area include Chevron, ExxonMobil, Occidental Petroleum, and Pioneer Natural Resources. As of March 31, 2023, Vanguard, BlackRock, and Capital Group were in the top five largest shareholders of Pioneer Natural Resources, collectively holding over 47.05 million shares worth over \$10.51 billion.⁵⁴¹ Similarly, JPMorgan Chase and Bank of America are significant shareholders in Pioneer Natural Resources.⁵⁴² 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 2023.⁵⁴³ Pioneer Natural Resources’ drilling operations cause nearly daily earthquakes in Midland and Odessa Texas, contributing to disproportionate impacts on women’s health and safety.⁵⁴⁴ Additionally, as of March 31, 2023, Vanguard and BlackRock were the top two shareholders of Marathon Petroleum, collectively holding over 81 million shares worth \$10.68 billion.⁵⁴⁵ Bank of America and the Royal Bank of Canada are also significant shareholders of Marathon,⁵⁴⁶ one of the companies with record level growth and profits in the Permian Basin throughout 2022.⁵⁴⁷

530 Ibid.

531 Shale Experts. *Eagle Ford Shale*. [\[LINK\]](#)

532 PBOil&Gas. *Interactive Drilling Permit Map*. [\[LINK\]](#)

533 Spencer, S. (2022, February 01). ExxonMobil sees US Permian production growing by over 25% in 2022, narrows capex range. *S&P Global Commodity Insights*. [\[LINK\]](#)

534 ExxonMobil. (2019, March). *ExxonMobil to increase, accelerate Permian output to 1 million barrels per day by 2024*. [\[LINK\]](#)

535 Hampton, L. (2022, April 14). U.S. oil drilling, output moving higher with energy prices. *Reuters*. [\[LINK\]](#)

536 Kelly, S. (2023, February 8). Plains expects 2023 Permian oil output up by as much as 500,000 bpd. *Reuters*. [\[LINK\]](#)

537 Lakhani, N., Et al. (2022, May 11). US fracking boom could tip world to edge of climate disaster. *The Guardian*. [\[LINK\]](#)

538 Shale Directories. *Permian Basin Stands Out In A Record Year For U.S. Energy Companies*. [\[LINK\]](#)

539 EIA. (2023, January 25). *U.S. crude oil production will increase to new records in 2023 and 2024*. [\[LINK\]](#)

540 EIA. (2023, April 27). U.S. natural gas production and LNG exports will likely grow through 2050 and AEO2023. [\[LINK\]](#)

541 NASDAQ. Pioneer Natural Resources Company Common Stock (PXD). [\[LINK\]](#)

542 Ibid.

543 Phinds. (2023, February 24). Pioneer Natural Resources 2023 Outlook. *Oilgasleads*. [\[LINK\]](#)

544 Yavinsky, R. (2012, December 26). Women More Vulnerable Than Men to Climate Change. *Population Reference Bureau (PRB)*. [\[LINK\]](#)

545 NASDAQ. Marathon Petroleum Corporation Common Stock (MPC). [\[LINK\]](#)

546 Ibid.

547 Shale Directories. *Permian Basin Stands Out In A Record Year For U.S. Energy Companies*. [\[LINK\]](#)

6d. "Cancer Alley", Louisiana

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) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(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)	(1) JP Morgan Chase (2) Bank of America	(1) Vanguard (2) BlackRock	N/A
Garyville Refinery	Marathon Petroleum	(1) Bank of America, (2) 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, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
Carville Styrenics Complex Polystyrene Plant	TotalEnergies	(1) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
(1) Meraux Refinery, (2) St. Charles Refinery	Valero	(1) Bank of America, (2) JP Morgan Chase	(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, (3) Royal Bank of Canada	(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) JPMorgan Chase, (2) Bank of America	N/A	N/A
(1) Lake Charles Refinery	Phillips 66	(1) Bank of America, (2) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
(1) Geismar Petrochemical Plant, (2) Plaquemine Petrochemical Plant, (3) Westlake Petrochemical Plant	Westlake Chemical	(1) Bank of America	(1) Vanguard, (2) BlackRock	N/A
(1) Denka Petrochemical Plant	DuPont de Nemours Inc	(1) Bank of America	(1) Vanguard, (2) BlackRock	

All data in the chart is derived from financial databases/platforms (*Nasdaq/Yahoo! Finance/Fintel*), Rainforest Action Network's 2023 published report, *Banking on Climate Chaos*, or a *Stop the Money Pipeline* campaign

*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 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.”⁵⁴⁸

“Cancer Alley” is an 85-mile stretch along the banks of the Mississippi River between Baton Rouge and New Orleans, where companies such as ExxonMobil, Occidental Petroleum, Shell, and Formosa operate over 200 fossil fuel refineries and petrochemical facilities.⁵⁴⁹ Dubbed “Cancer Alley” in the early 1980s, this area has one of the highest cancer rates in the country.⁵⁵⁰ 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.⁵⁵¹ Barbara Washington and Shamyra Lavigne, Members of RISE St. James, both mention that districts four and five in St. James Parish, which

548 United Nations (2021, March 2). Environmental racism in Louisiana's 'Cancer Alley', must end, say UN human rights experts. *UN News*. [\[LINK\]](#)

549 Groner, A. (2021, May 7). Louisiana Chemical Plants are Thriving off of Slavery. *The Atlantic*. [\[LINK\]](#)

550 Yawn, Y.J. (2020, March 19). St. James is full: New Cancer Alley plant may double toxic pollutants, EPA data shows. *Tennessean*. [\[LINK\]](#)

551 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*. [\[LINK\]](#)

are predominantly African American/Black/African Diaspora and poor neighborhoods, hold the highest concentration of polluting industry plants.⁵⁵²

“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.⁵⁵³ 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.⁵⁵⁴ 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 covertly 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.⁵⁵⁵ These areas are over 90% African American/Black/African Diaspora communities.⁵⁵⁶ 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.⁵⁵⁷ 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.⁵⁵⁸

In 2022, the EPA produced a 56-page letter, recommending closing down schools such as Fifth Ward Elementary School located only 450 feet from Denka’s petrochemical plant.⁵⁵⁹ This school serves over 400 children from pre-kindergarten to 4th grade, 95% of whom are African American/Black/African Diaspora.⁵⁶⁰ Denka, the nation’s only emitter of chloroprene, stated that it does not believe its plant has negative health impacts on the community,⁵⁶¹ yet research shows otherwise. The EPA’s *Toxicological Review of Chloroprene*⁵⁶² 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; chloroprene has also been found to be especially toxic to children as it can mutate their DNA.⁵⁶³

Due to concerns from the EPA and residents, the school board is implementing ways to more efficiently measure pollution in the school, as well as working towards transferring students to another location,⁵⁶⁴ however, due to high levels of pollution across this region, relocation “would not greatly decrease the theoretical risks of developing cancers related to chloroprene

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

553 Potter A.E., Et al. (2017, December). Commemorating the Enslaved Along Louisiana’s River Road. *American Association of Geographers*. [\[LINK\]](#)

554 Ludwig, M. (2019, March 10). Petrochemical Giants Are Slowly Killing Black Louisiana Communities. *Portside*. [\[LINK\]](#)

555 Ibid.

556 Ibid.

557 Yawn Y.J. (2020, March 19). St. James is full’: New Cancer Alley plant may double toxic pollutants, EPA data shows. *Tennessean*. [\[LINK\]](#)

558 University Network for Human Rights. (2019, July). “Waiting to Die:” Toxic Emissions and Disease Near the Louisiana Denka/DuPont Plant. *Human Rights Network*. [\[LINK\]](#)

559 EPA. (2022, October 12). Letter of Concern. *Office of Environmental Justice and External Civil Rights*. [\[LINK\]](#)

560 ProPublica. *Fifth Ward Elementary School*. [\[LINK\]](#)

561 Holden, E., Et al. (2019, December 19). Chemical manufacturer launched aggressive campaign instead of reining in pollution, according to documents. *The Guardian*. [\[LINK\]](#)

562 EPA. (2010, September). *Toxicological Review of Chloroprene*. [\[LINK\]](#)

563 Strassmann, M. (2023, May 4). Synthetic rubber plant in crosshairs amid high cancer risk in Louisiana community. *CBS News*. [\[LINK\]](#)

564 Robichaux, B. (2022, October 27). School Board aware of EPA’s recommendation to relocate Fifth Ward Elementary students. *L’Observateur*. [\[LINK\]](#)

exposure.”⁵⁶⁵ Based on air quality tests, in February 2023, the EPA sued Denka for “imminent and substantial endangerment to public health and welfare”.⁵⁶⁶



Protestors show the effects of Chloroprene in their area (Julie Dermansky)

Furthermore, hurricanes (Katrina, Ida, Harvey) have devastated communities in Louisiana, financially destabilizing families. These hurricanes have been steadily intensified by climate change and continued fossil fuel development.⁵⁶⁷ Over 2,500 people still live in temporary Federal Emergency Management Agency (FEMA) trailers as of May 2023.⁵⁶⁸ These trailers are mostly occupied by women, single-mothers and their children, and elderly women who cannot afford to rebuild homes they lost to storms.⁵⁶⁹ 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.⁵⁷⁰ Roishetta Ozane, Founder of The Vessel Project and Community Organizer for HealthyGulf, describes the reality of being a single mother raising children in a FEMA trailer:

⁵⁶⁵ Ibid.

⁵⁶⁶ Department of Justice. (2023, February 28). *Justice Department Files Complaint Alleging Public Health Endangerment Caused by Denka Performance Elastomer's Carcinogenic Air Pollution*. [\[LINK\]](#)

⁵⁶⁷ McDade, A. (2022, January 10). Louisiana Turns to Thousands of RV Trailers to House Victims of Hurricane Ida Months Later. *Newsweek*. [\[LINK\]](#)

⁵⁶⁸ Ozane, R. (2022, May 19). WECAN Interview.; Setyawan, K. (2023, May 19). Rent to increase on FEMA trailers for Louisianans impacted by Hurricane Ida; here's what to know. *WWNO*. [\[LINK\]](#)

⁵⁶⁹ Ibid.

⁵⁷⁰ Ibid.

“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.”⁵⁷¹

Further risking women’s health, fossil fuel companies limit data and evade reporting emissions with the help of Louisiana state agencies. Studies on emissions in “Cancer Alley” are obscured by the Louisiana Health Department, which claims it has no alleged duty to warn the public about emissions;⁵⁷² ProPublica called the Louisiana Department of Environmental Quality (LDEQ) “dangerously behind” on emissions tracking.⁵⁷³ ProPublica auditors found that the LDEQ could take up to nine years to require a company to pay a fine or settlement following the company’s citation of emission standard violations.⁵⁷⁴ The state’s inability to serve as a watchdog for “Cancer Alley” communities suggests that the health risks in this region are likely even more significant than published data reflect.

The Louisiana Bucket Brigade, a local 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, sisters, brothers, and partners. They 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. 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.⁵⁷⁵

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 attention⁵⁷⁶ to “Cancer Alley,” and the Environmental Protection Agency responded in 2022 by committing \$600,000 to air monitoring studies within the region.⁵⁷⁷

Women of “Cancer Alley” who are fighting for justice face an uphill battle. Dr. Robert Bullard, a professor at Texas Southern University who has written several books about environmental racism in the South, 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.⁵⁷⁸ This is very

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

572 Earls, M. (2022, January 22). Louisiana Health Department Escapes Suit Over Neoprene Plant. *Bloomberg Law*. [\[LINK\]](#)

573 Schleifstein, M. (2021, January 29). Air Quality Regulators in “Cancer Alley” Have Fallen Dangerously Behind. ProPublica. [\[LINK\]](#)

574 Ibid.

575 Louisiana Bucket Brigade. *Women of Cancer Alley*. [\[LINK\]](#)

576 The Guardian (2021). *Cancer Town*. [\[LINK\]](#)

577 Dosemagen, S. (2022, February 19). EPA Investment in Cancer Alley. *The Hill*. [\[LINK\]](#)

578 Lu Baum, J. (2019, April 1). They Don’t Call It “Cancer Alley” For Nothing. *Big Easy Magazine*. [\[LINK\]](#)

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".⁵⁷⁹

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 illnesses ignored.⁵⁸⁰ 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,"⁵⁸¹ likely due to the legacy of mistreatment and negligent care of Black patients.⁵⁸² These compounding factors—that women are more likely to have fossil fuel derived health impacts and that Black patients are more likely to mistrust the healthcare system—make African American/Black/African Diaspora women especially vulnerable to illness and health impacts that spawn from fossil fuel pollution, as well as longer or more complicated recoveries from these impacts. And, these same communities are statistically likely to have related chronic conditions under-treated for their entire lives.⁵⁸³ Jo Banner, Co-Founder and Co-Director of the Descendants Project, describes these interlocking issues in her home in Louisiana:



Lydia Gerard with the Concerned Citizens of St. John at a protest calling for the Governor to shut down petrochemical plants in St. James and St. John the Baptist Parish (Julie Dermansky)

"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."⁵⁸⁴

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.⁵⁸⁵ The doctor told Liz

579 Ibid.

580 Fenton, S. (2016, July 27). How Sexist Stereotypes Mean Doctors Ignore Women's Pain. *Independent*. [\[LINK\]](#)

581 Miller, J. (2022, March 28). Chronic Care Disparities in the Black Community. *HealthCentral*. [\[LINK\]](#)

582 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*. [\[LINK\]](#)

583 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*. [\[LINK\]](#)

584 Banner, J. (2023, July 26). WE CAN Interview

585 Louisiana Bucket Brigade and Story Center. (2019, January 24). Women of Cancer Alley: Nothing Happens. *Youtube*. [\[LINK\]](#)

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.”⁵⁸⁶ 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.⁵⁸⁷

An air permits administrator at the Louisiana Department of Environmental Quality (DEQ) for over 20 years, told ProPublica that he could not recall a single permit ever being denied by the agency.⁵⁸⁸ He also added that the DEQ sometimes approves projects with a lower cap on emissions than companies request.

Efforts by local communities and national allies have led to changes in legislation and the dismissal of fossil fuel-related permit requests. For example, the activist organization, Beyond Petrochemicals, has been working alongside frontline efforts to stop over 120 proposed petrochemical projects, many of which are slated for Cancer Alley.⁵⁸⁹ In 2022, the Baton Rouge District judge ruled in favor of RISE St. James in their fight to deny air permits to Formosa.⁵⁹⁰ This marked the first time a state district court rejected a DEQ air permit on the basis of environmental justice. After this ruling, Sharon Lavigne noted that the fossil fuel industry is “trying to find ways that they can go around the law and get this victory from us, but it’s not going to help. We are not going to lay down and roll over. We’re going to continue to fight.”⁵⁹¹



Sharon Lavigne at her house in St. James, Louisiana. (Julie Dermansky)

As concerns about climate change increase, divestment advocates note the economic and reputational risks that come with continued investment and financing for fossil fuel projects.⁵⁹² 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).

Formosa’s Sunshine Project, planned for St. James Parish, will involve building a \$12 billion plant that will make various single-use plastics including polyethylene, polypropylene, polymer, and ethylene glycol.⁵⁹³ If built, this plant will be releasing over 13 million tons of greenhouse gases per year, the same as 3.5 coal-fired power plants.⁵⁹⁴ Notably, this project is slated to cause 246 times the ethylene oxide (Eto) levels determined to be cancer-causing by the EPA.⁵⁹⁵

586 Ibid.

587 Investopedia. (2020, May 12). *6 Reasons Healthcare Is So Expensive in the U.S.* [LINK]

588 Baurick, T., Et al. (2019, October 30). Polluter’s Paradise: Welcome to “Cancer Alley,” Where Toxic Air Is About to Get Worse. *ProPublica*. [LINK]

589 Cunningham, N. (2023, June 2). “Cancer Alley”: Louisiana petchems target Black communities. *Gas Outlook*. [LINK]

590 Trimble, A. (2022, September 14). Louisiana Court Vacates Air Permits for Formosa’s Massive Petrochemical Complex in Cancer Alley. *Earthjustice*. [LINK]

591 Dermansky, J. (2022, November 23). Fenceline Community Groups in Louisiana’s Cancer Alley Celebrate Mounting Victories. *DeSmog*. [LINK]

592 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]; Cleaveland, G. (2023, April 12). Banking on Climate Chaos Report: World’s Biggest Banks Continue to Pour Billions into Fossil Fuel Expansion. *Sierra Club*. [LINK]

593 Beenes, M. (2023, May 10). Formosa Plastics’ “Sunshine Project”. *BankTrack*. [LINK]

594 Greenfield, N. (2022, November 10). Advocates Are Sparking a Revolution in Louisiana’s “Cancer Alley”. *NRDC*. [LINK]

595 Ludwig, M. (2019, March 10). Petrochemical Giants Are Slowly Killing Black Louisiana Communities. *Portside*. [LINK]

Exposures higher than this EPA standard have been linked to increased miscarriage risk.⁵⁹⁶ Due to advocacy pressure and a lawsuit filed by Earthjustice, in 2023, the EPA proposed more stringent regulations on exposure to Eto pollution.⁵⁹⁷ Formosa's planned petrochemical project, projected to be one of the top five emitters of Eto in the U.S.,⁵⁹⁸ would not meet national standards, i.e., the EPA's goal to cut Eto emissions by 80% per year. This change in environmental standards leaves Formosa, and the financial institutions behind Formosa, at risk [see Section 8].⁵⁹⁹ This data, in addition to population data revealing predominantly African American/Black/African Diaspora neighborhoods near proposed Sunshine Project sites,⁶⁰⁰ provides evidence of one of the most heinous examples of environmental racism in the U.S.⁶⁰¹ 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. The history of this location was known by Formosa as it sought out land-use approval, making it clear that the industry not only poses a threat to the health of the community but also connections to their ancestral history.⁶⁰² Formosa's disregard for the communities' cultural heritage led residents to file a landmark lawsuit in March of 2023, which aims to create an ordinance that protects unmarked cemeteries of enslaved people.⁶⁰³



The Zion Travelers Cemetery in Reserve, Louisiana, in the heart of Cancer Alley. Next to the cemetery is the Marathon Refinery. (Julie Dermansky)

In conjunction with intense public pushback from St. James communities, this lawsuit prompted the U.S. Army Corps of Engineers to suspend Formosa's Clean Air Act license and conduct an Environmental Impact Statement (EIS).⁶⁰⁴ Despite the known harms from this project, according to Formosa's website, the company still intends to build and operate its plastic plant.⁶⁰⁵

Some of the worst actors in this region also include Valero, Dow Inc., Occidental Petroleum, and TotalEnergies. Barbara Washington, a Member of RISE St. James in St. James Parish, Louisiana stated:

“Occidental is a petrochemical plant, it is a mile from me. All of these plants are here and they are emitting chemicals into the air that we know are cancer-causing. And so that is why I started fighting.”⁶⁰⁶

596 Ibid.

597 EPA Press Office. (2023, April 11). *EPA Proposes New Standards to Protect Public Health, Reduce Exposure to Ethylene Oxide Pollution*. [\[LINK\]](#)

598 Kellerman, C. *Formosa Plastics: An Assault On Human Life*. Loyola University New Orleans. [\[LINK\]](#)

599 EPA Press Office. (2023, April 11). *EPA Proposes New Standards to Protect Public Health, Reduce Exposure to Ethylene Oxide Pollution*. [\[LINK\]](#)

600 Ludwig, M. (2019, March 10). *Petrochemical Giants Are Slowly Killing Black Louisiana Communities*. *Portside*. [\[LINK\]](#)

601 United Nations (2021, March 2). *Environmental racism in Louisiana's 'Cancer Alley', must end, say UN human rights experts*. [\[LINK\]](#)

602 Beenes, M. (2023, May 10). *Formosa Plastics' 'Sunshine Project'*. *BankTrack*. [\[LINK\]](#)

603 United States District Court. (2023, March 21). *Complaint for Declaratory and Injunctive Relief*. [\[LINK\]](#)

604 Volcovi V. (2021, August 18). *U.S. Army orders environmental review of Louisiana plastics project*. *Reuters*. [\[LINK\]](#)

605 Hioe, B. (2022, September 24). *Formosa Plastics Likely to Resist Legal Ruling Against Sunshine Project*. *New Bloom*. [\[LINK\]](#)

606 Washington, B. (2020, November 25). *WECAN Interview*.

As of March 31, 2023, JPMorgan Chase, Vanguard, and BlackRock were all significant shareholders of Formosa Plastics Corporation, the company behind “The Sunshine Project” (the planned plastic plant in St. James Parish).⁶⁰⁷ As of March 31, 2023, 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,⁶⁰⁸ while Bank of America is one of the top 15 largest shareholders.⁶⁰⁹

607 Fintel. TW:1301 / Formosa Plastics Corp - Institutional Ownership and Shareholders. [\[LINK\]](#)

608 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*. [\[LINK\]](#)

609 NASDAQ. DuPont de Nemours, Inc. Common Stock (DD). [\[LINK\]](#)

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 Inc.	(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> , (3) <u>Capital Group</u>	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) <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> , (3) <u>Capital Group</u>	N/A
Elk Hills Gas Field	Occidental Petroleum (i.e., California Resources Corporation)	(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> , (3) <u>Capital Group</u>	N/A
(1) Wilmington Refinery, (2) Benicia Refinery	Valero	(1) <u>Bank of America</u> , (2) <u>JP Morgan Chase</u>	(1) <u>Vanguard</u> , (2) <u>BlackRock</u>	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	(1) Bank of America	(1) Vanguard, (2) BlackRock	N/A

All data in the chart is derived from financial databases/platforms (Nasdaq/Fintel/CNN Money), or the Rainforest Action Network’s 2023 published report, *Banking on Climate Chaos*.

*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.⁶¹⁰ Only six months into 2023, California regulators have approved 1,000 new oil and gas permits this year; more than 60% of the permits are within 3,200 feet of homes, schools, or other sites near human activity. A new California law that would require a 3,200-foot buffer between oil drilling and communities is currently delayed by a referendum, which is expected to be voted on in 2024.⁶¹¹ The referendum represents a number of oil and gas industry leaders including Chevron, ConocoPhillips, Exxon Mobil, and others.⁶¹²

The Central Valley alone is responsible for 70% and 90% of California’s oil and gas, respectively,⁶¹³ 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.⁶¹⁴ A report from the NRDC states that 5.4 million Californians live within a mile of an oil or gas well, and over one-third of these people live in areas identified by the California EPA as the most burdened by environmental pollution.⁶¹⁵ 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, and the proportion of Hispanic residents near active wells was 4%–13% higher than their statewide proportion.”⁶¹⁶ Throughout California, “people of color represent more than nine out of ten residents who live near oil and gas wells.”⁶¹⁷ The following are some of the major oil producing counties in California, and all have significant racial minority populations:⁶¹⁸ Kern County (54.6% Latinx), Los Angeles County (48.6% Latinx

610 Center for Biological Diversity. (2017). *Fracking and Dangerous Drilling in California Briefing Book: Californians Against Fracking*. [LINK]

611 Wolf, S., Et al. (2023, June 12). Top Scientists: California Must End Neighborhood Oil Drilling, New Fossil Fuel Permits. *Center for Biological Diversity*. [LINK]; Manke, K. (2023, March 23). Black, Latinx Californians face highest exposure to oil and gas wells. *Berkeley News*. [LINK]

612 Secaira, M. (2022, October 24). Oil and gas companies start signature gathering to challenge a CA law aimed at keeping drilling further from communities. *CAPRadio*. [LINK]; Nielsen Merksamer Parrinello Gross & Leoni LLP. (2023). *Representative Clients*. [LINK]

613 Canon, G. (2021, March 12). ‘Kern runs on oil’: as California confronts climate crisis, one county is ready to drill. *The Guardian*. [LINK]

614 Ruas, C. (2019, May 31). People of color would bear the brunt of additional fossil fuel pollution coming from public lands. *The Wilderness Society*. [LINK]

615 Srebotnjak, T., Et al. (2014, October). Drilling in California: Who’s at risk? *National Resources Defense Council*. [LINK]

616 González, D. (2023, March 23). Temporal Trends of Racial and Socioeconomic Disparities in Population Exposures to Upstream Oil and Gas Development in California. *GeoHealth*. [LINK]

617 Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [LINK]

618 Ibid.

and 15.4% Asian Diaspora), Ventura County (43.2% Latinx), Fresno County (53.8% Latinx), and Monterey County (59.4% Latinx).⁶¹⁹ It should also be noted that the Census frequently undercounts low-income communities of color,⁶²⁰ so these populations are likely larger than reported. It is clear from this data that Latinx 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 California live within 1 kilometer of wells that have been plugged and abandoned.⁶²¹ 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].⁶²²

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.”⁶²³ In southern California, Hispanic, Asian, African American/Black/African Diaspora, and Hawaiian/Pacific Islander populations are particularly affected by living in proximity to oil and gas wells.⁶²⁴ 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 Latinx communities.⁶²⁵ Los Angeles has the worst ground level ozone pollution in the U.S.⁶²⁶ This is due to fossil fuel emissions reacting to the city’s persistent heat and sunlight, and being trapped within the mountainous landscape.⁶²⁷ Significant to reproductive justice, mothers in California gave birth to over one million babies living within about 3,200 feet of an oil and gas well between 2006-2015 alone.⁶²⁸

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.⁶²⁹ 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.⁶³⁰ As Inside Climate News reported, the fossil fuel industries’ continued use and pollution of Cal-



Bakersfield Field Office oil derrick (Flickr)

619 U.S. Census Bureau, (July 1, 2021). *Monterey County, California; Ventura County, California; Los Angeles County, California; Fresno County, California; Kern County, California*. [\[LINK\]](#)

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

621 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*. [\[LINK\]](#)

622 Manke, K. (2023, March 23). Black, Latinx Californians face highest exposure to oil and gas wells. *Berkeley News*. [\[LINK\]](#)

623 Center for Biological Diversity. (2017). *Fracking and Dangerous Drilling in California Briefing Book: Californians Against Fracking*. [\[LINK\]](#)

624 Proville, J., Et al. (2022, June 17). The demographic characteristics of populations living near oil and gas wells in the USA. *Popul Environ*. [\[LINK\]](#)

625 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

626 Ibid.

627 Fortiér, J. (2023, April 19). Cough, Cough! LA’s Ozone Levels Among Worst In The Nation. *LAist*. [\[LINK\]](#)

628 Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [\[LINK\]](#)

629 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*. [\[LINK\]](#)

630 Center for Biological Diversity. (2017). *Fracking and Dangerous Drilling in California Briefing Book: Californians Against Fracking*. [\[LINK\]](#)

ifornia’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.”⁶³¹ Over half the people living without access to safe water live in five California counties, including Kern County.⁶³² 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 fuels⁶³³—women are at a greater risk of ovarian, thyroid, kidney, and bladder cancers.⁶³⁴ Additionally, other impacts include damaging children’s nervous systems and hindering brain development,⁶³⁵ 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. State officials specifically cited climate concerns as a reason for denying permits, mostly to ExxonMobil (via Aera Energy).⁶³⁶ Aera Energy and Chevron have responded by filing lawsuits to overturn Governor Newsom’s “de-facto ban” on fracking.⁶³⁷

Local California governments have passed or considered oil drilling bans including in Los Angeles County and the San Francisco Bay Area.⁶³⁸ 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.⁶³⁹ In 2022, the state legislature passed a bill banning new or reworked oil and gas within 3,200 feet of homes, schools, nursing homes, hospitals, and prisons.⁶⁴⁰ While the law was scheduled to go into effect in January 2023, it is on hold due for voting in the general election in 2024, resulting from a fossil fuel industry effort to overturn it.⁶⁴¹

For residents who have active wells in their vicinity, this is of particular concern. 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 nose-bleed.’”⁶⁴²



Magali Sanchez-Hall in front of the Tesoro refinery near her home. (Miguel Gutierrez)

631 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*. [\[LINK\]](#)

632 Ibid.

633 University of Pittsburgh. (2007, October 23). Harmful Byproducts of Fossil Fuels Could Be Higher In Urban Areas. *ScienceDaily*. [\[LINK\]](#)

634 National Cancer Institute Division of Cancer Epidemiology & Genetics. *Drinking Water Contaminants*. [\[LINK\]](#)

635 National Partnership for Women & Families. (2020, July). *Clean Water and Reproductive Justice: Lack of Access Harms Women of Color*. [\[LINK\]](#)

636 The Associated Press. (2021, November 24). California denies most fracking permits ahead of 2024 ban. *ABC News*. [\[LINK\]](#)

637 Cox J., (2022, March 31). Aera challenges governor’s fracking ban. *Bakersfield.com*. [\[LINK\]](#)

638 Mulkern, A. (2022, December 5). Los Angeles Bans New Oil Wells, Plans to Close Existing Ones. *ScientificAmerican*. [\[LINK\]](#)

639 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*. [\[LINK\]](#)

640 Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [\[LINK\]](#)

641 Ibid.

642 Ibid.

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.⁶⁴³ 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.⁶⁴⁴ 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.⁶⁴⁵ 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.⁶⁴⁶

Lobbying and campaign records show that the fossil fuel industry has spent over \$36.3 million on lobbying regulators and elected officials and over \$29 million on state and federal campaign contributions. These efforts heighten the concerns of environmental experts that the oil industry will block efforts to transition to a renewable energy economy.⁶⁴⁷

6e. i Kern County

In the Central Valley, socioeconomic circumstances place many Hispanic residents and agricultural workers at a disadvantage, in terms of political sway and vulnerability to fossil fuel health and safety impacts.⁶⁴⁸ Kern County, where the Latinx community accounts for 56.1% of the population, is an especially poignant example of how the fossil fuel industry disproportionately impacts people of color. Kern County holds over 63,000 of the 85,000 oil and gas wells in California and produces approximately 75% of the state's oil and 58% of its natural gas.⁶⁴⁹ Rural towns in this region have been devastated by poverty, food insecurity, 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 2022.⁶⁵⁰ Of the 122,000 Kern residents that live near wells and suffer from high pollution, 76% of them are people of color.⁶⁵¹ Water samples in Kern county were found to contain benzene, ethylbenzene, and xylene and several of the samples collected exceeded benzene levels established by safe drinking water standards.⁶⁵² These chemicals have been associated with prolonged menstruation cycles, damage to fetal development, and other reproductive effects.⁶⁵³ Kern County is reported to have the highest levels of fine particle pollution in the country which even before COVID-19 caused "epidemic levels of illness" which affected low-income and communities of color the most

643 Kannan, R. (2023, June 22). Lawsuit Challenges Oil and Gas Drilling on California Public Lands. *Earthjustice*. [\[LINK\]](#)

644 Ibid.

645 Wolf, S., Et al. (2023, June 12). Top Scientists: California Must End Neighborhood Oil Drilling, New Fossil Fuel Permits. *Center for Biological Diversity*. [\[LINK\]](#)

646 Cox, J. (2023, June 1). State finds 27 oil wells leaking methane in Arvin-Lamont area. *Bakersfield.com*. [\[LINK\]](#)

647 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

648 Proville, J., Et al. (2022, June 17). The demographic characteristics of populations living near oil and gas wells in the USA. *Popul Environ*. [\[LINK\]](#)

649 NRDC. (2014, October 22). *Fracking Report: 5.4 Million Californians Now Live Within a Mile of Oil or Gas Wells, Majority are People of Color*. [\[LINK\]](#)

650 Beaumont, H. (2023, January 22). Oil wells guzzle precious California water. Next door, residents can't use the tap. *The Guardian*. [\[LINK\]](#)

651 Ibid.

652 Renda, M. (2019, October). Feds Open Slice of California's Central Coast to Oil & Gas Drilling. *Courthouse News Service*. [\[LINK\]](#)

653 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. [\[LINK\]](#)

severely.⁶⁵⁴ Studies have linked exposure to fine particulate matter to decreased fertility⁶⁵⁵ and elevated incidence of strokes among post-menopausal women.⁶⁵⁶

Amidst a statewide push toward permanent moratoriums on fracking in the area,⁶⁵⁷ oil and gas drilling has not slowed down: between January to August 2022, 101,672 wells were drilled in Kern County alone.⁶⁵⁸ When large numbers of drilling have been approved in the past—for example, in March, 2021 when 40,500 new wells were greenlighted⁶⁵⁹—experts have noted that the sites often “end up in low-income, monolingual, Hispanic communities with virtually no environmental review.”⁶⁶⁰

Arvin is a predominantly Latinx farmworker town in Kern County whose water supplies had dangerous arsenic levels for years from groundwater contamination that scientists linked to oilfield operations.⁶⁶¹ 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.”⁶⁶² 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.⁶⁶³ Even state officials have noted the issues in Arvin, with Senator Lena Gonzalez stating, “It’s a long-standing and glaring example of environmental racism.”⁶⁶⁴

Local water suppliers in California have a history of legal challenges to the fossil fuel industry, and in 2018, the water company in Fuller Acres, a predominantly Latinx 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.⁶⁶⁵ Communities such as Fuller Acres do not have the financial means for water treatment plants and are thus more significantly impacted by groundwater contamination.⁶⁶⁶ 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.⁶⁶⁷

Both Elizabeth Perez, a Community Organizer at the Central California Environmental Justice

654 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

655 Gaskins, A.J., Et al. (2019, July). Exposure to Fine Particulate Matter and Ovarian Reserve among Women from a Fertility Clinic. *Epidemiology*. [\[LINK\]](#)

656 Stanich, D. (2011, December 8). Fine particle pollution a threat to the cardiovascular health of Californians. *California Air Resources Board*. [\[LINK\]](#)

657 Winters, J. (2022, August 4). Central California is getting a break from new oil and gas leasing. *Grist*. [\[LINK\]](#)

658 Mineral Answers (July 2021). *Kern County, CA Oil & Gas Activity*. [\[LINK\]](#)

659 Bacher, D. (2021, March 9). Kern County Board of Supervisors Votes 5-0 to greenlight 40,500 new oil and gas wells. *Daily KOS*. [\[LINK\]](#)

660 Ibid.

661 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*. [\[LINK\]](#)

662 Ibid.

663 Bedell, C., Et al. (2016, September 13). Pipeline operator fined over Arvin gas leak. *Bakersfield News*. [\[LINK\]](#)

664 Yeager, J. (2022, October 11). Oil setback law will create new safeguards in Kern County - unless industry efforts overturn it. *KVPR*. [\[LINK\]](#)

665 Beaumont, H. (2023, January 22). Oil wells guzzle precious California water. Next door, residents can’t use the tap. *The Guardian*. [\[LINK\]](#)

666 Ibid.

667 National Partnership for Women & Families. (2020, July). *Clean Water and Reproductive Justice: Lack of Access Harms Women of Color*. [\[LINK\]](#)

Network, and Rosanna Esparza, a Community Organizer and Environmental Researcher, describe abnormally high levels of respiratory problems, cancer, and other unusual health issues where they live in Kern County. Elizabeth Perez describes the impacts from pollution on women in her community:

“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].”⁶⁶⁸

Rosanna Esparza reports an incident a few years ago when farm workers in Central California publicly disclosed that their daughters were born without reproductive organs; this demonstrates the widespread and understudied health impacts from pollution in Kern County.⁶⁶⁹ She works to educate women about the risks of pollution; and describes how Kern County residents cannot even take showers because of the pollution:

“Then the first thing you want to do when you get home is take a shower after getting pesticides rained on you, but the shower is quasi contaminated with all of these other pollutants...and then we reinfest ourselves with the vapor [we] breathe...”⁶⁷⁰



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

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.⁶⁷¹ Bakersfield has been identified by the American Lung Association as “the most polluted city in the United States for year-round particle pollution and the second most ozone-polluted city.”⁶⁷² The city has over 9,000 oil and gas wells,⁶⁷³ and of a population of 901,362 people, according to the American Lung Association, 611,843 residents are people of color.⁶⁷⁴

As of March 31, 2023, Vanguard and Blackrock were the top two shareholders of Chevron,⁶⁷⁵ whose oil fields across Kern County are contaminating drinking water with trichloropropane⁶⁷⁶ and burdening Latina/Chicana mothers’ caretaking roles.⁶⁷⁷ Additionally, Bank of America and JPMorgan Chase were in the top 10 largest shareholders of Chevron, owning shares valued

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

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

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

671 Wick, J. (2019 July 17). A major Kern County oil spill in environmentally conscious California. *Los Angeles Times*. [\[LINK\]](#)

672 Woodcraft, Z., Et al. (2023, April 4). In the Shadow of Big Oil: Neighborhood Drilling in California. *Earthjustice*. [\[LINK\]](#)

673 Gross, L. (2023, January 29). California Activists Redouble Efforts to Hold the Oil Industry Accountable on Neighborhood Drilling. *Inside Climate News*. [\[LINK\]](#)

674 American Lung Association. (2023). *Bakersfield, CA*. [\[LINK\]](#)

675 NASDAQ. Chevron Corporation Common Stock. [\[LINK\]](#)

676 Wilson, J., Et al. (2020, September 18). Oil Companies Are Profiting From Illegal Spills. And California Lets Them. *ProPublica*. [\[LINK\]](#)

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

at \$4.86 billion and \$3.3 billion, respectively.⁶⁷⁸ As of March 31, 2023, Vanguard, BlackRock, Bank of America, and JPMorgan Chase were the first, second, sixth, and seventh largest shareholders of ExxonMobil (i.e. Aera Energy), respectively.⁶⁷⁹ Aera Energy is one of the companies that filed lawsuits to overturn Governor Newsom’s “de-facto ban” on fracking⁶⁸⁰ and is one of the largest oil producers, gas producers, and well operators in Kern County as of June, 2023.⁶⁸¹

678 NASDAQ. Chevron Corporation Common Stock. [\[LINK\]](#)

679 NASDAQ. Exxon Mobil Corporation Common Stock (XOM). [\[LINK\]](#)

680 Cox, J. (2022, March 31). Aera challenges governor's fracking ban. *Bakersfield.com*. [\[LINK\]](#)

681 Cox, J. (2023, June 28). Aera cuts about 10% of its workforce a few months after acquisition by foreign interests. *Bakersfield.com*. [\[LINK\]](#)

6f. Northern Colorado: Broomfield 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) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	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) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	N/A
(1) Wattenberg Gas Field (2) Volt Oil & Gas Property, (3) Ridgestate Oil & Gas Property (4) Seeley Federal Oil & Gas Property	PDC Energy Inc.	(1) JPMorgan Chase , (2) Bank of America	(1) Vanguard , (2) BlackRock	N/A
(1) Commerce City Refinery (2) Line 1 (Rocky Mountain Pipeline Project)	Suncor	(1) Royal Bank of Canada	(1) Vanguard	N/A
(1) Henderson Chemical Plant	Westlake Chemical	(1) Bank of America	(1) Vanguard , (2) BlackRock	N/A
(1) Wattenberg Oil Field	Civitas Resources, Inc. (previously Extraction Oil & Gas, Crestone Peak Resources, Bonanza Creek Energy, Inc.	N/A	(1) BlackRock , (2) Vanguard	N/A

All data in the chart is derived from financial databases/platforms (*Nasdaq/Yahoo! Finance/Fintel/CNN Money*), or the Rainforest Action Network's 2023 published report, *Banking on Climate Chaos*.

*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.

Weld County in Northern Colorado currently has an “F” grade for air quality from the American Lung Association (ALA)⁶⁸² and has not met EPA air quality standards since 2007.⁶⁸³ Without air pollution monitoring and required public reporting, the fossil fuel industry in this region is neglecting both public and environmental health.

Weld County has over 18,300 active wells and produces 86% of the state’s oil production.⁶⁸⁴ Since 2009, companies 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.⁶⁸⁵ In response to this finding, 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.⁶⁸⁶

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.⁶⁸⁷ 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.⁶⁸⁸ Many of these impacts disproportionately affect women who serve as caregivers and attend to these fossil fuel derived health issues.



Well in front of houses in Colorado (Chet Strange)

A study on mental health, conducting long term interviews with residents in Northern Colorado, found that living near industrial unconventional oil and gas production generated chronic stress and self-reported mental health impacts; 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.⁶⁸⁹ 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.”⁶⁹⁰ Because women experience anxiety, panic disorders,

682 American Lung Association. (2022). Report Card: Colorado. [\[LINK\]](#)

683 U.S. EPA. (2022, July 31). *Colorado Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. [\[LINK\]](#)

684 Oil and Gas Energy Department. (2022, August 5). *Weld County: Oil and Gas*. [\[LINK\]](#)

685 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*. [\[LINK\]](#)

686 Ibid.

687 Ibid.

688 Weisner, M., Et al. (2023, February). Sites in the City and County of Broomfield, Colorado. *Int. J. Environ. Res. Public Health*. [\[LINK\]](#)

689 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*. [\[LINK\]](#)

690 Weisner, M., Et al. (2023, February). Sites in the City and County of Broomfield, Colorado. *Int. J. Environ. Res. Public Health*. [\[LINK\]](#)

depression, and PTSD at significantly higher rates than men,⁶⁹¹ 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.

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.

In addition to adverse health impacts, studies show that petroleum has far-reaching negative impacts on water quality and soil health.⁶⁹² In 2022, there were over 453 oil spills in Colorado, an 11% increase from 2021.⁶⁹³ In April 2023 alone, there were five oil spills reported by Noble Energy.⁶⁹⁴ Of these, four were known to have leached contaminants into the soil including naphthalene⁶⁹⁵ and benzene, both of which are known to cause severe health issues. In the span of two weeks in the spring of 2023, ten spills were reported in Weld County; the companies behind this contamination include Noble Energy Inc, Highpoint Operating Corporation, Civitas Resources, Inc. (formerly Extraction Oil & Gas Inc.), and Kerr McGee Oil & Gas.

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.⁶⁹⁶ 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 2020, 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.⁶⁹⁷ 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.⁶⁹⁸ 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-226.⁶⁹⁹ 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.⁷⁰⁰ Endocrine disruptors have especially harmful effects on women’s health, including infertility, improper hormone production, menstrual cycle abnormalities, and other fertility issues.⁷⁰¹

In response to these risks, community resistance has led to some protections. In March 2023, a new bill was introduced to reduce the amount of freshwater consumed for fracking

691 Medical News Today. *What are the psychological effects of gender inequality?* [\[LINK\]](#)

692 Kvočka, D., Et al. (2021, April 28). A Review of River Oil Spill Modeling. MDPI. [\[LINK\]](#)

693 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.* [\[LINK\]](#)

694 McKenzie, M. (2023, April 11). Weld County oil spills for April 11. *GreeleyTribune.* [\[LINK\]](#)

695 Yost, E., Et al. (2021). Health Effects of Naphthalene Exposure: A Systematic Evidence Map and Analysis of Potential Considerations for Dose-Response Evaluation. NIH. [\[LINK\]](#)

696 Ferrar, K. (2023, May). Evaluation of the capacity for water recycling for Colorado oil and gas extraction operations. *FrackTracker.* [\[LINK\]](#)

697 Ibid.

698 Jack, R. (2014, December 4). Analysis of Flowback Water for Reuse. *ThermoFisher Scientific.* [\[LINK\]](#)

699 (2019). Fracking Wastewater: A Toxic and Radioactive Problem. *Food&Water Watch.* [\[LINK\]](#)

700 Ibid.

701 Rattan, S., Et al. (2017, June). Exposure to endocrine disruptors during adulthood: consequences for female fertility. *Journal of Endocrinology.* [\[LINK\]](#)

operations and to serve as “a first step in creating a sustainable framework for prioritizing freshwater conservation.”⁷⁰² Since March, this bill has subsequently been passed in the House and Senate and is waiting to be signed into law.⁷⁰³ 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. Additionally, in 2021, the Colorado Oil and Gas Conservation Commission (COGCC) implemented a new setback rule that prohibits drilling within 2,000 feet of homes. 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 and or tenants to allow drilling.⁷⁰⁴

In March 2022, COGCC 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.⁷⁰⁵ In response to Colorado’s new standards to protect public health through the setback rule, the Executive Director of American Petroleum’s Colorado branch stated: “Colorado and the United States need more natural gas and oil, not less.”⁷⁰⁶ In response, the State of Colorado invited Occidental Petroleum to revise its application to allow it to continue building plans.⁷⁰⁷ Neither of these laws has prevented new fracking permits: between May 2022 and May 2023, there were 901 new approved well permits in Weld County, with an additional 47 new pending applications⁷⁰⁸.

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—49 miles remain to be built in Weld County.⁷⁰⁹ Construction of this pipeline would allow Suncor to triple the amount of crude oil transported to its refinery in Commerce City.⁷¹⁰ 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.⁷¹¹ 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 Haz-

702 Ibid.

703 Bill tracking in Colorado- HB 23-1242. *Fast Democracy*. [\[LINK\]](#)

704 Kohler, J. (2021, April 29). Harvard study says tighter oil, gas rules that allow exemptions make little difference. *Denver Post*. [\[LINK\]](#)

705 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*. [\[LINK\]](#)

706 Weiser, S. (22, March 27). Colorado Oil and Gas Commission denies drilling permit in Weld County. *Denver Gazette*. [\[LINK\]](#)

707 Ibid.

708 COGCC. *Applications for Permits to Drill (Form 2s)*. [\[LINK\]](#)

709 350Colorado. *Sign On Letter: Oppose the Construction of Line 1 Rocky Mountain Pipeline Project*. [\[LINK\]](#)

710 Ibid.

711 Galatas, E. (2022, September 26). Colorado Groups Petition Leaders to Halt Suncor Line 1 Pipeline. *PublicNewsService*. [\[LINK\]](#)

ardous 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"⁷¹²

An especially egregious example of oil and gas misconduct and harm occurred near an elementary school. In 2019, a study done by Barrett Engineering found that elevated benzene levels were detected on Bella Romero Academy's two campuses in Greeley, located in Weld County. 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.⁷¹³ 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. 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.⁷¹⁴



An oil pump jack near a playground in Weld County (Chet Strange)

Extraction's harmful project right next to this Greeley school 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, but the permit was delayed when residents showed strong resistance.⁷¹⁵ 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 Latinx school, Bella Romero Academy. 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. Bella Romero's students are 82% Latinx and 80% of the students qualify for free or reduced lunch, this is compared to Frontier's 77% white students and 20% of students who qualify for free or reduced lunch.⁷¹⁶ Patricia Garcia-Nelson, a Fossil Fuel Just Transition Advocate with GreenLatinos and mother, describes the reality of having kids at Bella Romero:

⁷¹² Garcia-Nelson, P. (2023, June 2). WECAN Interview.

⁷¹³ Woodruff, C. (2020 March 11). Bella Romero Benzene Levels Worse Than Reported, Analysis Claims. *Westword*. [\[LINK\]](#)

⁷¹⁴ *Ibid.*

⁷¹⁵ Jula, M. (2018, April 17). Parents Didn't Want Fracking Near Their School. So the Oil Company Chose a Poorer School, Instead. *Mother Jones*. [\[LINK\]](#)

⁷¹⁶ Public School Review. *Bella Romero Academy Of Applied Technology*. [\[LINK\]](#)

“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”⁷¹⁷



Patricia Garcia-Nelson with her son in front of Bella Romero (Greg Lowe)

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.⁷¹⁸ 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.⁷¹⁹ Between 2011 and 2021, 368 million pounds of unidentified chemicals were labeled as “trade secrets” and subsequently hidden from the public in Weld County.⁷²⁰

As of March 31, 2023, BlackRock and Vanguard were the third and fourth largest shareholders of Civitas, a major operator in Weld County’s Wattenberg Oil Field and across Colorado.⁷²¹ Civitas (formerly Extraction Oil & Gas Inc.) is also one of the companies behind various oil spills and explosions in northern Colorado⁷²² and the owner of the 11 well development releasing elevated benzene levels near Bella Romero Academy—a majority Latinx school. As of March 31, 2023, Vanguard and BlackRock were in the top five largest shareholders of Occidental Petroleum.⁷²³ Bank of America was also a significant shareholder.⁷²⁴ Collectively, Vanguard, BlackRock, and Bank of America hold 113.19 million shares worth \$7.02 billion in Occidental Petroleum, Colorado’s biggest oil and gas operator and the company behind the proposed McGavin pad, which if approved would have constructed 26 wells near 87 residences.⁷²⁵

717 Garcia-Nelson, P. (2023). WECAN Interview.

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

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

720 Ibid.

721 NASDAQ. Civitas Resources Inc. Common Stock (CIVI). [\[LINK\]](#)

722 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*. [\[LINK\]](#)

723 NASDAQ. Occidental Petroleum Corporation Common Stock (OXY). [\[LINK\]](#)

724 Ibid.

725 Ibid.; 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*. [\[LINK\]](#)

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) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	N/A
(1) Sarnia Manufacturing Centre, (2) Corunna Refinery-Sarnia Manufacturing Unit	Shell	(1) Bank of America , (2) Royal Bank of Canada	(1) BlackRock	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) Royal Bank of Canada , (2) JPMorgan Chase , (3) Bank of America	(1) Vanguard	N/A
Sarnia Oil Sands Refinery	Suncor	(1) Royal Bank of Canada	(1) Vanguard	N/A

All data in the chart is derived from financial databases/platforms (*Nasdaq/Fintel*), or the Rainforest Action Network’s 2023 published report, *Banking on Climate Chaos*.

*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. The facilities produce an amount equivalent to 40% of Canada’s oil consumption and account for 40% of Canada’s petrochemical industry. 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.⁷²⁶ An Al Jazeera investigation found that the AFN had been enduring “physiological and mental



Aamjiwnaang Resource Centre sign (Andrea Gordon | The Canadian Press)

⁷²⁶ Macdonald, E. (2019, June). Return to Chemical Valley 2019. *Ecojustice*. [\[LINK\]](#)

stress among community members regarding the risk of impending explosions or other disasters, and health impacts from unquestionably poisonous chronic exposures.”⁷²⁷ 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.”⁷²⁸



Children playing by Aamjiwnaang First Nation playground, basketball court, and band office. Chemical Valley, Ontario, Canada. (Garth Lenz)

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. 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.⁷²⁹ Although emissions have reportedly been reduced in some areas, benzene continues to be well above Ontario’s air quality standard.⁷³⁰ In 2019, Ecojustice released a report elucidating the pollution and air quality in Sarnia. Ecojustice obtained data from air quality monitoring stations (one in Sarnia and one in the AFN) measuring various air pollutants, the most harmful being benzene and sulfur dioxide. Investigators found that in 2018, sulfur dioxide exceeded AAQC levels 38 times and 28 times respectively at the AFN and Sarnia stations; in 2018, the ozone AAQC was exceeded at the Sarnia station 18 times (no data has been available since 2015 on

727 O’Toole M., Et al. (2021, December 8). Toxic Legacy: The fight to end environmental racism in Canada. *Al Jazeera*. [\[LINK\]](#)

728 Cecco, L. (2021, November 15). Canada: First Nation exposed to high levels of cancer-causing chemicals. *The Guardian*. [\[LINK\]](#)

729 Jarvis, C. (2021, November 15). Cancer-causing air pollution forecast at 44 times annual level in Ont. First Nation, docs show. *Global News*. [\[LINK\]](#)

730 *Ibid.*

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.⁷³¹ 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.⁷³² 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 2023.⁷³³ This long-term exposure to benzene disproportionately affects women’s health; benzene has been found to have adverse impacts on fertility,⁷³⁴ including irregular menstrual periods and decreasing ovary size.⁷³⁵

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.⁷³⁶ The previous 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, reproductive problems, skin rashes, chronic headaches, and rare cancers due to the toxic air pollutants in the area. According to a 2019 study, the incident rate of acute myeloid leukemia in Sarnia is more than three times higher than the national average.⁷³⁷ Additionally, Ecojustice’s *Exposing Canada’s Chemical Valley* study found that 39% of women surveyed had experienced a miscarriage or stillbirth.⁷³⁸ Mothers in the area reported feeling “helpless” for not being able to protect their children from the toxic air they breathe.⁷³⁹ 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).⁷⁴⁰ 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.⁷⁴¹

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:

“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

731 Ibid.

732 Ibid.

733 Dukovic, A. (2023, June 22). Chemical Valley and the Origins of Indigenous Resistance to Line 5. *Line 6B Citizens’ Blog*. [\[LINK\]](#)

734 Virginia Department of Health. (2023). *Benzene*. [\[LINK\]](#)

735 Sirotkin A., Et al. (2017, August). Influence of oil-related environmental pollutants on female reproduction. *ScienceDirect*. [\[LINK\]](#)

736 Cribb, R., Et al. (2017, October 14). In Sarnia’s Chemical Valley, is ‘toxic soup’ making people sick? *Toronto Star*. [\[LINK\]](#)

737 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*. [\[LINK\]](#)

738 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*. [\[LINK\]](#)

739 Vice (2013, September 11). Canada’s Toxic Chemical Valley. *YouTube*. [\[LINK\]](#)

740 Thorkelson, E. (2013, January 31). Shell Leak Sheds Light on Life in Canada’s Chemical Valley. *The Narwhal*. [\[LINK\]](#)

741 Vice. (2013). *The Chemical Valley*. [\[LINK\]](#)

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."⁷⁴²

Aamjiwnaang mothers face unique challenges raising children in this unhealthy environment. 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.⁷⁴³ This likely explains why Sarnia children are more likely to develop severe health problems. Between 1998 and 2009, nearly 24% of children in Sarnia were diagnosed with asthma by the age of 10.⁷⁴⁴ As the leading cause of emergency department visits, hospital admissions, and school absenteeism,⁷⁴⁵ asthma in children intensifies caretaking responsibilities, which disproportionately fall to women.⁷⁴⁶ A 2017 study on mental health shows that depression is significantly higher amongst mothers of children with asthma compared to the general public.⁷⁴⁷ Christine Rogers, an Environment Worker at AFN and mother to three daughters, 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.”⁷⁴⁸

A study published by Therapeutic Drug Monitoring exposes the disproportionate adverse health effects of living in “Chemical Valley” as an Indigenous person.⁷⁴⁹ 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. 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.⁷⁵⁰ 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.⁷⁵¹ 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.⁷⁵²

In a 16-year period, more than 700 chemical spills from Sarnia facilities were recorded.⁷⁵³ 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 petro-

742 Rudder, D. (2023, March 1). Living in the shadow of Chemical Valley. *The Resolve*. [\[LINK\]](#)

743 Trevithick, M. (2021, May 4). Sarnia-born children more likely to develop asthma than those from London, Windsor: Lawson study. *Global News*. [\[LINK\]](#)

744 Zadorsky, J. (2021, May 4). Pollution in this southwestern Ontario city by be why more children there envelop asthma. *CTV News*. [\[LINK\]](#)

745 Ibid.

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

747 Behmanesh, F., Et al. (2017, December 25). Evaluation of anxiety and depression in mothers of children with asthma. *Electron Physician*. [\[LINK\]](#)

748 Vice. (2013). *The Chemical Valley*. [\[LINK\]](#)

749 Henley, P., Et al. (2013, October). Hair Cortisol as a Biomarker of Stress Among a First Nation in Canada. *Therapeutic Drug Monitoring*. [\[LINK\]](#)

750 Ibid.

751 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*. [\[LINK\]](#)

752 Cleveland Clinic. *Women and Stress*. [\[LINK\]](#)

753 Selweski, C. (2017, October 31). Chemical Valley and the threat to Michigan's drinking water. *Bridge Michigan*. [\[LINK\]](#)

chemical industry can spend.”⁷⁵⁴ Al Jazeera reported that “part of the problem is that companies are constantly accommodated, even when they breach emissions limits.”⁷⁵⁵

Instead of heeding residents’ demands to leave their community, fossil fuel companies cling to their polluting products with new projects and expansions in Sarnia. In late 2022, Shell proposed a biodiesel blending project at the Sarnia Manufacturing Centre in Corunna⁷⁵⁶ (less than 2.5 miles from AFN); biodiesel blending involves mixing FAME (Fatty Acid Methyl Ester) with ULSD [Ultra Low Sulfur Diesel], which is a type of diesel fuel.⁷⁵⁷ Although touted as renewable energy, biofuels are capable of emitting even more GHGs than some fossil fuels and often involve fossil fuels for blending.⁷⁵⁸ Shell was in the top five polluters in Sarnia, located less than five kilometers from the AFN.⁷⁵⁹

In 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).⁷⁶⁰ NOVA Chemicals’ new project has increased its capacity by over 50%,⁷⁶¹ allowing it to produce 1.8 billion pounds of ethylene and close to 700 million pounds of co-products (propylene, butadiene, and benzene) annually.⁷⁶² Due to NOVA Chemicals’ expansion, in 2021, Enbridge Gas announced the Sarnia Industrial Pipeline Reinforcement Project, also known as the Dawn Corunna Project. The proposed project will decommission old natural gas compressors and add 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.⁷⁶³

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, 2023.⁷⁶⁴

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.”⁷⁶⁵ The report will include the most extensive environmental health study in the Sarnia/Aamjiwnaang area and is expected to be completed in 2023. 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

754 Sorensen, E. (2018, October 9). The Eric Factor: Natives in “Canada’s Chemical Valley” hope for environmental change. WQAD8. [\[LINK\]](#)

755 Ibid.

756 Sarnia Lambton Economic Partnership. (2022, December 13). *Shell Proposes Biodiesel Blending Project at Sarnia Manufacturing Centre in Corunna*. [\[LINK\]](#)

757 Fuel Economy. *Ultra-Low Sulfur Diesel*. [\[LINK\]](#)

758 EPA. *Economics of Biofuels*. [\[LINK\]](#)

759 MacDonald, E. (2019, June 11). Clearing the air in Chemical Valley. *Ecojustice*. [\[LINK\]](#)

760 Shantz, T. (2019, December 4). Boom time in Sarnia for skilled trades. *The Sarnia Journal*. [\[LINK\]](#)

761 NovaChemicals (2023). *Growth in Ontario*. [\[LINK\]](#)

762 (2023). NOVA Chemicals completes polyethylene and cracker expansion in Ontario, Canada. *Reuters*. [\[LINK\]](#)

763 Enbridge. *Dawn Corunna Project*. [\[LINK\]](#)

764 Enbridge. *Dawn Corunna Project*. [\[LINK\]](#)

765 Graf, C. (2021, July). New environmental study underway this summer in Aamjiwnaang First Nation. *Anishinabek News*. [\[LINK\]](#); CASA. SAEHP: About. *Clean Air Sarnia and Area*. [\[LINK\]](#)

members with an accessible way to learn about the fossil fuel chemicals that most affect them.⁷⁶⁶ 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 we can actually prove anything because that information about the chemicals is inaccessible.”⁷⁶⁷

Vanessa Gray has been struggling with health issues since her childhood because of fossil fuel pollution in her community:

“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.”⁷⁶⁸



Vanessa Gray (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, head of Aamjiwnaang’s Environment Department, notes, violating First Nation rights.⁷⁶⁹

As of March 31, 2023, Bank of America and BlackRock were within the top 15 shareholders of Shell, the company behind the Sarnia Manufacturing Centre and the Corunna Refinery.⁷⁷⁰ The Royal Bank of Canada was also a significant shareholder, holding 3.76 million shares of Shell.⁷⁷¹ Additionally, the Royal Bank of Canada and Vanguard are the top two shareholders of Enbridge, holding over 216 million shares collectively.⁷⁷² Enbridge, the company behind the Sarnia Industrial Reinforcement Construction Project, set to start construction in 2023, continuously disregards community concerns about its various projects’ environmental and health impacts.⁷⁷³

766 The Land and the Refinery. (2019). *About*. [LINK]; Department of History Staff. (2019, October 25). TRU Launches Pollution Reporter App. *University of Toronto*. [LINK]

767 Gray, V. (2023, June 2). WE CAN Interview

768 Ibid.

769 Graf, C. (2021, July). New environmental study underway this summer in Aamjiwnaang First Nation. *Anishinabek News*. [LINK]

770 NASDAQ, Shell PLC American Depositary Shares. [LINK]

771 Ibid.

772 NASDAQ, Enbridge Inc Common Stock (ENB). [LINK]

773 Enbridge. (2023, April). Enbridge’s Energy Infrastructure Projects. [LINK]

6h. Alberta Tar Sands and Affected Regions: Enbridge Line 3, 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) Royal Bank of Canada , (2) JPMorgan Chase , (3) Bank of America	(1) Vanguard	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) Royal Bank of Canada	(1) Vanguard	N/A
ExxonMobil/Imperial Oil Extraction Site	ExxonMobil	(1) Bank of America , (2) JPMorgan Chase , (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	N/A
Surmont Bitumen Recovery Facility	ConocoPhillips	(1) JPMorgan Chase (2) Bank of America	(1) Vanguard , (2) BlackRock (3) Capital Group	N/A
Athabasca Oil Sands Project	Chevron	(1) Bank of America , (2) JPMorgan Chase (3) Royal Bank of Canada	(1) Vanguard , (2) BlackRock , (3) Capital Group	N/A
TransMountain Expansion Project	Canadian Government	Royal Bank of Canada , JPMorgan Chase : Credit agreement document	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) JPMorgan Chase , (2) Bank of America	N/A	N/A

All data in the chart is derived from financial databases/platforms (*Nasdaq*), or the Rainforest Action Network's 2023 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.

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.⁷⁷⁴ The especially gruesome extraction methods⁷⁷⁵ and the enormous scale of the Alberta tar sands operation have serious ramifications for the global atmosphere, the local ecosystems, and the Indigenous communities in the area.

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.⁷⁷⁶ Indigenous Peoples hold deep relationships to their land; to destroy the natural environment of Indigenous territories is, in essence, committing cultural genocide.⁷⁷⁷ 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 eyes.⁷⁷⁸ First Nation community members' ability to hunt, gather food, and travel has also been impacted.⁷⁷⁹ 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.⁷⁸⁰ 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."⁷⁸¹ 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?"⁷⁸²



Alberta Tar Sands Pollution (Ben Nelms)

The environmental and health impacts of the tar sands, from processing to production, are

774 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*. [\[LINK\]](#)

775 Described further in Section 3.

776 Indigenous Environmental Network. *Tar Sands*. [\[LINK\]](#)

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

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

779 Ibid.

780 Kusnetz, N. (2021, November 21). Canada Tar Sands: Destruction So Vast and Deep It Challenges the Existence of Land and People. *Inside Climate News*. [\[LINK\]](#)

781 Ibid.

782 Ibid.

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,⁷⁸³ 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.⁷⁸⁴ 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 bitumen⁷⁸⁵—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.”⁷⁸⁶ These chemicals are known to have detrimental impacts on women’s health and wellbeing including an increased risk of miscarriage and spontaneous abortions,⁷⁸⁷ infertility,⁷⁸⁸ and preeclampsia.⁷⁸⁹

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.⁷⁹⁰ The November 2022 5.6 magnitude earthquake mostly affected the Peace River region, yet was felt more than 400 miles away.⁷⁹¹ Three smaller earthquakes were recorded in the same area in March 2023. Scientists now know that 90% of these seismic events with a magnitude over 3.0 in the Alberta region are caused by fracking.⁷⁹² 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. 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.”⁷⁹³ 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.⁷⁹⁴

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

783 UCSUSA. (2016, February 23). What are Tar Sands?. *Union of Concerned Scientists*. [\[LINK\]](#)

784 Ibid.

785 NRDC. *Alberta’s Tailings Ponds Final Report*. [\[LINK\]](#)

786 Ibid.

787 Collin, M., Et al. (2022, August). Bioaccumulation of lead (Pb) and its effects on human: A review. *Journal of Hazardous Materials Advances*. [\[LINK\]](#)

788 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*. [\[LINK\]](#)

789 Liu, H., Et al. (2022, January 7). The Relationship Between preeclampsia and Arsenic Concentration in the Peripheral Blood. *Biological Trace Element Research*. [\[LINK\]](#)

790 Hadhazy, A. (2023, March 23). Stanford study finds wastewater disposal from oil production triggered major earthquake in Canada. *Stanford*. [\[LINK\]](#)

791 Ibid.

792 Trumpener, B. (2016, March 29). Fracking triggers 90% of large quakes in B.C., Alberta oil and gas patch. *CBC*. [\[LINK\]](#)

793 UN Women. (2022, February 28). *Explainer: How gender inequality and climate change are interconnected*. [\[LINK\]](#)

794 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*. [\[LINK\]](#)

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.”⁷⁹⁵ 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. 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.⁷⁹⁶ Numerous Indigenous women continue to come forward about their violent experiences with Alberta tar sands workers.⁷⁹⁷ April Wiberg, a member of Mikisew Cree First Nation in northern Alberta, grew up in southern Saskatchewan—a province directly east of Alberta. 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. She describes the Alberta Man Camps as lawless and states that the men engaging in sexual exploitation “believe we (Indigenous and Metis women and girls) are disposable and invisible.”⁷⁹⁸ 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.⁷⁹⁹ Clearly, 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 and Line 5 discussed below, have expanded and intensified these issues.⁸⁰⁰

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:

“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.”⁸⁰¹

795 MMIWG. *Reclaiming Power and Place: The Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls*. [LINK]

796 Lakota People’s. (2015, May 26). Sexual Violence On Oil Field “Man Camps” Brought to United Nations’ Attention. *Lakota People’s Law Project*. [LINK]

797 Morin, B. (2020, May 5). Pipelines, man camps and murdered Indigenous women in Canada. *Aljazeera*. [LINK]

798 Ibid.

799 Landry, K., Et al. (2022, November 7). ‘Camp syndrome’: exploring frontier masculinity in Alberta’s oil production culture. *International Journal for Masculinity Studies*. [LINK]

800 Engelfried, N. (2020, December 14). Indigenous-led resistance to Enbridge’s Line 3 pipeline threatens Big Oil’s last stand. *Waging Nonviolence*. [LINK]; Common Dreams (2021, January 15). Water Protectors Arrested in Minnesota After Chaining Themselves Inside Enbridge Line 3 Pipe. *EcoWatch*. [LINK]

801 Gravelle, W. (2023). WECAN Interview.

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 5,⁸⁰² Keystone XL,⁸⁰³ among others—all of which First Nations oppose.⁸⁰⁴

The top tar sands companies received \$21 billion in financing in 2022, led by the biggest Canadian banks, which provided 89% of those funds.⁸⁰⁵ One of those banks being the Royal Bank of Canada, which provided \$31.773 billion between 2016 and 2022.⁸⁰⁶ As of March 31, 2023, the Royal Bank of Canada and Vanguard were the first and second largest shareholders in Suncor.⁸⁰⁷ 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.⁸⁰⁸ As of March 31, 2023, JPMorgan Chase and Bank of America were in the top ten largest shareholders of EnergyTransfer, holding shares worth \$476.5 million and \$421.25 million, respectively.⁸⁰⁹

The construction of Line 3, 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 Enbridge Line 3 Replacement Project

Although Enbridge's Line 3 was completed in September 2021, and now carries 760,000 barrels of crude oil per day—twice the previous pipeline's capacity⁸¹⁰—this case has been included to highlight the detrimental impacts its construction and operations have had (and continue to have) on local communities and ecosystems. Enbridge's Line 3 project was described as a “replacement” of its previous pipeline, running from Alberta to Minnesota. The replaced portion runs from Minnesota to Wisconsin, which passes through the Mississippi River headwaters and hundreds of watersheds, before terminating at Lake Superior in Wisconsin.⁸¹¹ It also threatens First Nation tribes near the Alberta Tar Sands region (Section 6h.), where Line 3 sources its bitumen. Although described as a replacement project, this project actually created a new route with new pipes and carrying capacity; an expansion project, in other words. Opposition against Line 3 continued until its final completion, and Line 3 impacts have been precisely what advocates feared.

802 NARF. (2023, June 1). Global Advisory Group Says Shut Down Line 5. *Native American Rights Fund*. [\[LINK\]](#)

803 NARF. (2021, June). Keystone XL Pipeline (Rosebud Sioux Tribe V. Trump). *Native American Rights Fund*. [\[LINK\]](#)

804 Ibid.

805 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [\[LINK\]](#)

806 Ibid

807 NASDAQ. Suncor Energy Inc. Common Stock (SU). [\[LINK\]](#)

808 Energy Transfer. (2022). *Operations Map*. [\[LINK\]](#)

809 NASDAQ. Energy Transfer LP Common Units (ET). [\[LINK\]](#)

810 Williams, N. (2021, September 29). Enbridge's long-delayed Line 3 oil pipeline project to start up Oct 1. *Reuters*. [\[LINK\]](#)

811 Ibid.

Early construction began in November 2020, and by early 2021, multiple Man Camps (discussed additionally in Section 5e.) had been established in the region and thousands of out-of-state construction workers poured into rural Minnesota to work on Enbridge's Line 3.⁸¹² In February, 2021, two Line 3 pipeline workers in Itasca County, Minnesota were arrested and charged with human trafficking, and specifically, solicitation to engage in prostitution.⁸¹³ Then, five months later, in June 2021, a police human trafficking sting operation arrested six men in Minnesota's Beltrami County; two of the six men were employed at Enbridge Line 3 construction sites.⁸¹⁴ One crisis center for survivors of violence in north-western Minnesota has received over 40 reports of Line 3 workers harassing and assaulting women and girls who live in the region.⁸¹⁵ All of this is amidst the backdrop of the Covid-19 pandemic (discussed in Section 7.), and despite legal challenges, lack of consent for construction from local tribes, and Indigenous led-opposition across the country.⁸¹⁶

Additionally, pipeline-related human trafficking and sexual violence increases an already significant burden on gender-based violence in communities.⁸¹⁷ The nonprofit crisis center, Violence Intervention Project, was reportedly full of new clients after a sex trafficking sting involving Line 3 workers which forced the shelter to rent hotel rooms to house women reportedly assaulted by Line 3 workers.⁸¹⁸ This demonstrates how pipeline Man Camps place additional strain on already burdened resources.



(Sarah LittleRedfeather | Akiing.org)

Mysti Babineau (Red Lake Nation), Climate Justice Organizer with MN350, describes the disturbing association between fossil fuel Man Camps and increased sex trafficking:

“I’ve lived in these communities when these workers come through to do their maintenance...I remember being told I can’t go out by myself and especially don’t go drive anywhere at night and don’t go to the bars. I’ve lived with this, and that’s the thing people don’t realize is, they have these workers coming through with this money, and as we’ve seen, the sex traffickers follow these men. It’s a business model.”⁸¹⁹

There are also a myriad of environmental impacts and ongoing risks that have arisen from Line 3. For example, frac-outs at an Enbridge Line 3 drilling site across from the Willow River were

812 Engelfried, N. (2020, December 14). Indigenous-led resistance to Enbridge's Line 3 pipeline threatens Big Oil's last stand. *Waging Nonviolence*. [\[LINK\]](#); Common Dreams (2021, January 15). Water Protectors Arrested in Minnesota After Chaining Themselves Inside Enbridge Line 3 Pipe. *EcoWatch*. [\[LINK\]](#)

813 Lovrien, J. (2021, February 23). 2 arrests in human trafficking sting were Line 3 workers. *Duluth News Tribune*. [\[LINK\]](#)

814 The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

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

816 Rainforest Action Network (2020, December 8). *Big Banks Face Stark Climate Choices as Tar Sands Pipelines Rammed Through Amidst Escalating Pandemic*. [\[LINK\]](#)

817 Brown, A., Et al. (2023, February 9). Documents show how a pipeline company paid Minnesota millions to police protests. *Grist*. [\[LINK\]](#)

818 Ibid.

819 Bernd, C. (2021, March 16). Exploiting More Than the Land: Sex Violence Linked to Enbridge Line 3 Pipeliners. *Truthout*. [\[LINK\]](#)

reported in July 2021.⁸²⁰ Frac-outs occur when drilling mud is forced out of the boring tunnel causing the mud to enter groundwater, and eventually surface water. Enbridge's Horizontal Directional Drilling (HDD) resulted in 28 frac-outs along Line 3's route,⁸²¹ polluting 63% of surface water at HDD sites, including the Mississippi headwaters. Enbridge did not assess groundwater impacts in its "Site-Specific HDD Inadvertent Release Response Plans,"⁸²² and released an additional undisclosed volume of drilling fluid into regional aquifers.⁸²³

The aquifer breaches in January 2021, which posed serious threats to communities, were not communicated to the public until months later in July.⁸²⁴ Communities in the Great Lakes region use waterways for fishing and wild rice (i.e., *manoomin*) farming, such that any interference in the aquatic ecosystem produces food insecurity and malnutrition in surrounding communities.⁸²⁵ When Indigenous Peoples can no longer access their traditional foods, they are forced to find food elsewhere. According to the 2018 U.S. Census, Native Americans had the highest poverty rate among all minority groups (the updated Census doesn't show Native Americans or Alaska Natives as a specific category).⁸²⁶ This means that oftentimes, Indigenous Peoples do not have the luxury of purchasing water or expensive grocery store food, and this additional burden of procuring food and feeding families often falls on women.⁸²⁷ As previously discussed in Section 5c.iii., caretakers (predominantly women) are more likely to skip meals so children have enough food, increasing caretakers' likelihood of illness, obesity (due to consumption of low-nutrient fast foods), stress, depression, and workplace absences (impacting income).⁸²⁸ Additionally, food insecurity during pregnancy, as many women along Enbridge Line 3 are at risk of experiencing, can have serious cognitive and developmental fetal impacts, creating cascading intergenerational effects.⁸²⁹

Additionally, when Indigenous communities lose access to traditional staple foods (like wild rice and fish) they are more likely to consume a non-traditional Western diet, placing individuals at a higher risk of diabetes and hyperlipidemia.⁸³⁰ 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.⁸³¹ 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.⁸³² Women with diabetes who are pregnant and leave their illness untreated

820 Marohn K. (2021, July 13). State regulators investigate release of drilling fluid into Willow River during Line 3 construction. *MPR News*. [\[LINK\]](#)

821 Watch the Line MN. (2021, August 10). *MPCA: Enbridge Polluted Water at 63% of Horizontal Drilling Locations*. [\[LINK\]](#)

822 Marohn, K. (2021, July 13). State regulators investigate release of drilling fluid into Willow River during Line 3 construction. *MPR News*. [\[LINK\]](#)

823 Marohn, K. (2022, February 23). Minn. Lawmaker Demands Data on Line 3 Frac-Outs. *MPR News*. [\[LINK\]](#)

824 Brown, A., Et al. (2023, February 9). Documents show how a pipeline company paid Minnesota millions to police protests. *Grist*. [\[LINK\]](#); Sierra Club. (2022). *Wisconsin Doesn't Want Line 5*. [\[LINK\]](#)

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

826 Asante-Muhammad, D., Et al. (2022, February 14). Racial Wealth Snapshot: Native Americans. *National Community Reinvestment Coalition*. [\[LINK\]](#)

827 Chesnik C. (2022, April 12). *WECAN Interview*.

828 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*. [\[LINK\]](#)

829 Ibid.

830 Williams, D. E., Et al. (2001). The effect of Indian or Anglo dietary preference on the incidence of diabetes in Pima Indians. *Diabetes care*. [\[LINK\]](#)

831 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*. [\[LINK\]](#)

832 Mayo Clinic (2022). *Diabetes*. [\[LINK\]](#)

have increased rates of fetal birth defects, miscarriages, and preterm births.⁸³³ In addition to the physical impacts of diabetes, disabled or ill children increase women's caretaking responsibilities (Section 5b.).

Women's caretaking roles are further exacerbated when fossil fuel derived water contamination causes sickness and disability amongst children, elders, or other community members. Lastly, construction along Line 3 and the subsequent loss of water, impacts environmental features integral to Indigenous women's identity and culture by harming their sacred relationship to both water and Mother Earth.⁸³⁴ Indigenous women have deep cultural and ancestral ties with their land; to destroy the natural environment of Indigenous territories is, in essence, committing cultural genocide.⁸³⁵

The current Enbridge Line 3 project completely disregards Ojibwe treaty rights; the pipeline's route would extend through the 1855 Treaty territory where members of the Ojibwe bands have rights to hunt, fish, harvest wild rice, conduct religious ceremonies, and travel.⁸³⁶ All five of the Ojibwe nations in Minnesota, whose territories would be crossed by the pipeline's route, oppose the construction, emphasizing the risk it poses to the Ojibwe's culturally significant wild rice beds.⁸³⁷ As Enbridge moves ahead with the project, the company is directly violating Indigenous Peoples' right to Free, Prior and Informed Consent.⁸³⁸ Enbridge's \$2.9 billion pipeline also defies global governance commitments to transition to lower emissions and renewable energy, and disregards findings by the Minnesota Department of Commerce that the pipeline had no economic benefit to the state.⁸³⁹

As of March 31, 2023, Royal Bank of Canada and Vanguard are the top two largest shareholders of Enbridge.⁸⁴⁰ Royal Bank of Canada alone owns 140.96 million shares valued at \$5.13 billion.⁸⁴¹ JPMorgan and Bank of America are also significant shareholders of Enbridge, which is undermining global commitments to transition to renewable energy.⁸⁴² Additionally, these financiers played a key role during Enbridge's Line 3 construction: in 2020 Bank of America, JPMorgan Chase, and Royal Bank of Canada were all lenders providing credit facilities to relevant Enbridge companies,⁸⁴³ 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 3.⁸⁴⁴ 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. By financing the company behind Line 3, which has resulted

833 Center for Disease Control (2022). *Type 1 or Type 2 Diabetes and Pregnancy*. [\[LINK\]](#)

834 Whyte, K.P., Et al. *Hypatia: Journal of Feminist Philosophy*. [\[LINK\]](#)

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

836 Stope Line 3 and Honor the Earth. *Stop the Line 3 Pipeline*. [\[LINK\]](#)

837 Ibid.

838 Food and Agriculture Organization of the United Nations. *Indigenous Peoples*. [\[LINK\]](#)

839 Burrell, M., Et al. (2022, July 11). Resistance to petro-hegemony: A three terrains of power analysis of the Line 3 tar sands pipeline in Minnesota. *Energy Research & Social Science*.

[\[LINK\]](#)

840 NASDAQ. Enbridge Inc Common Stock (ENB). [\[LINK\]](#)

841 Ibid.

842 Ibid.

843 Kirsch, A. (2018, October-updated 2020 November). Who's Banking Enbridge? *Rainforest Action Network*. [\[LINK\]](#)

844 Ibid.

in ongoing physical and mental harms in nearby communities, financial institutions are not adhering to international standards and their own statements and commitments to not cause harm. Firms financing Enbridge Line 3 must look internally to ensure that they are implementing due diligence.

6h. ii Line 5

Enbridge's Line 5 threatens the health and safety of surrounding communities, as well as ecosystem and climate stability, through three distinct projects: the existing pipeline, its proposed reroute, and Enbridge's tunnel project. In 2021, Enbridge's easement to operate Line 5 was revoked due to legal violations and its "unreasonable risk" to the significant Great Lakes region and surrounding communities;⁸⁴⁵ however, two years later, Enbridge continues to operate the pipeline despite being in violation of Governor Whitmer's shutdown order.⁸⁴⁶



Defend the Water and Climate — Respect Indigenous Rights — Stop Line 5! Rally in Superior, Wisconsin (Sophia Lovato | WECAN International)

The current Line 5 pipeline transports nearly 23 million gallons of 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.). 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. The current pipeline as it stands is 20 years past its engineered lifespan,⁸⁴⁷ endangering the Great Lakes' waters and fisheries important to many people.

Line 5, in its current state, crosses through the Bad River Reservation, 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)⁸⁴⁸ threaten to expose the pipeline, risking irreversible damage.⁸⁴⁹ The hazardous conditions and precarious state of the current Line 5 pipeline led the Bad River Band of Lake Superior Chippewa to file an emergency motion to shut down the pipeline in

845 Sierra Club. *Line 5 Pipeline*. [LINK]; Knoblauch, J. (2023, April 14). Our Tribe's Fight to Protect the Great Lakes. *Earthjustice*. [LINK]

846 Sierra Club. *Line 5 Pipeline*. [LINK]

847 StopLine3. *Stop Line 5*. [LINK]

848 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]

849 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]

May 2023.⁸⁵⁰ Additionally, 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.⁸⁵¹ In November 2022, a federal judge ruled that Enbridge was trespassing on Bad River land,⁸⁵² and ordered that a mitigation plan be decided upon for a potential spill. Despite this, Enbridge continues to violate FPIC and tribal usufructuary rights,⁸⁵³ while seeking to appeal the court ruling.⁸⁵⁴ Along Line 5, there is visible evidence of corrosion as well as smaller 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,⁸⁵⁵ 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.⁸⁵⁶ Due to pressure from frontline communities as well as a court order from a federal judge, Enbridge has started to prepare for an emergency shutdown, but its preparations are unrealistic. Rather than provide critical protection for the land, water, and communities in the regions, in its November 2022 decision, Enbridge, doubled down on its insufficient current protection plan to mitigate potential future spills—policies that have already proven to be disastrous for residents in the region.⁸⁵⁷

Concerns about environmental safety are especially high since Line 5 is in the same Lakehead System pipeline system as Line 6B, where one of the largest inland pipeline spill in U.S. history occurred in 2010.⁸⁵⁸ 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,⁸⁵⁹ 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.⁸⁶⁰ 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."⁸⁶¹ Repairing only some of the physical damage took six years and over \$1.2 billion dollars in legal settlements, 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."⁸⁶² Federal investigations into this spill revealed Enbridge's failure to "learn from past mistakes and improve their safety culture."⁸⁶³

Since 1968, Line 5 itself has spilled approximately 33 times amounting to at least 1.1 million gallons of oil.⁸⁶⁴ A Michigan state task force assessing the pipeline's risks in 2015, recom-

850 Bad River Band of the Lake Superior Tribe of Chippewa Indians of the Bad River Reservation. (2023, May 9). *Bad River Band of the Lake Superior Tribe of Chippewa Indians' Emergency Motion for Injunctive Relief*. [\[LINK\]](#)

851 McWhirter, S. (2021, November 7). Michigan's Indigenous tribes ask Biden to shut down Line 5. *MLive*. [\[LINK\]](#)

852 Kelly, J. (2023, June 16). Federal judge orders oil and gas pipeline removed from Wisconsin tribe's land. *Courthouse News Service*. [\[LINK\]](#)

853 Milwaukee Public Museum. *Indian Treaty Rights*. [\[LINK\]](#)

854 Ibid.; Tuttle, R. (2023, June 19). Enbridge to Appeal Court Order to Move Line 5 Within Three Years. *Bloomberg*. [\[LINK\]](#)

855 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*. [\[LINK\]](#)

856 DNR Office of Communications. (2022, August 4). DNR Assisting Investigation of Enbridge Line 5 Oil Spill Near Ashland. *Wisconsin Department of Natural Resources*. [\[LINK\]](#)

857 Enbridge. *Line 5 and the Great Lakes Tunnel*. [\[LINK\]](#)

858 Shea, P. (2021, February 4). In pushing for Line 5 shutdown, Bad River Band points to alternative route. *Energy News Network*. [\[LINK\]](#); Uyeda, R. (2023, February 9). Enbridge's Line 5 threatens Indigenous land and peoples. *Prism*. [\[LINK\]](#)

859 Great Lakes Now. (2021). The Battle Over Line 5 Goes International. *Youtube*. [\[LINK\]](#)

860 Uyeda, R. (2023, February 9). Enbridge's Line 5 threatens Indigenous land and peoples. *Prism*. [\[LINK\]](#); EPA. *Enbridge Spill Response Timeline*. [\[LINK\]](#)

861 Riesterer, J. (2019, July 12). The Enduring Legacy of the 2010 Kalamazoo River Oil Spill. *Belt Magazine*. [\[LINK\]](#)

862 Ibid.

863 NWF. (2020). *The Edge of Disaster for the Great Lakes*. [\[LINK\]](#)

864 Sierra Club. *Line 5 Pipeline*. [\[LINK\]](#); Kaeding, D. (2022, February 2). Hundreds participate in a hearing on Enbridge's proposed oil and gas pipeline project. *WPR*. [\[LINK\]](#)

mended a ban on heavy tar sands oil to stop the flow through the aging pipelines beneath the Straits of Mackinac.⁸⁶⁵ 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.⁸⁶⁶ 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.”⁸⁶⁷



Water Protectors holding a banner at the Defend the Water and Climate – Respect Indigenous Rights – Stop Line 5! Rally in Superior, Wisconsin (Sophia Lovato | WECAN International)

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.⁸⁶⁸ A potential 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.⁸⁶⁹ Food insecurity during pregnancy produced by insufficient income can have serious cognitive and developmental fetal consequences—creating an adverse generational impact.⁸⁷⁰ Threats to the Great Lakes ecosystem will disproportionately impact Indigenous women, single-mothers, and children. Carrie Chesnik (Oneida Nation Wisconsin), the Executive Assistant RISE Coalition describes the danger of contaminating drinking water:

865 Ellison, G. (2015, July 14). Reports calls for heavy crude oil ban in Straits of Mackinac pipeline. *MLive*. [\[LINK\]](#)

866 McGuire, C., Et al. (2019). Indigenous People’s Rights. *WECF*. [\[LINK\]](#)

867 Gravelle, W. (2023, June 6). *WECAN Interview*

868 *Ibid.*

869 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*. [\[LINK\]](#)

870 *Ibid.*

“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.”⁸⁷¹

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.⁸⁷²

In addition to cutting communities off from basic resources, human trafficking near fossil fuel development is yet another threat to Indigenous communities near Enbridge Line 5. Cumulatively, Enbridge’s assault on Indigenous food and water sources, ancestral lands, and safety amounts to cultural genocide.⁸⁷³ Jannan J. Cornstalk (Little Traverse Bay Bands of Odawa Indians) is the Director for Water is Life Festival, and she describes the social and environmental impacts of Enbridge Line 5:

“These are our lifeways - when that water is healthy enough that rice is growing - that benefits everybody. Line 5 is going to bring people that stay in motels, and bring violence, and so please see that facade. These are our lifeways. That water is our relative. You will do whatever it takes to protect your children. We will do the same for our water, our relative.”



(Jannan J. Cornstalk)

Recent studies have shown there is no public need for Line 5,⁸⁷⁴ and that decommissioning Line 5 would not significantly impact oil or gas supply.⁸⁷⁵ The Upper Peninsula region has 50 alternate transport sources for gas.⁸⁷⁶ Enbridge faces opposition from many Indigenous communities across Wisconsin, Minnesota, and Michigan, as well as county officials along the proposed reroute and activists.⁸⁷⁷ Originally built in 1953, Line 5 was only expected to be used for fifty years.⁸⁷⁸ Now, as of 2023, the Line 5 pipeline still runs nearly 20 years past its intended lifespan. Enbridge and aligned political leaders have used the pipeline’s imminent expiration as reason to maximize profits from Line 5 in the short-term.⁸⁷⁹

A University of Michigan Water Center 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.”⁸⁸⁰ The Straits can generate intense currents “that can create a flow or

871 Chesnik C. (2022, April 12). WECAN Interview.

872 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*. [\[LINK\]](#)

873 Kingston, L. (2015, January 13). The Destruction of Identity: Cultural Genocide and Indigenous Peoples. *Journal of Human Rights*. [\[LINK\]](#)

874 FLOW Editor. (2020, November 17). “Fact Check: When Line 5 Shuts Down, Detroit Jets Will Still Fly and Union Refinery Jobs Will Still Exist. *For Love of Water*. [\[LINK\]](#)

875 Public Sector Consultants. (2020, March). *Analysis of Propane Supply Alternatives for Michigan*. [\[LINK\]](#)

876 Michigan Department of Environment. (2020, April 17). *Upper Peninsula Energy Task Force Committee Recommendations*. [\[LINK\]](#)

877 Department of Natural Resources (DNR). (2022). Enbridge Pipeline Projects in Wisconsin. *The Wisconsin Department of Natural Resources*. [\[LINK\]](#)

878 Clean Water Action. *Line 5: A History*. [\[LINK\]](#)

879 Rock, J. (2021, December 21). Fossil Fuel Company Enbridge: Climate Change Means We Need to Make Money Now, Not Later. *Jacobin Magazine*. [\[LINK\]](#)

880 Mihell C., (2017, November 6). The Aging Oil Pipeline Underneath the Great Lakes. *Sierra Club Magazine*. [\[LINK\]](#)

water more than 10 times greater than the flow over Niagara Falls.”⁸⁸¹ 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.⁸⁸²

In an attempt to address the hazards posed by Line 5, Enbridge proposed constructing a tunnel around segments of the pipeline situated beneath the Great Lakes, essentially encasing the pipeline.⁸⁸³ This approach 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.”⁸⁸⁴ In February 2023, the Michigan Public Service Commission (MPSC) was warned by engineers that the tunnel project could lead to an explosion. Brain O’Mara, geologist and engineer, warned that “A methane explosion in a confined space like the tunnel project would be like a shotgun blast.”⁸⁸⁵ 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.⁸⁸⁶ 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.”⁸⁸⁷

In addition to the unsafe status of the current Line 5 pipeline and tunnel project, in 2019, Enbridge was ordered by a federal judge to relocate a 41-mile-long portion of the existing pipeline around the Bad River Band territories via Ashland, Bayfield, and Iron counties in Wisconsin.⁸⁸⁸ This proposed relocation further threatens to irreversibly damage drinking water, ecosystems, and *manoomin* (sacred Indigenous wild rice) that local communities depend on.⁸⁸⁹ The proposed reroute construction would cut through more than 900 waterways upstream from Bad River Band Reservation,⁸⁹⁰ so any pollutants produced through the Line 5 reroute construction would empty directly into tribal land and the Kakagon-Bad River Slough Wetland Complex, 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.⁸⁹¹ This biodiverse region contains hundreds of human-inhabited islands,⁸⁹² reefs, and key sources of local food such as whitefish and lake trout.⁸⁹³ Trenching and drilling

881 Michigan Environmental Council (2021). The Problem with the Line 5 Oil Pipeline. *Oil & Water Don't Mix*. [\[LINK\]](#)

882 Nelson, E. (2020, October 28). The Straits of Mackinac: Connecting People, Places and so Much More. *MSU*. [\[LINK\]](#)

883 Native American Rights Fund. *Enbridge's Line 5 Pipeline (Bay Mills Indian Community)*. [\[LINK\]](#)

884 Oil & Water Don't Mix. *Red Flags: Proposed Great Lakes Tunnel Project*. [\[LINK\]](#)

885 Native American Rights Fund. *Enbridge's Line 5 Pipeline (Bay Mills Indian Community)*. [\[LINK\]](#)

886 Street, G. (2022, April 8). Column: Why the Enbridge Line 5 tunnel is a pipe bomb at the Straits. *Michigan Advance*. [\[LINK\]](#)

887 Axel, T., et al. (2023, May 22). Enbridge's Line 5 Tunnel Could "Rain Devastation and Destruction" on Great Lakes. *EarthJustice*. [\[LINK\]](#)

888 Kovski, A. (2023, June 20). Court gives Enbridge 3 years to reroute part of Line 5 pipeline in Wisconsin. *Oil&Gas Journal*. [\[LINK\]](#)

889 Lee, J. (2022, April 18). How rights of nature and wild rice could stop a pipeline. *Grist*. [\[LINK\]](#)

890 Wisconsin Department of Natural Resources (2021, December). *Draft Environmental Impact Statement: Proposed Enbridge Line 5 Relocation Project Vol.2*. [\[LINK\]](#)

891 Healing Minnesota Stories. (2022, March 21). EPA raises red flags on Enbridge Line 5's environmental and tribal impacts. [\[LINK\]](#)

892 Erskine, M. (2021, November 10). First Nations in Michigan, Ontario want Line 5 gone. *The Manitoulin Expositor*. [\[LINK\]](#)

893 Nelson, E. (2020, October 28). The Straits of Mackinac: Connecting People, Places and so Much More. *Michigan State University*. [\[LINK\]](#)

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.⁸⁹⁴ This type of pollution and contamination of the Kakagon-Bad River Slough Complex would impact the drinking water and food supply for millions.⁸⁹⁵

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.⁸⁹⁶ The U.S. EPA determined that the Line 5 reroute project “may result in substantial and unacceptable adverse impacts” to the Kakagon-Bad River Slough Complex,⁸⁹⁷ 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.⁸⁹⁸ 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). 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).⁸⁹⁹

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 5.⁹⁰⁰ More than 30,000 public comments were sent to the Wisconsin DNR, urging the rejection of any permits for the Line 5 reroute.⁹⁰¹ Line 5 reroute construction cannot begin until a series of 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.⁹⁰² 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 by an additional two years.⁹⁰³ 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 2025.⁹⁰⁴ The EIS concentrates exclusively on the tunnel project, neglecting the ne-

894 United States Environmental Protection Agency. (2022, March 16). *Public Notice MVP-2020-00260-WMS / Enbridge Line 5 Wisconsin Segment Relocation*. [\[LINK\]](#); Wisconsin Citizens Media Cooperative. (2022, March 22). *EPA says Enbridge's plans for Line 5 may permanently damage water quality, aquatic life, and native habitat*. [\[LINK\]](#)

895 Sivaraman B., (2022, January 31). How a Shoddy Environmental Review Could Cause a Catastrophic Oil Spill in Wisconsin. *EarthJustice*. [\[LINK\]](#)

896 Superior Rivers Watershed Association (2020, July 1). *Superior Rivers Watershed Association Position Statement in Regard to the Proposed Enbridge Line 5 Reroute Through Bad River Watershed*. [\[LINK\]](#)

897 EPA Region 5 (2022, March 16). *Letter from US EPA Region 5 to US Army Corps of Engineers, St. Paul District, Regulatory Branch*. [\[LINK\]](#)

898 Wisconsin Department of Natural Resources (2021, December). *Draft Environmental Impact Statement: Proposed Enbridge Line 5 Relocation Project Vol.2*. [\[LINK\]](#)

899 Michigan Environmental Council (2021). *The Problem with the Line 5 Oil Pipeline. Oil & Water Don't Mix*. [\[LINK\]](#)

900 Sierra Club (2022). *Line 5. Sierra Club Wisconsin Chapter*. [\[LINK\]](#)

901 Sierra Club. (2022). *Wisconsin Doesn't Want Line 5: Analysis of Line 5 Comments submitted to the Wisconsin Department of Natural Resources*. [\[LINK\]](#)

902 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*. [\[LINK\]](#)

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

904 U.S. Army Corps of Engineers. (2023, March 23). *Corps of Engineers revises Enbridge Line 5 EIS schedule to ensure thorough analysis*. [\[LINK\]](#)

cessity of conducting a thorough evaluation of the entire Line 5 pipeline network.⁹⁰⁵ 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. 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.

As mentioned above in the Enbridge Line 3 Section, Bank of America, JPMorgan Chase, Royal Bank of Canada, and Vanguard have all financed or invested in relevant Enbridge projects. 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.

6h. iii Transmountain Pipeline

The Trans Mountain Expansion Project (TMX) entails replicating an existing pipeline along a 1,500 kilometer route from Alberta to British Columbia.⁹⁰⁶ 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.⁹⁰⁷ 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.⁹⁰⁸ 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 2023, is still the owner.⁹⁰⁹ The pipeline is 80% complete and is scheduled to begin operating in 2024.⁹¹⁰

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.⁹¹¹ 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.⁹¹² The Squamish, the Tsleil-Waututh, the Coldwater, and a collective of bands within the Stó:lō, also argued against the project in December, 2019.⁹¹³ When the 2019 First Nations' appeal was dismissed,⁹¹⁴ even more First Nations challenged the project. In August 2020, the Squamish Nation, the Tsleil-Waututh Nation, the Ts'elxwéyew Tribes, and the Coldwater Indian Band challenged the Court of Appeals by

905 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)*. [\[LINK\]](#)

906 The Canadian Press (2020, September 15). Trans Mountain pipeline expansion on schedule and on budget after 1st year, says CEO. *CBC*. [\[LINK\]](#)

907 Ibid.

908 Cunningham, N. (2020, August 14). Canada's Trans Mountain Pipeline Inches Forward, But Opposition Intensifies. *Desmog*. [\[LINK\]](#)

909 Wilkins, B. (2023, March 13). 'Economic Crime': Cost of Canada's Trans Mountain Pipeline Soars by Billions, Again. *Common Dreams*. [\[LINK\]](#)

910 Baystreet.ca. (2021, March 21). Ottawa To Lose \$20 Billion On Trans Mountain Pipeline: Report. *YahooFinance*. [\[LINK\]](#)

911 Kassam, A. (2018, August). Trans Mountain pipeline halted after Canadian court overturns approval. *The Guardian*. [\[LINK\]](#)

912 BelRichard, C. (2020, February 4). First Nations respond to Trans Mountain appeal decision. *CBC*. [\[LINK\]](#)

913 Ibid.

914 Kung, E. (2020). Eugene Kung speaks on Wellhead to Tidewater webinar. *Vimeo*. [\[LINK\]](#)

filing applications to the Supreme Court of Canada. However, in July 2020, the Supreme Court dismissed this appeal.⁹¹⁵ 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.⁹¹⁶

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.⁹¹⁷ 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.”⁹¹⁸ The government has not taken any action. 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 “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.”⁹¹⁹

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 are continuing to operate through 2023.⁹²⁰ Construction sites in Clearwater and Valemount are operating within Secwepemc Territory and without Secwepemc consent.⁹²¹ The Tiny House Warriors are a group of 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.⁹²² 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.⁹²³



March to Stop Trans Mountain Oil Pipeline (Sally T. Buck | Flickr)

915 Rabson, M. (2020, July 2). Supreme Court rejects Indigenous challenge to Trans Mountain pipeline approval. *The Canadian Press*. [\[LINK\]](#)

916 Wilkins, B. (2023, March 13). 'Economic Crime': Cost of Canada's Trans Mountain Pipeline Soars by Billions, Again. *Common Dreams*. [\[LINK\]](#); UBCIC. *TMX and Specific Claims*. [\[LINK\]](#)

917 Tiny House Warriors (2020, April 1). *Shut Down the Man-Camps*. [\[LINK\]](#)

918 Ibid.

919 Tzay-Calí, J. (2023, March). United Nations Special Rapporteur On The Rights Of Indigenous Peoples. UNCHR. [\[LINK\]](#)

920 BankTrack. (2023, January 30). *Trans Mountain Pipeline Expansion project (TMPEP)*. [\[LINK\]](#); Transmountain. *Blue River Camp Community*. [\[LINK\]](#)

921 Ibid.

922 Tiny House Warriors. *About*. [\[LINK\]](#)

923 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). *Liber-tary Mutual slammed for tar sands involvement*. *Insurance Business America*. [\[LINK\]](#)

The Covid-19 pandemic was accompanied by labor shortages, supply chain disruptions, inclement weather, and regulatory obstacles that caused TMX to be delayed until 2023 and cost four times its original budget.⁹²⁴ Despite these hurdles, pro-oil officials reiterate that TMX is extremely strategic and allows Canada to reach new international oil markets.⁹²⁵ TMX poses environmental threats as well: 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.⁹²⁶ On top of posing environmental threats to local communities, building TMX would take Canada even further away from meeting its commitment to the goals set forth in the Paris Agreement.⁹²⁷

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.⁹²⁸ The cost to date is over \$22 billion from its original estimate of \$12.6 billion, 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.⁹²⁹ 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.⁹³⁰ If insurance companies stopped providing critical financial support to Trans Mountain, the project would no longer be able to transport oil.⁹³¹ Liberty Mutual has provided significant insurance coverage to Trans Mountain.⁹³²

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 \$3 billion to cover the project's cost overruns.⁹³³ 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.

924 Moore, E. (2022, March 8). Five reasons that expanding the trans mountain oil pipeline is still a colossal mistake. *Sightline*. [\[LINK\]](#)

925 Varcoe, C. (2022, February 3). Trans Mountain expansion running over budget by billions of dollars and months behind schedule. *National Post*. [\[LINK\]](#)

926 Sulakshana, E. (2020, July 14). Who's insuring the Trans Mountain pipeline? *Rainforest Action Network*. [\[LINK\]](#)

927 Israel, B. (2017, October 4). The Real GHG trend: Oilsands among the most carbon intensive crudes in North America. *Pembina Institute*. [\[LINK\]](#)

928 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*. [\[LINK\]](#)

929 Onyango, D. (2023, March 15). Canadian Trans Mountain Pipeline Expansion Cost Increases by 44% to \$22.35 Billion. *Pipeline Technology Journal*. [\[LINK\]](#); Ellis, S. (2023, March 21). Trans Mountain Pipeline's Losses Are Enbridge's Gains. *MorningStar*. [\[LINK\]](#)

930 Sulakshana, E. (2020, July 14). Who's insuring the Trans Mountain pipeline? *Rainforest Action Network*. [\[LINK\]](#)

931 *Ibid.*

932 *Ibid.*

933 Bulowski, N. (2023, May 16). Canada's biggest banks pitch in another \$3 billion for Trans Mountain. *Canada's National Observer*. [\[LINK\]](#)

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, PN)	Shell	(1) <u>Bank of America</u> , (2) <u>Royal Bank of Canada</u>	(1) <u>BlackRock</u>	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) <u>JPMorgan Chase</u> , (2) <u>Bank of America</u>	N/A	Liberty Mutual: <u>certificate of insurance for Mariner East Pipeline System</u>
(1) Liquefied Natural Gas (LNG) Facility (Butler County, PN), (2) Liquefied Natural Gas Facility (Belmont County, OH)	ExxonMobil (i.e., XTO Energy Inc.)	(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> , (3) <u>Capital Group</u>	
(1) Bradshaw Compressor Station (Mannington, WV), (2) Harris Compressor Station (Braxton County, WV), (3) Stallworth Compressor Station (Fayette County, WV), (4) Marcellus & Utica Shale LNG well pad (bought during EQT acquisition of Chevron Appalachia), (5) Laurel Mountain Midstream (bought during EQT acquisition of Chevron Appalachia)	EQT Corporation	(1) <u>Bank of America</u> , (2) <u>JPMorgan Chase</u>	(1) <u>BlackRock</u> , (2) <u>Vanguard</u> , (3) <u>Capital Group</u>	N/A
(1) Union Carbide Corp Facility (Institute, WV), (2) Union Carbide Corp South Charleston Facility (Charleston, WV)	Dow Inc.	(1) <u>JP Morgan Chase</u> , (2) <u>Bank of America</u> , (3) <u>Royal Bank of Canada</u>	(1) <u>Vanguard</u> , (2) <u>BlackRock</u> , (3) <u>Capital Group</u>	N/A

(1)Mountain Valley Pipeline	Joint venture: EQM Midstream Partners (merged with Equitrans Midstream Corporation); NextEra Energy Resources; Con Edison Transmission; WGL Midstream and RGC Midstream	(1) JPMorgan Chase, (2) Bank of America	(1) BlackRock, (2) Capital Group, (3) Vanguard	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	(1) Bank of America	(1) Vanguard, (2) BlackRock	N/A
(1)Williams Gas Pipeline Transco	Williams Companies, Inc.	(1) Bank of America, (2) JP Morgan Chase, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	
(1)Piedmont natural gas	Duke Energy Corporation	(1) Royal Bank of Canada, (2) JPMorgan Chase	(1) Vanguard, (2) BlackRock, (3) Capital Group	

All data in the chart is derived from financial databases/platforms (Nasdaq/CNN Money), or the Rainforest Action Network's 2023 published report, *Banking on Climate Chaos*.

*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.⁹³⁴ 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.⁹³⁵ Over half of these counties are above their respective state's average poverty rate: six in Ohio, four in Pennsylvania, and two in West Virginia.⁹³⁶ A decade ago, the oil and gas industry promised extensive local economic growth, but the 2021 study found that job growth increased by 1.6% in the 22 counties while nationally the number of jobs grew by 9.9%.⁹³⁷ Although economic output in the 22 counties grew by more than three times the national rate, very little of the generated income entered the local economies in these counties.⁹³⁸ Instead of 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 expands.



Former coal-fired Cheswick Generating Station in Allegheny County, Pennsylvania surrounded by residential neighborhoods. (Ted Auch | FracTracker Alliance, 2021)

A 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.⁹³⁹ 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.⁹⁴⁰ 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.⁹⁴¹

Explosions of pipelines in the region cause additional environmental hazards. In February 2018, a gas well, owned by Exxon Mobil subsidiary XTO Energy,⁹⁴² exploded in Belmont County, Ohio, which has a poverty rate over four percentage points above the national poverty rate.⁹⁴³ This explosion resulted in the uncontrolled venting of natural gas estimated at 100 million cubic feet per day until March 2018.⁹⁴⁴ Over the course of 20 days, a total of more than

934 Food and Water Watch (2020, September 21). *Cracked: The Case For Green Jobs Over Petrochemicals In Pennsylvania*. [\[LINK\]](#)

935 O'Leary. (2021, February 8). *Fracking Counties Economic Impact Report*. *Ohio River Valley Institute*. [\[LINK\]](#)

936 United States Census Bureau. *Measuring America's People, Places, and Economy*. [\[LINK\]](#)

937 O'Leary. (2021, February 8). *Fracking Counties Economic Impact Report*. *Ohio River Valley Institute*. [\[LINK\]](#)

938 *Ibid.*

939 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*. [\[LINK\]](#)

940 Currie, J., Et al. (2017, December 13). *Hydraulic fracturing and infant health: New evidence from Pennsylvania*. *Science Advances*. [\[LINK\]](#)

941 *Ibid.*

942 Pflieger, P. (2019, December 19). *A Fracking Explosion In Ohio Created One Of Worst Methane Leaks In History*. *WOSU Public Media*. [\[LINK\]](#)

943 Brelsford, R. (2020, September 14). *PTTGCA advances proposed Ohio petrochemical complex*. *Oil & Gas Journal*. [\[LINK\]](#); United States Census Bureau. *QuickFacts Belmont County, Ohio*. [\[LINK\]](#)

944 Pandey, S., Et al. (2019, December 16). *Satellite observations reveal extreme methane leakage from a natural gas well blowout*. *PNAS*. [\[LINK\]](#)

50,000 tons of methane was released near the Ohio-West Virginia border,⁹⁴⁵ which forced residents within a 1-mile radius to evacuate their homes for several weeks.⁹⁴⁶ 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.⁹⁴⁷ The same year, Revolution Pipeline, owned by Energy Transfer, exploded in Beaver County, Pennsylvania.⁹⁴⁸ 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.⁹⁴⁹ 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.⁹⁵⁰ 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.⁹⁵¹

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.⁹⁵² For example, Dow Inc.’s Union Carbide Petrochemical Complex was constructed in 1943 in the city of Institute, West Virginia.⁹⁵³ 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.”⁹⁵⁴ 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.”⁹⁵⁵ 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.⁹⁵⁶

In another instance, in November 2022, Shell completed construction of the Shell Polymers Monaca petrochemical plant in Beaver County, which as detailed above has a poverty rate above the national average and was the site of another pipeline explosion.⁹⁵⁷ The giant ethane cracker in Beaver County is estimated to produce 1.8 million tons of plastic per year.⁹⁵⁸ Operation of just this single plastic project would negate all of Pittsburgh’s work combating the climate crisis through 2030.⁹⁵⁹ According to the Center for Environmental Research and

945 Georgiou, A. (2019, December 18). Enormous Methane Leak From Ohio Gas Well Was One of Worst in American History, Satellites Reveal. *Newsweek*. [\[LINK\]](#)

946 Pflieger, P. (2019, December 19). A Fracking Explosion In Ohio Created One Of Worst Methane Leaks In History. *WOSU Public Media*. [\[LINK\]](#)

947 Pandey, S., Et al. (2019, December 16). Satellite observations reveal extreme methane leakage from a natural gas well blowout. *PNAS*. [\[LINK\]](#)

948 Frazier, R. (2022, February 3). Energy Transfer Facing 9 Counts of Environmental Crimes for 2018 Pipeline Blast. *The Allegheny Front*. [\[LINK\]](#)

949 Rubinkam, M. (2022, February 2). Company faces criminal charges over pipeline explosion. *AP News*. [\[LINK\]](#)

950 Ibid.

951 Cave, K., Et al. (2016, December 12). Water Song: Indigenous Women and Water. *Resilience*. [\[LINK\]](#)

952 Hurdle, J. (2023, February 3). Pennsylvania Advocates Issue Intent to Sue Shell’s New Petrochemical Plant Outside Pittsburgh for emissions Violations. *Inside Climate News*. [\[LINK\]](#)

953 CLUI. (n.d.). Institute Plant, West Virginia. *The Center for Land Use Interpretation*. [\[LINK\]](#)

954 Ward Jr., K. (2021, December 21). How Black Communities Become “Sacrifice Zones” for Industrial Air Pollution. *ProPublica*. [\[LINK\]](#)

955 Ibid.

956 Galleghar, H. (2019, December). The Feminization of Poverty: Rural Appalachia and Beyond. *Appalachian State University*. [\[LINK\]](#)

957 Food and Water Watch. (2020, September 21). *Cracked: The Case For Green Jobs Over Petrochemicals In Pennsylvania*. [\[LINK\]](#)

958 The Allegheny. (2020, February 5). *Video: As the World Grapples with Plastic Pollution, PA’s Ethane Cracker Promises More Plastic*. [\[LINK\]](#)

959 Cunningham, N. (2019, March 21). A Fracking-Driven Industrial Boom Renews Pollution Concerns in Pittsburgh. *Yale School of the Environment; Yale Environment 360*. [\[LINK\]](#)

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.⁹⁶⁰ Shell claims to support the Paris Agreement⁹⁶¹ 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."⁹⁶² Thus far the \$6 billion project has not brought local residents the economic prosperity that was promised by Shell⁹⁶³; 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.⁹⁶⁴ 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.⁹⁶⁵ Environmental groups called to temporarily halt operations until Shell can comply with pollution control laws and intend to sue the company for violating federal and state air quality standards.⁹⁶⁶

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.⁹⁶⁷ Since 2020, PTT Global Chemical has been awaiting a final investment decision for its planned petrochemical complex in Shadyside, Ohio.⁹⁶⁸ The complex would be located along the Ohio River and capable of producing approximately 1.6 million tons of polyethylene plastic resin per year, which is used to make a variety of plastic products.⁹⁶⁹ While PTT Global Chemical reports that only PTTGC America believes the project to be viable,⁹⁷⁰ local officials say that even if these companies back out, they will "aggressively market the site" for another potential tenant.⁹⁷¹ 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."⁹⁷² Residents vie for renewable energy alternatives at the site instead.⁹⁷³

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.⁹⁷⁴ As of March 31, 2023, Vanguard and BlackRock are major investors in PTT Global Chemical, the company behind the giant ethane cracker planned for Ohio.⁹⁷⁵ Additionally, Vanguard and BlackRock are the top two largest

960 Ibid.

961 Shell. *Our Climate Target*. [\[LINK\]](#)

962 Shell. *Shell Energy Transition Report*. [\[LINK\]](#)

963 Ritenbaugh, S. (2023, June 29). Report: Shell's ethane plant in Beaver County has not spurred growth. *TRIBLive*. [\[LINK\]](#)

964 Hurdle, J. (2023, February 3). Pennsylvania Advocates Issue Intent to Sue Shell's New Petrochemical Plant Outside Pittsburgh for Emissions Violations. *Inside Climate News*. [\[LINK\]](#)

965 Ibid.

966 Vellucci, J. (2023, February 2). Activists: Shell cracker plant not living up to 'good neighbor' promises. *TRIB Live*. [\[LINK\]](#); Hurdle, J. (2023, February 3). Pennsylvania Advocates Issue Intent to Sue Shell's New Petrochemical Plant Outside Pittsburgh for Emissions Violations. *Inside Climate News*. [\[LINK\]](#); Suttles, C. (2023, February 20). Shell hit with air permit violations; activists call for operations halt. *The Times*. [\[LINK\]](#)

967 Brelsford, R. (2020, September 14). PTTGCA advances proposed Ohio petrochemical complex. *Oil & Gas Journal*. [\[LINK\]](#)

968 Ibid.

969 Ibid.

970 Marietta Times. (2023, February 11). Honda agreement needs to be serious. *The Marietta Times*. [\[LINK\]](#)

971 WTRF. (2022, May 1). *Is the ethane cracker plant still coming to Belmont County?* [\[LINK\]](#)

972 Holden, E. (2019, October 11). Will a push for plastics turn Appalachia into next 'Cancer Alley'? *The Guardian*. [\[LINK\]](#)

973 Partsch, L. (2022, November 22). An Ohio River Valley Epidemic: Ethane Cracker Plants. *The Athens Effect*. [\[LINK\]](#)

974 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*. [\[LINK\]](#)

975 Fintel. TH: PTTGC-R / PTT Global Chemical PCL. [\[LINK\]](#)

investors in Dow Inc.,⁹⁷⁶ 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” construction lines, is one of the most expensive pipeline project ever.⁹⁷⁷ 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 identified 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.⁹⁷⁸ MVP is routed through many counties with low-income, elderly and medically underserved populations, and construction has already negatively impacted sacred sites of Indigenous Tribes in the area, detailed more below.⁹⁷⁹



End the Era of Fossil Fuels – Protect People and Planet! Action in Washington D.C. to stop the Mountain Valley Pipeline (MVP) & restore NEPA. (Zizani | WECAN International)

MVP is owned by a joint venture of several companies.⁹⁸⁰ The joint venture is called Mountain Valley Pipeline, LLC.⁹⁸¹ EQM Midstream Partners (EQM), which was formed by EQT Corporation and merged with Equitrans Midstream Corporation (ETRN), is the company which holds majority interest in Mountain Valley Pipeline, LLC.⁹⁸² The MVP project Mainline construction is a natural gas pipeline from the Marcellus and Utica Shales in northern West Virginia to southern Virginia. An additional MVP project Southgate has been proposed which would extend from the Mainline at a site in southern Virginia to central North Carolina.⁹⁸³

Just last year—in 2022—another EQM-owned fossil fuel facility had a leak. The leak at the Rager Mountain storage facility in Cambria County, Pennsylvania, vented about 1.4 billion cubic feet in methane, for 11 days in November 2022. This amounts to the greenhouse gas emissions of burning more than 7,200 tanker trucks of gasoline.⁹⁸⁴ Pennsylvania environmental regulators issued EQM 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

976 NASDAQ. *Dow Inc. Common Stock (DOW)*. [\[LINK\]](#)

977 Global Energy Monitor Wiki. *Oil and Gas Pipeline Construction Costs*. [\[LINK\]](#); Oil Change International. (2020, November). *New Money Behind the Mountain Valley Pipeline*. [\[LINK\]](#)

978 APP Voices. (2023, January). *The Status and Impact of the Mountain Valley Pipeline*. [\[LINK\]](#)

979 Ibid.

980 Mountain Valley Pipeline LLC. (2016, January 22). *Mountain Valley Pipeline Secures New Shipper Commitment with Con Edison*. [\[LINK\]](#)

981 Mountain Valley Pipeline. [\[LINK\]](#)

982 Equitrans Midstream. *Resources*. [\[LINK\]](#)

983 Mall, A. (2020, September 10). *5 Key Reasons to Stop the Mountain Valley Pipeline*. *Natural Resources Defense Council*. [\[LINK\]](#)

984 Biesecker, M. (2022, November 20). *Company: Leak at Pennsylvania gas storage well plugged*. *AP News*. [\[LINK\]](#)

a “hazard to public health and safety,” and failing to provide state inspectors “free and unrestricted access” to the site.⁹⁸⁵ Federal laws note that all pipes must have an external coating in order to prevent corrosion. 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.⁹⁸⁶

EQM made statements that indicated there was no health risk to residents in the area, which is about 1.5 hours east of Pittsburgh, however residents reported smelling fumes and hearing the roar of pressurized gas.⁹⁸⁷ One mother who homeschools her two young children at her house about three miles away, said these impacts negatively impacted her family. 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.”⁹⁸⁸

Despite these environmental injustices enacted by EQM (now ETRN), the company persists in pushing through fossil fuel projects that will place more communities at risk. ETRN’s MVP construction threatens regional water supplies such as the Stony Creek Reservoir in Burlington, North Carolina and groundwater supplies in other areas.⁹⁸⁹ 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:

“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.”⁹⁹⁰



Dr. Crystal Cavalier-Keck (Crystal Cavalier-Keck)

985 Ibid.

986 Kitchen, B. (2023, July 1). Biden’s Mountain Valley Pipeline and the Titan Submarine Disaster. *Common Disaster*. [\[LINK\]](#); U.S. Department of Transportation. *Fact Sheet: Internal Corrosion*. [\[LINK\]](#)

987 Ibid.

988 Ibid.

989 Sierra Club (2022). Stop Mountain Valley Pipeline. *Sierra Club Virginia Chapter*. [\[LINK\]](#)

990 Cavalier-Keck, C. (2022, May 18). WECAN Interview.

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.⁹⁹¹ Dr. Crystal Cavalier-Keck also points out that MVP “would bring disproportionate exposure to health hazards for the people and species along its path.”⁹⁹² The proposed MVP route affects African American/Black/African Diaspora, Latina/Chicana, and low-income communities (e.g., Danville and Roanoke in Virginia and Eden in North Carolina). 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. 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.⁹⁹³

Particulate pollution from compressor plants includes neurotoxins such as hexane and carcinogens such as formaldehyde.⁹⁹⁴ Formaldehyde is a known genotoxin, causing DNA and chromosomal damage. Pregnant women exposed to formaldehyde can have major fetal neurodevelopmental deficits.⁹⁹⁵ 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.⁹⁹⁶ Anita Royston, President of the Pittsylvania County NAACP, describes how promises of economic prosperity fail to address the health consequences of MVP:

“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?”⁹⁹⁷

Originally expected to be completed in 2018, MVP Mainline now runs five years behind schedule and \$3 billion over budget.⁹⁹⁸ Spending is also anticipated to increase in 2023, as a June 2022 request for an extension to construction timing was approved by the Federal Energy Regulatory Commission (FERC).⁹⁹⁹ Approved in August 2022, the pipeline completion date was again extended to October 13, 2026.¹⁰⁰⁰ Although Mountain Valley Pipeline LLC claims that MVP is about 94% complete¹⁰⁰¹ (i.e., pipeline welded, buried, and land restored), construction reports

991 APP Voices. (2023, January). *The Status and Impact of the Mountain Valley Pipeline*. [\[LINK\]](#)

992 Radmacher, D., Et al. (2023, February 24). Press Release. *Appalachian Voices*. [\[LINK\]](#)

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

994 Campblin, K., Et al. (2021, November 26). Opinion: On environmental justice, the Mountain Valley Pipeline is an old story. *The Washington Post*. [\[LINK\]](#)

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

996 Ibid.

997 Protect Our Water Heritage Rights (POWHR). (2022, April 12). *We Believe We Will Win - A Rally to Stop the Mountain Valley Pipeline*. [\[LINK\]](#)

998 Mall, A. (2020, September 10). 5 Key Reasons to Stop the Mountain Valley Pipeline. *Natural Resources Defense Council*. [\[LINK\]](#)

999 Evans, M. (2023, February 22). Equitrans Says MVP Coming in 2023, but ‘Disappointed’ with Permitting Reform Failures by Congress. *NGI*. [\[LINK\]](#); Radmacher, D., Et al. (2022, August 24). FERC grants Mountain Valley Pipeline four more years to complete project. *AAP Voices*. [\[LINK\]](#)

1000 Radmacher, D., Et al. (2022, August 24). FERC grants Mountain Valley Pipeline four more years to complete project. *AAP Voices*. [\[LINK\]](#)

1001 Hawkins, S & Moore, D. (2023, April 3). Mountain Valley Pipeline Water Permit Struck Down on Appeal. *Bloomberg Law*. [\[LINK\]](#)

published by Mountain Valley Pipeline LLC states that the project is currently only 56% complete to full restoration as of late June 2022.¹⁰⁰² 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.”¹⁰⁰³ 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 2022.¹⁰⁰⁴ NextEra (a 31% owner) announced a \$800 million loss in February 2022, and stated that it was reevaluating its investment in MVP.¹⁰⁰⁵

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 violations¹⁰⁰⁶ and billions of dollars worth of expenses in legal battles, permit negotiations, and costly construction delays.¹⁰⁰⁷ Among the permits MVP still lacked as of March 2023 include: U.S. Forest Service Amendment to Forest Plan for Jefferson National Forest, Bureau of Land Management right-of-way under the Mineral Leasing Act, Army Corps of Engineers Clean Water Act Section 404 permit, North Carolina Department of Environmental Quality Clean Water Act Section 401 permit, “Lambert” gas compressor station air permit (Chatham, VA).¹⁰⁰⁸ With every failed permit, the stock of ETRN takes a dip ranging from 3 to 8%.¹⁰⁰⁹ Additionally, EQT, who is currently committed to buying more than half of MVP’s gas, announced that, the “[c]ompany’s belief that achieving an in-service date of the Mountain Valley Pipeline prior to December 31, 2024, is not probable.”¹⁰¹⁰ Despite federal legislation ratifying all permits for MVP mainline,¹⁰¹¹ as of July 27, 2023, multiple legal challenges remain active in the Fourth Circuit and DC Circuit Court of Appeals.¹⁰¹²



End the Era of Fossil Fuels – Protect People and Planet! Action in Washington D.C. to stop the Mountain Valley Pipeline (MVP) & restore NEPA. (Zizani | WECAN International)

1002 Federal Energy Regulatory Commission. (2022, June 24). Mountain Valley Pipeline, LLC submits Request for Extension of Time until October 13, 2026 to complete construction of the Mountain Valley Pipeline Project under CP16-10, et. al. [\[LINK\]](#)

1003 POWHR. *MVP Economic Study*. [\[LINK\]](#)

1004 APP Voices. (2023, January). *The Status and Impact of the Mountain Valley Pipeline*. [\[LINK\]](#)

1005 Ibid.

1006 Hansley C., (2022, March 3). The Mountain Valley Pipeline Is Far From Inevitable. *Sierra Club*. [\[LINK\]](#)

1007 Ibid.

1008 AAP Voices. (n.d.). Mountain Valley Pipeline. *Appalachian Voices*. [\[LINK\]](#)

1009 De La Cancela, E. (2023, January 5). Game over for the Mountain Valley Pipeline. *Virginia Mercury*. [\[LINK\]](#)

1010 EQT Corp. (2023, February 16). *Form 10-K Annual Report*. [\[LINK\]](#)

1011 Chappell, B. (2023, June 1). The debt ceiling deal bulldozes a controversial pipeline’s path through the courts. *NPR*. [\[LINK\]](#)

1012 Justia US Law. (2022). *Cletus Bohon v FERC, No. 20-5203 (D.C. Cir. 2022)*. [\[LINK\]](#); Liptak, A., Et al. (2023, July 27). Supreme Court Clear the Way for Pipeline as Appeal Moves Forward. *The New York Times*. [\[LINK\]](#)

As of March 31, 2023, BlackRock, Capital Group, and Vanguard were the top three investors in Equitrans Midstream Corporation (ETRN).¹⁰¹³ Since ETRN (which merged with EQM Midstream Partners) is the primary interest owner of Mountain Valley LLC—the joint venture that will construct and own the MVP project—ETRN has been the financial focus in this section.¹⁰¹⁴

1013 NASDAQ. Equitrans Midstream Corporation Common Stock. (ETRN). [\[LINK\]](#)

1014 Equitrans Midstream. Mountain Valley Pipeline (MVP). *Equitrans*. [\[LINK\]](#)

FINANCIAL INSTITUTION IMPLEMENTATION GAPS REGARDING HUMAN RIGHTS AND THE ENVIRONMENT



In Seattle, Washington, activists marched toward different banks and staged protests both inside and outside the buildings. (350 Seattle)

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 essential to understand recent fossil fuel expansion and financing in terms of current world events. Ukraine is currently experiencing the effects of a tragic and devastating war. As a result of Russia's invasion of Ukraine starting in 2022 and in the name of "energy security", fossil fuel companies are gaining windfall profits and record earnings that would otherwise be confronting "long-term decline and stagnant profits"¹⁰¹⁵ as world governments and the global community move toward phasing out fossil fuels due to the cost effectiveness of renewable energy and the climate crisis.¹⁰¹⁶ Disruptions in oil and gas supply chains, as well as concerns about oil and gas shortages, led global energy prices to surge, enabling bumper profits for fossil fuel companies and less borrowing from financial institutions; for this reason, 2022 was a momentary anomaly in fossil fuel finance patterns.¹⁰¹⁷ Bank's and financial institution's policies have yet to reflect robust phase out plans for fossil fuels. The shift in the market because of the war has led some fossil fuel interests to try to "lock in a high-carbon future" and put off an inevitable transition to renewable energy.¹⁰¹⁸ In order to prevent this type of dependence on fossil fuels in times of emergency and in general, as well as to avert further energy market instability, financial institutions must divert their investments and financial support to a Just Transition [see Section 9]. Ukrainian organizations and frontline communities around the world are being impacted by fossil fuel expansion purportedly because of the war are calling on the world to speed up the transition away from fossil fuels.¹⁰¹⁹ The boom in fossil fuel expansion risks oversupply problems, fluctuating gas prices, and deepening climate chaos; as an example, the majority of the proliferating LNG export terminals are unlikely to reach final investment decision because of uncertainty and other factors.¹⁰²⁰ Additionally, recent soaring profits from fossil fuel assets must be understood as temporary because the inevitable transition to renewable energy will result in stranded assets, credit risk, regulatory risks, reputational risks, as well as a myriad of other risks for financial institutions and communities across the world [see Section 8 for further analysis]. The first half of 2023 reveals the momentary nature of these soaring profits: after the initial impact of the war,

1015 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]

1016 Rozansky, R., Et al. (2022, October). Gas Bubble U.S Edition 2022: Global Surge in New LNG Export Terminals Led by U.S., Russia, Canada. *Global Energy Monitor*. [LINK]; IEA. (2023, February 28). *Natural gas markets remain tight as uncertainty persists around Chinese LNG demand and further supply cuts by Russia*. [LINK]; Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]; Muta, T., Et al. (2023, February 16). The global energy crisis pushed fossil fuel consumption subsidies to an all-time high in 2022. *IEA*. [LINK]

1017 Ibid.

1018 Guterres, A. (2022, April 30). Twitter Post. [LINK]; Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]

1019 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]; Razom We Stand. *Manifesto For A New Ukraine And A New World*. [LINK]

1020 Rozansky, R. (2022, March). Gas Run Aground: Proposed Projects to Export US LNG by Ship Are Stuck with a Shallow Pool of Investors. *Global Energy Monitor*. [LINK]; Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [LINK]

the fossil fuel sector sank back down to the bottom of the market where it was before Russia invaded Ukraine.¹⁰²¹ This shows how longer-term, the energy sector is on a faltering trajectory and “the industry does not have a business plan with a sound investment thesis.”¹⁰²²

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).¹⁰²³ 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.”¹⁰²⁴ 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/Chicana, 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 to 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].”¹⁰²⁵

This report identifies Vanguard, BlackRock, Capital Group, JPMorgan Chase, Royal Bank of Canada, Bank of America, and Liberty Mutual as some of the largest financial institutions financing, insuring, and investing in fossil fuel companies operating across the U.S. and parts of Canada.

All seven of these financial institutions have voiced support of the Paris Agreement via statements or by signing frameworks like the Equator Principles. 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.¹⁰²⁶ 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.¹⁰²⁷ The United States is historically the largest contributor to greenhouse gas emissions and currently the world’s second biggest carbon-emitter.¹⁰²⁸

1021 Sanzillo, T. (2023, August 1). Taking stock of the oil and gas sector as the transition to sustainable finance proceeds apace. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1022 Ibid.

1023 OHCHR. (2011). *Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework*. [\[LINK\]](#)

1024 Ibid.

1025 Lavigne, S. (2020, November, 25). WECAN Interview.

1026 UNFCCC. *Key aspect of the The Paris Agreement*. [\[LINK\]](#); Denchak, M. (2021, February 19). *Paris Climate Agreement: Everything You Need to Know*. NRDC. [\[LINK\]](#)

1027 Center for Climate and Energy Solutions. (2019). *Global Emissions*. [\[LINK\]](#)

1028 Ibid.

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.”¹⁰²⁹ 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.”¹⁰³⁰

All of the report’s seven identified financial institutions, Vanguard, BlackRock, Royal Bank of Canada, JPMorgan Chase, Bank of America, Capital Group, and Liberty Mutual, have signed the Principles for Responsible Investment (PRI). The PRI, launched by the UNEP Finance Initiative, are a set of voluntary standards which assess signatories’ Environmental, Social and Corporate Governance (ESG) performances.¹⁰³¹ 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 investment to align with the Paris Agreement targets.¹⁰³² In 2023, the PRI released a guide for identifying human rights risks and implementing due diligence; the responsibilities include “tracking and communicating their own efforts to address human rights impacts, through designing and/or selecting appropriate metrics to help identify the most effective prevention and mitigation activities and to connect their activities with real human rights outcomes,” as well as enabling or providing access to remedy.¹⁰³³ Notably, the PRI “launched an effort to promote and respect the rights of Indigenous Peoples around the world...” by “adopt[ing] an Indigenous Peoples policy that recognizes [the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)],” especially Indigenous Peoples’ right to Free, Prior and Informed Consent.¹⁰³⁴

Likewise, JPMorgan Chase, Royal Bank of Canada, and Bank of America are signatories to the Equator Principles (EP). The EP refer to a social and environmental risk management framework, which is adopted on a voluntary basis by financial institutions. The EP support the goals set forth by the Paris Agreement and express dedication to improve the information available on hazards caused by the EP Financial Institutions (EPFI).¹⁰³⁵ The EP also state the need for “robust standards” on protecting Indigenous Peoples’ rights as “[all] projects affecting Indigenous Peoples will be subject to a process of Informed Consultation and Participation, and will need to comply with the rights and protections for Indigenous Peoples contained in relevant national law, including those laws implementing host country obligations under international law. International Financial Corporation (IFC) Performance Standard 7 paragraphs 13-17 detail

1029 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*. [\[LINK\]](#)

1030 UNFCCC. *The Paris Agreement*. [\[LINK\]](#)

1031 PRI. *What are the Principles for Responsible Investment*. [\[LINK\]](#)

1032 PRI. *Climate Change*. [\[LINK\]](#)

1033 Whistler, S., et al. (2023, June 7). Humans rights due diligence for private markets investors: a technical guide. *Principles for Responsible Investment*. [\[LINK\]](#)

1034 First Peoples Worldwide. *Investors and Indigenous Peoples: Trends in Sustainable and Responsible Investment and Free, Prior, and Informed Consent*. [\[LINK\]](#)

1035 Equator Principles. (2020, July). *The Equator Principles July 2020: A Financial Industry Benchmark For Determining, Assessing And Managing Environmental And Social Risk In Projects*. [\[LINK\]](#)

the special circumstances that require the Free, Prior and Informed Consent (FPIC) of affected Indigenous Peoples...”¹⁰³⁶ And yet, even as signatories of the EP, alongside similarly expressed support of environmental and social risk management and Indigenous rights protections in their individual policies, JPMorgan Chase, Royal Bank of Canada, and Bank of America continue to provide financing to Enbridge, the company behind Line 3 and Line 5, ConocoPhillips, the company behind Willow Project, and other 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.”¹⁰³⁷

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.

¹⁰³⁶ Ibid.

¹⁰³⁷ Gravelle, W. (2023, June 6). WECAN Interview

Some factors impacting this backpedaling include booms in oil prices, a looming recession, and new regulation. For example, in 2022, regarding regulation, two dozen states, including Texas, 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.¹⁰³⁸ Through anti-ESG campaigns, states, and the fossil companies lobbying for anti-ESG legislation,¹⁰³⁹ 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.¹⁰⁴⁰ 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.¹⁰⁴¹ 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.¹⁰⁴² Preventing financial institutions from factoring tangible risks into investment decisions is in breach of fiduciary duty and is incompatible with good business practice.¹⁰⁴³ Specifically, anti-ESG legislation forces financial institutions to ignore risks, increase costs for taxpayers,¹⁰⁴⁴ place people's retirement security in danger,¹⁰⁴⁵ and strip worker's rights to decide where their retirement assets are invested.¹⁰⁴⁶ The anti-ESG movement, whether through baseless antitrust claims or legislation banning investment strategies, should not change financial 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

1038 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*. [\[LINK\]](#)

1039 InfluenceMap. (2023, May). *Anti-ESG and the Fossil Fuel Sector: An InfluenceMap Briefing*. [\[LINK\]](#)

1040 Ibid.; Pleiades Strategy. (2023). *2023 Statehouse Report: Anti-ESG State Legislation Tracker & Analysis*. [\[LINK\]](#)

1041 Kerber, R. (2022, February 17). Facing Texas pushback, BlackRock says it backs fossil fuels. *Reuters*. [\[LINK\]](#); Reuters. (2022, October 18). *BlackRock tells UK 'no' to halting investment in coal, oil and gas*. [\[LINK\]](#)

1042 Goldstein, M., Et al. (2022, December 23). BlackRock's Pitch for Socially Conscious Investing Antagonizes All Sides. *The New York Times*. [\[LINK\]](#)

1043 Bluestein, A. (2022, October 26). These states are trying to ban ESG investing. *Fast Company*. [\[LINK\]](#)

1044 Albright, A., Et al. (2022, June 13). Texas' Wall Street Showdown Costing Cities Hundreds of Millions. *Bloomberg*. [\[LINK\]](#); ESI Econsult Solutions Inc. (2023, January 12). *Memorandum*. [\[LINK\]](#)

1045 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*. [\[LINK\]](#)

1046 Ibid.

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 seven 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.¹⁰⁴⁷ 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.¹⁰⁴⁸ 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 is 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 reports: *Free, Prior and Informed Consent Due Diligence Questionnaire*¹⁰⁴⁹ and *Consent is Everybody's Business: Why banks need to act on free, prior and informed consent*.¹⁰⁵⁰ 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

1047 International Energy Agency. (2022, June 22). Record clean energy spending is set to help global energy investment grow by 8% in 2022 [Press Release]. [\[LINK\]](#)

1048 Dordi, T., Et al. (2022, September). Ten financial can accelerate a transition away from fossil fuels. *Environmental Innovation and Societal Transitions*. [\[LINK\]](#)

1049 First Peoples Worldwide: University of Colorado Boulder. *Free, Prior and Informed Consent Due Diligence Questionnaire*. [\[LINK\]](#)

1050 Hawkes, S. (2019, August 20). *Consent is Everybody's Business: Why banks need to act on free, prior and informed consent*. *Oxfam*. [\[LINK\]](#)

recent IPCC net zero targets.¹⁰⁵¹ Although this may be a part of addressing climate chaos, this must not be at the expense of incorporating tangible absolute emissions reductions.¹⁰⁵²

7a. Bank of America

According to Rainforest Action Network, BankTrack, Indigenous Environmental Network, Oil Change International, Reclaim Finance, Sierra Club, and Urgewald's 2023 annual fossil fuel finance report, Bank of America is the fourth largest bank financing the fossil fuel industry in the world.¹⁰⁵³ Since the Paris Agreement, the bank has poured over \$279.7 billion into the fossil fuel industry. In 2022 alone, Bank of America financed \$35.5 billion to the fossil fuel industry, with \$5.2 billion going towards fracking activities of the top companies involved in fracked oil and gas and \$4.7 billion towards fossil fuel expansion activities at the top 100 companies expanding fossil fuels.¹⁰⁵⁴ Additionally, in 2022 Bank of America was the third largest banker of the top 30 offshore oil and gas companies and remains one of the largest bankers of top arctic oil and gas and liquefied natural gas companies, making it a significant contributor to water and air pollution, jeopardizing the health and safety of communities near fossil fuel activity. Notably, Bank of America increased its financing to both the top companies within the offshore oil and gas and fracked oil and gas sectors from 2021 to 2022.¹⁰⁵⁵

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, Net-Zero Banking Alliance, and the Global Compact.¹⁰⁵⁶ In its 2022 Environmental and Social Risk Policy Framework, the bank commits to the goals set-out by the 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."¹⁰⁵⁷ The bank also states its "efforts to finance the transition to a low-carbon, sustainable economy."¹⁰⁵⁸ However, these statements do not align with Bank of America's \$4.7 billion in fossil fuel expansion and current status as the fourth largest banker in fossil fuels.

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."¹⁰⁵⁹ By financing companies behind expansionist pipelines, including the Rio Bravo Pipeline Proj-

1051 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*. [\[LINK\]](#)

1052 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [\[LINK\]](#)

1053 Ibid.

1054 Ibid.

1055 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [\[LINK\]](#)

1056 BankTrack. (2020). *Bank of America*. [\[LINK\]](#)

1057 Bank of America Corporation. (2022, June). *Environmental and Social Risk Policy Framework*. [\[LINK\]](#)

1058 Ibid.

1059 Bank of America. (2022, June). *Environmental & social risk policy framework*. [\[LINK\]](#)

ect, the Golden Pass LNG project, and others, Bank of America is not engaging with local communities' opposition nor reducing the safety and health impacts from nearby fossil fuel activity. Bank of America is also a signatory of the PRI, which support institutions' responsibilities to respect human rights by the process of: "identify[ing] actual and potential negative outcomes for people, arising from investees" and "prevent[ing] and mitigat[ing] the actual and potential negative outcomes identified."¹⁰⁶⁰ By providing financing to Enbridge, whose Man Camps have contributed to human trafficking and threaten to perpetuate the MMIWG2S epidemic,¹⁰⁶¹ Bank of America is not in alignment with the PRI. Investing in companies at any level that result in the sexual abuse of Indigenous women is not identifying and preventing potential negative outcomes for people.

Bank of America's 2022 Environmental and Social Risk Policy Framework included that "for transactions in which the majority use of proceeds is attributed to identified activities that may negatively impact an area used by or traditionally 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"¹⁰⁶² (FPIC). 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.¹⁰⁶³ Bank of America's statement to respect FPIC and abide by legal treaties is not being implemented.

In its 2022 Human Rights statement, Bank of America reiterated its commitment to addressing "critical human rights issues, such as racial equality and economic opportunity and access to sustainable energy and water" and declared that its "policies and practices seek to respect and advance internationally recognized human rights and...strive to conduct...business in a manner consistent with the United Nations Universal Declaration of Human Rights, the International Labor Organization's (ILO) Fundamental Conventions and the United Nations Guiding Principles on Business and Human Rights (UNGPs)."¹⁰⁶⁴ Financing companies in the Permian Basin, which have been cited for emitting unsafe levels of sulfur dioxide emissions into communities with majority Latinx populations, 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 health¹⁰⁶⁵—is not addressing access to clean water nor is it in line with basic human rights outlined in the human rights declarations.

¹⁰⁶⁰ UNPRI. (2020, October 22). *Why and how investors should act on human rights*. [\[LINK\]](#)

¹⁰⁶¹ Lovrien, J. (2021, February 23). 2 arrests in human trafficking sting were Line 3 workers. *Duluth New Tribune*. [\[LINK\]](#)

¹⁰⁶² Bank of America Corporation. (2022, June). *Environmental and Social Risk Policy Framework*. [\[LINK\]](#)

¹⁰⁶³ Gover, D.L., Et al. Enbridge's Line 5 Pipeline. *Native American Rights Fund*. [\[LINK\]](#)

¹⁰⁶⁴ Bank of America. (2022). *Bank of America Human Rights Statement*. [\[LINK\]](#)

¹⁰⁶⁵ Rattan, S., Et al. (2017, June). Exposure to endocrine disruptors during adulthood: consequences for female fertility. *Journal of Endocrinology*. [\[LINK\]](#)

Bank of America has failed to enact sufficient policies restricting the financing of tar sands, fracked oil and gas, and coal projects. Bank of America's coal policy fails "to address the whole value chain" of the coal industry and is one of the three "banks [that] have no immediate strict exclusion criteria and can therefore continue to finance...301 major coal plant developers which are planning to develop at least 458 GW of new coal power capacity and to at least 180 coal mining companies which are planning to expand their coal mining capacity by at least 2434 million tonnes per year."¹⁰⁶⁶ In 2020, Bank of America publicly committed to measure the full carbon footprint of its financing.¹⁰⁶⁷ In order to fully assess its carbon footprint, the bank will also need to assess the carbon footprints of the individual companies and projects it finances. As an example, Bank of America is providing general corporate financing for Chevron's 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.¹⁰⁶⁸ According to a 2017 study looking at data from 1880 to 2010, Chevron is the fourth top emitter of greenhouse gasses and the third highest contributor to global mean surface temperature rise (2.68% of total rise);¹⁰⁶⁹ by continuing to finance and invest in Chevron and other fossil fuel companies, Bank of America is not adequately addressing its carbon footprint to reach net-zero carbon emissions by 2050.¹⁰⁷⁰ Additionally, Bank of America has signed onto the Net-Zero Banking Agreement (NZBA), which commits signatories to "aligning portfolios with a well-below 2°C and striving for 1.5°C trajectory..."¹⁰⁷¹ Providing financial support to Chevron and other oil and gas companies that are not aligned with 1.5°C emissions pathways,¹⁰⁷² Bank of America is not upholding its signed NZBA commitment.

In February 2021, Bank of America committed to Net Zero financed emissions by 2050.¹⁰⁷³ In an April 2022 press release describing Bank of America's 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."¹⁰⁷⁴ 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 is Bank of America's top fossil fuel client since 2016, having financed \$15.3 billion to the company;¹⁰⁷⁵ ExxonMobil is the oil company with the number one largest short term expansion plans according to the Global Oil and Gas Exit List.¹⁰⁷⁶

1066 Rocamora, C., Et al. (2022, September). Coal It A Day: Time for US banks to stop banking on coal expansion. *Reclaim Finance*. [\[LINK\]](#)

1067 Rainforest Action Network Et. al. (2020 March). *Banking on Climate change: Fossil Fuel Finance Report 2020*. [\[LINK\]](#)

1068 Abbott, M., Et al. (2023, March 20). New petrochemical facilities in Texas adding 1.1 million pounds of CO2 every year. *EnvironmentTexas*. [\[LINK\]](#)

1069 Ekwurzel, B., Et al. (2017, September 7). The rise in global atmospheric CO2, surface temperature, and sea level from emissions traced to major carbon producers. *Climatic Change*. [\[LINK\]](#)

1070 IPCC. *Special Report: Global Warming of 1.5 °C*. [\[LINK\]](#)

1071 UN Environment Programme. *The Commitment: Net-Zero Banking Alliance*. [\[LINK\]](#)

1072 Tong, D. (2022, May). Big Oil Reality Check: Updated Assessment of Oil and Gas Company Climate Plans. *OilChange International*. [\[LINK\]](#)

1073 Bank of America. (2021, February 11). *Bank of America Announces Actions to Achieve Net Zero Greenhouse Gas Emissions before 2050*. [\[LINK\]](#)

1074 Bank of America (2022, April 13). Bank of America Announces 2030 Financing Activity Targets as Part of Net Zero Commitment. *Press Release*. [\[LINK\]](#)

1075 Rainforest Action Network. (2023). *Banking on Climate Chaos: Fossil Fuel Finance Report 2023*. [\[LINK\]](#)

1076 Urgewald. A new Tool to Move Finance Out of Fossil Fuels. *Global Oil & Gas Exit List*. [\[LINK\]](#)

7b. Liberty Mutual

Liberty Mutual is the world's fifth largest property-casualty insurance company and the third biggest insurer of the power sector in the U.S., with 11% of the market share.¹⁰⁷⁷ 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.¹⁰⁷⁸ This lack of transparency makes it particularly difficult to calculate the extent of Liberty Mutual's, and other insurance companies', fossil fuel insurance. As of March, 2020, Liberty Mutual had at least \$8.9 billion invested in fossil fuel companies.¹⁰⁷⁹

Liberty Mutual remains one of the few large insurers that underwrites new coal projects; its 2019 coal policy fails to exclude support for new coal projects.¹⁰⁸⁰ Liberty Mutual has taken very weak steps to limit its fossil fuel exposure and is ranked as one of the top companies insuring the climate crisis by *Insure our Future*.¹⁰⁸¹

Liberty Mutual is a signatory of the PRI and claims to consider the UN Global Compact in its businesses; both of these initiatives aim to align with the Paris Agreement targets. Its ongoing insuring of carbon intensive projects and companies is not in alignment with these initiatives. Liberty Mutual's insuring of TMX (in addition to other undisclosed projects) 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.¹⁰⁸² TMX, which Liberty Mutual insured for \$250 million, has not "obtained the Free, Prior, and Informed Consent of impacted Indigenous communities"¹⁰⁸³ and 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. While 18 other insurance companies are refusing to cover TMX, Liberty Mutual has not as of the date of the report publication.¹⁰⁸⁴ It also insured the Mariner East Pipeline for an undisclosed amount.¹⁰⁸⁵ In contrast, Liberty Mutual claims that it has invested only \$1.5 million in "alternative energy."¹⁰⁸⁶

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.¹⁰⁸⁷ That same year, Liberty Mutual integrated an ESG Review to monitor the environmental impact of oil and gas in credit research.¹⁰⁸⁸ Although Liberty Mutual has previously committed to reducing its exposure to coal,¹⁰⁸⁹ its coal "poli-

¹⁰⁷⁷ Rainforest Action Network (2019, October). *Insurers and Climate Change*. [\[LINK\]](#)

¹⁰⁷⁸ Trans Mountain Canada Inc. (2021, February 22). "Request to Treat Certificate of Insurance Information Confidentially" submission to Canada Energy Regulator. [\[LINK\]](#)

¹⁰⁷⁹ Sulakshana, E. (2020, March 26). Liberty Mutual Stands With Tar Sands Oil. *Rainforest Action Network*. [\[LINK\]](#)

¹⁰⁸⁰ Reclaim Finance. (2022). *2022 Scorecard on Insurance, Fossil Fuels and the Climate Emergence (Insure our Future)*. [\[LINK\]](#)

¹⁰⁸¹ *Ibid.*

¹⁰⁸² UN Global Compact. *The Ten Principles of the UN Global Compact*. [\[LINK\]](#)

¹⁰⁸³ Biggs, S. (2020, May 27). URGENT: Insuring the Trans Mountain Pipeline. *Stand.earth*. [\[LINK\]](#)

¹⁰⁸⁴ *Ibid.*

¹⁰⁸⁵ Tsarouhis, F. (2020, June 22). Mass. State Legislators Urge Liberty Mutual To Cut Fossil Fuel Ties. *S&P Global Market Intelligence*. [\[LINK\]](#)

¹⁰⁸⁶ Liberty Mutual, (2021). *2021 Environmental, Social, and Governance Review*. [\[LINK\]](#)

¹⁰⁸⁷ 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*. [\[LINK\]](#)

¹⁰⁸⁸ Liberty Mutual (2019). *Environmental, Social and Governance Review 2019*. [\[LINK\]](#)

¹⁰⁸⁹ Turner, H.A (2020, October 20). Liberty Mutual Faces Backlash for 'Fueling the Climate Crisis.' *Property Casualty 360°*. [\[LINK\]](#)

cies leave the door open for the company to insure ‘hundreds of coal expansion projects.’¹⁰⁹⁰ 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.¹⁰⁹¹ The company’s involvement with the disastrous social and environmental impacts of the Alberta Tar Sands operation, via the Trans Mountain Expansion Project, 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.”¹⁰⁹² The insurance company 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...”¹⁰⁹³

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.¹⁰⁹⁴ 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.¹⁰⁹⁵ Liberty Mutual’s 2023 Sustainability Review acknowledged the financial risks associated with insuring fossil fuels,¹⁰⁹⁶ but did not mention any resolutions to phase-out fossil fuels.

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 heeding advocacy organizations and frontline communities’ calls to restrict oil and gas underwriting.¹⁰⁹⁷ 69% of Liberty Mutual board members are closely tied to, and are profiting from, extractive industries.¹⁰⁹⁸

7c. BlackRock

BlackRock is the world’s second largest investor in fossil fuels and the largest investor in companies building new coal plants, mines, and coal infrastructure.¹⁰⁹⁹ As of April 2023, BlackRock holds \$263 billion of investments in fossil fuel companies and holds large stakes in companies operating in the report’s case studies.¹¹⁰⁰ BlackRock is also the second top investor in fossil fuel bonds, with \$851 million in 22 fossil fuel developers.¹¹⁰¹ Notably, BlackRock holds approximately 8.2% in Phillips 66, 7.9% in ConocoPhillips, 7.1% in ExxonMobil, and 5.2% in Valero Energy.¹¹⁰² BlackRock remains the world’s largest asset manager with \$8.5 trillion managed as-

1090 Ibid.

1091 Ibid.

1092 Ibid.

1093 Ibid.

1094 Ibid.

1095 Jacobson, M. *No Miracles Needed*. [\[LINK\]](#)

1096 Liberty Mutual. *Corporate Sustainability*. [\[LINK\]](#)

1097 Sulakshana, E. Liberty Mutual’s Annual Policyholder Meeting is Fossil Fuel Business as Usual. *Rainforest Action Network*. [\[LINK\]](#)

1098 Bitar, Y. (2022, May 26). Liberty Mutual’s Climate Conflicts Deepen as Jay Hooley Takes Helm of Exxon Mobil Board. *Eyes on the Ties*. [\[LINK\]](#)

1099 Urgewald. (2023, April). Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors. *Investing in Climate Chaos*. [\[LINK\]](#)

1100 Ibid.; Ivanova, I. (2022, February 18) BlackRock touts investment in fossil fuels after threat from Texas official. *CBS*. [\[LINK\]](#); Fossil Free Funds. [\[LINK\]](#)

1101 Cuvelier, L., Et al. (2023, June). Report: Who’s managing your future? *Reclaim Finance*. [\[LINK\]](#)

1102 Fintel. (2023). BlackRock Inc. Ownership in COP / Conoco Phillips. [\[LINK\]](#); Fintel. (2023, March). BlackRock Inc. Ownership in XOM / Exxon Mobil Corp. [\[LINK\]](#) CNN Business.

sets,¹¹⁰³ giving the investment company considerable influence over numerous companies.¹¹⁰⁴ As of February 2022, BlackRock held \$109 billion invested 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.¹¹⁰⁵

In the past, 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.”¹¹⁰⁶ 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.¹¹⁰⁷

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.”¹¹⁰⁸ His stated main goal of the letter is “to ensure companies are going to generate durable, long-term investment returns for [its] clients.”¹¹⁰⁹ Financing climate destruction (i.e. coal, oil, and gas) is not a dependable long term plan for clients. 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 out of line 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, the UN Global Compact, and the Climate Action 100+. The UN Global Compact is a set of Ten Principles that establish human rights and environmental responsibilities.¹¹¹⁰ The Climate Action 100+ ensures that the “world’s largest corporate greenhouse gas emitters take necessary action on climate change.”¹¹¹¹ BlackRock adopted disclosure tools such as the Financial Stability Board Task Force on Climate-related Financial Disclosures (TCFD) and the Sustainable Accounting Standards Board, and expects the companies it finances to “include [a] plan for operating

(2023). Valero Energy Corp. [\[LINK\]](#); Simply Wall St. (2023, May 29). *Phillips 66 (NYSE: PSX) is a favorite amongst institutional investors who own 80%*. [\[LINK\]](#)

1103 Fossil Free Funds. [\[LINK\]](#)

1104 Norrestad, F. (2020, October). December Largest Asset Management Companies Worldwide in 2019, by Managed Assets (in trillion U.S. dollars). *Statista*. [\[LINK\]](#)

1105 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*. [\[LINK\]](#)

1106 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*. [\[LINK\]](#)

1107 *BlackRocks Big Problem. Vanguard and BlackRock are the world’s biggest investors in coal*. [\[LINK\]](#)

1108 Fink, L. (2023). *Larry Fink’s Annual Chairman’s Letter to Investors. BlackRock*. [\[LINK\]](#)

1109 *Ibid.*

1110 UN Global Compact. *The Ten Principles of the UN Global Compact*. [\[LINK\]](#)

1111 Climate Initiative Platform. *Climate Action 100+*. [\[LINK\]](#)

under a scenario where the Paris Agreement’s goal of limiting global warming to less than two degrees is fully realized ...”¹¹¹² BlackRock also signed the Vatican’s 2019 statement on carbon pricing and climate disclosure to disincentivize companies from engaging in high carbon emitting projects and advocate for greater incorporation of 2°C or lower scenarios.¹¹¹³ Finally, BlackRock is a member of the Climate Finance Partnership, a collection of actors from the public and private sector that share the belief that “aggressive action 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.”¹¹¹⁴

Despite signing numerous climate and human rights pledges, BlackRock has continued to support fossil fuel expansion. 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.¹¹¹⁵

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.¹¹¹⁶ At the end of 2022, BlackRock told the British Parliamentary committee that it will not stop investing in coal, oil and gas¹¹¹⁷ and in 2023, wrote a letter to Texas officials stating that it will continue to support fossil fuels.¹¹¹⁸

7d. Royal Bank of Canada (RBC)

In 2022, Royal Bank of Canada (RBC) was ranked the worst financier of fossil fuels, increasing its financing 4.18% from 2021.¹¹¹⁹ RBC accelerated fossil fuel financing as climate chaos continues to worsen. It was also a lead banker of tar sands oil and fracked oil and gas companies.¹¹²⁰ RBC funded fossil fuels with over \$252.48 billion from 2016 to 2022 making it one of the largest banks contributing to the climate crisis since the 2015 Paris Agreement.¹¹²¹

In 2022, RBC was the second largest banker of tar sands oil, financing Alberta Tar Sands Projects (e.g., Enbridge Line 3, Enbridge Line 5, Trans Mountain Pipeline) with \$4.82 billion of lending and underwriting.¹¹²² In terms of assets, the bank holds the second largest stake in conventional and unconventional oil and gas assets out of the world’s banks.¹¹²³ RBC currently has no policy terms for fossil fuel expansion and phase-out; it adopted a policy in 2020 to exclude financial support for oil and gas projects in the Arctic National Wildlife Refuge, but its

¹¹¹² Fink, Larry (2020). Letter to CEOs: A Fundamental Reshaping of Finance. [\[LINK\]](#)

¹¹¹³ EcoJesuit. (2019, June 15). *Energy CEOs Sign Joint Statements At The Vatican On Carbon Pricing And Climate Risk Disclosures*. [\[LINK\]](#)

¹¹¹⁴ Businesswire. (2020, January, 22). *Davos 2020 Climate Finance Partnership Press Release*. [\[LINK\]](#)

¹¹¹⁵ Fink, L. (2022). Larry Fink’s 2022 Letter to CEO’s: The Power of Capitalism. *BlackRock*. [\[LINK\]](#)

¹¹¹⁶ BlackRock’s Big Problem. *The Problem: Fossil Fuels*. [\[LINK\]](#)

¹¹¹⁷ Reuters. (2022, October 18). *BlackRock tells UK ‘no’ to halting investment in coal, oil and gas*. [\[LINK\]](#)

¹¹¹⁸ Ivanova, I. (2022, February 18). *BlackRock touts investment in fossil fuels after threat from Texas official*. CBS News. [\[LINK\]](#)

¹¹¹⁹ Rainforest Action Network. (2023). *Banking on Climate Chaos: Fossil Fuel Finance Report 2023*. [\[LINK\]](#)

¹¹²⁰ *Ibid*

¹¹²¹ *Ibid*.

¹¹²² *Ibid*.

¹¹²³ Corporate Mapping Project. *Royal Bank of Canada*. [\[LINK\]](#)

definition of the Arctic is very restrictive and does not prohibit projects in the broader region where the majority of assets are located.¹¹²⁴

By financing fossil fuel operations such as the Trans Mountain Expansion Project,¹¹²⁵ and companies such as Enbridge (behind Line 3 and Line 5 projects) and ConocoPhillips (behind the Willow Project in the Arctic),¹¹²⁶ RBC is not in alignment with the RBC Task Force on Climate-Related Financial Disclosures 2021 Report, which lists the following “commitments” and “actions.”¹¹²⁷

- To maintain Net Zero emissions in RBC operations
- To use climate data and other inputs to integrate material climate factors into 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.

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.”¹¹²⁸ RBC’s 2022 Climate Report states that its approach is “balancing people and planet...in a manner consistent with [its] goal to achieve net-zero in [their] lending by 2050.”¹¹²⁹ Additionally, 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.”¹¹³⁰ RBC is a key backer of ConocoPhillips, the company behind Willow Project, which the Native Village of Nuiqsut (NVN) and Nunamiut People reject; NVN highlights that the project threatens Inupiaq’s sovereignty, subsistence foods, air and water pollution, and traditional way of life.¹¹³¹ 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]. By continuing to finance ConocoPhillips, 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:¹¹³²

- Global Reporting Initiative
- Sustainability Accounting Standards Board

1124 Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [\[LINK\]](#)

1125 Meyer, C., Et al. (2018, June 5). More than \$1 billion will go through seldom-used Canadian account to buy pipeline. *Canada’s National Observer*. [\[LINK\]](#)

1126 Rainforest Action Network. (2023). *Banking on Climate Chaos: Fossil Fuel Finance Report 2023*. [\[LINK\]](#)

1127 Task Force on Climate-Related Financial Disclosures. (2021). 2021 Report. *RBC Global Asset Management* [\[LINK\]](#)

1128 Weber, B. (2020, October 2). RBC Announces New Restrictions On Financing Coal, Oil Developments. *Global News*. [\[LINK\]](#)

1129 Royal Bank of Canada. (2022). *Climate Report 2022*. [\[LINK\]](#)

1130 Royal Bank of Canada. *Indigenous Peoples and RBC*. [\[LINK\]](#)

1131 Native Movement. *The Threat of the Proposed Willow Project*. [\[LINK\]](#)

1132 BankTrack. (2020, May 4). *Royal Bank of Canada (RBC)*. [\[LINK\]](#)

- Financial Stability Board Task Force on Climate-related Financial Disclosures
- Carbon Disclosure Project

In February, 2021, Royal Bank of Canada announced its commitment to “net-zero emissions in its lending by 2050.”¹¹³³ While this is a step forward, RBC’s actual financial patterns reveal a trend in the opposite direction of “net-zero” (i.e., RBC increased fossil fuel financing by \$189 million in 2022 from 2021, and the bank remains one of the largest bankers of fossil fuels).¹¹³⁴

RBC is also a signatory of the EP and the PRI, and has stated its alignment with the Social Bond Principles.¹¹³⁵ 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), [f]lood 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...”¹¹³⁶ The Social Bonds Principles target vulnerable groups such as women and “excluded and/or marginalized populations and/or communities.”¹¹³⁷ Such targets are oxymoronic to the disastrous environmental and social impacts resulting from the companies and projects that RBC finances.

7e. JPMorgan Chase

JPMorgan Chase is reportedly the largest banker of the climate crisis, with over \$434 billion in fossil fuel financing since the Paris Agreement was adopted (2016-2022).¹¹³⁸ JPMorgan Chase financed over \$11 billion in 2022 on fossil fuel expansion alone, with the total 2022 fossil fuel financing exceeding \$39 billion.¹¹³⁹ JPMorgan Chase is the top banker of top companies active in fossil fuel expansion and Arctic oil and gas, second in financing of top fracking companies, and third in financing the top liquefied natural gas companies.¹¹⁴⁰ According to Urgewald, JPMorgan Chase has \$47,816 million invested in 314 companies related to oil and gas and coal.¹¹⁴¹

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.”¹¹⁴² Although JPMorgan Chase provided less financing to the fossil fuel industry from 2021 to 2022, continuing to finance fossil fuels and increasing its spending in liquefied natural gas, does not align with this commitment.

¹¹³³ RBC. (2021, February 25). *RBC announces progress on its climate strategy including new sustainable finance target of \$500 billion by 2025*. [\[LINK\]](#)

¹¹³⁴ Rainforest Action Network., Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance*. [\[LINK\]](#)

¹¹³⁵ Royal Bank of Canada. *Our Commitment to Sustainable Finance*. [\[LINK\]](#)

¹¹³⁶ International Capital Market Association (2020 June). *Social Bond Principles: Voluntary Process Guidelines for Issuing Social Bonds*. [\[LINK\]](#)

¹¹³⁷ Ibid.

¹¹³⁸ Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

¹¹³⁹ Ibid.

¹¹⁴⁰ Ibid.

¹¹⁴¹ Urgewald. (2023, August 8). *JPMorgan Chase (United States). Investing in Climate Chaos*. [\[LINK\]](#)

¹¹⁴² Harker, V. (2020, December 1). *Banks Attack Carbon Emissions Through Lending And Investment*. *Chamber Business News*. [\[LINK\]](#)

In JPMorgan Chase’s 2022 ESG Report, the company claimed that by signing the Non-Zero Asset Managers (NZAM) Initiative, JPMorgan Chase is committed to “engaging with clients to accelerate the global low-carbon transition to net zero within their portfolios, policy advocacy consistent with net zero ambitions...thoughtful governmental policy, investments in low-carbon technologies” noting that these “are all prerequisites for transitioning to a low-carbon world.”¹¹⁴³ Despite this statement, JPMorgan Chase continues to be the largest banker of climate chaos, financing companies behind pipeline expansion projects and new LNG terminals. 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) fossil fuel expansion companies.¹¹⁴⁴ Despite this effort, the majority of JPMorgan Chase shareholders voted against Proposal 6, essentially ignoring this call to action.¹¹⁴⁵

In JPMorgan Chase’s October 2021 Environmental and Social Policy Framework, 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” (FPIC).¹¹⁴⁶ Despite this internal policy, JPMorgan Chase continues to support clients who have demonstrated a disregard for tribal leadership and nonconsent.¹¹⁴⁷ 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 Line 3 and Line 5 oil pipelines (Section 6h.i.-6h.ii.). 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.”¹¹⁴⁸ The ongoing 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,¹¹⁴⁹ which is specified in the bank’s Code of Conduct.¹¹⁵⁰

JPMorgan Chase finances Enbridge,¹¹⁵¹ whose Line 3 brought in hundreds of transient construction workers, housed in Man Camps, into the heart of Ojibwe territory in rural Minnesota. Man Camps have been extensively linked to the MMIWG2S epidemic.¹¹⁵² By June 2021, seven months after construction had started, four Enbridge Line 3 workers had been arrested on charges of human trafficking.¹¹⁵³ The same risks now threaten Indigenous women near Line 5 construction near the Straits of Mackinac and along the banks of Lake Superior; this includes

1143 JPMorgan Chase, (2022, February 28). *2021 Environmental Social Governance Report*. [\[LINK\]](#)

1144 Mulva, K. (2023, April 13). Memo to JPMorgan Chase Shareholders: Stop Banking on Climate Chaos. *Union of Concerned Scientists*. [\[LINK\]](#)

1145 Silva, S. (2023, May 16). JPMorgan Chase Shareholders Vote against Climate Action, for Financing Fossil Fuel Expansion. *Union of Concerned Scientists*. [\[LINK\]](#)

1146 JPMorgan Chase, (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1147 Amazon Watch (2021, November 11). COP26: Frontline Communities Confront JPMorgan Chase on Violating Indigenous Rights and Financing the Climate Crisis [Press Release]. [\[LINK\]](#)

1148 Gravelle, W. (2023). WECAN Interview.

1149 JPMorgan Chase & Co. *Human Rights*. [\[LINK\]](#)

1150 JPMorgan Chase & Co. (2014, June). *Code of Conduct*. [\[LINK\]](#)

1151 Kirsch, A. (2020, November). Who’s Banking Enbridge? Rainforest Action Network. [\[LINK\]](#)

1152 C-Span. (2020, September 23). *Human Trafficking in the U.S.* [\[LINK\]](#); Jayasundara, D.S. Et al. (2014). Drilling Down: An Examination of the Boom-Crime Relationship in Resource-Based Boom Counties. *Western Criminology Review*, 15(1), 3-17. [\[LINK\]](#)

1153 The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

the Bay Mills Indian Community and Bad River Band of Lake Superior Chippewa.¹¹⁵⁴ By financing Enbridge, JPMorgan Chase is demonstrating 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 of color and Indigenous women and pollute the environment, 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, [they] will also phase out our remaining credit exposure to such clients."¹¹⁵⁵ JPMorgan Chase coal investments amount to less than 0.6% of JPMorgan Chase's overall fossil fuel spending between 2017 and 2020.¹¹⁵⁶ 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)."¹¹⁵⁷ The framework restricts transactions with clients involved in oil sands development by subjecting them to "enhanced review," however, it does not mention any prohibitions.¹¹⁵⁸

7f. Vanguard

As of 2023, Vanguard owned \$441.66 billion in fossil fuel investments, 8.78% of Vanguard's investment profile—an increased percentage since 2022.¹¹⁵⁹ Vanguard is the biggest funder of coal, with \$86 billion in industry holdings,¹¹⁶⁰ the world's largest funder of fossil fuels,¹¹⁶¹ and the second "leading fossil fuel firm with the greatest potential (by carbon reserves) to contribute to anthropogenic climate instability."¹¹⁶² Notably, Vanguard is also the top investor in newly-issued fossil fuel bonds, with \$1.2 billion in 18 fossil fuel developers.¹¹⁶³ 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 that are detailed in sections five and six.

1154 Stebbins, L. (2021, March 7). Tribes worry Line 5 tunnel construction could bring sex trafficking, violence to Native communities. *Michigan Advance*. [\[LINK\]](#); Jodway, B. (2022, April 29). Sex trafficking a concern with Line 5 'man camps,' Bay Mills says. Enbridge says it won't tolerate criminal or exploitive behavior among workers. *WCMU Public Radio*. [\[LINK\]](#); Sivaraman, B. (2022, January 31). How a Shoddy Environmental Review Could Cause a Catastrophic Oil Spill in Wisconsin. *EarthJustice*. [\[LINK\]](#)

1155 JPMorgan Chase. (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1156 Harder, A. (2020, February 24). JPMorgan Chase To Pull Support For Some Fossil Fuels. *Axios*. [\[LINK\]](#)

1157 JPMorgan Chase. (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

1158 JPMorgan Chase. (2020, February). *Environmental and Social Policy Framework as of February 2020*. [\[LINK\]](#)

1159 Fossil Free Funds. *Vanguard*. [\[LINK\]](#)

1160 *Ibid*.

1161 Urgewald. (2023, April). Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors. *Investing in Climate Chaos*. [\[LINK\]](#)

1162 Dordi, T., Et al. (2022, September). Ten financial actors can accelerate a transition away from fossil fuels. *Environmental Innovation and Societal Transitions*. [\[LINK\]](#)

1163 Cuvelier, L., Et al. (2023, June). Report: Who's managing your future? *Reclaim Finance*. [\[LINK\]](#)

In 2022, Vanguard announced a vague outline of disclosure expectations on the climate competence of boards of directors and risk mitigation.¹¹⁶⁴ 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.¹¹⁶⁵

Vanguard also pledged to “continue to raise [its] voice on climate change” in a 2020 statement.¹¹⁶⁶ Vanguard explicitly supports the Paris Agreement standards and “encourages companies to set targets that align with these goals and to disclose them.”¹¹⁶⁷ Vanguard is also a signatory and supporter of the PRI, the Task Force on Climate-Related Financial Disclosures (TCFD), and the Sustainability Accounting Standards Board. Despite expressing commitment to a climate response in 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.”¹¹⁶⁸ 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. In this time of climate emergency every sector is responsible for the phase out of fossil fuels and investment in renewable energy.¹¹⁶⁹ Vanguard currently continues to finance companies behind dangerous projects in all eight regions in this report; its largest single investment—\$ 34 billion— is in ExxonMobil, a giant and expanding operator in the Permian Basin where drilling is causing record-breaking numbers of earthquakes and releasing unsafe levels of sulfur dioxide into nearby communities.¹¹⁷⁰ Many companies financed 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.¹¹⁷¹ The ESG funds are based on a screening process that excludes companies involved in harmful activities, such as oil and coal producing companies,¹¹⁷² and companies that exhibit activities detrimental to the UN Global Compact Principles.¹¹⁷³ Vanguard also describes the ESG ETFs as an important step to the group’s goal to reach the UN Sustainable Development Goals,¹¹⁷⁴ however only 0.38% of its total \$8.1 trillion is invested in ESG funds.¹¹⁷⁵ In 2020, Vanguard voted against every climate resolution proposed by Climate Action 100+.¹¹⁷⁶ At

1164 Vanguard. (2022, April 28). *Our approach to climate risk*. [\[LINK\]](#)

1165 #BlackRocksBigProblem (2022, January 13). *Vanguard has made it from 1999 to 2010 on coal; it's time the firm acts like it's 2022*. [\[LINK\]](#)

1166 Vanguard. (2020, June, 24). *Vanguard Investment Stewardship Insights: How Vanguard Addresses Climate Risk*. [\[LINK\]](#)

1167 Ibid.

1168 Vanguard. (2022, April 21). *Vanguard's approach to climate change*. [\[LINK\]](#)

1169 Vanguard. (2022, April 21). *Vanguard's approach to climate change*. [\[LINK\]](#)

1170 Elser, H., Et al. (2020, October 8). *Petro-risksapes and environmental distress in West Texas: Community perceptions of environmental degradation, threats, and loss*. *Energy Research & Social Science*. [\[LINK\]](#)

1171 Ibid; Vanguard. *ESG Strategies*. [\[LINK\]](#)

1172 Fox Business. (2020, September). *Vanguard, Blackrock Add New Climate-focused ETFs As Demand Soars*. [\[LINK\]](#); Vanguard. *ETFs Explained*. [\[LINK\]](#)

1173 Vanguard. (2020, September 24). *Vanguard Launches ESG U.S. Corporate Bond ETF*. *CISION PR Newswire*. [\[LINK\]](#)

1174 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-Quiros, J.L., Et al. (2020, June 29). *Sustainable Development Goals and Investment Strategies: The Profitability of Using Five-Factor Fama-French Alphas*. *Sustainability*. [\[LINK\]](#)

1175 Vanguard S.O.S. *Vanguard's ship will sink*. [\[LINK\]](#)

1176 Ibid.

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.¹¹⁷⁷ Vanguard's exiting of climate initiatives and continuous financing of companies committing human rights abuses, has dire consequences in the short and long term for itself and the planet.

7g. Capital Group

Capital Group, along with BlackRock and Vanguard, is one of the top “ten investors with the most influence on the future use of fossil fuel reserves;” it is both responsible for a sizable amount of the world's greenhouse gas emissions and it has inordinate power to shift our world away from fossil fuels.¹¹⁷⁸ Capital Group is one of the world's largest investors in coal plant development; the company holds \$3 billion in bonds and shares in 13 coal plant developers.¹¹⁷⁹ In total, Capital Group has \$138.7 billion in fossil fuel investments, which accounts for 8.08% of Capital Group's investment profile, up two percentage points from last year. The company has no reported funds with sustainability mandates.¹¹⁸⁰

Capital Group systematically incorporates ESGs to screen its investments, and has “opted to engage with companies to encourage more climate-friendly action to accompany the transition to a low-carbon economy.”¹¹⁸¹ This involves “quantifiable financial and nonfinancial barometers, such as carbon emissions and executive compensation.”¹¹⁸² Capital Group's ESG policy statement, published in November 2020, reiterated support of the Paris targets, its “acknowledgement” of the Universal Declaration of Human Rights, and its “leverage” of the UN Global Compact,¹¹⁸³ which sets clear principles on businesses' human rights duties and responsibilities to protect the environment. In 2021, Capital Group 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.”¹¹⁸⁴ 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.¹¹⁸⁵ By financially supporting Equitrans Midstream Corporation (ETRN), the majority owner of the Mountain Valley Pipeline, whose compressor plants release neurotoxins that have been known to cause major fetal neurodevelopmental deficits,¹¹⁸⁶ Capital Group is not in alignment with these mentioned initiatives and human rights documents. According to an assessment by *ShareAction* in 2020, Capital Group is among the poorest performers on human rights.¹¹⁸⁷

1177 Urgewald. (2023, April). Investing in Climate Chaos: NGOs Release Data on Fossil Fuel Holdings of 6,500 Institutional Investors. *Investing in Climate Chaos*. [\[LINK\]](#)

1178 Dordi, T., Et al. (2022, September). Ten financial actors can accelerate a transition away from fossil fuels. *Environmental Innovation and Societal Transitions*. [\[LINK\]](#)

1179 Urgewald. (2021). Global Coal Exit List. [\[LINK\]](#)

1180 As You Sow. (2022). *Fossil Free Funds: American Funds*. [\[LINK\]](#)

1181 Capital Group. (2016, August). *Investing in a Context of Climate Change: Capital Group's Approach*. [\[LINK\]](#)

1182 Petersen, A. (2018, September 30). Our Distinctive Approach to Sustainable Investing. *Capital Group*. [\[LINK\]](#)

1183 Capital Group. (2020, November). *ESG Policy Statement*. [\[LINK\]](#)

1184 Capital Group. (2021). *2021 Task Force on Climate-related Financial Disclosures (TCFD) Report*. [\[LINK\]](#)

1185 Beacock, C., Et al. (2023, February 23). 5 trends driving energy markets in 2023. *Capital Group*. [\[LINK\]](#)

1186 Agency for Toxic Substances and Disease Registry (2022). Medical Management Guidelines for Formaldehyde. *Centers for Disease Control*. [\[LINK\]](#)

1187 ShareAction. (2020, May, 14). *The world's largest asset managers pay lip service to preventing human rights abuse*. [\[LINK\]](#)

Capital Group is a part of several alliances that aim to decarbonize financing, including the PRI and the International Corporate Governance Network (ICGN). 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.”¹¹⁸⁸ Capital Group has ratified and supports several frameworks and disclosures that seek to improve transparency on shares: the Sustainability Accounting Standards Board (SASB), which “identif[ies], manage[s] and report[s] [investors’] sustainability,”¹¹⁸⁹ the Investor Advisory Group (IAG), which “recognize[s] the need for consistent, comparable, and reliable disclosure of financially-material, decision-useful ESG information to investors,”¹¹⁹⁰ and the TCFD. In a statement released in October, 2020, Capital Group supported the TCFD and emphasized its monitoring of carbon intensive activities and promotion of low-carbon emitting alternatives.¹¹⁹¹ If Capital Group is serious about its commitment to the PRI and other agreements, then it must transition away from fossil fuels and stop investing in companies that are extracting and expanding fossil fuel infrastructure, and furthering human rights abuses.

1188 ICGN. *ICGN Policy Priorities 2019/2020*. [\[LINK\]](#)

1189 SASB. *SASB*. [\[LINK\]](#)

1190 SASB. *Support from Investors*. [\[LINK\]](#)

1191 Capital Group. (2020, October). Task Force on Climate-related Financial Disclosures (TCFD): *Statement of Support*. [\[LINK\]](#)

MARKET AND FINANCIAL RISKS



Action in Washington D.C. (Ashley Guardado | WECAN International)

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.¹¹⁹² 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.¹¹⁹³

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, continuing to finance 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 of risks to consider long term impacts.

Russia's invasion of Ukraine has resulted in a devastating war in Ukraine. As a result, world markets have drastically shifted, allowing fossil fuel projects to proliferate and fossil fuel companies to make record earnings.¹¹⁹⁴ This acceleration in oil and gas demand is temporary and occurring amidst an overarching global transition toward cleaner energy.¹¹⁹⁵ Financial institutions must center divestment from fossil fuels and 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.

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

¹¹⁹² Gelzinis, G., Et al. (2019, November 21). Climate Change Threatens the Stability of the Financial System. Center for American Progress. [\[LINK\]](#)

¹¹⁹³ Ibid.

¹¹⁹⁴ Rozansky, R., Et al. (2022, October). Gas Bubble U.S Edition 2022: Global Surge in New LNG Export Terminals Led by U.S., Russia, Canada. *Global Energy Monitor*. [\[LINK\]](#); IEA. (2023, February 28). *Natural gas markets remain tight as uncertainty persists around Chinese LNG demand and further supply cuts by Russia*. [\[LINK\]](#); Rainforest Action Network, Et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance* [\[LINK\]](#); Muta, T., Et al. (2023, February 16). The global energy crisis pushed fossil fuel consumption subsidies to an all-time high in 2022. *IEA*. [\[LINK\]](#)

¹¹⁹⁵ IEA. *Russia's War on Ukraine*. [\[LINK\]](#)

issuances of new fracking permits by 2024, 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 2035.¹¹⁹⁶ In 2023, the Environmental Protection Agency’s (EPA) proposed rule will require fossil fuel power plants to reduce their carbon footprint by at least 90% by 2040.¹¹⁹⁷ If implemented, this rule will slowly phase out conventional fossil fuel facilities. In October 2020, Capital Group recognized that regulatory risks affect its business model and its duty to provide low-carbon solutions.¹¹⁹⁸

Additionally, there has been an increase in regulation around climate risk oversight and reporting requirements on banks and asset managers themselves.¹¹⁹⁹ 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 exposes 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. For instance, by 2024, all federally regulated Canadian banks will be required to report climate-related risks.¹²⁰⁰ 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.¹²⁰¹ Other regulators are calling for more restrictions; a group of Senators, Representatives, and lawyers in Massachusetts denounced Liberty Mutual’s financial choices 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.”¹²⁰² 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. 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.”¹²⁰³ 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

1196 Office of Governor Gavin Newsom. (2021, November 11). *Governor Newsom Announces California has Joined New Global Alliance Committed to Ending Reliance on Fossil Fuels*. [\[LINK\]](#)

1197 Nature. (2023, June 13). *The US EPA’s proposed regulation could help to kill off fossil-fuel plants. Good on it*. [\[LINK\]](#)

1198 Capital Group. (2020, October). *Task Force on Climate-related Financial Disclosures (TCFD): Statement of Support*. [\[LINK\]](#)

1199 Climate Votes. (2023). *Shareholder Actions to Address Climate Risk to Banks Exposed to High-emitting Sectors*. [\[LINK\]](#)

1200 Ibid.

1201 Buckley, T., Et al. (2020, January 29). *\$7tn Investor BlackRock Announces Coal Divestment, But Not Across All Funds*. *Energy Post*. [\[LINK\]](#)

1202 Shemkus, S. (2020, June 18). *Massachusetts Lawmakers Ask Liberty Mutual To Stop Financing Fossil Fuels*. *Energy News Network*. [\[LINK\]](#)

1203 Sacks, B. (2023, June 9). *Lawmakers launch probe of insurance firms’ funding of fossil fuel industry*. *The Washington Post*. [\[LINK\]](#)

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.”¹²⁰⁴ Both Vanguard and BlackRock are large investors in Formosa—the company behind the giant plastic plant—which is expected to emit an extra 13 million tons of carbon pollution per year in this region. 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.¹²⁰⁵ In part due to increasing regulations, Formosa’s Clean Air Act license was suspended indefinitely. Despite this suspension and stricter EPA standards, Formosa continues to move forward with the project, claiming that it has received all the necessary permits to begin construction on its website.¹²⁰⁶ Changing EPA standards, stricter rules, and legal action could lead to stranded assets.¹²⁰⁷

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 warning about the threat of carbon financing to financial stability. Although over the last year, companies have been profiting off of fossil fuel expansion due to the war in Ukraine [see Section 7 for further analysis] 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. Because regulators have “a legal obligation to protect the prudential safety of banks and other financial firms,”¹²⁰⁸ 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.¹²⁰⁹

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.”¹²¹⁰ 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.”¹²¹¹

1204 UN News (2021, March 2). *Environmental racism in Louisiana’s ‘Cancer Alley’, must end, say UN human rights experts.* [\[LINK\]](#)

1205 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. [\[LINK\]](#)

1206 FG. *The Sunshine Project.* [\[LINK\]](#)

1207 LSE. (2022, July 27). *What are stranded assets?.* [\[LINK\]](#)

1208 Ford, G. (2020, August 10). Fossil Fuel Lending is a Financial Stability Issue. *Environmental Finance.* [\[LINK\]](#)

1209 Ibid.

1210 Bolton, P., Et al. (2020, January). The Green Swan: Central Banking and Financial Stability In The Age Of Climate Change. *Banque de France.* [\[LINK\]](#)

1211 Deloitte. *How insurance companies can prepare for risk from climate change.* [\[LINK\]](#)

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.”¹²¹²

Banks with carbon-intensive fundings are exposed to credit risk stemming from borrowers’ inability to repay their debts.¹²¹³ This can lead to higher “loss-given-default,” or banks losing money as a result of loan defaults.¹²¹⁴ 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%.¹²¹⁵ In a statement released in 2019, JPMorgan Chase acknowledged that increased regulatory risks caused by climate change can lead “to credit or investment losses for clients or the Firm.”¹²¹⁶ As one of the world’s top financiers of extreme oil and gas in Canada, 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 financing oil, gas, and petrochemical companies, e.g. RBC, JPMorgan Chase, and Bank of America.¹²¹⁷

Fossil fuel assets are increasingly depreciated.¹²¹⁸ It is estimated that the value of stranded assets for fossil fuels, i.e., assets that have lost their value, could surpass \$100 trillion by 2050.¹²¹⁹ 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.”¹²²⁰ LNG projects currently under construction will not recover their invested capital in the Net Zero Emissions by 2050 Scenario (NZE).¹²²¹ These stranded assets in LNG infrastructure are estimated to be worth \$75 billion, according to The International Energy Agency.¹²²²

Additionally, though fossil fuel companies have made windfall profits over the last year, the upward trend in climate litigation cases,¹²²³ increase in global climate change laws,¹²²⁴ and transition towards mandatory disclosures of climate change-related financial risks,¹²²⁵ 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, which further creates a risk of stranded assets.

¹²¹² Vanguard. *Vanguard's approach to ESG investing*. [\[LINK\]](#)

¹²¹³ Bolton, P., Et al. (2020, January). *The Green Swan: Central Banking and Financial Stability In The Age Of Climate Change*. *Banque de France*. [\[LINK\]](#)

¹²¹⁴ *Ibid.*

¹²¹⁵ Ceres (2020, October 19). *Financing a Net-Zero Economy: Measuring and Addressing Climate Risk for Banks*. [\[LINK\]](#)

¹²¹⁶ JPMorgan Chase (2019, May). *Understanding Our Climate-Related Risks and Opportunities*. [\[LINK\]](#)

¹²¹⁷ Hudson, M. Et al. (2019, January 11). *Finance, Fossil Fuels, and Climate Change: Networks of Power in Canada*. *Transnational Institute*. [\[LINK\]](#)

¹²¹⁸ 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*. [\[LINK\]](#)

¹²¹⁹ *Ibid.*

¹²²⁰ *Ibid.*

¹²²¹ International Energy Agency. (2021, May). *Net Zero by 2050*. [\[LINK\]](#)

¹²²² International Energy Agency. (2021, December). *World Energy Outlook 2021*. [\[LINK\]](#)

¹²²³ Grantham Research Institute on Climate Change and the Environment, Et al. (2021, July). *Global trends in climate change litigation: 2021 snapshot*. *C40 Knowledge*. [\[LINK\]](#)

¹²²⁴ Evans, S. (2017, May 11). *Mapped: Climate change laws around the world*. *CarbonBrief*. [\[LINK\]](#)

¹²²⁵ Beyene, W., Et. al. (2022, June). *Financial institutions' exposures to fossil fuel assets*. *European Parliament*. [\[LINK\]](#)

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.¹²²⁶ 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.”¹²²⁷ BlackRock owned 5% of Pacific Gas & Electric in 2018.¹²²⁸

Mercer’s report, *Investing in a Time of Climate Change—The Sequel*, projects that if global warming is limited to 2°C, the fossil fuel sector will see negative investment returns.¹²²⁹ Under this scenario, the report projects 100% absolute loss of value for the coal sector by 2041, 42% cumulative loss of value for the oil and gas sector by 2030, and 95% by 2050.¹²³⁰ Financial data forecasts show that “by 2035, almost 20% of global corporates could face rating downgrades if [climate] risk is left unmitigated” and a 2020 study found “that a firm’s creditworthiness was already being affected by exposure to climate risks, suggesting more downgrades could occur before 2035.”¹²³¹ A downgrade is an adverse adjustment in the rating of a stock’s predicted performance.¹²³²

Capital Group is aware of its exposure to stranded assets and downgrades, but as the third largest investor in the global coal industry, the asset manager is exposed to a depreciation of such shares.¹²³³ The EPA’s 2023 proposed new carbon pollution standards, which require coal operators to capture and bury their emissions using carbon capture and storage (CCS) technology or potentially face closure, heighten the risks of investors’ assets becoming stranded.¹²³⁴ Although CCS is a false solution to fossil fuel pollution [see Section 3 for further analysis],¹²³⁵ 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 2050,¹²³⁶ encounter risks of 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 antic-

1226 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*. [\[LINK\]](#)

1227 Gold, R. (2019, January 18). PG&E: The First Climate-Change Bankruptcy, Probably Not the Last. *The Wall Street Journal*. [\[LINK\]](#)

1228 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*. [\[LINK\]](#)

1229 Mercer (2019). *Investing in a time of Climate Change—The Sequel*. [\[LINK\]](#)

1230 Ibid.

1231 Ilango, H. (2023, April 18). More credit downgrades imminent under climate change but credit model overhaul yet to be seen. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1232 Hayes, A. (2022, May 27). Downgrade: What it is, How it Works, Warning Signs. *Investopedia*. [\[LINK\]](#)

1233 Bingler, J., Et al. (2021, February 25). Groundbreaking Research Reveals Top Financiers of the Global Coal Industry. 350. [\[LINK\]](#)

1234 Nature. (2023, June 13). *The US EPA’s proposed regulation could help to kill off fossil-fuel plants. Good on it.* [\[LINK\]](#)

1235 Robertson, B., Et al. (2022, September 1). Carbon capture: a decarbonisation pipe dream. *Institute for Energy Economics and Financial Analysis*. [\[LINK\]](#)

1236 Welsby, D., Et al. (2021, September 8). Unextractable fossil fuels in a 1.5 °C world. *Nature*. [\[LINK\]](#)

ipated, and with dire implications for investors, company employees and communities.¹²³⁷ In addition, between 2010 and 2019, over 50 U.S. coal companies fell into bankruptcy.¹²³⁸ The year 2020 was very bad for oil and gas: oil rigs shut down, major production paused, and at one point U.S. oil prices turned negative.¹²³⁹ The fossil fuel industry's destabilizing disruptions in 2020, exacerbated and created by the pandemic, "come as a growing number of investors, regulators and even energy giants are projecting bigger shifts in oil demand in the years to come..."¹²⁴⁰ Despite a recent boom in production and profit, regulatory and political trends indicate that in the long term, the fracking industry is poorly profitable to investors: "only a tenth of large shale companies reported positive cash flow in the first quarter of 2019."¹²⁴¹ Higher rates of fracking funding and the risk of a financing crunch threaten the fracking sector.¹²⁴²

8c. Insurance Risks

The degrading value of fossil fuel projects can also impact insurers. A report published by a set of climate advocacy networks pointed out that fossil fuels are losing their attraction as investments.¹²⁴³ According to UN Secretary General António Guterres, investing in fossil fuels is now considered "bad economics."¹²⁴⁴ The S&P 500 Index has shown a 43% fall in value for U.S. oil and gas companies, and a 98% fall in value for the U.S. coal industry over the last ten years.¹²⁴⁵ While Russia's invasion of Ukraine initiated a momentary increase in demand for the oil and gas supply, renewable energy investments have risen faster than fossil fuel investments for several years—especially during this anomalous period of acceleration in demand for global oil.¹²⁴⁶ Liberty Mutual received failing scores from Insure our Future's published scorecard, which evaluates insurance companies' fossil fuel policies and other aspects of climate leadership; Liberty Mutual was called out for being one of the few large insurance companies that continues to underwrite new coal projects.¹²⁴⁷

Insuring fossil fuel companies could lead to litigation risks: at the end of 2020, there were over 2,000 climate lawsuits in May 2022, a number that has more than doubled since 2015,¹²⁴⁸ and Kate Lennon, who leads Axa XL's climate change working group, said, "It can't be that long until some kind of legal precedent is set in terms of climate change liability."¹²⁴⁹ Because of climate material risks, insurance companies are decreasingly insuring fossil fuel companies.¹²⁵⁰ This is in part because insurers of fossil fuel companies face losses from weather changes as a consequence of climate change. It is estimated that "global catastrophes resulted in \$56

1237 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*. [\[LINK\]](#)

1238 Murray, J. (2020, May 6). Charting a decade of US coal company bankruptcies and plant retirements. *NS ENERGY*. [\[LINK\]](#)

1239 Domonoske, C. (2020, September 15). Oil Demand Has Collapsed, And It Won't Come Back Any Time Soon. *NPR*. [\[LINK\]](#)

1240 Ibid.

1241 Matthews, C.M., Et al. (2019, June 7). Frackers Scrounge for Cash as Wall Street Closes Doors. *The Wall Street Journal*. [\[LINK\]](#)

1242 Ibid.

1243 Mason, D., Et al. (2020, December). Insuring our Future: The 2020 Scorecard on Insurance, Fossil Fuels and Climate Change. *Insure Our Future*. [\[LINK\]](#)

1244 Holder, M. (2020, August 28). UN Chief António Guterres: 'The coal business is going up in smoke.' *Business Green*. [\[LINK\]](#)

1245 Mason, D. Et al. (2020, December).

1246 IEA. (2023). *Overview and key findings*. [\[LINK\]](#)

1247 Reclaim Finance. (2022). *2022 Scorecard on Insurance, Fossil Fuels and the Climate Emergency (Insure our Future)*. [\[LINK\]](#)

1248 Mallien, A. (2023, January 18). Trends in climate litigation. *Lyens Loeff*. [\[LINK\]](#)

1249 Mason, D. Et al. (2020, December).

1250 McComber, K. (2020, April 22). Why the Insurance Industry Must Stop Supporting Fossil Fuels. *Property Casualty 360°*. [\[LINK\]](#)

billion in insured losses in 2019, \$155 billion in 2018, and a record \$350 billion in 2017.”¹²⁵¹ Hence, oil and gas companies are seeing an increase of insurance groups opting out or refusing to cover damages (e.g., property damages).¹²⁵² A report released by Insure Our Future found that in the last five years, “41 insurers have withdrawn or reduced cover for coal” and “coal companies now face soaring premiums, reduced coverage and longer searches to access insurance.”¹²⁵³ Although Liberty Mutual has adopted a weak coal policy, the insurance company continues to insure the tar sands sector with no restrictions and still allows support for new coal projects.¹²⁵⁴ Moreover, in September, 2020, 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.”¹²⁵⁵

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.¹²⁵⁶ 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.”¹²⁵⁷

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.¹²⁵⁸

¹²⁵¹ Ibid.

¹²⁵² 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*. [\[LINK\]](#)

¹²⁵³ Insure Our Future. (2022, October 19). *2022 Scorecard on Insurance, Fossil Fuels, and the Climate Emergency*. [\[LINK\]](#)

¹²⁵⁴ Ibid.

¹²⁵⁵ Green America (2020, September 17). *In Industry first, 60 Companies Call on US Insurers to Drop Fossil Fuels*. [\[LINK\]](#)

¹²⁵⁶ 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*. [\[LINK\]](#)

¹²⁵⁷ Insure Our Future. (2023, June 8). *One Year After Explosion in Freeport, 140+ Groups Demand Insurance Companies Stop Insuring Dangerous Methane Gas Expansion*. [\[LINK\]](#)

¹²⁵⁸ Tasman-Jones, J. (2019, November 4). Capital Group Named and Shamed for Voting Against Climate Action. *Portfolio Adviser*. [\[LINK\]](#)

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”¹²⁵⁹). 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.¹²⁶⁰ 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.¹²⁶¹ 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.¹²⁶² According to Ceres’ 2023 report, BlackRock, Capital Group, Vanguard, RBC, and JPMorgan Chase were ranked among the fifteen lowest ranking global asset managers voting in favor of climate-related proposals; significantly, among the 50 firms studied, Vanguard and BlackRock had some of the largest declines in voting support of climate-related proposals from 2021 to 2022—23% and 13% respectively—while RBC’s and JPMorgan Chase’s voting support also declined during this period.¹²⁶³ Additionally, Vanguard, Capital Group, and RBC were among the few managers holding shares in ExxonMobil that voted against a request for “an audited report on how the International Energy Agency’s Net Zero by 2050 pathway would affect the accounting underlying [ExxonMobil’s] financial statements.”¹²⁶⁴ A report published by economists working for JPMorgan Chase warned of dreadful environmental and financial risks of global warming.¹²⁶⁵ This acknowledgment spotlights the fact that JPMorgan Chase knowingly funds climate change.¹²⁶⁶ Liberty Mutual’s ongoing insurance coverage of Trans Mountain 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.¹²⁶⁷ 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.¹²⁶⁸ Similarly, Indigenous communities near the Willow Project, including the Native Village of Nuiqsut (NVN) and Nunamiut People, reject the project and have written letters and comments stating their concerns and imploring consultation.¹²⁶⁹

1259 Fulton, M., et al. (2015, July). Carbon Asset Risk: Discussion Framework. *World Resources Institute and Finance UNEP Initiative*. [\[LINK\]](#)

1260 *Ibid.*

1261 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*. [\[LINK\]](#)

1262 Mooney, A. (2020, October 25). Chris Hohn Blasts BlackRock and Vanguard Over Climate Change. *Financial Times*. [\[LINK\]](#)

1263 Ceres. (2023, February 13). *Hot and Cold: How Asset Managers Voted on Climate-Related Shareholder Proposals in 2022*. [\[LINK\]](#)

1264 *Ibid.*

1265 Greenfield, P., et al. (2020, February 9). JPMorgan Economists Warn Climate Crisis Is Threat To Human Race. *The Guardian*. [\[LINK\]](#)

1266 *Ibid.*

1267 Adriano, L. (2020, August 6). Major petition urges insurers to drop Trans Mountain coverage. *Insurance Business Canada*. [\[LINK\]](#)

1268 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*. [\[LINK\]](#)

1269 Nilsen, E. (2023, March 14). Biden administration approves controversial Willow oil project in Alaska, which has galvanized online activism. *CNN*. [\[LINK\]](#); Native Movement. *The Threat of the Proposed Willow Project*. [\[LINK\]](#)

The open letter from frontline organizations and allies demanding an end to insurance coverage 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:

“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.”¹²⁷⁰

¹²⁷⁰ (2023, June 8). *Stop Insuring Methane Gas Expansion*. [\[LINK\]](#)

RECOMMENDATIONS



No Business on a Dead Planet Sign (Markus Spiske | Upstash)

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 Protect¹²⁷¹

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.”¹²⁷²

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;¹²⁷³ 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.”¹²⁷⁴ 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.

¹²⁷¹ WECAN/DIP. (2018, May 3). *Calls For Justice Raised By Indigenous Women's Divestment Delegation During Meetings With Fossil Fuel Funders*. [\[LINK\]](#)

¹²⁷² United Nations. (2023, April 20). *Secretary-General's video message to the Major Economies Forum*. [\[LINK\]](#)

¹²⁷³ Forest Peoples Programme. (2020, March 11). *Discussion paper: Ground-truthing to improve due diligence on human rights in deforestation-risk supply chains*. [\[LINK\]](#)

¹²⁷⁴ Ibid.

JPMorgan Chase, Bank of America, 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 emissions decline at least 50% below 2020 levels by 2030, reaching real zero by 2050 with the aim of achieving this target as soon as possible.
- IV. Exclude all financing to companies that do not have a clear and explicit timeline to align with limiting global warming to 1.5°C.
- V. Adopt a full exclusion policy regarding financing for coal power, tar sands, and fracked oil and gas (including LNG) projects, and/or companies.
- VI. Do not allow fringe actors to impact business from pursuing the necessary strategies that safeguard people and the planet, and are also at the core of good business practice that will generate long-term profit as well.
- VII. Commit to reducing the bank's climate impact to real-zero by 2050 at the latest, and explicitly define an immediate phase-out year-on-year from 2023. Define a plan and transparently share it publicly. Phase-out 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.*
- 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 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.
- XII. Increase financing for renewable energy that is low-carbon, ecologically friendly, adheres to human and Indigenous rights standards, and implements a Just Transition.

*JPMorgan Chase and Bank of America both 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, and
 - B. Halt voting in favor of U.S. energy-proposed resolutions which protect fossil fuel intensive activities.
- II. Make any engagement with companies transparent.
- 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 screens.
- 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 also at the core of good business practice that will generate long-term profit as well.
- VIII. Commit to reducing the institution’s climate impact to real zero by 2050 at the latest, and explicitly define an immediate phase-out year-on-year from 2023. Phase-out plans should be based on absolute emission reductions—Net Zero targets [see Section 3].
- 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 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 emissions decline at least 50% below 2020 levels by 2030, reaching real zero by 2050 with the aim of achieving this target as soon as possible.
- 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.

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 due diligence and implementing rights policies that adhere to international standards and their own statements about human and Indigenous rights.

Liberty Mutual and other insurance companies must:

- I. Halt insurance coverage of Trans Mountain, rule out insuring Line 3, Line 5, and the Willow Project, and exit the entire tar sands sector.
- II. Halt all insuring of coal, oil, and gas companies, existing or new, and adopt a coal policy that does not leave room for any insuring of coal projects.
- III. Make any engagement with companies transparent and available to the public.
- IV. Divest all assets (including those managed for third parties) from coal, oil, and gas 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 emissions decline at least 50% below 2020 levels by 2030, reaching real zero by 2050 with the aim of achieving this target as soon as possible.
- V. Commit to reducing its climate impact to real zero by 2050 at the latest, and explicitly define an immediate phase-out year-on-year from 2023. The phase-out plan should be based on absolute emission reductions—not Net Zero targets [see Section 3].
- 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.
- 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 due diligence and implementing rights policies that adhere to international standards and their own statements about human and Indigenous rights.

STEPS FORWARD



(Friends of the Earth Europe)

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.”¹²⁷⁵ 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.

It should also be noted that crises—such as a military conflict involving a significant fossil fuel exporter (e.g., Russia)—should not be used to increase fossil fuel extraction and development. As mentioned above, in response to Russia's invasion of Ukraine in 2022, there has been an aggressive effort to increase fossil fuel development in the U.S. and Canada to decrease reliance on Russian fossil fuels. 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 [see Section 7].

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 Transition¹²⁷⁶ toward decentralized and localized renewable energy solutions. Women and their wisdom must be centered in solutions to combating climate chaos and transitioning to the Just Transition. Studies and data across the world have shown that when women are leading and given agency, societies experience immense benefits.¹²⁷⁷ Research indicates that involving women in environmental management and decision-making leads to more successful outcomes and improvements in conservation.¹²⁷⁸ In this context, women in frontline communities are at the forefront of providing innovative solutions to challenge fossil fuel extraction and expansion.

For example, in Colorado, Patricia-Garcia Nelson, a Fossil Fuel Just Transition Advocate with GreenLatinos, is a legal designated representative for a new ballot initiative in progress to phase out new oil and gas permits, with the goal to end permitting for new fracking by

¹²⁷⁵ Rainforest Action Network, et al. (2023, April 12). *Banking on Climate Chaos: Fossil Fuel Finance*. [\[LINK\]](#)

¹²⁷⁶ Refer to Just Transition in definitions.

¹²⁷⁷ Morris, H. (2022, August 16). Women's Leadership Can Help Drive Climate Solutions. *UCDavis*. [\[LINK\]](#)

¹²⁷⁸ WECAN. *Why Women*. [\[LINK\]](#)

2030.¹²⁷⁹ In New Mexico, Indigenous frontline and youth organizations filed a lawsuit against the state to hold it accountable for its constitutional duty to protect the environment.¹²⁸⁰ A new app—*Pollution Reporter*¹²⁸¹—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.¹²⁸² 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.¹²⁸³ 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.¹²⁸⁴ These womens’ 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.¹²⁸⁵



Jo and Joy Banner, founders and directors of The Descendants Project (Jo Banner)

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.”¹²⁸⁶

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

1279 Garcia-Nelson. (2023, June 2). WECAN Interview.

1280 Pinto, K. (2023, June 30). WECAN Interview.

1281 Technoscience Research Unit. (2019). *Pollution Reporter. The Land and the Refinery*. [\[LINK\]](#)

1282 Gray, V. (2023, June 2). WECAN Interview.

1283 Harding, M. (2022, January 10). No one will fall through the crack. *American Press*. [\[LINK\]](#)

1284 The Descendants Project. [\[LINK\]](#)

1285 WECAN. *Women Speak*. [\[LINK\]](#)

1286 Espinosa, P. (2021, April). Patricia Espinosa: Climate calls for a unity of purpose. *United Nations*. [\[LINK\]](#)

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.¹²⁸⁷ 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.”¹²⁸⁸

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.¹²⁸⁹ Under this community-driven program, Wahleah is helping to enhance tribal sovereignty, energy independence, and actively involving community members on green energy solutions:



Wahleah Johns at 2022 Tribal Clean Energy Summit (U.S. Department of Energy | Flickr)

“There is so much potential and opportunity in clean energy on tribal lands, the benefits are undeniable—for our planet, for individual cost savings through efficiency, and for tribal energy sovereignty and resiliency.”¹²⁹⁰

Current climate agreements and pledges center around Net Zero goals. Net Zero approaches seek to “cancel out” emissions through land and market-based methods including bioengineering, Carbon Capture and Storage (CCS), carbon pricing, among others.¹²⁹¹ Net Zero plans hinge on CCS technologies which are costly, carry their own carbon price tags, and present dangers to frontline communities.¹²⁹² 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.”¹²⁹³

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

1287 Climate Justice Alliance. *Just Transition A Framework for Change*. [\[LINK\]](#)

1288 WeSolar. *Solving America's Solar Inequality Starts in the Neighborhood*. [\[LINK\]](#)

1289 Horn, P. (2021, April 22). Power Is In Our Hands: Native Renewables. *Copper Hewitt*. [\[LINK\]](#)

1290 Office of Indian Energy Policy and Programs. *Wahleah Johns, Director, Office of Indian Energy*. [\[LINK\]](#)

1291 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)*. [\[LINK\]](#); Gerhardt, T. (2021, November 10). The Problem With “Net Zero”. *SierraClub*. [\[LINK\]](#)

1292 Feit, S. (2021). Too Many (Loop)holes in the Net. *CIEL*. [\[LINK\]](#)

1293 Ibid.

eliminating the reliance on market-based carbon offsets. Real Zero goals require immediate divestment from fossil fuels, a moratorium on fossil fuel expansion (which can be done via presidential executive order), and a Just Transition to renewable energy.¹²⁹⁴ Net Zero frameworks are used widely in climate agreements and pledges and although Net Zero goals fail to address and combat emissions immediately, 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.¹²⁹⁵ 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.¹²⁹⁶ 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.¹²⁹⁷ In order to safely transition communities and workers currently reliant on the fossil fuel industry, the transition must provide 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 GDP as a measure of economic growth; however, GDP does not reflect how modern capitalism disproportionately benefits wealthy shareholders over workers.¹²⁹⁸ 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 Index is a single number developed from 33 indicators of wellbeing. The four pillars of the GNH index are: good governance, sustainable socio-economic development, cultural preservation, and environmental conservation.¹²⁹⁹ Currently, Bhutan is the only country calculating its GNH index.

The model of Buen Vivir, born from Quechua peoples of the Andes 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, ecologically balanced, and culturally sensitive.”¹³⁰⁰ This model would include a collaborative consumption and

1294 Mowery, L. (2022, August 4). Net Zero vs Real Zero Emissions and What It Means for Your Business's Goals. *GreenBusinessBureau*. [\[LINK\]](#)

1295 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*. [\[LINK\]](#)

1296 Climate False Solutions. (2021).

1297 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. [\[LINK\]](#)

1298 The Daily, (2022, April 24). The Sunday Read: 'How Many Billionaires Are There, Anyway?' *The New York Times*. [\[LINK\]](#)

1299 GNH Centre. The Four Pillars of Gross National Happiness. [\[LINK\]](#)

1300 Balch, O. (2013, February 4). Buen vivir: the social philosophy inspiring movements in South America. *The Guardian*. [\[LINK\]](#)

sharing economy, which lies in contrast with extractive capitalism.¹³⁰¹ 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.¹³⁰²

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.¹³⁰³

Addressing the climate crisis must involve addressing the disproportionate impact fossil fuel activity has on African American/Black/African Diaspora, Indigenous, Latina/Chicana, 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, 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 June 2023, the United States alone has suffered through nine climate disasters that cost over \$1 billion each; this number is expected to increase through the summer.¹³⁰⁴ This year was an extraordinary one for the planet: people were impacted across the globe by record-breaking temperatures, hurricanes, and massive floods.¹³⁰⁵ Unprecedented wildfires engulfed the East Coast and extraordinary tornadoes left fatalities over three times higher than in 2022.¹³⁰⁶ The 2018 UNFCCC Talanoa Dialogue underscored this essential time in history: “We are now at a turning point where policy-makers and civil society are realizing that managing the transition away from fossil fuels is an essential element of achieving climate goals.”¹³⁰⁷



Barge Boat on the East River in New York City with a sky filled with air pollution from wildfires. (James Andrews | Istock Photos)

1301 Ibid.

1302 Bristow, R. (2011, June 10). Collaborative consumption - Rachel Botsman live Q&A. *The Guardian*. [\[LINK\]](#)

1303 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*. [\[LINK\]](#)

1304 NCEI. (2023). U.S. Billion-Dollar Weather and Climate Disasters. *NOAA National Centers for Environmental Information*. [\[LINK\]](#)

1305 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*. [\[LINK\]](#)

1306 Livingston, I. (2023, April 6). Tornado deaths in 2023 are already more than double last year's total. *The Washington Post*. [\[LINK\]](#)

1307 Stockholm Environment Institute. (2018). *Aligning fossil fuel production with the Paris Agreement Insights for the UNFCCC Talanoa Dialogue*. [\[LINK\]](#)

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.¹³⁰⁸ 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.¹³⁰⁹ 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].¹³¹⁰

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.”¹³¹¹ 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.”¹³¹²

“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.”¹³¹³

1308 BeyondGrowth. (2023). *Beyond Growth 2023 Conference*. [\[LINK\]](#)

1309 Bester, L. (2022, September 23). What does a post-growth economy look like? One social entrepreneur explains. *World Economic Forum*. [\[LINK\]](#)

1310 See definition of post-growth

1311 Post Growth Institute. [\[LINK\]](#)

1312 The Bulletin. (2023, May 16). *Tim Jackson: Imagining a ‘post-growth’ economy*. [\[LINK\]](#)

1313 Ibid.

Kate Raworth, economist and Co-founder of Doughnut Economics Action Lab, further describes the necessity to create 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.”¹³¹⁴

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,¹³¹⁵ and children’s health and education improve¹³¹⁶—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.¹³¹⁷

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 health of their communities and the planet.¹³¹⁸ 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.”¹³¹⁹ 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.¹³²⁰ 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.¹³²¹ This includes expanding funding for energy-efficient technology that prioritizes disadvantaged communities, jumpstarting a circular economy, and increasing community engagement.¹³²² In June 2023, UN Secretary-General António Guterres expressed his frustration surrounding the lack of action and accountability in regard to solving the climate crisis:

1314 Raworth, K. (2018). A healthy economy should be designed to thrive, not grow. *TED*. [\[LINK\]](#)

1315 Shearman, S. (2019, July 30). Want to add trillions to the global economy? Black female founders. *Reuters*. [\[LINK\]](#)

1316 Heaton, T. (2015, December 11). Are Improvements in Child Health Due to Increasing Status of Women in Developing Nations? *Biodemography and Social Biology*. [\[LINK\]](#)

1317 WECAN. *Why Women*. [\[LINK\]](#)

1318 Climate Justice Alliance. *Just Transition: A Framework for Change*. [\[LINK\]](#)

1319 Ibid.

1320 Justice Transition Alliance. *What is Just Transition*. [\[LINK\]](#)

1321 Biological Diversity. (2023, May 10). *A Better Path Forward to Achieving a Just and Renewable Energy Future*. [\[LINK\]](#)

1322 Biological Diversity. (2023, May). *Pursuing a Just and Renewable Energy System*. *Biological Diversity*. [\[LINK\]](#)

“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.”¹³²³

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.¹³²⁴ 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.”¹³²⁵ 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.”¹³²⁶

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.¹³²⁷ Indigenous Peoples’ vast body 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...”¹³²⁸

1323 Guterres, A. (2023, June 15). Press Conference by Secretary-General António Guterres at United Nations Headquarters. *United Nations*. [\[LINK\]](#)

1324 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. [\[LINK\]](#)

1325 Feminist Green New Deal. *Principles*. [\[LINK\]](#)

1326 Francis, K. (2021, December 13). Honoring Traditional Ecological Knowledge Is Critical. *UNETINC*. [\[LINK\]](#)

1327 Ibid.

1328 WECAN. (2020, May 28). *Structuring an Economy for People and Planet in the Time of Climate Crisis and COVID-19*. [\[LINK\]](#)

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.¹³²⁹ 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.”¹³³⁰

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.¹³³¹ The Energy Information Administration projected that more than half of new U.S. electric-generating capacity in 2023 has the potential to come from solar energy.¹³³² New studies find that renewables are by far the cheapest form of energy.¹³³³ Francesco La Camera, the Director General of the International Renewable 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.”¹³³⁴ Financial institutions have the opportunity to be a part of the rapidly growing future of renewable energy and to invest in frontline communities.

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.¹³³⁵ 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.¹³³⁶

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*¹³³⁷ and *Consent is Everybody’s Business: Why banks*

1329 Staudinger, C. (2021, February). St. John Takes, Marathon Takes. *Antigravity*. [\[LINK\]](#)

1330 Washington, B. (2020, November 25). WECAN Interview.

1331 Bird, L. Et al. (2020, May 12). Setting the Record Straight About Renewable Energy. *World Resources Institute*. [\[LINK\]](#)

1332 EIA. (2023, February 6). *More than half of new U.S. electric-generating capacity in 2023 will be solar*. [\[LINK\]](#)

1333 IRENA. (2022, July 13). *Renewable Power Remains Cost-Competitive amid Fossil Fuel Crisis*. [\[LINK\]](#)

1334 Ibid.

1335 ClimateFalseSolutions. (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

1336 Ibid.

1337 First Peoples Worldwide: University of Colorado Boulder. *Free, Prior and Informed Consent Due Diligence Questionnaire*. [\[LINK\]](#)

*need to act on free, prior and informed consent.*¹³³⁸ As Freda Huson (Unist’ot’en – Wet’suwet’en People), leader and spokesperson for the Unist’ot’en camps, describes:

“Right now the root of all evil is money. 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.”¹³³⁹

To begin to heal the abuses against the environment and harm done to African American/ Black/African Diaspora, Indigenous, Latina/Chicana, 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.

1338 Hawkes, S. (2019, August 20). Consent is Everybody’s Business: Why banks need to act on free, prior and informed consent. *Oxfam*. [\[LINK\]](#)

1339 Quid, 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)*. [\[LINK\]](#)



Indigenous leaders and civil society at an action honoring Missing Murdered Indigenous Women (MMIW), girls, and two-spirit relatives at COP27 in Egypt. (Katherine Quaid | 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/Chicana, 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/Chicanas, and low-income women. These negative 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. Man-Camps built during Enbridge Line 3 construction resulted in four arrests during human trafficking stings within a year.¹³⁴⁰ More Man Camps threaten Indigenous communities along Enbridge Line 5 construction.¹³⁴¹ By financing Enbridge, JPMorgan Chase, Royal Bank of Canada, Bank of America, BlackRock, Vanguard, and Capital Group are perpetuating safety threats to Indigenous women, breaking Ojibwe treaty rights, violating the right to Free, Prior, and Informed Consent, and endangering Anishinaabe treaty protected natural and cultural resources. 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. Proximity to fracking has been linked to adverse birth outcomes, including premature births and high risk pregnancies. Fossil fuel activity places additional burdens on women as primary caretakers. Health risks from pollution and fossil fuel 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

¹³⁴⁰ The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

¹³⁴¹ Williams N., (2021, September 29). Enbridge's long-delayed Line 3 oil pipeline project to start up Oct 1. *Reuters*. [\[LINK\]](#)

stay home and take care of the sick. The interlocking issues between caretaking and pollution can be seen in Weld County, 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.¹³⁴² Or in Michigan where Indigenous women who are water protectors fear that one day Line 5 will rupture and they will no longer be able to care for their families and community.¹³⁴³

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, 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 document 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.

1342 Garcia-Nelson, P. (2023, June 2). WECAN Interview.

1343 Gravelle, W. (2023, June 6). WECAN Interview.

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 2022, Human Rights Defender Memorial documented the deaths of over 400 people, with nearly half of them having lost their lives while defending land, environmental, and Indigenous Peoples' rights.¹³⁴⁴

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.¹³⁴⁵

1344 Front Line Defenders. (2022). *Global Analysis 2022*. [\[LINK\]](#)

1345 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.¹³⁴⁶ Gender and climate justice are at the core of WECAN's mission.¹³⁴⁷ African American/Black/African Diaspora, Indigenous, Latina/Chicana, 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.

¹³⁴⁶ WECAN. *Why Women*. [\[LINK\]](#)

¹³⁴⁷ WECAN. *About Women's Earth and Climate Action Network, International (WECAN)*. [\[LINK\]](#)