

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

Second Edition

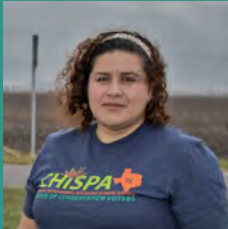


WE CAN

Women's Earth & Climate Action Network, International



This is a message we hear from all industries, about how they're 'a good neighbor,' and I keep saying that good neighbors don't try to kill you. Stop exploiting our communities. Stop taking advantage of us, and stop killing us. Stop financing corporations that do not benefit our communities. These projects don't even employ as many people as they say they are going to, and we are basically paying for them to come in here and poison us. There are property tax breaks and subsidies, and the community doesn't get any of the positive benefits of that. [These benefits] all go to their shareholders, and we're left with the burden.



Elida Castillo

PROGRAM DIRECTOR OF CHSPA TEXAS, DAUGHTER OF THE COASTAL BEND¹



The fossil fuel companies have these campers who stay in the campgrounds— these men who work on the pipeline. They look at us as less than... they look at us as expendable, disposable. They don't value women at all. They honestly think women are second class citizens.



Crystal Cavalier-Keck

(OCCANEECHI AND OF THE SAPONI NATION), CO-FOUNDER OF SEVEN DIRECTIONS OF SERVICE AND CHAIR OF ENVIRONMENTAL JUSTICE COMMITTEE FOR THE NAACP²



Everything is intersectional. Financiers of oil and gas need to understand how their support of polluting actors on the ground have cost us our own and our babies' health.



Roishetta Ozane

FOUNDER OF THE VESSEL PROJECT (A LOUISIANAN MUTUAL AID ORGANIZATION) AND COMMUNITY ORGANIZER FOR HEALTHYGULF

¹ Castillo E., (2022, May 12). WECAN Interview.

² Cavalier-Keck, C. (2022, May 18). WECAN Interview.

Second Edition

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Authors:

Shruti Patil: Research and Policy Associate at the Women's Earth and Climate Action Network (WECAN)

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

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

Conceptualization:

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

Contributors:

Jane Murray: Communications, ActionAid

Anna Kasradze: Policy and Communications, Institute for Policy Integrity at NYU School of Law

Reviewers:

Zorka Milin: Senior Advisor, Global Witness

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

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

Katherine Quaid (Nez Perce, Cayuse, Paiute): Communications and Outreach Coordinator at the Women's Earth and Climate Action Network (WECAN)

Cover Art:

Cover art created by **Katherine Quaid** (Nez Perce, Cayuse, Paiute). Cover features the following (L-R): **Roishetta Ozane** (photo credit: **Dayna Reggero**); **Casey Camp-Horinek** (photo credit: **Katherine Quaid**); **Elida Castillo** (photo credit: **Julie Dermansky**); **Dawn Goodwin** (photo credit: **Katherine Quaid**); and **Crystal Cavalier-Keck** (photo credit: **Kevin A. Smith**)

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Executive Summary



A woman walks with her children in front of a Shell refinery during a Christmas parade 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 threat of climate change.³ 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 harm⁴ due to the consequences from pollution, environmental degradation, and the climate crisis.⁵

Fossil fuel activity results in the pollution and degradation of air, water, and land.⁶ 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.⁷ Due to institutional patriarchy and male dominated power structures, sexism, and traditional capitalist labor valuations⁸, the pollution and destruction from fossil fuel extraction and infrastructure disproportionately impacts women in communities of color and low-income communities.⁹

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, 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 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

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

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

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

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

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

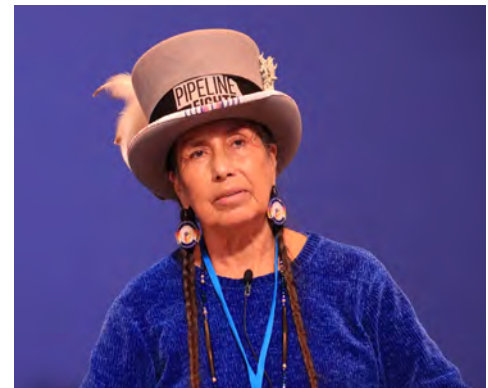
8 Volcovici, V. (2016, December 5). Trump advisors aim to privatize oil-rich Indian reservations. *Reuters*. [\[LINK\]](#)

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

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 to industrial carbon dioxide and methane.¹⁰ Compounding these harms are temporary male housing sites used for fossil fuel pipeline construction and oil field work, referred to as Man Camps, have been extensively linked to increased levels of abuse and safety threats¹¹ to Indigenous women, girls, and two-spirit people,¹² contributing to the Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2S) epidemic.¹³

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.¹⁴ Casey Camp-Horinek (Ponca Nation), Environmental Ambassador for Ponca Nation and Women’s Earth and Climate Action Network (WECAN) Board Member/Senior Project Lead, describes this connection:

“As a Matriarch of the Ponca Nation, I ensure the health and welfare of my Relatives: Mother Earth, Father Sky, and the future generations who follow. Our lifeways are dependent on caring and maintaining our water, air, and land – to destroy our land is to destroy our homes, our culture, and our identity as women.”¹⁵



Casey Camp-Horinek (WECAN)

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, in Louisiana, in a predominantly African American/Black/African Diaspora neighborhood, Formosa Plastics has proposed a new plastics manufacturing facility dubbed the “Sunshine Project.”¹⁶ If fully approved, this petrochemical complex will emit approximately 13 million tons of carbon pollution per year¹⁷ more than doubling the cancer risks in St. James Parish, and exacerbating the disproportionate impacts on African American/Black/African Diaspora neighborhoods.¹⁸ Because women continue to unequally shoulder the burden of family caretaking,¹⁹ when soil contamination and illness spawn from Formosa’s pol-

10 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* (144), 579-590. [\[LINK\]](#)

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

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

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

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

15 Camp-Horinek, C. (2022). WECAN Interview.

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

17 Surrusco, E.K. (2020, February 14). Cancer Alley Rises Up. *Earthjustice*. [\[LINK\]](#)

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

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

lution, African American/Black/African Diaspora women will be disproportionately impacted. 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.”²⁰ Notably, Houston’s eastern neighborhoods, which are downwind from flares and therefore the most exposed to flare chemicals, house a majority of Houston’s Latinx population.²¹ Flare toxins significantly increase the risk of preterm births and other health deficits for the mother and fetus.²² Mothers often have to take on enhanced care-taking responsibilities if children are disabled via flare chemicals, such that women living in East Houston are disproportionately impacted by flaring toxins (see Section 5d. for more details). Numerous other fossil fuel extraction and infrastructure projects are proposed across Appalachia, Colorado, California, the Gulf South, Texas, Minnesota, Wisconsin, Michigan, and Canada, posing inordinate biophysical threats to 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 the most egregious health impacts on low-income women of color. Twenty-two companies are identified as some of the worst actors in terms of pollution emissions, industry accidents (e.g. oil spills), current expansion of fossil fuel related projects/permits, overall detrimental harm to local communities, and frontline testimonials. Seven of the leading financial institutions backing these specific companies 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.

²⁰ Drane, A. (2022, February 7). Deer Park may join the list of Houston refineries flaring. *Houston Chronicle*. [\[LINK\]](#)

²¹ Best Neighborhood, (2022). *Race, Diversity, and Ethnicity in Houston, TX*. [\[LINK\]](#)

²² 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*. [\[LINK\]](#)

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"> · Chevron · Enbridge · ExxonMobil · Formosa Plastic Corporation · Marathon Petroleum · Occidental Petroleum · TotalEnergies · Phillips 66 · Valero · PDC Energy · Huntsman Corporation · Dow Inc. · EQT Corporation · Suncor · The Canadian Government · Pioneer Natural Resources · Duke Energy Corporation · Williams Companies Inc. 	<ul style="list-style-type: none"> · Canadian Government Trans Mountain Expansion Project · Chevron Wattenberg Gas Field · Enbridge Line 3 and Line 5 · Formosa “Sunshine Project” Ethane Cracker · Occidental Petroleum Permian Basin · ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields · Suncor Sarnia Oil Sands Refinery · EQT Corporation Mountain Valley Pipeline · Dow Inc. Union Carbide Corp South Charleston Facility
BlackRock**	Asset Manager	<ul style="list-style-type: none"> · Chevron · Enbridge · ExxonMobil · Formosa Plastic Corporation · Marathon Petroleum · Occidental Petroleum · TotalEnergies · ConocoPhillips · Shell · Phillips 66 · Valero · PDC Energy · Huntsman Corporation · Dow Inc. · EQT Corporation · Pioneer Natural Resources · Duke Energy Corporation · Williams Companies Inc. · Extraction Oil & Gas 	<ul style="list-style-type: none"> · Chevron Wattenberg Gas Field · Enbridge Line 3 and Line 5 · Formosa “Sunshine Project” Ethane Cracker · Occidental Petroleum Permian Basin · ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields · EQT Corporation Mountain Valley Pipeline · Shell Deer Park · Dow Inc. Union Carbide Corp South Charleston Facility
Capital Group**	Asset Manager	<ul style="list-style-type: none"> · Chevron · Enbridge · Occidental Petroleum · ExxonMobil · ConocoPhillips · Huntsman Corporation · Dow Inc. · Suncor · Pioneer Natural Resources · Duke Energy Corporation 	<ul style="list-style-type: none"> · Chevron Wattenberg Gas Field · Enbridge Line 3 and Line 5 · Occidental Petroleum Permian Basin · ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields · Suncor Sarnia Oil Sands Refinery · Dow Inc. Union Carbide Corp South Charleston Facility

JPMorgan Chase*	Investment Bank	<ul style="list-style-type: none"> · The Canadian Government · Chevron · Enbridge · ExxonMobil · Marathon Petroleum · Occidental Petroleum · TotalEnergies · Formosa Plastic Corporation · Phillips 66 · Valero · NOVA Chemicals · Dow Inc. · Suncor · Pioneer Natural Resources · Williams Companies Inc. 	<ul style="list-style-type: none"> · Canadian Government Trans Mountain Expansion Project · Chevron Wattenberg Gas Field · Enbridge Line 3 and Line 5 · Formosa "Sunshine Project" Ethane Cracker · Occidental Petroleum Permian Basin · ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields · Suncor Sarnia Oil Sands Refinery · NOVA Chemicals Corunna Cracker Expansion · Dow Inc. Union Carbide Corp South Charleston Facility
Royal Bank of Canada*	Investment Bank	<ul style="list-style-type: none"> · The Canadian Government · Enbridge · Marathon Petroleum · Occidental Petroleum · TotalEnergies · Shell · ExxonMobil · ConocoPhillips · Phillips 66 · PDC Energy · Dow Inc. · Sunoco · Suncor · Pioneer Natural Resources · Duke Energy Corporation · Williams Companies Inc. 	<ul style="list-style-type: none"> · Canadian Government Trans Mountain Expansion Project · Enbridge Line 3 and Line 5 · Occidental Petroleum Permian Basin · ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields · Suncor Sarnia Oil Sands Refinery · Shell Deer Park · Dow Inc. Union Carbide Corp South Charleston Facility
Bank of America*	Investment Bank	<ul style="list-style-type: none"> · Chevron · Enbridge · ExxonMobil · Marathon Petroleum · Occidental Petroleum · TotalEnergies · Shell · Phillips 66 · Huntsman Corporation · Dow Inc. · Sunoco · EQT Corporation · Suncor · Pioneer Natural Resources · Williams Companies Inc. 	<ul style="list-style-type: none"> · Chevron Wattenberg Gas Field · Enbridge Line 3 and Line 5 · Occidental Petroleum Permian Basin · ExxonMobil (i.e., Aera Energy) Kern County & Coalinga Oil Fields · Suncor Sarnia Oil Sands Refinery · EQT Corporation Mountain Valley Pipeline · Shell Deer Park · Dow Inc. Union Carbide Corp South Charleston Facility
Liberty Mutual***	Insurance Company	<ul style="list-style-type: none"> · The Canadian Government · Marathon Petroleum · NOVA Chemicals · Sunoco 	<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

***An abbreviated list 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 well below a 2° Celsius increase above pre-industrial levels, with the target of 1.5°C (further defined in Section 3).²³ Financial institutions that are financing, insuring, and investing in the

²³ Intergovernmental Panel on Climate Change. (2018, October). Special Report: Global Warming of 1.5 °C. *United Nations*. [\[LINK\]](#)

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 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.

Moreover, most of the seven financial institutions identified in this report, including Vanguard, BlackRock, Capital Group, Royal Bank of Canada, and Liberty Mutual, JPMorgan Chase, and Bank of America have committed to the Principles for Responsible Investment (PRIs), which assesses signatories' Environmental, Social and Corporate Governance (ESG) performances, and requests that companies adhere to international initiatives, including global human rights standards,²⁴ the right to Free, Prior and Informed Consent as outlined by the United Nations Declaration on the Rights of Indigenous Peoples,²⁵ and the UN Global Compact.²⁶ For example, by financially supporting Chevron, whose oil fields in Kern County are contaminating the drinking water with trichloropropane²⁷ and burdening Latina/Chicana mothers' caretaking roles,²⁸ Vanguard is not in alignment with the PRIs. Similarly, there is an alignment issue with JPMorgan Chase, Bank of America, and Royal Bank of Canada, who have signed the Equator Principles (EPs), which "support the objectives of the 2015 Paris Agreement and recognize that 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."²⁹

JPMorgan Chase finances EQT Corporation (i.e., Mountain Valley Pipeline LLC), whose Mountain Valley Pipeline (MVP) threatens to release toxins into soil and groundwater, which can later produce acid rain that continues to contaminate food and water supplies.³⁰ Regions impacted by fossil fuel development also have a marked increase in cancer rates.³¹ Blatant environmental racism and the clear lack of informed consent led the Virginia Air Pollution Control Board to deny the MVP's first air permit on environmental justice grounds. The relevant air permit was for the Lambert Compressor, part of the MVP Southgate extension, which would have pumped particulate pollution into a predominantly African American/Black/African Diaspora community in Pittsylvania County, Virginia.³² Additionally, out of state male workers brought in to build the MVP threaten women in these communities. 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, lives in Mebane, North Carolina which is the ancestral homeland of the Occaneechi and lies directly along the proposed pipeline route. Crystal Cavalier-Keck notes that engineers and workers detrimentally view "women as second class citizens" and this leads

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

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

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

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

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

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

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

31 Cavalier-Keck, C. (2022, May 18). WECAN Interview.

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

to furthering the Missing and Murdered Indigenous Women and Girls (MMIWG2S) epidemic.³³ Crystal Cavalier-Keck also adds that these workers add strain on local emergency services – with a substantial increase in assaults and disruptive behavior cases.³⁴

By financing EQT Corporation, 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 of color 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. The impacts from fossil fuel activity on women of color and low-income women clearly violate these human rights laws. For example, the threats to Indigenous women’s safety posed by the Trans Mountain Expansion Project are a threat to human rights. As another example, Enbridge’s Line 5 pipeline is planned to go through Indigenous territories where numerous Indigenous Peoples have not given consent for such construction,³⁶ which places 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 decline 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, clean energy future that supports communities, human and Indigenous rights, and workers who have been dependent on the fossil fuel industry.

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 completely unacceptable, and there must be accountability, justice, and remedies for these harms.

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 gen-

³³ Cavalier-Keck, C. (2022, May 18). WECAN Interview.

³⁴ Cavalier-Keck, C. (2022, May 18). WECAN Interview.

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

³⁶ Michigan Climate Action Network, (2021). *Shut Down Line 5—No Tunnel*. [\[LINK\]](#)

der-based violence by 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.³⁷



Members of Rise St. James protest in front of the Governor's Mansion in Baton Rouge, Louisiana. (Julie Dermansky)

Combating climate change and transitioning to a cleaner energy economy must place front-line 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 immense benefits. Research indicates that involving women in environmental management and decision-making leads to more successful outcomes and improvements in conservation.³⁸ For example, 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.³⁹ In many countries, women lead on environmental and social legislation when they are elected to public office.⁴⁰

³⁷ Rainforest Action Network (RAN), Et al. (2020, September 16). *Principles for Paris-Aligned Financial Institutions: Climate Impact, Fossil Fuels and Deforestation*. [\[LINK\]](#)

³⁸ WECAN. Why Women. [\[LINK\]](#)

³⁹ Habtezion, S. (2013). Gender and disaster risk reduction. *Global Gender and Climate Alliance: United Nations Development Programme*. [\[LINK\]](#)

⁴⁰ WECAN. Why Women. [\[LINK\]](#)

This report also serves to elevate frontline (i.e., communities living near concentrated fossil fuel activity) 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 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): Elida Castillo, Program Director of Chispa Texas, Daughter of the Coastal Bend; 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; Roishetta Ozane, Founder of The Vessel Project (a Louisianan mutual aid organization) and Community Organizer for HealthyGulf; Casey Camp-Horinek (Ponca Nation), Environmental Ambassador for Ponca Nation and Women's Earth and Climate Action Network (WECAN) Board Member/Senior Project Lead; Jacqueline Patterson, Founder and Executive Director of The Chisholm Legacy Project: A Resource Hub for Black Frontline Climate Justice Leadership; Dr. Jill Johnston, USC Associate Professor of Population and Public Health Sciences; Rosanna Esparza, Community Organizer and Environmental Researcher in Kern County; Barbara Washington, Member of RISE St. James; Elizabeth Perez (Community Organizer at the Central California Environmental Justice Network); Kanahus Manuel (Secwepemc & Ktunaxa Nations), Member of the Secwepemc Women Warriors; Joan Casey, Columbia University Mailman School of Public Health Assistant Professor of Environmental Health Sciences; Melina Laboucán-Massimo (Lubicon Cree Nation), Founder of Sacred Earth Solar and Director of Healing Justice at Indigenous Climate Action; Joye Braun (Cheyenne River Sioux), Organizer with the Indigenous Environmental Network and Leader of the Wakpa Waste Camp; Shamyra Lavigne, Member of RISE St. James; Rebekah Hinojosa, Gulf Coast Campaign Representative at the Sierra Club; Christine Rogers, Environment Worker for the Aamjiwnaang First Nation; Winona LaDuke (Anishinaabekwe (Ojibwe), member of the Mississippi Band Anishinaabeg); Tara Houska (Couchiching First Nation Anishinaabe), Attorney and Founder of Giniw Collective; 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; Anita Royston, President of the Pittsylvania County NAACP; Michelle Cook (Diné/Navajo), Human Rights Lawyer and Founder of Divest Invest Protect; Nayamin Martinez, Executive Director of the Central California Environmental Justice Network in Kern County; Freda Huson (Unist'ot'en–Wet'suwet'en People), Leader and Spokesperson for the Unist'ot'en camps.

Introduction



A young girl rides her bike in front of trailer homes near a coal-fired power plant in Raymond, West Virginia. (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.⁴¹ For example, more frequent and intense heat waves, caused by the changing climate and accelerated by fossil fuel extraction activity,⁴² disproportionately impact African American/Black/African Diaspora women's fertility and reproductive rights.⁴³ A study found that for every 10°F increase in temperature, there was an associated 8.6% increase in pre-term delivery, and for African American/Black/African Diaspora women, that average increase rises to 14.9 %.⁴⁴ Health risks from extreme heat will also disproportionately impact women through their traditional role as caretakers for the sick: mothers in Kern County, a fracking hot spot in Central California where it can get up to 110°F, are responsible for occupying children during the summer when it is too hot to go outside.⁴⁵

Section 6 presents eight regions exemplifying the severity and degree of health injustices that are perpetuated by fossil fuel development. These regions include: the Texas Gulf Coast



Winona LaDuke holds another water protector during a protest against Enbridge's Line 3 pipeline in northern Minnesota. (Honor the Earth)

⁴¹ Schieder, J., Et al. (2016, July 20). "Women's work" and the gender pay gap. *Economic Policy Institute*. [\[LINK\]](#)

⁴² Union of Concerned Scientists. (2008, July 16). *Global Warming FAQ*. [\[LINK\]](#)

⁴³ 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*. [\[LINK\]](#)

⁴⁴ Basu, R., Et al. (2017, April). The impact of maternal factors on the association between temperature and preterm delivery. *Environmental Research* (154), 109-114. [\[LINK\]](#)

⁴⁵ Perez, E. (2020, December 17). WECAN Interview.

(Section 6a.); Louisiana's "Cancer Alley" (Section 6b.); Central & West Texas (Section 6c.); California's Kern County and surrounding areas (Section 6d.); Colorado's Weld County and surrounding areas (Section 6e.); "Chemical Valley": Sarnia, Ontario and Michigan (Section 6f.); Alberta Tar Sands Pipeline System (Section 6g.); and Appalachia (Section 6h.). African American/Black/African Diaspora and Latina/Chicana women in frontline communities in Louisiana,⁴⁶ 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.⁴⁷

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. Lower income women from rural areas of Pennsylvania, West Virginia, Virginia, North Carolina, Ohio, and Texas have had their physical and mental health threatened by the fracking of the Marcellus, Utica, and Barnett Shales.⁴⁸ 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 sheds light on how the Covid-19 virus has exacerbated the health issues⁴⁹ in communities already battling fossil fuel induced asthma, cancer, and other health and respiratory problems.⁵⁰ Moreover, the virus has had specifically detrimental consequences for the women in the frontline communities presented in this report's case studies.⁵¹ For example, in "Cancer Alley," an area with already increased respiratory health maladies from fossil fuel pollution, African American/Black/African Diaspora women are simultaneously facing the most severe outcomes in terms of pollution-linked cancer and Covid-19 impacts.⁵²

Section 8 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 (PRIs) 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.

Section 9 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 cleaner 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.

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

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

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

49 Barbaro, M. (2020, November 19). The Pandemic Economy in 7 Numbers. *New York Times: The Daily*. [\[LINK\]](#)

50 Oppel, R.A.Jr., Et. al. (2020, July 5). The Fullest Look Yet at the Racial Inequity of Coronavirus. *The New York Times*. [\[LINK\]](#)

51 Barbaro, M. (2020, November 19).

52 Ramirez, R. (2020, May 4). Wake up Call. *Grist*. [\[LINK\]](#)

Section 10 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 11 describes in brief the solutions promulgated by community members in frontline communities 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 Transition⁵³ 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 women of color lead the intergenerational fight for climate justice. It is critical to address the interlocking issues of violence against the land and violence against 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.

⁵³ See Section 3, Definitions and Scope, for a definition of A Just Transition.

Definitions and Scope



Open pit coal-mining in West Virginia. (Delta Whiskey, Flickr)

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, fossil fuel refining, and fossil fuel transportation. 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.⁵⁴ 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.⁵⁵ The term Black rose to prominence with sociologists and activists like W.E.B. Du Bois,⁵⁶ Stokely Carmichael,⁵⁷ 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.⁵⁸ 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...”⁵⁹ 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.”⁶⁰

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.

Annual General Meeting (AGM) Season: A bank’s AGM Season begins after it publishes its end-of-financial-year report. European and North American banks usually hold AGMs between March and May, Australian banks in November and December, and Asian banks usually start in June.⁶¹ During an AGM, shareholders with voting rights assert their opinions on a variety of

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

55 Ibid.

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

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

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

59 Palmer, C. (2000). Defining and Studying the Modern African Diaspora. *The Journal of Negro History*, 85(1/2), 27-32. [\[LINK\]](#)

60 Ibid.

61 Simpson N., (2022, April 26). A beginner’s guide to AGM season. *BankTrack*. [\[LINK\]](#)

matters concerning the company. Shareholders use AGMs to collectively take stock of the last twelve months and look ahead to the next twelve. AGM season is an opportunity for shareholders to change companies' business policies from within and for the public to hold corporations accountable to pledges and commitments companies have made.⁶²

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 a material in road paving.⁶³ In the Alberta Tar Sands (Section 6g.), 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.⁶⁴ This lengthy refining process requires immense amounts of water and energy and is very expensive. CNN Money ranked the Kearn Oil Field (operated by ExxonMobil and Imperial Oil, see financial supporters in Section 1.) in the Alberta Tar Sands as the eighth most expensive energy projects in the world.⁶⁵ ABC called bitumen “the world’s dirtiest oil.”⁶⁶

Buen Vivir: In English, Buen Vivir roughly translates to “good living.” The Ecuadorian definition 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.⁶⁷

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.⁶⁸

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 single-use plastic items.⁶⁹ 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 2050.⁷⁰ As IEA’s Executive Director, Dr Fatih Birol, pointed out:

62 Eye on the Amazon. (2022, May 3). Four Ways Wall Street’s Annual General Meetings Impact the Amazon. *Amazon Watch*. [\[LINK\]](#)

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

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

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

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

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

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

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

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

“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.”⁷¹ Despite changing public attitudes on fossil fuels and plummeting oil and gas prices, an influx of new petrochemical projects are being constructed and increasingly proposed across the United States and Canada to accommodate for this loss.⁷² New and proposed plastic manufacturing refineries are concentrated in Appalachia, “Cancer Alley” in Louisiana, and the Texas Gulf South—all areas with communities that have already been devastated by the recent fracking boom. The urgency to curb plastic pollution is clear: without commitments from government and industry, 99 million tons of uncontrolled plastic waste will end up in the ocean by 2030.⁷³ 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 future⁷⁴ that is going to be hard to recover from.”⁷⁵ Many of these projects are now underway at the beginning of 2021.⁷⁶ 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 2020.⁷⁷

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.⁷⁸ 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.⁷⁹ The following are descriptions of categories of false solutions and how they fail to prevent climate chaos:

1. *Carbon Offsets:* Categorically, these can include hydroelectric projects, biomass plants, mine methane capture, fuel switching or efficiency projects, “forest management,” animal agriculture methane digesters, and nature based offsets.⁸⁰
 - a. *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

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

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

73 Parker, L. (2020, October 6). *Plastic pollution is a huge problem—and it’s not too late to fix it*. *National Geographic*. [\[LINK\]](#)

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

75 Gardiner, B. (2019, December 19).

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

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

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

79 Ibid.

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

same.⁸¹ Additionally, carbon offsets are not in alignment with successful forest management practices of Indigenous Peoples.⁸² 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.⁸³

2. *Carbon Pricing/Taxes*: Carbon pricing and taxes are fees imposed on polluters for their emissions. Carbon pricing and taxing has 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.⁸⁴
3. *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.⁸⁵ 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.⁸⁶ 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.⁸⁷ Economic research also reveals that there "are no significant market ends" for CCS and that "scaling of CCS is not economically viable."⁸⁸ Projected CCS infrastructure exacerbates particulate and toxin exposure to frontline communities.⁸⁹ These carbon offset mechanisms will disproportionately affect low-income communities of color and Indigenous communities.
4. *Net Zero Pledges*: Net Zero approaches seek to balance out produced greenhouse gasses and carbon removal via land and market based methods.⁹⁰ 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,⁹¹ Net Zero pledges are generally not legally binding, and many states do not have detailed annual schedules describing their path to Net Zero.⁹²

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

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

83 Seddon, N. Et al., (2021). Getting the message right on nature-based solutions to climate change. *Global Change Biology*, 27(8),1518-1546. [\[LINK\]](#)

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

85 Climate False Solutions (2021).

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

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

88 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)*. Retrieved January 25, 2022. [\[LINK\]](#)

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

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

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

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

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.⁹³ Two-thirds of the global care workforce is women, suggesting that care work is a significant source of work for women throughout the world.⁹⁴ Unpaid care work includes all unpaid services provided within the household, such as cooking, cleaning, and child-rearing.⁹⁵ 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.⁹⁶

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.⁹⁷ Plastic begins as a fossil fuel, and greenhouse gasses and/or pollutants are produced at every stage of its life cycle:

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



Plastic nurdles are a byproduct of petrochemical facilities and ethane crackers. Nurdles enter waterways, carrying chemical contaminants with them, and are the 2nd most common microplastic pollutants. Nurdles shown here are from Pennsylvania's Beaver Shell Petrochemical Complex. (Mark Dixon, Flickr)

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).⁹⁸ 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. Fur-

⁹³ International Labor Organization (ILO). *Care Work and Care Jobs for the Future of Decent Work*. [\[LINK\]](#)

⁹⁴ Ibid.

⁹⁵ Elson, D., (2000). UNIFEM Biennial Report: Progress of the World's Women 2000. *United Nations Development Fund for Women*, New York. [\[LINK\]](#)

⁹⁶ Bilecik N., (2020, July 21). Feminist Economics Perspectives on Covid-19: Caring Labor, Care Economy and Gender Equality. *Columbia Global Centers*. [\[LINK\]](#)

⁹⁷ Dunlea R. (2021, May 3). The Corpus Christi Water Wars. *Rolling Stone*. [\[LINK\]](#)

⁹⁸ Food and Agriculture Organization (2022). Indigenous Peoples. *Food and Agriculture Organization of the United Nations*. [\[LINK\]](#)

thermore, FPIC enables Indigenous peoples to negotiate the conditions under which the project will be designed, implemented, monitored, and evaluated.⁹⁹

Gender/ Sex:

- **“Sex”** refers to biological attributes, including physical and physiological features such as hormone levels, gene expression, chromosomes, etc.¹⁰⁰ 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.¹⁰¹

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.”¹⁰² 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.

Hydraulic Fracturing (“Fracking”): Fracking is a technique that involves injecting water, sand, and chemicals into bedrock to access oil and/or gas from geothermal reservoirs,¹⁰³ which has been increasingly used from the 2000s onwards. It pollutes groundwater, contaminates surface water, and destroys species’ habitats.¹⁰⁴ Although classified as a new, or unconventional method of extraction in the past, hydraulic fracturing is now being used in 95% of new wells.¹⁰⁵ A study in 2014 found that since the fracking boom began in 2000, over 15.3 million more U.S. residents live within a mile of a fracking well.¹⁰⁶ This technique is used extensively in areas of the U.S., including Texas and California. The report focuses on case studies that detail fracking expansion

⁹⁹ 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*. [\[LINK\]](#)

¹⁰⁰ Tseng, J. (2008, July). Sex, Gender, and Why the Differences Matter. *AMA Journal of Ethics*, 10(7), 427-428. [\[LINK\]](#)

¹⁰¹ Ibid.

¹⁰² University of Toronto Dalla Lana School of Public Health (2022). *Two-Spirit Community*. [\[LINK\]](#)

¹⁰³ US Geological Survey. *What is hydraulic fracturing?* [\[LINK\]](#)

¹⁰⁴ Soeder, D.J. (2018, July 10). Groundwater Quality and Hydraulic Fracturing: Current Understanding and Science Needs. *The Groundwater Association*, 56(6). [\[LINK\]](#)

¹⁰⁵ 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)*. [\[LINK\]](#)

¹⁰⁶ Lallanilla, M. (2018, February 10). Facts About Fracking. *Live Science*. [\[LINK\]](#)

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: In the history of relations between American 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” 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.

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.¹⁰⁷ The transition centers frontline communities and workers to envision and build new economies that are aligned with local communities and ecosystems in the present moment.¹⁰⁸ 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.¹⁰⁹ 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.”¹¹⁰

Latinx: WE CAN 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

¹⁰⁷ International Trade Union Confederation (2015, March). *Climate Frontlines Briefing - No Jobs on a Dead Planet*. [\[LINK\]](#)

¹⁰⁸ Climate False Solutions (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change*. [\[LINK\]](#)

¹⁰⁹ Sarma, N. (2020, October 9). *Future of Coal: The stranded asset problem*. *Observer Research Foundation*. [\[LINK\]](#)

¹¹⁰ Climate Justice Alliance. *Just Transition: A Framework for Change*. [\[LINK\]](#)

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.¹¹¹ 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.¹¹² 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.¹¹³ 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.¹¹⁴ Latinx is a description of culture, and a Latinx identifying individual can be of any race or color.¹¹⁵

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).¹¹⁶ Net Zero is “achieved” when the carbon emitted is equal to the carbon removed. Net Zero allows industries to continue polluting in the current moment by promising that they will remove emitted carbon later. There is no standardized method of calculating emissions, leaving what is considered as a “reduction in emissions” to the discretion of heads of state and company leaders (which often vary widely).¹¹⁷ 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.¹¹⁸

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.¹¹⁹ 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.¹²⁰ Cumulatively, Net Zero approaches greenwash climate action by creating the impression that Net Zero climate policies are more productive than they really are.¹²¹

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

112 Ibid.

113 Ibid.

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

115 Ibid.

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

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

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

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

120 Ibid.

121 Ibid.

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.¹²² 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.¹²³ 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.¹²⁴

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:

Real-Zero = Net Zero - 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.¹²⁵ 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.¹²⁶ As Canada warms at twice the rate as the rest of the world,¹²⁷ 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,¹²⁸ and emissions from the oil sands in Canada are approximately 30% more than what has been reported by the industry.¹²⁹ 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.¹³⁰ 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

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

123 Ibid.

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

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

126 Ibid.

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

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

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

130 Huseman, J. Et al. (2012).

is indisputable.¹³¹ Almost all of the tar oil extracted from Alberta's boreal forest is transported to the U.S. via pipelines, which the Trans Mountain expansion project and Enbridge's Line 5 pipeline would only exacerbate. This report focuses on case studies on Enbridge's project and how it perpetuates the extraction of the Alberta tar sands.

¹³¹ Leahy, S. (2019, April 11).

Research Methods



Women take action during the San Francisco Climate Strike in California. (Emily Arasim/WECAN)

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, eight 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 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. Sources were filtered for reliability as per the Ad Fontes Media Bias Chart; only sources that received distinctions of “fact reporting” or “complex analysis or mix of fact reporting and analysis” were reviewed. Ad Fontes Media Bias Chart only gives these distinctions to sources it determines to be safely reliable in content.¹³²

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,¹³³ 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.

¹³² Ad Fontes Media. *Media Bias Chart*. [\[LINK\]](#)

¹³³ 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 company's 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.

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 the 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, 2022. The scope of the shareholding was

analyzed at the most recent date: August 1, 2022. 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,¹³⁴ 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 opens the door to the import of further research on the subject.

¹³⁴ 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



A resident in a predominantly Hispanic East Houston neighborhood stands in front of her house located next to the Valero Houston Refinery. (Julie Dermansky)

Gendered and Race-Based Impacts of the Fossil Fuel Industry

5a. Environmental Racism and Breaches of Indigenous Rights

Fossil fuel extraction and infrastructure is disproportionately developed near communities of color, and on or near Indigenous territories¹³⁵ in the U.S. and Canada.¹³⁶ 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.”¹³⁷

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.¹³⁸ 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.”¹³⁹



Jacqueline Patterson (The Chisholm Legacy Project)

The impacts of fossil fuel activity violate internationally recognized substantive human rights, including the right to life, the right to healthy food and water, and the right to health,¹⁴⁰ 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 United States, and describes how her work empirically proves the relationship between environmental racism, fossil fuel activity (flaring), and reproductive injustice:

¹³⁵ Volcovici, V. (2016, December 5). Trump advisors aim to privatize oil-rich Indian reservations. *Reuters*. [\[LINK\]](#)

¹³⁶ Newkirk II, V.R. (2018, February 28). A New EPA Report Shows that Environmental Racism is Real. *The Atlantic*. [\[LINK\]](#)

¹³⁷ Ozane, R. (2022, May 19). WECAN Interview.

¹³⁸ Yavinsky, R. (2012, December 26). Women More Vulnerable Than Men to Climate Change. *Population Reference Bureau (PRB)*. [\[LINK\]](#)

¹³⁹ Patterson, J. (2022, June 5). WECAN Interview.

¹⁴⁰ Savaresi, A., Et. al. (2020, February 7). *Human Rights Abuses By Fossil Fuel Companies*. 350.org. [\[LINK\]](#)

“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.”¹⁴¹

Tribal sovereignty is integral to the survival of Indigenous Peoples—culturally, physically, and economically.¹⁴² 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 Right of Indigenous Peoples. Casey Camp-Horinek (Ponca Nation), Environmental Ambassador for Ponca Nation and Women’s Earth and Climate Action Network (WECAN) Board Member/Senior Project Lead, describes the connection between the loss of lives and fertile land due to resource extraction and Indigenous identities:

“In my small Ponca tribe, we hold a funeral nearly every week from fossil fuel-related illnesses. All our families have multiple cases of asthma, cardiovascular disease and industry-specific cancers. Our wells are so polluted our tribe must now buy water. Our land is so toxic, organic food can’t be grown within 16 miles. They call it economic progress. We call it environmental genocide.”¹⁴³

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.”¹⁴⁴ 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.”¹⁴⁵



A bulldozer destroys tree lines to clear land for Enbridge’s Line 3 pipeline in Minnesota. (Honor the Earth)

¹⁴¹ Johnston J., (2022, May 23). WECAN Interview.

¹⁴² Bishop, K. (2001, May). This Land Knows Me: Indigenous Land Rights. *Cultural Survival*. [\[LINK\]](#)

¹⁴³ Camp-Horinek, C. (2021, January 4). My tribe holds a funeral every week for people killed by fossil fuels. This isn't progress – it's environmental genocide. *Independent*. [\[LINK\]](#)

¹⁴⁴ National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). Reclaiming Power and Place. *Privy Council Office*. [\[LINK\]](#)

¹⁴⁵ Ibid.

5b. Caretaking Role

Fossil fuel activity increases women's burden as caretakers.¹⁴⁶ The land and water contamination near fossil fuel extraction and refining sites affects the area's biodiversity, which results in increased burdens on women and girls who may be responsible for food production, finding clean water, or caring for family members sickened by the contamination.

Due to persisting patriarchal structures, women continue to be disproportionately responsible for reproductive labor.¹⁴⁷ Reproductive labor includes unpaid activities, such as cooking, washing clothes, child and elderly care, and bearing children.¹⁴⁸ This work remains extremely undervalued by conventional economic models.¹⁴⁹ 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."¹⁵⁰



How air pollution impacts children, impacting caretaking responsibilities of women. (World Health Organization, Flickr)

As feminist scholar Dianne Rocheleau argues, the responsibilities of reproductive labor put 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."¹⁵¹ 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."¹⁵²

¹⁴⁶ Patterson, J. (2020, May 2). WECAN Interview.

¹⁴⁷ 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*. [\[LINK\]](#)

¹⁴⁸ Reproductive Labour and Care (2016). *Exploring Economics*. [\[LINK\]](#)

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

¹⁵¹ Barry, J.M. (2012). *Standing Our Ground: Women, Environmental Justice, and the Fight to End Mountaintop Removal*. *Ohio University Press*. [\[LINK\]](#)

¹⁵² Ozane, R. (2022, May 19). WECAN Interview.

Regular household and caretaking labor can become dangerous in families impacted by fossil fuel development and industries. Elida Castillo, Program Director of Chispa Texas, and daughter of the Coastal Bend (Section 6a.), describes how her grandmother developed a lifelong lung condition from asbestos exposure through Castillo's grandfather's laundry. Elida Castillo's grandfather worked at a petrochemical facility:

“My grandmother would launder his clothes, and she would be exposed to asbestos. She [developed a] lung condition for the rest of her life. She only got compensated a small monthly payment of less than \$100 because of her asbestos exposure through laundering my Grandpa's clothes.”¹⁵³



Elida Castillo (Julie Dermansky)

In Kern County, 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.¹⁵⁴ This doubles women's work: mothers are forced to become both the sole caretaker and the primary financial provider.¹⁵⁵ 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, California, 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].”¹⁵⁶

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. 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.

¹⁵³ Castillo, E. (2022, May 12). WECAN Interview.

¹⁵⁴ Migration Policy Institute. (2018). *Profile of the Unauthorized Population: Kern County, CA*. [\[LINK\]](#)

¹⁵⁵ Esparza, R. (2020, December 18). WECAN Interview.

¹⁵⁶ Esparza, R. (2020, December 18). WECAN Interview.

5c. Pollution

Globally, fossil fuel pollution is responsible for one in five deaths.¹⁵⁷ In the U.S., 350,000 premature, avoidable deaths in 2018 were attributed to fossil fuel related pollution.¹⁵⁸ Annually, the health impacts of fossil fuel activities in the U.S. is estimated to be up to \$886.5 billion.¹⁵⁹ The states with the highest fossil fuel related deaths per capita were Pennsylvania, Ohio, and West Virginia¹⁶⁰ (further discussed in Appalachia Section 6h.).



Workers clean up a “surface expression”, or oil spill, in Kern County, California. (Public Records Act, The Desert Sun)

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.¹⁶¹ Small particulates have been classified by the WHO as a Group 1 carcinogen.¹⁶² 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.¹⁶³

Additionally, refineries and petrochemical facilities frequently must “flare” to burn off excess hydrocarbon gas that cannot be reused or recycled by the plant. Flares can occur during the starting-up or shutting-down of facilities and during unplanned operational interruptions like power outages.¹⁶⁴ A 2021 University of Southern California nationwide study found that flaring correlated with increased risk of preterm births along with respiratory, cardiovascular, nervous system problems in surrounding communities.¹⁶⁵ 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.”¹⁶⁶ The study found that two of the three top regions with the highest flare exposure include the Permian Basin and Eagle Ford Shale (Section 6c.).¹⁶⁷ USC Environmental Health Scientist Jill Johnston noted:

¹⁵⁷ 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*. [\[LINK\]](#)

¹⁵⁸ Ibid.

¹⁵⁹ Machol, B., Rizk, S. (2013, February). Economic value of U.S. fossil fuel electricity health impacts. *Environment International*. [\[LINK\]](#)

¹⁶⁰ Vohra K., et. al. (2021, February 9).

¹⁶¹ 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*. [\[LINK\]](#)

¹⁶² Kink, K. (2020, March 13). Burning Fossil Fuels Heats the Climate. It Also Harms Public Health. *Yale Climate Connections*. [\[LINK\]](#)

¹⁶³ WHO (2019). *Exposure to Benzene: A Major Public Health Concern*. [\[LINK\]](#)

¹⁶⁴ ExxonMobil (2019, May 20). *Understanding Flares*. [\[LINK\]](#)

¹⁶⁵ Hopper, L. (2021, March 11). Health risk? More than 500,000 Americans live within 3 miles of natural gas flares. *University of Southern California (USC) News*. [\[LINK\]](#)

¹⁶⁶ Ibid.

¹⁶⁷ 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*. [\[LINK\]](#)

“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.”¹⁶⁸

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.¹⁶⁹ These mothers often have to take on enhanced caretaking responsibilities if children are disabled via flare chemicals.



Flaring in a compressor station located in Butler County, Ohio. (Ted Auch, FracTracker Alliance)

Liquefied Natural Gas (LNG) pipelines also pose a lethal threat in the case of a leak; LNG pipelines can leak odorless, colorless, highly flammable clouds of vaporized natural gas that hang near the ground.¹⁷⁰ These clouds can asphyxiate anyone who walks by.¹⁷¹ In 1996, a teenager and her boyfriend were killed while trying to alert neighbors of a natural gas leak.¹⁷² Not knowing butane is highly flammable and could ignite a vehicle, they drove into a cloud and were killed in a butane explosion ignited by their car.¹⁷³ Incidents like this happen when communities are not informed or prepared in the case of gas leaks. Disabled, elderly, and young individuals as well as their caretakers (most often women) face additional barriers to a safe evacuation. 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 income¹⁷⁴—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 8.7 million deaths worldwide.¹⁷⁵ 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.”¹⁷⁶ In 1970 and 1980, Imperial Oil, an ExxonMobil subsidiary, acknowledged the concerns that fossil fuel derived air pollution caused “among mothers who worried about pos-

¹⁶⁸ Hopper, L. (2021, March 11).

¹⁶⁹ Cushing, L.J. Et. al. (2021, February 23).

¹⁷⁰ Englund W., (2021, June 3). Engineers raise alarms over the risk of major explosions at LNG plants. *The Washington Post*. [\[LINK\]](#)

¹⁷¹ Moss R., (2020, October 15). Are we Prepared? *Spotlight PA*. [\[LINK\]](#)

¹⁷² Ibid.

¹⁷³ Ibid.

¹⁷⁴ 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 & Technology* 56 (12), 8599-8609. [\[LINK\]](#)

¹⁷⁵ Milman, O. (2021, February 9). ‘Invisible killer’: fossil fuels caused 8.7m deaths globally in 2018, research finds. *The Guardian*. [\[LINK\]](#)

¹⁷⁶ Ibid.

sible smog effects” and “birth defects among industry worker offspring.”¹⁷⁷ 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 our planet.¹⁷⁸ In the Texas Gulf Coast (Section 6a.), companies, such as Flint Hills Resources (FHR), are filing permits to increase their emissions caps; this would allow FHR to legally pollute predominantly Latinx communities far beyond safe levels.¹⁷⁹

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.¹⁸⁰ Similarly, the 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.¹⁸¹ 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.¹⁸² Frontline women across Louisiana, California, and Minnesota report “terrible smells,” “horrible tastes,” and “toxic...burn[ing] air” from pollution.¹⁸³ Barbara Washington, a Member of RISE St. James in St. James Parish, Louisiana, describes what she has seen in her community, where her younger sister died from cancer:

“I do know that many ladies have had breast cancer. I do know that many ladies have had hysterectomies. I do know that many ladies have kids born with certain illnesses. As a matter of fact in my family... at least two of the kids ... were born deaf... some are autistic. But mostly cancer ... in a lot of women... diabetes, heart problems, cholesterol... Our health problems are coming from a whole lot of stuff we are receiving from out of the air and pollution.”¹⁸⁴

Because toxic and polluting industries are disproportionately developed in communities of color, and on or near Indigenous territory¹⁸⁵ in the U.S. and Canada,¹⁸⁶ 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.¹⁸⁷ 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.¹⁸⁸

177 Ibid.

178 Ibid.

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

180 Sorensen, C. Et. al. (2018, July 10). Climate change and women's health: Impacts and policy directions. *PLoS medicine*, 15(7). [\[LINK\]](#)

181 Wahlang, B. (2018). Exposure to persistent organic pollutants: impact on women's health. *Review on Environmental Health*, 33(4). [\[LINK\]](#)

182 More will be described in the fertility discussion below

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

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

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

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

187 Mikati, I., Et. al. (2018, April). Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status. *American Journal of Public Health*, 108(4), 480-485. [\[LINK\]](#)

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

According to a report from the Clean Air Task Force and the National Hispanic Medical Association, more than 1 in 4 people in the United States live in areas that violate the federal air pollution standard for ozone, while more than 1 in 3 Latinx, or over 23 million Latinx people, live in areas that violate this standard.¹⁸⁹ 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;¹⁹⁰ 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.¹⁹¹ A higher percentage of Latinx children are entering the emergency room from asthma attacks than non-Latinx.¹⁹² These discrepancies are exacerbated by high levels of poverty and relatively low rates of health insurance coverage within Latinx communities.

Women are also impacted by air pollution through the additional burden the fossil fuel extractive industry imposes on women as caretakers.¹⁹³ 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.¹⁹⁴ 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.¹⁹⁵

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

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.¹⁹⁶ The analysis showed that people of color, low-income people, and non-native English speakers were especially impacted by water violations.¹⁹⁷ More than any other socio-demographic characteristics

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

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

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

192 Ibid.

193 Patterson, J. (2020, May 2). WECAN, International Interview.

194 Ibid.

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

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

197 Ibid.

analyzed, race, ethnicity, and language spoken were found to have the strongest relationship to decreased access to safe drinking water.¹⁹⁸

As one of the main industries responsible for water contamination, the fossil fuel industry directly contributes to this grave issue.¹⁹⁹ 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."²⁰⁰

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, including household labor, women are more exposed to polluted water.²⁰¹ 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



Water became flammable after fracking activities contaminated water wells in Weatherford, Texas. (Julie Dermansky)

¹⁹⁸ Ibid.

¹⁹⁹ Denchak, M. (2018, March 14). Water Pollution: Everything You Need to Know. *Natural Resource Defense Council*. [\[LINK\]](#)

²⁰⁰ Fedinick, K.P. Et al. (2020, March 27). Watered Down Justice. *Natural Resource Defense Council*. [\[LINK\]](#)

²⁰¹ 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*, 10(2), 79-104. [\[LINK\]](#)

wastewater, laden with heavy metals, radioactive materials, and other pollutants is stored in underground wells that can leach into waterways.²⁰² This water contamination can cause cancers, birth defects, and neurological damage.²⁰³ 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.²⁰⁴

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.²⁰⁵ 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 River), and when they do that, they use chlorine to clean [the water]. Now we have heightened levels of hydrochlorides in our water system. We have received letters from the Texas Commission on Environmental Quality stating that our water goes beyond federal limits of hydrochlorides in our water supply. [The letters] are basically saying that our water is toxic."²⁰⁶

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."²⁰⁷



Elizabeth Perez (CCEJN)

Water contamination also has a particular cultural significance for Indigenous women. The connection between women's roles as mothers and water is sacred. Kanahus Manuel (Secwepemc & Ktunaxa Nations), a Member of the Secwepemc Women Warriors and Indigenous Land Defender in British Columbia, speaks about the link between Indigenous mothers' defense of their land and defense of their children:

²⁰² Denchak, M. (2018, March 14). Water Pollution: Everything You Need to Know. *Natural Resource Defense Council*. [\[LINK\]](#)

²⁰³ Ibid.

²⁰⁴ Eugenio, R.N. Et al. (2018). Soil Pollution: A Hidden Reality. *Food and Agriculture Organization of the United Nation*. [\[LINK\]](#)

²⁰⁵ Patterson, J. (2020, May 2). WECAN Interview.

²⁰⁶ Castillo, E. (2022, May 12). WECAN Interview.

²⁰⁷ Perez, E. (2020, December 17). WECAN Interview.

“When they are destroying the water, it is like they are destroying our children. And we’re not going to let them destroy our children or kill our children or kill our water. We’re going to stand up. And it is going to take the women and the mothers because of that sacred connection that we have with the children and the nation. We birthed the nation.”²⁰⁸

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.²⁰⁹ 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, and reproductive defects.²¹⁰ Fossil fuel corporations avoid disclosing chemicals entered into the local ecosystem under the pretense of protecting “trade secrets.”²¹¹ Between 2011 and 2021, 368 million pounds of unidentified chemicals were labeled as “trade secrets” and subsequently hidden from the public in Weld County.²¹² 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.²¹³

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.²¹⁴ 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.²¹⁵ 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



A sardine fish kill in Redondo Beach, California. Fish kills can occur when waterways are polluted by industrial chemicals and poison fish. (Bruce Evans, Flickr)

208 Indigenous Climate Action. (2019, March). *Violence Against the Land is Violence Against Women*. [\[LINK\]](#)

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

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

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

212 Ibid.

213 Ibid.

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

215 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*, 26, 1-16. [\[LINK\]](#)

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.²¹⁶

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.²¹⁷ Yet 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.²¹⁸ 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.²¹⁹ More than 90% of human exposure to dioxins is through food, particularly meat and dairy products, fish and shellfish.²²⁰ 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.

Soil pollution from fossil fuel infrastructure also impacts the ability to grow food, and by extension, women's ability to feed their families. Brine spills increase salinity levels, which impacts 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."²²¹ 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 on plant tissues interfering with growth and causing plant death.²²² In particular, cadmium can cause a "reduction of root, stem and leaf growth, decreasing net photosynthesis and water use efficiency and altering nutrient uptake."²²³ 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.²²⁴ This in turn results in excessive salt levels that are lethal to plants and increased biocides that cause biodegradation.²²⁵ Water and air pollution also contribute to soil pollution. 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).²²⁶ When SO₂ and NO_x react with water, these pollutants create acid rain.

216 Ibid.

217 Epstein, P.R. Et al. (2011, February). Full Cost Accounting for the Life Cycle of Coal. *Annals of the New York Academy of Sciences*, 1219, 73-98. [\[LINK\]](#)

218 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*. 613-623. [\[LINK\]](#)

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

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

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

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

223 Ibid.

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

225 Pichtel, J. (2016, February 14). Oil and Gas Production Wastewater: Soil Contamination and Pollution Prevention. *Hindawi Publishing*. [\[LINK\]](#)

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

Acid rain later contaminates water and soil.²²⁷ Barbara Washington, a Member of RISE St. James, who lives a mile from Occidental's chemical plant in St. James Parish, Louisiana, describes her family's garden, "The okra... muscle green... none of that is doing well anymore... because the soil is contaminated."²²⁸

Similarly, 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. Firstly, 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 it." Secondly, 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."²²⁹



Crystal Cavalier-Keck (Crystal Cavalier-Keck)

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 of color and Indigenous women. Women are 40% more likely to report food insecurity in the U.S.,²³⁰ and women-headed households were 75% more likely to be food insecure than men-headed households.²³¹ 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.²³² 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).²³³ Additionally, due to the consumption of low-nutrient fast foods because of financial stress, these caretakers also suffer from obesity.²³⁴ Women in low-wage jobs also often forfeit income during

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

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

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

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

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

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

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

234 Ibid.

pregnancies and immediately after childbirth (due to poor parental leave policies).²³⁵ Food insecurity during pregnancy produced by insufficient income can have serious cognitive and developmental fetal deficits—food insecurity has a generational impact in this way.²³⁶

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 excess deaths on dangerously hot summer days could grow from the historical average of 1,360 to 13,860 deaths by the 2040s.²³⁷ The largest source of greenhouse gas emissions from human activity is the burning of fossil fuels.²³⁸

According to data from the Union of Concerned Scientists, extreme heat disproportionately affects communities of color: from 1971-2000, U.S. counties with more than 25% African American/Black/African Diaspora residents endured an average of 18 days with temperatures above 100°F, while counties with fewer than 25% African American/Black/African Diaspora residents endured an average of seven days with temperatures above 100°F.²³⁹ It is projected that, if the Paris Agreement goals are not met, U.S. counties with larger African American/Black/African Diaspora populations will face 72 “very hot days” per year, on average, compared to 36 days for counties with smaller African American/Black/African Diaspora populations.²⁴⁰

Disproportionate impacts from a phenomenon known as “Heat Islands” is the result of redlining, where communities of color are denied public services like banking, healthcare and parks, with their shading and cooling trees, and are instead targeted for environmentally toxic projects such as fossil fuel extraction sites and chemical plants.²⁴¹ Historically, African American/Black/African Diaspora neighborhoods were primarily impacted by redlining and today this injustice continues, now also impacting Latinx and Indigenous communities.²⁴² Heat Islands²⁴³ 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.²⁴⁴ According to the American Economic Journal, up to 7% 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.²⁴⁵

²³⁵ Ibid.

²³⁶ Ibid.

²³⁷ Constible, J. (2017, June 29). Killer Summer Heat: Paris Agreement Compliance could avert hundred of thousands of needless deaths in America's cities. *National Resources Defense Council*. [\[LINK\]](#)

²³⁸ U.S. EPA (2018). *Sources of Greenhouse Gas Emissions*. [\[LINK\]](#)

²³⁹ Lakhani, N. (2020, July 8). Killer heat: US racial injustices will worsen as climate crisis escalates. *The Guardian*. [\[LINK\]](#)

²⁴⁰ Ibid.

²⁴¹ Ibid.

²⁴² Perry, A.M. Et al. (2019, October 14). America's formerly redlined neighborhoods have changed, and so must solutions to rectify them. *Brookings*. [\[LINK\]](#)

²⁴³ Glantz, A. Et al. (2018, February 17). Modern-day redlining: How banks block people of color from homeownership. *Chicago Tribune*. [\[LINK\]](#)

²⁴⁴ Lakhani, Nina. (2020, July 28). Killer heat: US racial injustices will worsen as climate crisis escalates. *The Guardian*. [\[LINK\]](#)

²⁴⁵ Park, J.R., Et. al. (2020, May). Heat and Learning. *American Economic Journal*, 12(2), 306-39. [\[LINK\]](#)

Additionally, heat stress poses threats to pregnant women and can have disastrous consequences for fetal health. Studies have exposed links between heat exposure and premature birth,²⁴⁶ low birth weight,²⁴⁷ birth defect,²⁴⁸ and stillbirth.²⁴⁹ 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.²⁵⁰ Premature births further affect families by creating heavy financial costs and emotional tolls.²⁵¹ 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: “disparities in both the levels of extreme heat exposure and the magnitudes of the effects of exposure could help explain the racial gap in maternal health.”²⁵² 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.

The combination of systematic racism and 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 white women.²⁵³ According to studies, African American/Black/African Diaspora pregnant women are especially vulnerable to the increasing heat threat.²⁵⁴ Because women of color 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.²⁵⁵ 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.

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.”²⁵⁶ 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%.²⁵⁷ 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.”²⁵⁸ 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).²⁵⁹

246 Auger, N. Et. al. (2017, January 1). Risk of Congenital Heart Defects after Ambient Heat Exposure Early in Pregnancy. *Environmental Health Perspective*, 125(1). [\[LINK\]](#)

247 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*, 144, 158-164. 2015. [\[LINK\]](#)

248 Auger, N. Et. al. (2017, January 1).

249 Basu, R. Et al. (2017, April). The impact of maternal factors on the association between temperature and preterm delivery. *Environmental Research*, 154, 109-114. [\[LINK\]](#)

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

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

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

253 Ibid.

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

255 Ibid.

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

257 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*, 3(6). [\[LINK\]](#)

258 Ibid.

259 Human Rights Watch. (2020, October 23).

Extreme heat has also been associated with intimate partner violence.²⁶⁰ In the United States, 1 in 4 women and 1 in 9 men experience intimate partner violence.²⁶¹ 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...”²⁶²

5d. Fertility, Medical, and Reproductive Rights

The fossil fuel industry has 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.²⁶³

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.²⁶⁴ According to the WHO,²⁶⁵ 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.²⁶⁶

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.²⁶⁷ 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.²⁶⁸ Fossil fuel activity requires 24/7 monitoring, and requires lighted worksites to maintain safety.²⁶⁹

²⁶⁰ Linares, C. Et. al. (2018, December). Heat Wave and the Intimate Risk of Violence. *Science of the Total Environment*, 644, 413-419. [\[LINK\]](#)

²⁶¹ National Coalition Against Domestic Violence. *Statistics*. [\[LINK\]](#)

²⁶² Perez, E. (2020, December 17). WECAN Interview.

²⁶³ Pacheco, S.E. (2020, January 13). Catastrophic effects of climate change on children's health start before birth. *Journal of Clinical Investigation*, 130(2). [\[LINK\]](#)

²⁶⁴ 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)*. [\[LINK\]](#)

²⁶⁵ Bergman, A., Et al. (2013). State of the Science of Endocrine Disrupting Chemicals 2012. *World Health Organization*. [\[LINK\]](#)

²⁶⁶ 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*. [\[LINK\]](#)

²⁶⁷ Forsey, A., Bessonova E., (2020, March 6). 5 ways reducing pollution can improve equality for women. *Stockholm Environment Institute*. [\[LINK\]](#)

²⁶⁸ Physicians for Social Responsibility (2019, July). *Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking (Unconventional Gas and Oil Extraction)*; Sixth Edition. [\[LINK\]](#)

²⁶⁹ Straub L. (2015, September 1). After the Frack: Bright Lights in the Middle of Nowhere. *Earth Island Journal*. [\[LINK\]](#)

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.²⁷⁰ A study investigating records for 15,451 live births from 2007 to 2010 in Southwest Pennsylvania (part of Appalachia discussed in Section 6h.) found a significant association between proximity to unconventional gas development (fracking) and decreased birth weight, after accounting for a large number of contributing factors.²⁷¹ In the most exposed group, there was a significant increase in incidence of small for gestational age, newborns born smaller in size than normal for their gestational age, in the most exposed group.²⁷² 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.²⁷³

Infants born small for gestational age are at increased risk of perinatal morbidity, persistent short stature, and metabolic alterations in later life.²⁷⁴ A study in Pennsylvania (Section 6h.) 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.²⁷⁵ Women who lived in the closest proximity to the most active wells had the highest rates of these reproductive complications.²⁷⁶ 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.”²⁷⁷

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 unconventional natural gas development (UGD) activity and preterm birth and fetal death.²⁷⁸ In another study looking at UGD 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.²⁷⁹ 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.²⁸⁰ Another 2018 study published

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

271 Stacy, S.L. Et. al. (2015). Perinatal outcomes and unconventional natural gas operations in Southwest Pennsylvania. *PLoS One*, 10(6). [\[LINK\]](#)

272 Ibid.

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

274 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*, 59(1), 1–7. [\[LINK\]](#)

275 Casey, J.A., Et al. (2016, March). Unconventional natural gas development and birth outcomes in Pennsylvania, USA. *Epidemiology*, 27(2), 163. [\[LINK\]](#)

276 Ibid.

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

278 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*, 12(7). [\[LINK\]](#)

279 Konkel L. (2018, October 1). Drilling into Critical Windows of Exposure: Trimester-Specific Associations between Gas Development and Preterm Birth. *Environmental Health Perspectives*, 126(10). [\[LINK\]](#)

280 Butler, A.S., Et al. (2007). *Preterm birth: causes, consequences, and prevention*. National Academies Press.

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.²⁸¹

Rates of premature birth in the U.S. have been growing for five years in a row.²⁸² According to the CDC, African American/Black/African Diaspora women's pregnancies end in premature birth 50% more often than those of white women.²⁸³ 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.²⁸⁴ March of Dimes, an organization fighting premature birth in the U.S., found that Hispanic and Native American women also have worse birth outcomes than white women.²⁸⁵ 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]."²⁸⁶



Caption: Roishetta Ozane
(Roishetta Ozane)

In healthcare spaces broadly, independent of climate chaos, studies show that women face longer waits to be diagnosed with cancer²⁸⁷ and heart disease,²⁸⁸ are treated less aggressively for traumatic brain injury than men,²⁸⁹ and are less likely to be offered pain medication than men.²⁹⁰ Furthermore, people of color receive poorer quality care; doctors are more likely to describe Black patients as pain tolerant,²⁹¹ and non-compliant.²⁹² 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.²⁹³ 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.'"²⁹⁴

281 Janitz, A.E., et al. (2019, January). The association between natural gas well activity and specific congenital anomalies in Oklahoma, 1997–2009. *Environment International*, 122, 381–388. [\[LINK\]](#)

282 Hamilton, B.E., et al. (2020, May). Births: Provisional Data for 2019. CDC: U.S. Department of Health and Human Services. [\[LINK\]](#)

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

284 CDC. Stillbirth. [\[LINK\]](#)

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

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

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

288 Maas, A., Appelman Y., (2010). Gender differences in coronary heart disease. *Netherlands Heart Journal* 18, 598–603 (2010). [\[LINK\]](#)

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

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

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

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

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

294 Ibid.

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 will be impacted by fossil fuel development and ecological instability, and the embedded racial biases within healthcare decrease the likelihood of affected women receiving the care and treatment they require to stay as healthy as possible and care for their communities. Elida Castillo, Program Director of Chispa Texas and Daughter of the Coastal Bend (Section 6a.), describes how health impacts of fossil fuel activity can be exacerbated when combined with underlying systemic healthcare inequities.

“We live in a state where we don’t have access to good health insurance, or health insurance, period; and so a lot of these issues don’t go reported because people don’t have the finances to even seek medical attention. They know they’re experiencing problems, but if you’re not going to the doctor and you don’t have access to medical care, [these cases aren’t reported]. In our community, there are not enough hospitals or enough doctors in the area to see the population, and then the population cannot afford to go to the doctor.”²⁹⁵

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.”²⁹⁶



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

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.”²⁹⁷

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.²⁹⁸ The studies from different parts of the U.S. where fracking occurs demonstrate

²⁹⁵ Castillo E., (2022, May 12). WECAN Interview.

²⁹⁶ Esparza, R. (2020, December 18). WECAN Interview.

²⁹⁷ Boden, S. (2019, August 2). *Fracking Linked To Anxiety, Depression In Pregnant Women*. WESA 90.5 Pittsburgh’s NPR News Station. [\[LINK\]](#)

²⁹⁸ 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*, 10(2), 79-104. [\[LINK\]](#)

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.²⁹⁹

5e. Man Camps

One of the most well-documented 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.³⁰⁰ 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.³⁰¹ 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.³⁰² 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."³⁰³



People hold a banner searching for information on the disappearance of Claudette Osborne, a victim of the MMIW epidemic. ([the amazon, Flickr](#))

299 Casey, J.A., Et al. (2016, March). Unconventional natural gas development and birth outcomes in Pennsylvania, USA. *Epidemiology*, 27(2), 163. [\[LINK\]](#)

300 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*, 31(1), 113-150. [\[LINK\]](#)

301 Gibson, G., Et al. with Lake Babine Nation and Nak'azdli Whut'en. (2017, February). Indigenous Communities and Industrial Camps: Promoting healthy communities in settings of industrial change. *The Firelight Group*. [\[LINK\]](#)

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

303 Gibson, G., Et al. with Lake Babine Nation and Nak'azdli Whut'en. (2017, February).

The extractive industry's Man Camps contribute to the iniquitous Missing and Murdered Indigenous Women, Girls, and Two-Spirit People (MMIWG2S) epidemic.³⁰⁴ 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."³⁰⁵ 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."³⁰⁶ 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.³⁰⁷

Frontline Indigenous communities, advocacy organizations, and researchers have all consistently pointed out that "there is a direct correlation between increased rates of sexual abuse, trafficking, and domestic violence against women and children in regions where fossil fuel extraction companies set up Man Camps to house workers."³⁰⁸ 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%.³⁰⁹ In contrast, rates of violent victimization in the same period declined by 8% in the nation.³¹⁰

Because Indigenous women are not protected by law in the same way as non-Indigenous women, sexual violence near Indigenous territories becomes even more problematic for the victims. 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.³¹¹ As reported by *The Atlantic*, "In 2011, the U.S. Justice Department did not prosecute 65 percent of rape cases reported on reservations."³¹² This systemic injustice leaves the tribes with little to no control over the thousands of workers that move into Man Camps, and the 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 policymaking process that is abusive towards survivors.³¹³ 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

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

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

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

307 National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). Reclaiming Power and Place. *Privy Council Office*, 1a, 7. [\[LINK\]](#)

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

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

310 Ibid.

311 *Oliphant v. Suquamish Indian Tribe*. 435 U.S. 191 (1978).

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

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

violence. As Melina Laboucán-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.”³¹⁴



Melina Laboucán-Massimo
(Sacred Earth Solar)

Moreover, the increased rate of rape, demand for sex work, and sex trafficking, result in increased incidences of sexually transmitted infections (STIs) and HIV/AIDS; an issue that is heightened due to the lack of adequate health services and testing capabilities in these areas.³¹⁵ 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.³¹⁶

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.³¹⁷
- The rotational schedules, in combination with a lack of childcare, make it difficult for mothers to join the workforce.³¹⁸

The gender-based violence towards Indigenous women perpetuated by the extractive industry and its financial backers, also creates intergenerational trauma among Indigenous children.³¹⁹ Joye Braun (Cheyenne River Sioux), an Organizer with the Indigenous Environmental Network and Leader of the Wakpa Waste Camp, describes 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.”³²⁰



Joye Braun (WECAN)

³¹⁴ Quaid, K. (2020, October 19). Indigenous Women Leaders Warn Global Financial Companies to Stop Support for Tar Sands Oil [Press Release]. *Women Earth & Climate Action Network (WECAN)*. [\[LINK\]](#)

³¹⁵ Gibson, G., Et al. with Lake Babine Nation and Nak’azdli Whut’en. (2017, February). Indigenous Communities and Industrial Camps: Promoting healthy communities in settings of industrial change. *The Firelight Group*. [\[LINK\]](#)

³¹⁶ Ibid.

³¹⁷ National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). Reclaiming Power and Place. *Privy Council Office*, 1a, 584-88. [\[LINK\]](#)

³¹⁸ Ibid.

³¹⁹ Ibid.

³²⁰ Henn, J. (2020, October 19). Indigenous Women Leaders Warn Global Financial Companies to Stop Support for Tar Sands Oil. *Stop the Money Pipeline*. [\[LINK\]](#)

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.”³²¹ Despite this progress, new fossil fuel projects resulting in transient work camps within or near Indigenous communities continue to get approved and financed.

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 Man Camps, which can particularly affect Indigenous women; and various disparities in resource and information access between industry and people living amid drilling.”³²²

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.³²³ 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.³²⁴ 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. As Jacqueline Patterson, the Founder and Executive Director of The Chisholm Legacy Project, describes:

“These facilities are not only disproportionately in Black communities, they’re also disproportionately in low-income communities. So, you see this double jeopardy for Black women who have a statistically lower income placing Black women differentially in harm’s way. When we think about movement leaders, they are often Black women. Not only are they experiencing personal health impacts, they’re also holding the weight of the health impacts their children and family are facing. There’s the mental toll of leaving a community that is harmed collectively [because of fossil fuel development]—that’s a lot to put on the backs of individual Black women

³²¹ Savanna’s Act, S.R. 227, 116th Cong. (2020). [\[LINK\]](#)

³²² 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*, 70. [\[LINK\]](#)

³²³ 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, Discussion Paper No. 98*.

[\[LINK\]](#)
³²⁴ Ibid.

leaders. There's also the emotional and mental strain of being in this fight every day. When you look at this cumulatively, it is an extreme strain.”³²⁵

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.³²⁶ 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.”³²⁷

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.³²⁸ According to the study, 4 out of 100 pregnant women exposed to fracking activity develop anxiety or depression that they would not have otherwise developed.³²⁹ 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.³³⁰ This finding speaks not only to the impacts of fracking on women’s mental health but also to the health of the infant, as depression in mothers has been linked to developmental issues among infants.³³¹ 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), costs of chronic illness, 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

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

326 Malin, S. (2020, December).

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

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

329 Ibid.

330 Ibid.

331 Ibid.

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.”³³²

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,³³³ and the effects of fossil fuel development must be integrated in broader mental health campaigns.

³³² Ozane, R. (2022, May 19). WECAN Interview.

³³³ McKoy J. (2021, October 7). Depression Rates in US Tripled When the Pandemic First Hit—Now, They’re Even Worse. *Boston University*. [\[LINK\]](#)

Selected Regions



A house in Cancer Alley adjacent to a Valero Oil Refinery in Meraux, Louisiana. (Julie Dermansky)

Selected Regions

6a. Texas Gulf Coast

Project(s)	Companies operating in East Texas*	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) Vanguard, (2) BlackRock	N/A
(1) Pasadena Refining, (2) Ethylene Plant in Orange County, (3)	Chevron (i.e., Chevron Phillips Chemical)	(1) JPMorgan Chase, (2) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Terminal in Beaumont, (2) Sweeny Refinery	Phillips 66	(1) Bank of America (2) Royal Bank of Canada (3) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
Galveston Bay Refinery, Texas City	Marathon Petroleum	(1) Bank of America (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) BlackRock, (2) Vanguard	N/A
Shell Deer Park	Shell	(1) Bank of America, (2) JPMorgan Chase, (3) 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	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, (2) BlackRock	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	Enbridge (i.e. Annova LNG)	(1) Royal Bank of Canada, (2) JPMorgan Chase, (3) Bank of America	(1) BlackRock, (2) Capital Group, (3) Vanguard	N/A
(1) Bill Greehey Refinery, (2) Texas City Refinery, (3) Houston Refinery, (4) Port Arthur Refinery	Valero	(1) JP Morgan Chase	(1) Vanguard, (2) BlackRock	N/A
(1) Huntsman Petrochemical LLC Port Neches Facility, (2) Huntsman Petrochemical LLC Houston Facility	Huntsman Corporation	(1) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Union Carbide Corp Seadrift Plant, (2) Dow Chemical Co. Freeport Facility	Dow Inc.	(1) JP Morgan Chase, (2) Royal Bank of Canada, (3) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	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) JPMorgan Chase, (2) Royal Bank of Canada, (3) Bank of America	N/A	N/A
(1) Brookshire Petrochemical Plant, (2) Deer Park Petrochemical Plant, (3) Longview Petrochemical Plant,	Westlake Chemical	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A

All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fintel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem'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, especially in the Permian Basin, Eagle Ford Shale, and Texas Gulf Coast

region.³³⁴ 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.³³⁵

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.³³⁶ 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 state of Texas and a population of 72.7%³³⁷ African American/Black/African Diaspora and Latinx people.³³⁸ 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."³³⁹ Notably, Houston's eastern neighborhoods (downwind from flares) house numerous low-income communities of color and are therefore the most exposed to flare toxins.³⁴⁰ Air and water pollutants have increased impact on women's reproductive and endocrine health (as discussed in Section 5c.v.), such that women living in East Houston are especially vulnerable to flaring toxins.

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."³⁴¹ 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."³⁴² 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.³⁴³

The past and current happenings 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 Southeast Texas. 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;³⁴⁴ in 2014 Citgo was found guilty on two Clean Air Act counts of conviction;³⁴⁵ and in 2016, an oil spill rendered

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

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

336 Ibid.

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

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

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

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

341 Ibid.

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

343 Ibid.

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

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

the tap water for 85% of the county undrinkable.³⁴⁶ 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;³⁴⁷ Corpus Christi also has a poverty level five percentage points higher³⁴⁸ than the national average.³⁴⁹ The pollution and contamination of low-income Latinx communities is a clear example of environmental racism within the Texas Gulf Coast.

The dirty energy sector is rapidly growing in Southeast Texas. The fossil fuel industry has numerous other lucrative plans for plastic production in the future: as of August 2019, an additional 48 plastic-related expansion projects/plants for the Southeastern Texas region were permitted by the state or proposed by industry. Chevron Phillips Chemical (owned by Chevron Corporation and Phillips 66) is currently looking to expand its ethane cracker in Baytown, where African American/Black/African Diaspora and Latinx residents make-up over 60% of the population. Expansion is expected to be completed by 2023.³⁵⁰



A church next to ExxonMobil's Baytown Refinery in Baytown, Texas.
(Julie Dermansky)

Chevron Phillips Chemical is also looking to build a \$6 billion dollar ethylene plant in Orange County, and Entergy Texas has announced expansion plans of its power plant west of Bridge City.³⁵¹ The EIP reported that if just one-third of these plastic projects are carried out, an extra 14,192 tons of pollution will be authorized.³⁵² It is clear from the companies' plans that this pollution will be emitted near African American/Black/African Diaspora and Latinx communities.

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. Enbridge has made multiple development plans: a pier and oil export terminal over the eastern portion of Corpus Christi Bay (construction delayed until October 2022)³⁵³, and a proposed Rio Bravo Pipeline Project that would run between Nueces County and Brownsville County.³⁵⁴ Energy Transfer has also begun construction of the Gulf Run LNG Pipeline which will carry natural gas from Texas's Hayneille Shale to Louisiana (discussed further in Section 6b.) and the Texas Gulf Coast. Construction is expected to be completed by the end of 2022.³⁵⁵ Referring to the fracked gas companies looking to build facilities to ship liquefied natural gas in Texas,³⁵⁶ Rebekah Hinojosa, a Gulf Coast Campaign Representative at the Sierra Club, who lives in Brownsville, Texas stated:

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

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

348 Ibid.

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

350 Chevron Phillips Chemical, (2021, December 15). *Chevron Phillips Chemical to build propylene unit in Baytown, Texas*. [\[LINK\]](#)

351 Rogers, D. (2021, December 28). County cleans up, eyes CP Chem decision. *For the Record*. [\[LINK\]](#)

352 Phillips, A. Et al., (2019, September 5). Environmental Integrity Rapid Growth of Houston Plastics Industry Increases Air Pollution and Safety Risks. *Environmental Integrity Project*. [\[LINK\]](#)

353 Indigenous Peoples of the Coastal Bend, (2022, May 9). Press Release: Enbridge Construction Halted on Karankawa Settlement. *Indian Country Today*. [\[LINK\]](#)

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

355 Reuters (2022, February 17). Energy Transfer joins in rush to build Permian gas pipeline. *Reuters*. [\[LINK\]](#)

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

“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.”³⁵⁷



Rebekah Hinojosa (LinkedIn)

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. [Then 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.”³⁵⁸



Petrochemical plants along the Houston Ship Channel. (Louis Vest, Flickr)

³⁵⁸ Castillo, E. (2022, May 12). WECAN Interview.

From 2016-2021, JPMorgan Chase and Bank of America provided TotalEnergies, the company behind the Port Arthur Refinery, with \$2.8 billion and \$2.1 billion, respectively, in fossil fuel financing.³⁵⁹ As of December 31, 2021, Capital Group is also in the top 15 largest shareholders of TotalEnergies.³⁶⁰ As of March 31, 2022, Vanguard and BlackRock are the top two largest shareholders of Marathon Petroleum, the company behind the Marathon Galveston Bay Texas City facility, and as of December 21, 2021, Bank of America and Royal Bank of Canada are also significant shareholders of Marathon Petroleum.³⁶¹

359 Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

360 NASDAQ. *TotalEnergies SE (TTE)*. [\[LINK\]](#)

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

6b. 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) JPMorgan Chase, (3) Royal Bank of Canada	(1) BlackRock	N/A
"The Sunshine Project" Ethan Cracker	Formosa Plastic Corporation (i.e., FG LA LLC)	(1) JP Morgan Chase	(1) Vanguard, (2) BlackRock	N/A
Garyville Refinery	Marathon Petroleum	(1) Bank of America (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) BlackRock, (2) Vanguard	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) JPMorgan 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) JPMorgan Chase, (2) Royal Bank of Canada, (3) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Sea Robin Gas Processing Plant, (2) Mississippi River Transmission Underground Natural Gas Storage Facility, (3) Enable Gas Transmission System, (4) Southeast Supply Header (joint venture with Enbridge)	Energy Transfer	(1) JPMorgan Chase, (2) Royal Bank of Canada, (3) Bank of America	N/A	N/A

(1) Lake Charles Refinery	Phillips 66	(1) Bank of America (2) Royal Bank of Canada (3) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
(1) Geismar Petrochemical Plant, (2) Plaquemine Petrochemical Plant, (3) Westlake Petrochemical Plant	Westlake Chemical	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A

All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fin-tel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem'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

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."³⁶²

"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 150 fossil fuel refineries and petrochemical facilities.³⁶³

Dubbed "Cancer Alley" in the early 1980s, this area has one of the highest cancer rates in the country.³⁶⁴ 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.³⁶⁵ Barbara Washington and Shamyra Lavigne, Members of RISE St. James, both mention that districts four and five in St. James Parish, which are predominantly African American/Black/African Diaspora and poor neighborhoods, hold the highest concentration of polluting industry plants.³⁶⁶

"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.³⁶⁷ After the abolition of slavery, parts of this region became settlements of freed slaves characterized by a

³⁶² United Nations (2021, March 2). Environmental racism in Louisiana's 'Cancer Alley', must end, say UN human rights experts. *UN News*. [\[LINK\]](#)

³⁶³ Groner, A. (2021, May 7). Louisiana Chemical Plants are Thriving off of Slavery. *The Atlantic*. [\[LINK\]](#)

³⁶⁴ Yawn, Y.J. (2020, March 19). St. James is full: New Cancer Alley plant may double toxic pollutants, EPA data shows. *Tennessean*. [\[LINK\]](#)

³⁶⁵ 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*, 9(12), 4365-4385.

[\[LINK\]](#)

³⁶⁶ Washington, B. (2020, November 25). WECAN Interview.

³⁶⁷ Potter A.E. et al., (2017, December). Commemorating the Enslaved Along Louisiana's River Road. *American Association of Geographers*. [\[LINK\]](#)

large community of African American/Black/African Diaspora farmers and activists fighting Jim Crow policies.³⁶⁸ 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. These areas are over 90% African American/Black/African Diaspora communities.³⁶⁹

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.³⁷⁰ 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.³⁷¹ Denka’s facility is one of the many petrochemical operations in the area. In another example, the Marathon Refinery in St. John the Baptist Parish was built around a cemetery where pipes, tank farms, and other refinery buildings now surround a thin strip of above ground crypts.³⁷² As Marathon Petroleum was exempted from paying property taxes to expand its Garyville Refinery, property values in fence-line communities in St. John the Baptist Parish went down.³⁷³

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.³⁷⁴ Over 1,600 people still live in temporary Federal Emergency Management Agency (FEMA) trailers as of May 2022.³⁷⁵ 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.³⁷⁶ 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.³⁷⁷ 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:

“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.”³⁷⁸

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

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

369 Ibid.

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

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

372 Staudinger, C. (2021, February). St. John Takes, Marathon Takes. *Antigravity*. [\[LINK\]](#)

373 Ibid.

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

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

376 Ibid.

377 Ibid.

378 Ibid.

emissions;³⁷⁹ ProPublica called the Louisiana Department of Environmental Quality (LDEQ) “dangerously behind” on emissions tracking.³⁸⁰ 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.³⁸¹ The state’s inability to serve as a watchdog for “Cancer Alley” communities suggests that the health-risks in this region may be even more significant than published data reflect.



Oil sheen in floodwaters from Hurricane Isaac carry toxic industrial chemicals that enter homes in Cancer Alley. (Julie Dermansky)

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 effects from fossil fuel petrochemical plants and refineries, share the terrible losses of their parents, sisters, brothers and partners. They discuss the work they have done in making these injustices visible, and also 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.³⁸² 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

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

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

381 Ibid.

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

brought national attention³⁸³ to “Cancer Alley,” and the Environmental Protection Agency responded in 2022 by committing \$600,000 to air monitoring studies within the region.³⁸⁴ Although the EPA’s pledge is a step in the right direction, monitoring efforts fall short if they do not meaningfully respond to the continued financing in “Cancer Alley” of fossil fuel projects.

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.³⁸⁵ This is very difficult, given that the community lacks resources that would enable them to prove this, and health researchers often blame residents’ sicknesses on diets and “lifestyles”.³⁸⁶

African American/Black/African Diaspora women of “Cancer Alley” suffer particularly severe health complications. Studies have repeatedly shown that women, especially of color, are less likely to be taken seriously by medical professionals and are more likely to have their illnesses ignored.³⁸⁷ And, these same communities are statistically likely to have related chronic conditions undertreated for their entire lives.³⁸⁸ 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.³⁸⁹ The doctor told Liz Gordon, “Well, we don’t want to treat her because we don’t want to put Exxon in the paperwork,” or “Be involved in a lawsuit.”³⁹⁰ 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.³⁹¹

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.³⁹² He also added that the DEQ sometimes approves projects with a lower cap on emissions than companies request. There are currently enormous new petrochemical facilities seeking permits to operate along the Mississippi River.³⁹³

Formosa’s Sunshine Project, planned for St. James Parish, will involve building a \$9.4 billion plant that will make single-use plastics. This project is slated to cause 246 times the ethylene oxide levels determined to be cancer-causing by the EPA.³⁹⁴ Exposures higher than this EPA standard have been linked to increased miscarriage risk.³⁹⁵ This data, in addition to population data revealing predominantly African American/Black/African Diaspora neighborhoods near proposed

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

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

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

386 Ibid.

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

388 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*, 113(16), 4296-4301. [\[LINK\]](#)

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

390 Ibid.

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

392 Baurick, T., Et al. (2019, October 30). Polluter’s Paradise: Welcome to “Cancer Alley,” Where Toxic Air Is About to Get Worse. *ProPublica, The Times-Picayune, and The Advocate*. [\[LINK\]](#)

393 Ibid.

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

395 Ibid.

Sunshine Project sites,³⁹⁶ provides evidence of one of the most heinous examples of environmental racism in the U.S.³⁹⁷ After intense public pushback from St. James communities, the U.S. Army Corps of Engineers suspended Formosa's Clean Air Act license and is now conducting an Environmental Impact Statement (EIS) which could take years. Formosa cannot resume construction until the U.S. Army Corp of Engineers completes its survey and clears Formosa to resume development.³⁹⁸



An aerial view of the Formosa Plastics Plant located in East Baton Rouge Parish, Louisiana. (Flickr)

Some of the worst actors in this region include Formosa Plastic Corporation, 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.”³⁹⁹

In 2021 alone, Bank of America and JPMorgan Chase each financed \$356.29 million in Occidental Petroleum.⁴⁰⁰ As of March 31, 2022, Vanguard and BlackRock are two of the top three largest investors in Occidental Petroleum,⁴⁰¹ which operates a major petrochemical complex in St. James Parish. Blackrock owns 123.3M shares valued at \$382.2M, or 1.94%, of Formosa Plastics Corporation, and ~40M shares valued at \$127.2M, or .42%, of Formosa Petrochemicals Corporation.⁴⁰² The largest shareholders of Formosa Plastics Corporation (owned by the same parent company as Louisiana-based FG LA LLC and the company behind the giant plastic plant in St. James Parish), were Vanguard and Blackrock.⁴⁰³

396 Ludwig, M. (2019, March 10).

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

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

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

400 RAN, Et. al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022.* [\[LINK\]](#)

401 Nasdaq (2022, March 31). *Occidental Petroleum Corporation Common Stock (OXY).* [\[LINK\]](#)

402 Thoumi, Planet Tracker and Bloomberg, L.P. (2021). *Data analysis and interview.*

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

6c. West and Central Texas

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
Permian Basin Oil & Gas Field	Shell	(1) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) BlackRock	N/A
Permian Basin oil and gas production	Pioneer Natural Resources	(1) JPMorgan Chase, (2) Royal Bank of Canada	N/A	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) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	N/A
(1) Eagle Ford Oil & Gas Field, (2) CMC Bluebonnet Unit Oil & Gas Property, (3) DR State Wise Unit Gas Property, (4) Soa Scharbauer S Oil & Gas Property	Chevron	(1) JPMorgan Chase, (2) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
Sea Port Oil Terminal	Enbridge	(1) Royal Bank of Canada, (2) JPMorgan Chase, (3) Bank of America	(1) BlackRock, (2) Capital Group, (3) 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) Royal Bank of Canada, (3) Bank of America	N/A	N/A
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All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fin-tel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem'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.

Injustices occurring in West and Central Texas against African American/Black/African Diaspora 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 and Barnett 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. and expected to increase in upcoming years, especially following the Russian invasion of Ukraine in 2022.⁴⁰⁴ Russia is Europe's largest oil and gas supplier, and government officials and energy companies are looking to the Permian Basin as a lucrative option.⁴⁰⁵ The U.S. Energy Information Administration predicts that the Permian Basin will average 5.3 million barrels per day in 2022 and 5.7 million barrels per day in 2023, which would be a record high.⁴⁰⁶ The Permian Basin is expected to lead the global oil supply in crude oil over the next seven years,⁴⁰⁷ becoming one of the world's biggest sources of greenhouse gasses.⁴⁰⁸ 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.⁴⁰⁹ This concerning health hazard has not been a priority for the state nor the fossil fuel industry: 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.⁴¹⁰ This one monitor, located 60 miles from the fracking site, measured sulfur dioxide



An aerial image of oil fields in Midland, Texas. (Flickr)

⁴⁰⁴ Gold R., (2022, April 26). A New Texas Oil Boom Is Coming, Finally. *Texas Monthly*. [\[LINK\]](#)

⁴⁰⁵ Ibid.

⁴⁰⁶ Ferman M., (2022, March 25). In Texas, calls to boost U.S. oil production after Russian invasion run into hard realities. *Texas Tribune*. [\[LINK\]](#)

⁴⁰⁷ 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*. [\[LINK\]](#)

⁴⁰⁸ Binger, Jacey, et al. (2020, February 10). Five Years Lost: How Finance is Blowing the Paris Carbon Budget. *Urgewald*. [\[LINK\]](#)

⁴⁰⁹ 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*. [\[LINK\]](#)

⁴¹⁰ Ibid.

levels over the national health-based standard on at least 30 separate occasions from 2016 to 2019.⁴¹¹

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.⁴¹² Ector County is 62.6% Latinx and Crane County is 66.1% Latinx.⁴¹³ Both counties have Latinx populations that are 3.5 times above the national average.⁴¹⁴ 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.⁴¹⁵ 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.⁴¹⁶ 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.

Additionally, the Permian Basin has been the focus of earthquake concerns; the oil field had a record-breaking 2,000 increasingly intense earthquakes in 2021. Seismologists attribute these earthquakes to oil and gas companies' practice of injecting saltwater (oil production byproduct) into deep disposal wells that build intense pressure and cause movement along fault lines.⁴¹⁷ Because women often bear responsibility for feeding, hydrating, and powering households, climate chaos's impact on water, food, and fuel means that women often must work harder and travel further for less food and water.⁴¹⁸ Studies have found that due to unequal gender and cultural norms and the unequal distribution of power and resources, women also disproportionately suffer impacts from extreme weather events and disasters (i.e., earthquakes).⁴¹⁹

Studies conducted of the Eagle Ford Shale, spanning from Northwest to Southwest Texas, and the Barnett Shale, located below Dallas Fort Worth, have exposed inequities incurred by extractive facilities. 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.⁴²⁰ 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."⁴²¹ While this association between flaring and preterm births was found along the Eagle Ford shale basin, flaring in the Permian Basin is even worse: in 2015, flaring in the Permian Basin was on average higher in activity and volume than the Eagle Ford.⁴²² This suggests that impacts from flaring to pregnant

411 Ibid.

412 Takahashi P., (2022, January 14).

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

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

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

416 Faiz, A.S., Et al. (2012, August 15). Ambient Air Pollution and the Risk of Stillbirth. *American Journal of Epidemiology*, 176(4), 308-316. [LINK]

417 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]

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

419 Ibid.

420 Cushing, L.J., et. al. (2020, July15). Flaring from Unconventional Oil and Gas Development and Birth Outcomes in the Eagle Ford Shale in South Texas. *Environmental Health Perspectives*, 128(7). [LINK]

421 Ibid.

422 Ibid.

women (predominantly Latinas/Chicanas in this region) may span across West Texas. 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.⁴²³

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.⁴²⁴

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."⁴²⁵



Oil extraction rigs directly behind a house in Midland, Texas, part of the Permian Basin. (Julie Dermansky)

423 Cushing L.J., et. al. (2021, February 23).

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

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

Other companies obtained new drilling permits even amidst the Covid-19 pandemic such as Callon, which was issued 15 new permits between May 11, 2021 and May 11, 2022 in La Salle County⁴²⁶ (with a Latinx community of 87%).⁴²⁷ ExxonMobil has also grown its Permian Basin production by 25% during the first half of 2022, with an estimated 460,000 oil-equivalent barrels per day.⁴²⁸ The company plans to grow its Permian output to “one million oil-equivalent barrels per day by 2024.”⁴²⁹ 87.6% of the U.S.’s total oil production will come from the Permian Basin in 2022.⁴³⁰ 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.⁴³¹ Typically, 400-500 drilling permits for the Permian Basin are approved each month, but March 2022 witnessed a record 904 drilling permits approved.⁴³² The Russian invasion of Ukraine has spurred an increase in U.S. oil production to decrease reliance on Russian outputs, with a majority of proposed development in the Permian Basin.⁴³³

Some of the top drillers in this area include Chevron, ExxonMobil, Occidental Petroleum, and Pioneer Natural Resources. As of December 2021, Vanguard, BlackRock and Capital Group were three of the top four largest shareholders in Pioneer Natural Resources.⁴³⁴ JPMorgan Chase was the top banker of Pioneer Natural Resources in 2021, giving the company over \$854 million.⁴³⁵ Bank of America was the fifth largest banker of Pioneer Natural Resources in 2021 at over \$371 million.⁴³⁶ In 2020, Pioneer Natural Resources was one of the top applicants for drilling permits.⁴³⁷ Pioneer Natural Resources drilling operations cause nearly daily earthquakes in Midland and Odessa Texas, contributing to disproportionate impacts on women’s health and safety.⁴³⁸

426 Shale Experts. (2021, January). *Eagle Ford Shale: Drilling Permits: La salle County*. [\[LINK\]](#)

427 U.S. Census Bureau (2021, July 1). *QuickFacts: La Salle County, Texas*. [\[LINK\]](#)

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

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

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

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

432 Ibid.

433 Ibid.

434 NASDAQ (2021, December 31). *Pioneer Natural Resources Company Common Stock (PXD)*. [\[LINK\]](#)

435 Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

436 Ibid.

437 Chapa, S. (2020, June 15). Drilling Down: Permian Basin revival looming on the horizon. *Houston Chronicle*. [\[LINK\]](#)

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

6d. 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) JPMorgan Chase, (2) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Midway Sunset field in Southwestern Kern County, (2) Belridge Producing Complex, (3) Coalinga Oil Field, (4) Anderson-Fitzgerald Oil & Gas Property, (5) Unspecified Lease in Kern County, (6) Lost Hills Oil & Gas Property, (7) Orradre Oil & Gas Property, (8) Sebu T Oil & Gas Property, (9) Taylor Oil & Gas Property	ExxonMobil (i.e., Aera Energy)	(1) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) Vanguard, (2)BlackRock, (3) Capital Group	N/A
Elk Hills Gas Field	Occidental Petroleum (i.e.,California Resources Corporation)	(1) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Wilmington Refinery, (2) Benicia Refinery	Valero	(1) JPMorgan Chase	(1) Vanguard, (2) BlackRock	N/A
(1) Los Angeles Refinery	Phillips 66			
(1) Perris Petrochemical Plant, (2) Rialto Petrochemical Plant,	Westlake Chemical	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A

All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fintel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem'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.

In 2019, the Trump administration, in conjunction with the Bureau of Land Management, broke a five year moratorium on leasing public land in California for oil drilling and hydraulic fracturing.⁴³⁹ Despite massive pushback, both locally and from the state of California, over 1.7 million acres of public and private land were opened for extraction across eighteen counties in a region spanning across the Central Valley, Central Coast, and Bay Area.⁴⁴⁰ In March, 2021, the Kern County Board of Supervisors voted for an ordinance that will greenlight 40,500 new oil and gas wells in Kern County in the Central Valley.⁴⁴¹ These wells will “likely end up in low-income, monolingual, Hispanic communities with virtually no environmental review.”⁴⁴² Between July 2020 and July 2021, 374 new wells were drilled in Kern County alone.⁴⁴³

The Central Valley is responsible for 70% and 90% of California’s oil & gas, respectively,⁴⁴⁴ 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.⁴⁴⁵ 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 (or 1.8 million) of these people live in areas identified by the California EPA as the most burdened by environmental pollution.⁴⁴⁶ As of 2019, 92% of those 1.8 million people are people of color: 69% Latinx, 11% Asian, and 10% African American/Black/African Diaspora.⁴⁴⁷ The following are some of the major oil producing counties in California, and all have significant racial minority populations:⁴⁴⁸ Kern County (54.6% Latinx), Los Angeles County (48.6% Latinx and 15.4% Asian Diaspora), Ventura County (43.2% Latinx), Fresno County (53.8% Latinx), and Monterey County (59.4% Latinx).⁴⁴⁹ It should also be noted that the Census frequently undercounts low-income communities of color,⁴⁵⁰ 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 extraction industry.

Kern County, where the Latinx community accounts for 54.6% 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 84,000 oil and gas wells in California, and produces approximately 75% of the state’s oil and 58% of its natural gas.⁴⁵¹ Rural towns in this region have been devastated by poverty, food insecurity, and pollution from oil and gas emissions, truck traffic, and wastewater disposal. Of the 122,000 Kern residents that live near wells and suffer from

439 Bryndon, M. (2019, December 13). Feds to California: Open up lands to oil, gas drilling. *Capitol Weekly*. [\[LINK\]](#)

440 Ibid.

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

442 Ibid.

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

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

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

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

447 Raus, C. (2019, May 31). New drilling and fracking in California will hurt Latino communities. *The Wilderness Society*. [\[LINK\]](#)

448 Ibid.

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

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

451 Srebotnjak, T. Et al. (2014, October).

high pollution, 76% of them are people of color.⁴⁵² 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.⁴⁵³

Both Elizabeth Perez, a Community Organizer at the Central California Environmental Justice 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 kids medicine for asthma [at school].”⁴⁵⁴

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.⁴⁵⁵ 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...”⁴⁵⁶



Community members learn about industrial pollution on a “Toxic Tour” through Kern County, California. (CCEJN)

⁴⁵² Ibid.

⁴⁵³ Renda, M. (2019, October). Feds Open Slice of California’s Central Coast to Oil & Gas Drilling. *Courthouse News Service*. [\[LINK\]](#)

⁴⁵⁴ Perez, E. (2020, December 17). WECAN Interview.

⁴⁵⁵ Esparza, R. (2020, December 18). WECAN Interview.

⁴⁵⁶ Esparza, R. (2020, December 18). WECAN Interview.

Chevron exemplifies big industry's bad acting in California. In 2019, a Chevron-owned oil well in Kern County leaked 800,000 gallons of crude petroleum and water for over two months into a creek near Bakersfield. This well was using steam injection to extract underground crude oil.⁴⁵⁷

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).⁴⁵⁸ Aera Energy and Chevron have responded by filing lawsuits to overturn Governor Newsom's "de-facto ban" on fracking.⁴⁵⁹

As of December 31, 2021, Vanguard, BlackRock, and Bank of America were the first, second, and seventh top shareholders in ExxonMobil (i.e., Aera Energy), respectively.⁴⁶⁰ JPMorgan Chase and Bank of America collectively provided \$1.1 billion in financing to ExxonMobil in 2021 alone.⁴⁶¹ As of January 2022, Aera Energy was the largest oil producer, gas producer, and well operator in Kern County.⁴⁶² Oil fields in Kern County, operated by Chevron (supported by BlackRock, Vanguard, Capital Group, JP Morgan Chase, and Bank of America) are contaminating the drinking water with trichloropropane⁴⁶³ and burdening Latina/Chicana mothers' caretaking roles.⁴⁶⁴

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

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

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

460 NASDAQ, Exxon Mobil Corporation Common Stock (XOM). [\[LINK\]](#)

461 Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

462 Drilling Edge. *Oil & Gas Production in Kern County, CA*. [\[LINK\]](#)

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

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

6e. Weld County, Colorado

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) JPMorgan Chase, (2) Bank of America	(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, (3) Royal Bank of Canada	(1) BlackRock, (2) Vanguard	N/A
Commerce City Refinery	Suncor	(1) JP Morgan Chase, (2) Royal Bank of Canada, (3) Bank of America	(1) Vanguard, (2) Capital Group	N/A
(1) Henderson Chemical Plant	Westlake Chemical	(1) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
(1) Wattenberg Oil Field	Extraction Oil & Gas	(1) BlackRock	N/A	N/A

All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fin-tel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem'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.

Weld County in Northern Colorado currently has an "F" grade for air quality from the American

Lung Association (ALA)⁴⁶⁵ and has not met EPA air quality standards since 2007.⁴⁶⁶ Without air pollution monitoring and required public reporting, the fossil fuel industry in this region is neglecting both public and environmental health.

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.⁴⁶⁷ 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.⁴⁶⁸ 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 this study will lead to delays in permitting new operations.⁴⁶⁹ In 2016, there were 509 oil spills in Colorado, 32% of them within 1,500 feet of an occupied building and no distance was reported for 52% of the spills.⁴⁷⁰ As a result of grassroots and community resistance, in March 2022, the Colorado Oil and Gas Conservation Commission made history by denying its first permit ever—temporarily stopping the construction of 33 wells by Occidental Petroleum near 62 homes.⁴⁷¹ However, Occidental Petroleum has been invited to revise its application to utilize exceptions that would allow for Occidental to continue building plans.⁴⁷² Additionally, between January 2021 and January 2022, another 3,204 new well permits were approved for Weld County.⁴⁷³

Weld County has over 18,000 active wells and produces 84% of the state’s oil production.⁴⁷⁴ 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.⁴⁷⁵ The previous Section 5.i provides more information on this topic.

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.⁴⁷⁶ Approximately 1,000 feet from the academy are 11 wells owned by Extraction Oil and Gas, which began producing hydrocarbon liquids

465 American Lung Association. (2022). Report Card: Colorado. [\[LINK\]](#)

466 U.S. EPA. (2022, July 31). *Colorado Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*. [\[LINK\]](#)

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

468 Ibid.

469 Ibid.

470 Physicians for Social Responsibility. (2018). *Health Impacts of Fracking*. [\[LINK\]](#)

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

472 Ibid.

473 Mineral Answers, (2022, January). *Weld County, CO Oil & Gas Activity*. [\[LINK\]](#)

474 Oil and Gas Energy Department (2022, August 5). *Weld County: Oil and Gas*. [\[LINK\]](#)

475 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*, 70. [\[LINK\]](#)

476 Woodruff, C. (2020 March 11). Bella Romero Benzene Levels Worse Than Reported, Analysis Claims. *Westword*. [\[LINK\]](#)

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.⁴⁷⁷

Extraction's harmful project right next to this Greeley school has a harsh 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.⁴⁷⁸ Extraction Oil and Gas 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 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.⁴⁷⁹ School officials at Bella Romero recently declined renewing air monitoring programs in 2021 despite community protests and a record of elevated benzene levels near the school.⁴⁸⁰ Bella Romero also received \$100,000 from Chevron for a pre-engineering program in November 2021.⁴⁸¹

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.⁴⁸² 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.⁴⁸³ Between 2011 and 2021, 368 million pounds of unidentified chemicals were labeled as "trade secrets" and subsequently hidden from the public in Weld County.⁴⁸⁴

As of December 31, 2021, Vanguard, Blackrock, and Bank of America were the first, third, and fifth largest shareholders in Chevron.⁴⁸⁵ Chevron purchased Noble Midstream in May 2021, allowing Chevron to enter an already congested fossil fuel industry in Weld County. Before Noble Midstream was acquired, it was the second largest fossil fuel extractor in Weld County—meaning that Chevron now is invested in continuing and expanding Weld County's extractive industry.⁴⁸⁶

477 Ibid.

478 Julia, M. (2018, April 17). Parents Didn't Want Fracking Near Their School. So the Oil Company Chose a Poorer School, Instead. *Mother Jones*. [\[LINK\]](#)

479 Public School Review. *Bella Romero Academy Of Applied Technology*. [\[LINK\]](#)

480 Sakas, M.E (February 24, 2022). Greeley district officials reject an offer to continue air monitoring at a school where a spike in toxic chemicals was detected. *Colorado Public Radio*. [\[LINK\]](#)

481 Ibid.

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

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

484 Ibid.

485 NASDAQ, (2022, March 31). Chevron Corporation Common Stock (CVX): CVX Institutional Holdings. [\[LINK\]](#)

486 Mika D. (2021, May 11). Chevron closes acquisition of Noble Energy pipelines. *Greeley Tribune*. [\[LINK\]](#)

6f. “Chemical Valley”: Sarnia, Ontario and Michigan

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) JPMorgan Chase, (3) 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) BlackRock, (2) Capital Group, (3) Vanguard	N/A
Polyethylene Manufacturing Plant	NOVA Chemicals	(1) JPMorgan Chase	N/A	N/A
Sarnia Oil Sands Refinery	Suncor	(1) JP Morgan Chase, (2) Royal Bank of Canada, (3) Bank of America	(1) Vanguard, (2) Capital Group	N/A

All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fin-tel), Rainforest Action Network’s 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem’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.

Canada’s “Chemical Valley,” located in Sarnia in Southwestern Ontario, has 62 operating petrochemical plants and oil refineries producing an amount equivalent to 40% of Canada’s oil consumption. There are 38 fossil fuel operations within 25 kilometers of the Aamjiwnaang First Nation (AFN), 23 of them reported emitting more than 55 tons of air pollution per year, with

some of the facilities sharing a property line with the AFN.⁴⁸⁷ The pollution from these facilities is also being carried across the St. Clair River into Michigan. An Al Jazeera investigation found that the AFN had been enduring “physiological and mental stress among community members regarding the risk of impending explosions or other disasters, and health impacts from unquestionably poisonous chronic exposures.”⁴⁸⁸

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 industry facilities can easily circumvent any regulations through site specific standards.⁴⁸⁹

In 2019, Ecojustice released a followup report from its 2007 paper 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. Here is a summary of its findings: 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 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.⁴⁹⁰ Al Jazeera reported that “part of the problem is that companies are constantly accommodated, even when they breach emissions limits.”⁴⁹¹

Between 2014 and 2015, Sarnia companies reported just under 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. 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. An Ecojustice study found that 39 percent of women surveyed had experienced a miscarriage or stillbirth.⁴⁹² Mothers in the area reported feeling “helpless” for not being able to protect their children from the toxic air they breathe.⁴⁹³ 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).⁴⁹⁴ 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

487 Macdonald, E. (2019, June). Return to Chemical Valley 2019. *Ecojustice*. [\[LINK\]](#)

488 O'Toole M., Kestler-D'Amour J., (2021, December 8). Toxic Legacy: The fight to end environmental racism in Canada. *Al Jazeera*. [\[LINK\]](#)

489 Ibid.

490 Ibid.

491 Ibid.

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

493 Vice (2013, September 11). Canada's Toxic Chemical Valley. *YouTube*. [\[LINK\]](#)

494 Thorkelson, E. (2013, January 31). Shell Leak Sheds Light on Life in Canada's Chemical Valley. *The Narwhal*. [\[LINK\]](#)

animal populations residing in extremely polluted areas.⁴⁹⁵ Aamjiwnaang mothers face unique challenges raising children in this unhealthy environment. According to a 2019 study, the incident rate of acute myeloid leukemia in Sarnia is three times higher than the national average.⁴⁹⁶ Christine Rogers, an Environment Worker at Aamjiwnaang First Nation 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.”⁴⁹⁷

Pollution from “Chemical Valley” streams from the St. Clair River into the St. Clair Lake and Detroit River, which provide tap water for 3.5 million people in Michigan.⁴⁹⁸ In a 16-year period, more than 700 chemical spills from Sarnia facilities were recorded, and due to the rapidity of the chemical releases in Michigan, residents are often not given sufficient warning.⁴⁹⁹

AFN Tribe members, Sarnia residents, and environmental activists have fought these polluters and their financial backers for over a decade. Elaine MacDonald, the director of the Healthy Communities Program at Ecojustice, said in 2018, “In Canada, we have a provincial government and a federal government. We sued in both courts and lost. We can’t match the money the petrochemical industry can spend.”

Despite efforts to transition to cleaner energy production in Sarnia, the fossil fuel companies cling to their dirty products with new projects planned for the area. NOVA Chemicals is in the process of developing a \$2.2 billion project, which will include a polyethylene (plastic) plant and an expansion of the Co-runna “cracker” unit, to be completed by 2021.⁵⁰⁰ NOVA Chemicals was in the top five polluters in Sarnia, located less than five kilometers from the Aamjiwnaang First Nation. Although oil spills, health abnormalities, and fears plague the Aamjiwnaang First Nation Tribe, Sarnia residents, and communities in Michigan, financial support continues for these fossil fuel companies.



Ontario's Suncor Sarnia refinery facility, which has a capacity of 70,000 barrels per day. (Suncor Energy)

As of December 31, 2021, Royal Bank of Canada and Vanguard were the first and third largest shareholders of Enbridge.⁵⁰¹ The Royal Bank of Canada financed Enbridge with over \$2 billion in 2021 alone.⁵⁰² JPMorgan Chase and Bank of America also each contributed over \$776 million to

495 Vice (2013). *The Chemical Valley*. [\[LINK\]](#)

496 Ghazawi, F.M. Et al. (2019, February 27). 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*, 125(11). [\[LINK\]](#)

497 Vice (2013). *The Chemical Valley*. [\[LINK\]](#)

498 Selweski, C. (2017, October 31). Chemical Valley and the threat to Michigan's drinking water. *Bridge Michigan*. [\[LINK\]](#)

499 Ibid.

500 Shantz, T. (2019, December 4). Boom time in Sarnia for skilled trades. *The Sarnia Journal*. [\[LINK\]](#)

501 NASDAQ. *Enbridge Inc Common Stock (ENB)*. [\[LINK\]](#)

502 Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

Enbridge in 2021.⁵⁰³ Therefore, these financial institutions' are major investors in Enbridge's operations in Sarnia, including the company's pipeline project, gas storage, and its Sarnia terminal. Additionally, as of March 2022, Royal Bank of Canada finances Suncor Energy Inc., which operates a refinery less than five kilometers from the Aamjiwnaang First Nation, and was reported as having unsafe levels of air pollution.⁵⁰⁴

503 Ibid.

504 MacDonald, E. (2019, June). Return to Chemical Valley 2019. *Ecojustice*. [\[LINK\]](#); NASDAQ. *Suncor Energy Inc. Common Stock (SU)*. [\[LINK\]](#); NASDAQ. *Imperial Oil Limited Common Stock (IMO)*. [\[LINK\]](#)

6g. 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	Royal Bank of Canada: 2016-2020 and 12/31/2020 Nasdaq JPMorgan Chase and Bank of America: 2020	BlackRock: 10/3/2020 BlackRocksBigProblem's Website Capital Group, Vanguard: 12/31/2020 Nasdaq	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) JP Morgan Chase, (2) Royal Bank of Canada, (3) Bank of America	(1) Vanguard, (2) Capital Group	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) Royal Bank of Canada	(1) BlackRock, (2) Capital Group	N/A
Athabasca Oil Sands Project	Chevron	(1) JPMorgan Chase, (2) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A
(1) Corunna Cracker Expansion, (2) Polyethylene Manufacturing Plant	NOVA Chemicals	(1) JP Morgan Chase	N/A	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) Kaybob South Amalgamated Processing Plant, (3) Patterson Creek Plant, (4) West Fox Creek Plant, (5) West Whitecourt (Windfall) Plant	Energy Transfer	(1) JPMorgan Chase, (2) Royal Bank of Canada, (3) Bank of America	N/A	N/A
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All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fin-tel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem's Website.

*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. If Alberta were a country, it would be the world's fifth largest oil producing nation.⁵⁰⁵ The especially gruesome extraction methods⁵⁰⁶ and the enormous size of the Alberta tar sands operation have serious ramifications for the global atmosphere, the local ecosystems, and the Indigenous communities in the area.

Indigenous Peoples hold deep relationships to their land bases; to destroy the natural environment of Indigenous territories is, in essence, committing cultural genocide.⁵⁰⁷ The culture and livelihoods of numerous First Nation peoples are being sacrificed for extraction of the tar sands. These include 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.⁵⁰⁸

Eriel Tchequie 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.⁵⁰⁹ First Nation community members' ability to hunt, gather food, and travel has also been impacted.⁵¹⁰



An aerial image of the Alberta Tar Sands. (Dru Oja Jay, Flickr)

⁵⁰⁵ Leahy, S. (2019, April 11). This is the world's most destructive oil operation—and it's growing. *National Geographic*. [\[LINK\]](#)

⁵⁰⁶ Described further in Section 3.

⁵⁰⁷ Huseman, J. Et al. (2012). Extreme Energy as Genocidal Method: Tar Sands and the Indigenous Peoples of Northern Alberta. *Extreme Energy Initiative*. [\[LINK\]](#)

⁵⁰⁸ Indigenous Environmental Network. *Tar Sands*. [\[LINK\]](#)

⁵⁰⁹ Leahy, S. (2019, April 11).

⁵¹⁰ Ibid.

The Fort McKay First Nation and Indigenous Climate Action lead efforts to halt tar sands expansion projects, suing the Canadian government and helping communities to transition to clean energy. Despite these efforts, the government continues to approve projects that First Nations oppose.⁵¹¹

In particular, Canadian-owned Enbridge, has a history of misreporting details about the structural integrity of tunnels as well as delayed responses to pipeline leaks – as seen in the 2010 Marshall Kalamazoo Oil Spill. Here, Enbridge operators located in the Alberta Tar Sands took 17 hours to respond to a rupture in Enbridge Line 6b.⁵¹² By then, 843,000 gallons of bitumen had entered the Kalamazoo River, and the river was closed for over two years.⁵¹³ The Kalamazoo Oil Spill remains the largest inland oil spill in U.S. history.⁵¹⁴ Furthermore, Enbridge’s safety measures missed damage that occurred in 2019 to Enbridge Line 5, which was only discovered in June 2020.⁵¹⁵ Issues related to Enbridge Line 3 and Enbridge Line 5 are detailed in Sections 6g.i.-6g.ii. Enbridge’s pipelines have ruptured more than 800 times in the past 15 years.⁵¹⁶ From 2002 to present, Enbridge and its joint ventures and subsidiaries reported 307 hazardous liquids incidents to federal regulators—a rate of one incident every 20 days. These spills released an equivalent of more than four Olympic swimming pools with toxic chemicals (2.8 million gallons).⁵¹⁷

Kanahus Manuel (Secwepemc & Ktunaxa Nations) a Member of the Secwepemc Women Warriors who are defending land in British Columbia, describes this opposition as it pertains to Indigenous women:

“The resource extractive industries like tar sands mining and its pipelines are directly linked to the violence of our Indigenous lands and women. Indigenous women, the title holders to our Indigenous Territories, are the first to be impacted and have voiced a collective no consent for these pipelines to invade our tribal lands, and we have shown we are willing to risk our liberty and freedom and put our bodies on the line to blockade and stop construction of these dirty oil and gas projects, to ensure we have a clean future for our children.”⁵¹⁸



Kanahus Manuel (Carrie Cervantes)

The construction of Line 5 and Trans Mountain tar sands pipelines will facilitate further environmental and cultural decimation in Alberta, Canada by increasing the volume of bitumen that can be transported from the region.

511 Ibid.

512 Hazenmyer, D. (2018, May 3). Enbridge Fined for Failing to Fully Inspect Pipelines After Kalamazoo Oil Spill. *Inside Climate News*. [\[LINK\]](#)

513 Ibid.

514 Sierra Club Michigan Chapter (2021). *Decommission Line 5?* [\[LINK\]](#)

515 Michigan Environmental Council (2021). *The Problem with the Line 5 Oil Pipeline. Oil & Water Don't Mix*. [\[LINK\]](#)

516 National Wildlife Federation (2012). *Importing Disaster: The Anatomy of Enbridge's Once and Future Oil Spills*. [\[LINK\]](#)

517 Greenpeace (2018, November 14). *Dangerous Pipelines*. [\[LINK\]](#)

518 WECAN/DIP. (2021, January 14). *Indigenous Women Call Upon Biden to Stop Pipelines and Uphold Indigenous Rights in the Wake of Escalating Climate Chaos and Covid-19 Crises*. [\[LINK\]](#)

Tar sand oil financing jumped 51% from 2020-2021—mainly due to Suncor Energy Co. and Enbridge projects—while all other sectors of fossil fuel financing decreased or stayed constant. Royal Bank of Canada had the largest increase in tar sand oil project financing in 2021.⁵¹⁹ Behind Royal Bank of Canada, Vanguard is the second largest shareholder in Enbridge.⁵²⁰ Enbridge’s Line 3 Replacement Project had disastrous consequences, and these consequences threaten to repeat themselves with the Enbridge Line 5 project.⁵²¹ Furthermore, Royal Bank of Canada, JPMorgan Chase, and Bank of America funneled \$1.3 billion, \$1.1 billion, and \$125 million, respectively, into Suncor Energy Co. in 2021 alone.⁵²²

6gi. Enbridge Line 3 Replacement Project

Enbridge’s Line 3 project is described as a “replacement” project of its current bitumen pipeline 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.⁵²³ It also threatens First Nation tribes near the Alberta Tar Sands region (Section 6g.), where Line 3 sources its bitumen. The project was completed in September 2021, and now carries 760,000 barrels a day – twice the previous pipeline’s capacity.⁵²⁴ 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 has since been precisely what advocates feared.

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 3.⁵²⁵



(Sarah LittleRedfeather/Honor the Earth)

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.⁵²⁶ 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.⁵²⁷ All of this is amidst the backdrop of the Covid-19 pandemic (discussed in Section

⁵¹⁹ Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁵²⁰ Ibid.

⁵²¹ National Wildlife Federation (2012). *Importing Disaster: The Anatomy of Enbridge’s Once and Future Oil Spills*. [\[LINK\]](#)

⁵²² Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁵²³ Ibid.

⁵²⁴ Williams N., (2021, September 29). Enbridge’s long-delayed Line 3 oil pipeline project to start up Oct 1. *Reuters*. [\[LINK\]](#)

⁵²⁵ 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*. [\[LINK\]](#)

⁵²⁶ Lovrien, J. (2021, February 23). 2 arrests in human trafficking sting were Line 3 workers. *Duluth New Tribune*. [\[LINK\]](#)

⁵²⁷ The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

7.), and despite legal challenges, lack of consent for construction from local tribes, and Indigenous led-opposition across the country.⁵²⁸

After these June 2021 arrests, Winona LaDuke (Anishinaabekwe (Ojibwe) White Earth Nation), the Executive Director of Honor The Earth—an Indigenous environmental advocacy organization—stated:

“As experts and Indigenous women predicted, this pipeline project has brought men into our communities who have chosen to prey on our women. It is truly horrifying to imagine that, if four men have been arrested, just how many more are out there seeking to bring harm to Indigenous women—a group that is already more at risk of becoming victims of sexual violence than any other demographic in our country.”⁵²⁹



Winona LaDuke (Honor the Earth)

In July 2021, people came across an Enbridge Line 3 drilling site across from the Willow River and witnessed an unreported spill of drilling fluid (i.e., “frac-out”) into the river.⁵³⁰ 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,⁵³¹ 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,”⁵³² and released an additional undisclosed volume of drilling fluid into regional aquifers.⁵³³

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 communities⁵³⁴ (Section 5c.iii.). 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).⁵³⁵ 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.⁵³⁶ As previously discussed in Section 5.c.ii., 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).⁵³⁷ Additionally, food insecurity during pregnancy, as many women

528 Rainforest Action Network (2020, December 8). *Big Banks Face Stark Climate Choices as Tar Sands Pipelines Rammed Through Amidst Escalating Pandemic*. [\[LINK\]](#)

529 The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

530 Marohn K., (2021, July 13). State regulators investigate release of drilling fluid into Willow River during Line 3 construction. *MPR News*. [\[LINK\]](#)

531 Watch the Line MN (2021, August 10). *MPCA: Enbridge Polluted Water at 63% of Horizontal Drilling Locations*. [\[LINK\]](#)

532 Marohn, K. (2021, July 13). State regulators investigate release of drilling fluid into Willow River during Line 3 construction. *MPR News*. [\[LINK\]](#)

533 Marohn, K. (2022, February 23). “Minn. Lawmaker Demands Data on Line 3 Frac-Outs. *MPR News*. [\[LINK\]](#)

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

535 Asante-Muhammad, D. Et al. (2022, February 14). Racial Wealth Snapshot: Native Americans. *National Community Reinvestment Coalition*. [\[LINK\]](#)

536 Chesnik C. (2022, April 12). WECAN Interview.

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

along Enbridge Line 3 are at risk of experiencing, can have serious cognitive and developmental fetal impacts, creating cascading intergenerational effects.⁵³⁸

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.⁵³⁹ 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.⁵⁴⁰ 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.⁵⁴¹ Women with diabetes who are pregnant and leave their illness untreated have increased rates of fetal birth defects, miscarriages, and preterm births.⁵⁴² In addition to the physical impacts of diabetes, disabled or ill children increase women's caretaking responsibilities (Section 5b.).

This data suggests that Line 3-imposed food insecurity could precipitate a public health crisis with Indigenous women carrying an unfairly heavy burden. As Tara Houska (Couchiching First Nation)—a tribal attorney and land defender—summarizes:

"It's the land of 10,000 lakes, including the headwaters of the Mississippi River, with tens of millions of people downstream. So there's the risk of a spill. There's the risks of construction itself—so disrupting the water quality and harming the wild rice tributaries that are downstream and the emissions associated with this project, which are the equivalent of 50 new coal-fired plants being built. When I see a project like this that is billing itself as a replacement to an old leaking line, my initial question is, why are you leaving your old mess in the ground and building a new pipeline through a new ecosystem in new river sheds in new waters so it can leak somewhere else?"⁵⁴³



Tara Houska (Teena Pugliese, WECAN)

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.⁵⁴⁴ 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.⁵⁴⁵

⁵³⁸ Ibid.

⁵³⁹ Williams, D. E., et al. (2001). The effect of Indian or Anglo dietary preference on the incidence of diabetes in Pima Indians. *Diabetes care*, 24(5), 811-816. [\[LINK\]](#)

⁵⁴⁰ 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*. [\[LINK\]](#)

⁵⁴¹ Mayo Clinic Staff (2022). Diabetes. *Mayo Clinic*. [\[LINK\]](#)

⁵⁴² Center for Disease Control (2022). Type 1 or Type 2 Diabetes and Pregnancy. *Center for Disease Control*. [\[LINK\]](#)

⁵⁴³ Cornish A. et al., (2021, June 17). Indigenous Activist On Why Groups Are Protesting The Line 3 Pipeline In Minnesota. *NPR: All Things Considered*. [\[LINK\]](#)

⁵⁴⁴ Whyte, K.P. Indigenous Women, Climate Change Impacts, and Collective Action. *Hypatia: Journal of Feminist Philosophy* 29 (3), 599-616. [\[LINK\]](#)

⁵⁴⁵ Clabots, B. (2019, October 14). The Darkest Side of Fossil-Fuel Extraction. *Scientific American*. [\[LINK\]](#)



Oxidized industrial chemicals and chemical sheens observed in waterways downstream from Enbridge Line 3. (Ron Turney)

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.⁵⁴⁶ 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.⁵⁴⁷ As Enbridge moves ahead with the project, the company is directly violating Indigenous Peoples' right to Free, Prior and Informed Consent.⁵⁴⁸

Bank of America, JPMorgan Chase, and Royal Bank of Canada are all lenders providing credit facilities to relevant Enbridge companies.⁵⁴⁹ Bank of America and JPMorgan Chase were both lead managers underwriting the bonds Enbridge issued in 2020, and Royal Bank of Canada is profiting from fees for advising Enbridge on how to sell renewable energy and natural gas assets in order to focus on Line 3.⁵⁵⁰ Additionally, as of March 2022, Royal Bank of Canada, Vanguard, Bank of America, and JPMorgan Chase were some of the top financiers⁵⁵¹ and investors⁵⁵² of Enbridge.

6g.ii. Enbridge Line 5

Enbridge Line 5 is a twofold issue: (1) a relocation around Bad River Band Reservation that would require new construction through the Kakagon-Bad River Slough Complex—an ecologically, culturally, and economically significant ecosystem, and (2) the entire original Line 5 is long expired and threatens a catastrophic rupture or leak into the Kakagon-Bad River Slough Complex.⁵⁵³ The current Line 5 pipeline transports nearly 23 million gallons of oil daily, as well as liquid propane from Superior, Wisconsin to Sarnia, Ontario (Sarnia discussed in Section 6f.). The pipeline cuts through the Great Lakes via the Straits of Mackinac (a busy shipping canal), as well as wetlands and over 400 rivers and streams.

⁵⁴⁶ Stope Line 3 and Honor the Earth. *Stop the Line 3 Pipeline*. [\[LINK\]](#)

⁵⁴⁷ Ibid.

⁵⁴⁸ Food and Agriculture Organization of the United Nations. *Indigenous peoples*. [\[LINK\]](#)

⁵⁴⁹ Kirsch, A. (2018, October-updated 2020 November). *Who's Banking Enbridge?* *Rainforest Action Network*. [\[LINK\]](#)

⁵⁵⁰ Ibid.

⁵⁵¹ Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁵⁵² NASDAQ. *Enbridge Inc Common Stock (ENB)*. [\[LINK\]](#)

⁵⁵³ Kaeding D., (2022, February 2). Hundreds participate in a hearing on Enbridge's proposed oil and gas pipeline project. *Wisconsin Public Radio*. [\[LINK\]](#)

As the result of a 2019 lawsuit by the Bad River Band against Enbridge for crossing 12 miles of Indigenous land, Enbridge is now “relocating” this leg of Line 5 through 41 miles of pipe via Ashland, Bayfield and Iron counties in Wisconsin. Both the current pipeline and the proposed relocation threaten to irreversibly damage drinking water, ecosystems, and manoomin (sacred Indigenous wild rice) that local communities depend on.⁵⁵⁴ Enbridge continues to violate FPIC and tribal usufructuary rights.⁵⁵⁵ Line 5 construction 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).⁵⁵⁶



Protesters raise signs calling to protect Manoomin (sacred Indigenous wild rice) from the environmental impacts of Enbridge Line 3. (Honor the Earth)

The proposed reroute would cut through more than 900 waterways upstream from Bad River Band Reservation,⁵⁵⁷ so any pollutants produced through the Line 5 Reroute construction would empty directly into tribal land. Pollutants in the Kakagon-Bad River Slough Complex would impact the drinking water and food supply for millions.⁵⁵⁸ 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.⁵⁵⁹ 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,⁵⁶⁰ 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.⁵⁶¹ 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).

Public comment on the Line 5 Reroute project ended on April 15, 2022; 92.4% of people testified during the hearings calling for the Department of Natural Resources (DNR) to deny Enbridge building permits and force the decommissioning of Line 5.⁵⁶² Line 5 Reroute construction cannot begin until a series of permits, approvals, and reviews have been obtained.

⁵⁵⁴ Lee, J. (2022, April 18). How rights of nature and wild rice could stop a pipeline. *Grist*. [\[LINK\]](#)

⁵⁵⁵ *Ibid.*

⁵⁵⁶ Michigan Environmental Council (2021). The Problem with the Line 5 Oil Pipeline. *Oil & Water Don't Mix*. [\[LINK\]](#)

⁵⁵⁷ Wisconsin Department of Natural Resources (2021, December). *Draft Environmental Impact Statement: Proposed Enbridge Line 5 Relocation Project Vol.2*. [\[LINK\]](#)

⁵⁵⁸ Sivaraman B., (2022, January 31). How a Shoddy Environmental Review Could Cause a Catastrophic Oil Spill in Wisconsin. *EarthJustice*. [\[LINK\]](#)

⁵⁵⁹ 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*. [\[LINK\]](#)

⁵⁶⁰ EPA Region 5 (2022, March 16). *Letter from US EPA Region 5 to US Army Corps of Engineers, St. Paul District, Regulatory Branch*. [\[LINK\]](#)

⁵⁶¹ Wisconsin Department of Natural Resources (2021, December). *Draft Environmental Impact Statement: Proposed Enbridge Line 5 Relocation Project Vol.2*. [\[LINK\]](#)

⁵⁶² Sierra Club (2022). Line 5. *Sierra Club Wisconsin Chapter*. [\[LINK\]](#)

Recent studies have shown there is no public need for Line 5,⁵⁶³ and that decommissioning Line 5 would not significantly impact oil or gas supply.⁵⁶⁴ The Upper Peninsula region has 50 alternate transport sources for gas.⁵⁶⁵ Enbridge faces opposition from many Indigenous communities across Wisconsin, Minnesota, and Michigan, as well as county officials along the proposed reroute and activists.⁵⁶⁶ Originally built in 1953, Line 5 was only expected to be used for fifty years.⁵⁶⁷ Now, as of 2022, 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.⁵⁶⁸

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.”⁵⁶⁹ The Straits can generate intense currents “that can create a flow of water more than 10 times greater than the flow over Niagara Falls.”⁵⁷⁰ 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.

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.⁵⁷¹ A potential spill would have catastrophic consequences for nearby communities' food, water, and financial security. As previously discussed in Section 5.c.ii., women are 40% more likely to report food insecurity in the U.S.⁵⁷² Food insecurity during pregnancy produced by insufficient income can have serious cognitive and developmental fetal consequences – creating an adverse generational impact.⁵⁷³ 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:

“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.”⁵⁷⁴

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. Over the course of history, about 120 groups of Native Peoples have occupied the Great Lakes basin.

⁵⁶³ 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*. [\[LINK\]](#)

⁵⁶⁴ Public Sector Consultants (2020, March). *Analysis of Propane Supply Alternatives for Michigan*. [\[LINK\]](#)

⁵⁶⁵ Michigan Department of Environment (2020, April 17). *Upper Peninsula Energy Task Force Committee Recommendations*. [\[LINK\]](#)

⁵⁶⁶ Department of Natural Resources (DNR), (2022). Enbridge Pipeline Projects in Wisconsin. *The Wisconsin Department of Natural Resources*. [\[LINK\]](#)

⁵⁶⁷ Clean Water Action. *Line 5: A History*. [\[LINK\]](#)

⁵⁶⁸ Rock, J. (2021, December 21). Fossil Fuel Company Enbridge: Climate Change Means We Need to Make Money Now, Not Later. *Jacobin Magazine*. [\[LINK\]](#)

⁵⁶⁹ Mihell C., (2017, November 6). The Aging Oil Pipeline Underneath the Great Lakes. *Sierra Club Magazine*. [\[LINK\]](#)

⁵⁷⁰ Michigan Environmental Council (2021). The Problem with the Line 5 Oil Pipeline. *Oil & Water Don't Mix*. [\[LINK\]](#)

⁵⁷¹ Ibid.

⁵⁷² 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*. [\[LINK\]](#)

⁵⁷³ Ibid.

⁵⁷⁴ Chesnik C. (2022, April 12). WECAN Interview.

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.⁵⁷⁵

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.⁵⁷⁶ 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."

Bank of America, JPMorgan Chase, and Royal Bank of Canada are all lenders providing credit facilities to relevant Enbridge companies.⁵⁷⁷ Bank of America and JPMorgan Chase were both lead managers underwriting the bonds Enbridge issued in 2020.

6g.iii. Trans Mountain Expansion Project

The Trans Mountain Expansion Project (TMX) entails replicating an existing pipeline along a 1,500 kilometer route from Alberta to British Columbia.⁵⁷⁸ 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.⁵⁷⁹ 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.⁵⁸⁰ 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 January, 2021, is still the owner.

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.⁵⁸¹ 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.⁵⁸² The Squamish, the Tsleil-Waututh, the Coldwater, and a collective of bands within the Stó:lō, also argued against the project in December, 2019.⁵⁸³ When the 2019 First Nations' appeal was dismissed,⁵⁸⁴ even more First Nations challenged the

⁵⁷⁵ 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*. [\[LINK\]](#)

⁵⁷⁶ Kingston, L. (2015, January 13). The Destruction of Identity: Cultural Genocide and Indigenous Peoples. *Journal of Human Rights* vol. 14. [\[LINK\]](#)

⁵⁷⁷ Kirsch, A. (2020, November). Who's Banking Enbridge? *Rainforest Action Network*. [\[LINK\]](#)

⁵⁷⁸ The Canadian Press (2020, September 15). Trans Mountain pipeline expansion on schedule and on budget after 1st year, says CEO. *CBC*. [\[LINK\]](#)

⁵⁷⁹ Ibid.

⁵⁸⁰ Cunningham, N. (2020, August 14). Canada's Trans Mountain Pipeline Inches Forward, But Opposition Intensifies. *Desmog*. [\[LINK\]](#)

⁵⁸¹ Kassam, A. (2018, August). Trans Mountain pipeline halted after Canadian court overturns approval. *The Guardian*. [\[LINK\]](#)

⁵⁸² Bellrichard, C. (2020, February 4). First Nations respond to Trans Mountain appeal decision. *CBC*. [\[LINK\]](#)

⁵⁸³ Ibid.

⁵⁸⁴ Kung, E. (2020). Eugene Kung speaks on Wellhead to Tidewater webinar. *Vimeo*. [\[LINK\]](#)

project. In August, 2020, the Squamish Nation, the Tsleil-Waututh Nation, the Ts'elxwéyeqw Tribes, and the Coldwater Indian Band challenged the Court of Appeals by filing applications to the Supreme Court of Canada. However, in July, 2020, the Supreme Court dismissed this appeal.⁵⁸⁵ While construction moves forward on TMX, it is abundantly clear that Free, Prior and Informed Consent has not been granted.

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.⁵⁸⁶ 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.”⁵⁸⁷ The government has not taken any action.

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 2021, even in the midst of a pandemic. Construction sites in Clearwater and Valemount are operating within Secwepemc Territory and without Secwepemc consent.⁵⁸⁸ 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.⁵⁸⁹ 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.⁵⁹⁰

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.⁵⁹¹ Despite these hurdles, pro-oil officials reiterate that TMX is extremely strategic and allows Canada to reach new international oil markets.⁵⁹² 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.⁵⁹³ 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.⁵⁹⁴

585 Rabson, M. (2020, July 2). Supreme Court rejects Indigenous challenge to Trans Mountain pipeline approval. *The Canadian Press*. [\[LINK\]](#)

586 Tiny House Warriors (2020, April 1). *Shut Down the Man-Camps*. [\[LINK\]](#)

587 Ibid.

588 Ibid.

589 Tiny House Warriors. *About*. [\[LINK\]](#)

590 National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada). (2019). *Reclaiming Power and Place*. Privy Council Office, 1a, 7. [\[LINK\]](#); Smith, R. (2020, October 5). Liberty Mutual slammed for tar sands involvement. *Insurance Business America*. [\[LINK\]](#)

591 Moore E., (2022, March 8). Five reasons that expanding the trans mountain oil pipeline is still a colossal mistake. *Sightline*. [\[LINK\]](#)

592 Varcoe C., (2022, February 3). Trans Mountain expansion running over budget by billions of dollars and months behind schedule. *National Post*. [\[LINK\]](#)

593 Sulakshana, E. (2020, July 14). Who's insuring the Trans Mountain pipeline? *Rainforest Action Network*. [\[LINK\]](#)

594 Israel, B. (2017, October 4). *The Real GHG trend: Oilsands among the most carbon intensive crudes in North America*. Pembina Institute. [\[LINK\]](#)

The pipeline requires insurance under federal law in order to transport oil because of the numerous risks associated with pipelines and construction.⁵⁹⁵ If insurance companies stopped providing critical financial support to Trans Mountain, the project would no longer be able to transport oil.⁵⁹⁶ Liberty Mutual has provided significant insurance coverage to Trans Mountain.⁵⁹⁷

Banks also play a large role in expanding the TMX pipeline. Royal Bank of Canada (RBC) has provided financial support to TMX: in 2018, RBC helped finance Canada's \$4.5 billion purchase of Kinder Morgan's TMX.⁵⁹⁸ This occurred through a loan agreement guaranteed up to \$1 billion by Export Development Canada.⁵⁹⁹ In June 2017, when Kinder Morgan obtained project-level funding to build TMX, RBC and JPMorgan Chase were lenders.⁶⁰⁰ By continuing to provide financial support, Liberty Mutual, RBC, and JPMorgan Chase are violating Indigenous rights, perpetuating the MMIWG2S epidemic, and facilitating the continuation of North America's most carbon intensive operation.

⁵⁹⁵ Sulakshana, E. (2020, July 14).

⁵⁹⁶ Ibid.

⁵⁹⁷ Ibid.

⁵⁹⁸ Meyer, C. Et al. (2018, June 25). More than \$1 billion will go through seldom-used Canadian account to buy pipeline. *Canada's National Observer*. [\[LINK\]](#)

⁵⁹⁹ Ibid.

⁶⁰⁰ U.S. Securities and Exchange Commission (2017, June 16). *Credit Agreement between Kinder Morgan and Trans Mountain Pipeline ULC*. [\[LINK\]](#)

6h. 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) Bank of America, (2) JPMorgan Chase, (3) Royal Bank of Canada	(1) BlackRock	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),	Energy Transfer	(1) JPMorgan Chase, (2) Royal Bank of Canada, (3) Bank of America	N/A	Liberty Mutual: certificate of insurance for Mariner East Pipeline System
(1) Liquefied Natural Gas (LNG) Facility (Butler County, PN), (2) Liquefied Natural Gas Facility (Belmont County, OH)	ExxonMobil (i.e., XTO Energy Inc.)			
(1) Bradshaw Compressor Station (Mannington, WV), (2) Harris Compressor Station (Braxton County, WV), (3) Stallworth Compressor Station (Fayette County, WV), (4) Mountain Valley Pipeline, (5) Marcellus & Utica Shale LNG well pad (bought during EQT acquisition of Chevron Appalachia), (6) Laurel Mountain Midstream (bought during EQT acquisition of Chevron Appalachia)	EQT Corporation (i.e., Mountain Valley Pipeline LLC)	(1) JPMorgan Chase, (2) Bank of America	(1) BlackRock, (2) Vanguard, (3) Capital Group	N/A
(1) Union Carbide Corp Facility (Institute, WV), (2) Union Carbide Corp South Charleston Facility (Charleston, WV)	Dow Inc.	(1) JP Morgan Chase, (2) Royal Bank of Canada, (3) Bank of America	(1) Vanguard, (2) BlackRock, (3) Capital Group	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) JPMorgan Chase, (2) Bank of America, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
Williams Gas Pipeline Transco	Williams Companies, Inc.	(1) Bank of America, (2) JP Morgan Chase, (3) Royal Bank of Canada	(1) Vanguard, (2) BlackRock	N/A
Piedmont natural gas	Duke Energy Corporation	(1) Royal Bank of Canada	(1) Vanguard, (2) BlackRock, (3) Capital Group	N/A

All data in the chart is derived from financial data bases/platforms (Nasdaq/Yahoo! Finance/Fin-tel), Rainforest Action Network's 2022 published report, Banking on Climate Chaos, or a campaign update from BlackRockBigProblem'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.

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.⁶⁰¹ This region exemplifies how fossil fuel companies and their investors target low-income communities: the top three fracking counties in Virginia (Buchanan, Wise, and Dickenson) are in the state's ten most impoverished counties, and six of the seven counties in Pennsylvania with the most fracking wells have poverty levels below the state's average.⁶⁰²

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.⁶⁰³ A 2017 study that examined the health records of 1,125,748 infants born in Pennsylvania from 2004 to 2013, found negative health

⁶⁰¹ Food and Water Watch (2020, September 21). *Cracked: The Case For Green Jobs Over Petrochemicals In Pennsylvania*. [\[LINK\]](#)

⁶⁰² Castelli, M. (2015, May 8). Fracking and the Rural Poor: Negative Externalities, Failing Remedies, and Federal Legislation. *Indiana Journal of Law and Social Equality*, 3(2). [\[LINK\]](#)

⁶⁰³ 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*, 110(28). [\[LINK\]](#)

effects for infants born to mothers living within three kilometers of a fracking site during pregnancy.⁶⁰⁴ 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.⁶⁰⁵ A study that examined pregnant women residing close to a shale gas well from 2003 to 2010 in Pennsylvania showed the introduction of drilling increased low-birth-weight and decreased term birth weight, on average, among infants whose mothers lived within 2.5 kilometers of a well, providing further evidence that air pollution from shale gas development threatens infant health.⁶⁰⁶ As the CDC states, “complications of pregnancy are health problems that occur during pregnancy. They can involve the mother’s health, the baby’s health, or both.”⁶⁰⁷ In other words, infant health is directly related to maternal health, and therefore,⁶⁰⁸ this study also has implications for the health of mothers and women in general.

The Mountain Valley (Mainline and Southgate) Pipeline (MVP) serves as a current, evolving case study in Appalachia. Owned by a joint venture (i.e., Mountain Valley Pipeline LLC) in which EQT Corporation holds significant interest,⁶⁰⁹ the MVP Mainline construction project is a natural gas pipeline from the Marcellus and Utica Shales in southern Virginia to northwestern West Virginia. An additional MVP Southgate project has been proposed which would extend from the Mainline at a site in southern Virginia to central North Carolina. Originally expected to be completed in 2020, the MVP project (both Mainline and Southgate) now runs three years behind schedule and \$3 billion over budget.⁶¹⁰ Although Mountain Valley Pipeline LLC claims that MVP is about 94% complete⁶¹¹ (i.e., pipeline welded, buried, and land restored), construction reports published by Mountain Valley Pipeline LLC states the project is currently only 56% complete as of late June 2022.⁶¹² Legal, bureaucratic, and physical obstacles (e.g., lawsuits, long permit processes, and protestors blocking construction routes) contribute to this delay; Mountain Valley Pipeline LLC has incurred billions in fines for environmental violations, legal battles, permit negotiations, and costly construction delays.⁶¹³ In short, pipelines such as MVP carry huge financial losses for investors, insurers, and shareholders that can be avoided through supporting clean energy sectors.

MVP construction threatens regional water supplies such as the Stony Creek Reservoir in Burlington, North Carolina and groundwater supplies in other areas.⁶¹⁴ 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:

604 Currie, J., Et al. (2017, December 13). Hydraulic fracturing and infant health: New evidence from Pennsylvania. *Science Advances*, 3(12). [\[LINK\]](#)

605 Ibid.

606 Hill, E.L. (2018, August 13). Shale gas development and infant health: Evidence from Pennsylvania. *Journal of Health Economics*, 61, 134–150. [\[LINK\]](#)

607 Centers for Disease Control. *Reproductive Health: Pregnancy Complications*. [\[LINK\]](#)

608 Ibid.

609 Mountain Valley Pipeline Project. *Overview*. [\[LINK\]](#)

610 Mall, A. (2020, September 10). 5 Key Reasons to Stop the Mountain Valley Pipeline. *Natural Resources Defense Council*. [\[LINK\]](#)

611 Federal Energy Regulatory Commission (2022, June 2). *Mountain Valley Pipeline, LLC submits Weekly Report No. 238 for the Period of May 14, 2022 to May 20, 2022 under CP16-10*. [\[LINK\]](#)

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

613 Hansley C., (2022, March 3). The Mountain Valley Pipeline Is Far From Inevitable. *Sierra Club*. [\[LINK\]](#)

614 Sierra Club (2022). *Stop Mountain Valley Pipeline*. *Sierra Club Virginia Chapter*. [\[LINK\]](#)

“With these pipelines, extractive companies are coming in with mining and air compression stations where they blow off chemicals or release toxins into the soil or the aquifers that go underground...Most of our water comes from springs that are underground...when you release the chemicals into the ground it gets into our water. Or it rains down...so you’re having the chemicals that are raining down on your food which in turn makes people eat poisons. So people are developing cancers at an alarming rate...We have a lot of cancer clusters in the areas around these pipelines, coal ash power plants, and compression stations...We have a lot more women with breast cancer. My aunt is dying of breast cancer. It has affected our people.”⁶¹⁵

Among the reasons for resistance to MVP is a lack of consideration for Indigenous communities and communities of color. The proposed MVP routes go through African American/Black/African Diaspora, Indigenous, 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 pumped particulate pollution into a predominantly African American/Black/African Diaspora community in Pittsylvania County, Virginia.⁶¹⁶ Anita Royston, President of the Pittsylvania County NAACP, describes how promises of economic prosperity fails 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?”⁶¹⁷

Particulate pollution from compressor plants includes neurotoxins such as hexane and carcinogens such as formaldehyde.⁶¹⁸ Formaldehyde is a known genotoxin, causing DNA and chromosomal damage. Pregnant women exposed to formaldehyde can have major fetal neurodevelopmental deficits.⁶¹⁹ 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.⁶²⁰

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. Plans for petrochemical plants are appearing across the region: Shell is currently constructing a plant in Beaver County, which has a poverty rate above the national average.⁶²¹ This giant ethane cracker is estimated to produce 1.8 million

⁶¹⁵ Cavalier-Keck, C. (2022, May 18). WECAN Interview.

⁶¹⁶ Southern Environmental Law Center (2021, December 6). *Victory for Environmental Justice Mountain Valley Pipeline Compressor Station Permit Denied*. [\[LINK\]](#)

⁶¹⁷ Protect Our Water Heritage Rights (POWHR) (2022, April 12). *We Believe We Will Win - A Rally to Stop the Mountain Valley Pipeline*. [\[LINK\]](#)

⁶¹⁸ Campblin K., Ahdoot S. (2021, November 26). Opinion: On environmental justice, the Mountain Valley Pipeline is an old story. *The Washington Post*. [\[LINK\]](#)

⁶¹⁹ Agency for Toxic Substances and Disease Registry (2022). *Medical Management Guidelines for Formaldehyde*. *Centers for Disease Control*. [\[LINK\]](#)

⁶²⁰ Ibid.

⁶²¹ Food and Water Watch. (2020, September 21). *Cracked: The Case For Green Jobs Over Petrochemicals In Pennsylvania*. [\[LINK\]](#)

tons of plastic per year.⁶²² Just this single plastic project would negate all of Pittsburgh's work combating the climate crisis through 2030.⁶²³ According to the Center for Environmental Research and Education at Duquesne University, because shale gas wells have steep declines in production rates, Shell's ethane cracker will require more wells to be drilled to keep the plant running for decades to come.⁶²⁴ Shell claims to support the Paris Agreement⁶²⁵ and states 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."⁶²⁶

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 has a poverty rate over two percentage points above the national average.⁶²⁷ PTT Global Chemical expects a final investment decision in 2021 for its planned petrochemical complex in Shadyside, Ohio.⁶²⁸ 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 products⁶²⁹

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."⁶³⁰ Liberty Mutual has provided significant insurance coverage for Energy Transfer's Mariner East pipeline in Pennsylvania.⁶³¹ Vanguard and BlackRock are major investors in PTT Global Chemical, the company behind the giant ethane cracker planned for Ohio.⁶³²



A coal power plant in Allegheny County, Pennsylvania is surrounded by residential neighborhoods. (Ted Auch, FracTracker Alliance)

As of December 31, 2021, Vanguard, BlackRock, and Capital Group are three of the top four largest investors in Dow Inc.,⁶³³ the company responsible for the Union Carbide Petrochemical Complex in Institute, West Virginia. Institute is notoriously underfunded by the state and is one of West Virginia's only majority Black communities.⁶³⁴ West Virginia State College (in Institute) is now suing Dow Inc. for contaminating Institute groundwater and damaging Institute's national reputation. This damaged reputation can "cause property values to plummet, trapping neighborhoods in a vicious cycle of disinvestment."⁶³⁵ BlackRock and Vanguard are the top two investors in the Mountain Valley Pipeline, operated by Mountain Valley Pipeline LLC (which is majority owned by EQT Corporation).⁶³⁶ Corporate structures of fossil fuel companies can be very com-

622 The Allegheny. (2020, February 5). Video: As the World Grapples with Plastic Pollution, PA's Ethane Cracker Promises More Plastic. [\[LINK\]](#)

623 Cunningham, N. (2019, March 21). A Fracking-Driven Industrial Boom Renews Pollution Concerns in Pittsburgh. *Yale School of the Environment*; *Yale Environment* 360. [\[LINK\]](#)

624 Ibid.

625 Shell. *Our Climate Target*. [\[LINK\]](#)

626 Shell. *Shell Energy Transition Report*. [\[LINK\]](#)

627 Brelsford, R. (2020, September 14). PTTGCA advances proposed Ohio petrochemical complex. *Oil & Gas Journal*. [\[LINK\]](#)

628 Ibid.

629 Ibid.

630 Holden, E. (2019, October 11). Will a push for plastics turn Appalachia into next 'Cancer Alley'? *The Guardian*. [\[LINK\]](#)

631 Energy Insurance Mutual. *Certificate of insurance for Sunoco Pipeline L.P.* [\[LINK\]](#)

632 Fintel. *TH:PTTGC-R / PTT Global Chemical PCL*. [\[LINK\]](#)

633 NASDAQ. *Dow Inc. Common Stock (DOW)*. [\[LINK\]](#)

634 Ward Jr. K., (2021, December 21). How Black Communities Become "Sacrifice Zones" for Industrial Air Pollution. *ProPublica*. [\[LINK\]](#)

635 Ibid.

636 EQT Corporation (2015, March 11). *Mountain Valley Pipeline Announces WGL Midstream as a Partner, Shipper, and Gas Purchaser*. [\[LINK\]](#); NASDAQ. *EQT Corporation Common Stock (EQT)*. [\[LINK\]](#)

plicated, as is the case for MVP. Mountain Valley Pipeline is operated by Mountain Valley Pipeline LLC, which is a joint venture among EQM Midstream Partners, LP (EQT Corporation); NextEra Capital Holdings, Inc.; Con Edison Transmission, Inc.; WGL Midstream; and RGC Midstream, LLC. EQT Corporation has a 47% holding—the largest of any shareholder in Mountain Valley Pipeline.⁶³⁷ This sort of nesting doll of operators, companies, and shareholders often makes it difficult to identify key players in fossil fuel projects. Because of EQT Corporation's majority holding and the overall complexity of the corporate structure of Mountain Valley Pipeline LLC, we have focussed on only EQT Corporation's financiers. Capital Group and Bank of America are also among Mountain Valley Pipelines top 15 financiers.⁶³⁸ By financing Dow Inc. and EQT Corporation., financial institutions are participating in the devaluing, polluting, and damaging of African American/Black/African Diaspora communities, such as Institute, in Appalachia.

⁶³⁷ Oil Change International, (2020 November). New Money Behind the Mountain Valley Pipeline. *Sierra Club*. [\[LINK\]](#)

⁶³⁸ NASDAQ. *EQT Corporation Common Stock (EQT)*. [\[LINK\]](#)

Covid-19



Lynn D. Buerhring wears a respirator outside her home in Karnes City, Texas located in the Eagle Ford Shale. She had to close her accounting business after being unable to concentrate on work due to migraine headaches that started shortly after the local fracking boom. Individuals with existing respiratory problems due to fossil fuel development are more likely to be infected with Covid-19 and have more severe cases. (Julie Dermansky)

Covid-19

Many of the same communities discussed in the case studies above are suffering the worst outcomes from the Covid-19 pandemic, as disproportionate impacts are occurring in terms of both race and gender.⁶³⁹ The health and economic consequences from the pandemic in frontline communities are exacerbated by long-term exposure to pollutants emitted by nearby refineries, drilling sites, and other fossil fuel activity.

A study from Harvard's School of Public Health found that the Covid-19 death rate is 15% higher in areas with even slightly increased air pollution than areas with clean air, indicating the link between preexisting conditions from fossil fuel activity and Covid-19 outcomes.⁶⁴⁰ The fossil fuel industry's pollution and concentration of activity in communities of color ("sacrifice zones"), have contributed to these racial disparities.⁶⁴¹ Communities subjected to elevated levels of particulate matter are associated with higher death rates from Covid-19, even after controlling for other factors such as pre-existing conditions like obesity and diabetes.⁶⁴² Using models and satellite data, this study found that a significant portion of the global Covid-19 mortality is attributable to anthropogenic air pollution, of which 70-80% in North America is related to fossil fuel combustion.⁶⁴³

A study published by the *Oxford Academic Journal* found that air pollution, specifically exposure to Particulate Matter 2.5 (PM2.5), is a fundamental cofactor increasing the mortality from Covid-19.⁶⁴⁴ Because fossil fuel combustion emits large amounts of PM2.5 particulates as well as other harmful air pollution, it is unsurprising the communities analyzed in this report have experienced periods of holding the highest Covid-19 death and infection rates. Kern County in California,⁶⁴⁵ the Texas Gulf South,⁶⁴⁶ Weld County in Colorado,⁶⁴⁷ and Louisiana parishes in Cancer Alley⁶⁴⁸ are all areas with dense fossil fuel activity and have all been Covid-19 hot spots in the last two years.



Industrial air pollution from flaring at a refinery in Deer Park, Texas. (Julie Dermansky)

A particularly disturbing case of Covid-19 running rampant in a community already ravaged by the pollution from petrochemical plants is along "Cancer Alley" in Louisiana's St. John the Baptist Parish. In April 2020, St. John the Baptist Parish had the highest Covid-19 death rate of any

⁶³⁹ Leonhardt, D. (2022, June 9). Covid and Race. *The New York Times*. [\[LINK\]](#)

⁶⁴⁰ Wu, X., Et al. (2020, May 5). Air pollution linked with higher Covid-19 death rates. *Harvard TH Chan: School of Public Health*. [\[LINK\]](#)

⁶⁴¹ Castillo, E. (2022, May 12). WECAN Interview.

⁶⁴² Covert, B. (2016 February 18). Race Best Predicts whether you Live near Pollution. *The Nation*. [\[LINK\]](#)

⁶⁴³ Ibid.

⁶⁴⁴ Pozzer, A., Et al. (2020, December 1). Regional and global contributions of air pollution to risk of death from Covid-19. *Cardiovascular Research*, 116(14), 2247-2253. [\[LINK\]](#)

⁶⁴⁵ Branson-Potts, H. (2020, August). Political battles, confusion reign in Kern County, one of worst U.S. coronavirus hot spots. *Los Angeles Time*. [\[LINK\]](#)

⁶⁴⁶ Fernandez, M., Et al. (2020, August 13). 5 South Texas Communities Have the Country's Highest New Infection Rates. *The New York Times*. [\[LINK\]](#)

⁶⁴⁷ Wingenter, M. (2020, June 8). Denver's Covid-19 infection and death rates surpass a flattening Weld County. *Denver Post*. [\[LINK\]](#)

⁶⁴⁸ Terrell, K. Et al. (2020 May). Air Pollution and Covid-19: A Double Whammy for African American and Impoverished Communities in Cancer Alley. *Tulane Law Clinic*. [\[LINK\]](#)

county in the U.S..⁶⁴⁹ African American/Black/African Diaspora residents of St. John make up 32.7% of the population, but accounted for 70% of the Covid-19 deaths.⁶⁵⁰ The much higher death rate in this parish as compared to the national average has been extensively shown to be caused by pollution from nearby fossil fuel infrastructure.⁶⁵¹ The systematic racism that has persisted for centuries has been brought into ever more shocking light with the disproportionate impacts from Covid-19. The Covid-19 economic consequences are also unequally affecting women, particularly African American/Black/African Diaspora, Indigenous, Latina/Chicana, and other women of color.

Women have also been disproportionately impacted by job loss during Covid-19.⁶⁵² According to the Pew Research Center, part of the reason women have suffered greater job and income loss is due to the overrepresentation of women in healthcare, food services, and personal care services that were severely curtailed during the pandemic.⁶⁵³ While men have been recovering lost jobs as Covid-19 restrictions ease, women are still short 1.8 million jobs as of January 2022.⁶⁵⁴ This number does not even include people who left the labor force entirely and will not return. Specifically, Latinas/Chicanas had a 5.4% unemployment rate and African American/Black/African Diaspora women had a 7.3% unemployment rate compared to the 5% unemployment rate of all women in the U.S., as of January 2022.⁶⁵⁵ This study did not examine Indigenous women as a demographic. Women who have re-entered the workforce are likely to earn less than they previously did.⁶⁵⁶ Additionally, according to McKinsey & Company, the gender gap in vulnerability to job losses in the pandemic can be attributed in large part to women performing essential and frontline labor: “they do an average of 75% of the world’s total unpaid care work, including childcare, caring for the elderly, cooking, and cleaning.”⁶⁵⁷

Furthermore, during the Covid-19 pandemic, food insecurity rose (parallel to unemployment rates) with African American/Black/African, Latinx, and Indigenous women seeing the greatest increase in food insecurity.⁶⁵⁸ Record numbers of people sought food assistance,⁶⁵⁹ and rates of households with children experiencing food insecurity increased 130% from 2018 to May 2020.⁶⁶⁰ Given how closely children’s food security is tied to maternal income, this also points to women’s systematic food insecurity, especially women of color who are more likely to be unemployed during the pandemic, and may in turn be forced to sacrifice their own food security to support children. The Center on Budget and Policy Priorities also noted that one in eight adults with children lacked sufficient food, many of whom were single mothers.⁶⁶¹ This evidence demonstrates that crises like Covid-19 have a disproportionate impact on the income and food security of women.⁶⁶² The demographic with the highest levels of employment throughout the

649 Laughland, O. Et al. (2020, April 7). A Virus Stalks a County with One of the Highest Death Rates in US: ‘People Are Dropping like Flies.’ *The Guardian*. [\[LINK\]](#)

650 Ibid.

651 Terrell, K., Et al. (2020 May).

652 Fry, R. (2022, January 14). Some gender disparities widened in the U.S. workforce during the pandemic. *Pew Research Center*. [\[LINK\]](#)

653 Ibid.

654 Ibid.

655 Gonzales, M. (2022, February 17). Nearly 2 Million Fewer Women in Labor Force. *SHRM*. [\[LINK\]](#)

656 Ibid.

657 Madgavkar, A., Et al. COVID-19 and gender equality: Countering the regressive effects. *McKinsey & Company*. [\[LINK\]](#)

658 Dubowitz, T. Et al. (2021). Food Insecurity in a Low-Income, Predominantly African American Cohort Following the COVID-19 Pandemic. *American journal of public health* vol. 111. [\[LINK\]](#)

659 Feeding America, (2020, April 1). \$1.4 Billion Shortfall Due To The COVID-19 Crisis. *Feeding America*. [\[LINK\]](#)

660 Bauer L., (2020, May 6). The COVID-19 crisis has already left too many children hungry in America. *The Hamilton Project* (6). [\[LINK\]](#)

661 Center on Budget and Policy Priorities (2022, February 10). Tracking the COVID-19 Economy’s Effects on Food, Housing, and Employment Hardships. [\[LINK\]](#)

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

Covid-19 pandemic were disabled women.⁶⁶³ In places of concentrated fossil fuel developments, women are more likely to be disabled by pollutants and unsafe environments, and are also more likely to have severe and deadly cases of Covid-19.⁶⁶⁴ In other words, fossil fuel development both increases women's likelihood to suffer physically from Covid-19, as well as their likelihood to experience disability, unemployment, and food insecurity.

The closing of child care centers and the shift to remote schooling due to the pandemic has increased responsibilities that disproportionately fall on women; these gender inequalities at home (e.g. household duties and child care) affect immediate and long-term inequalities in the workplace.⁶⁶⁵ Misty L. Heggeness, a principal economist at the Census Bureau, describes the long-term effects that may result from the pandemic: "mothers will forever be vulnerable to career scarring during any major crisis like this pandemic."⁶⁶⁶ These disproportionate gender and race based impacts of the pandemic are exacerbated by the fossil fuel pollution that is enabled by the financial institutions identified in this report.

⁶⁶³ Gonzales, M. (2022, February 17). Nearly 2 Million Fewer Women in Labor Force. *SHRM*. [\[LINK\]](#)

⁶⁶⁴ Wu, X., Et al. (2020, May 5). Air pollution linked with higher Covid-19 death rates. *Harvard TH Chan: School of Public Health*. [\[LINK\]](#)

⁶⁶⁵ Cohen, P. (2020, November 19). Recession With a Difference: Women Face Special Burden. *The New York Times*. [\[LINK\]](#)

⁶⁶⁶ Heggeness, M. L. (2020, October 4). Estimating the immediate impact of the Covid-19 shock on parental attachment to the labor market and the double bind of mothers. *Review of Economics in the Household*, 18, 1053-1078. [\[LINK\]](#)

Financial Institution Implementation Gaps Regarding Human Rights and the Environment



Protesters hold signs in front of BlackRock's New York City offices. (Ashley Guardado, WECAN)

Financial Institution Implementation Gaps Regarding Human Rights and the Environment

Fossil fuel company operations are only possible because businesses have bankers, asset managers, and insurers 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.

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).⁶⁶⁷ 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."⁶⁶⁸ 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 supervise, monitor, and mitigate 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]."⁶⁶⁹



Shamyra Lavigne (Shamyra Lavigne)

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 various 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

⁶⁶⁷ OHCHR. (2011). *Guiding Principles on Business and Human Rights: Implementing the United Nations 'Protect, Respect and Remedy' Framework*. [\[LINK\]](#)

⁶⁶⁸ Ibid.

⁶⁶⁹ Lavigne, S. (2020, November, 25). WECAN Interview.

reduction targets, which are nationally determined.⁶⁷⁰ 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.⁶⁷¹ The United States is historically the largest contributor to greenhouse gas emissions and currently the world's second biggest carbon-emitter.⁶⁷² By rejoining the Paris Agreement in February 2021, the Biden administration reaffirmed its commitment to cutting overall greenhouse gas emissions in 2020 by 26-28% below 2005 levels before 2025.⁶⁷³ The Biden Administration also extended its Paris Agreement commitments by pledging in November 2021 to cut overall greenhouse gas emissions by 50-52% by 2030.⁶⁷⁴ The United States, thus far, has failed to rise above current political contexts to take historic responsibility and implement bold, transformative action in the climate emergency. 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.”⁶⁷⁵ 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.”⁶⁷⁶

Five of this report’s seven identified financial institutions, Vanguard, BlackRock, Royal Bank of Canada, Capital Group, and Liberty Mutual, have signed the Principles for Responsible Investment (PRIs). The PRIs, launched by the UNEP Finance Initiative, are a set of voluntary standards which assess signatories’ Environmental, Social and Corporate Governance (ESG) performances.⁶⁷⁷ The PRIs 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, Initiative, Climate International, and the Transition Pathway Initiative, most of which commit to reducing carbon investment to align with the Paris Agreement targets.⁶⁷⁸ Furthermore, the PRIs consider the protection of human rights crucial to the progress of ESG investment and plan to include a human rights assessment to its Reporting Framework by 2022.⁶⁷⁹ The goal is to eventually make this assessment mandatory.⁶⁸⁰ Notably, the PRIs “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.⁶⁸¹

Likewise, JPMorgan Chase, Royal Bank of Canada, and Bank of America are signatories to the Equator Principles (EPs). The EPs refer to a social and environmental risk management frame-

670 UNFCCC. *Key aspect of the The Paris Agreement*. [LINK]; Denchak, M. (2021, February 19). *Paris Climate Agreement: Everything You Need to Know*. NRDC. [LINK]

671 Center for Climate and Energy Solutions. (2019). *Global Emissions*. [LINK]

672 Ibid.

673 Biniarz, S. (2020, March 11). *Returning To Paris: The Next U.S. “NDC.” Climate Law Blog Sabin Center for Climate Change Law*. [LINK]

674 United States Department of State and the United States Executive Office of the President, (2021, November). *The Long-Term Strategy of the United States: Pathways to Net-Zero Greenhouse Gas Emissions by 2050*. [LINK]

675 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]

676 UNFCCC. *The Paris Agreement*. [LINK]

677 PRI. *What are the Principles for Responsible Investment*. [LINK]

678 PRI. *Climate Change*. [LINK]

679 PRI. (2020, October 22). *Principles For Responsible Investment Sets New Human Rights Expectations For Investors*. [LINK]

680 Ibid.

681 First Peoples Worldwide. *Investors and Indigenous Peoples: Trends in Sustainable and Responsible Investment and Free, Prior, and Informed Consent*. [LINK]

work, which is adopted on a voluntary basis by financial institutions. The EPs 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 (EPFIs).⁶⁸² The EPs 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. IFC Performance Standard 7 paragraphs 13-17 detail the special circumstances that require the Free, Prior and Informed Consent (FPIC) of affected Indigenous Peoples....”⁶⁸³

And yet, even as signatories of the EPs, 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, and other companies whose operations are harming communities and the environment, and are violating Indigenous rights.

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, clean energy investments comprise only 5% of total energy investments, with a majority of investments continuing to be in fossil fuels.⁶⁸⁴

We are providing a partial listing. The purpose of presenting 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: financial institutions must improve implementation of ESG policies, 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*⁶⁸⁵ and *Consent is Everybody’s Business: Why banks need to act on free, prior and informed consent*.⁶⁸⁶

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

683 Ibid.

684 International Energy Agency, (2022, June 22). Record clean energy spending is set to help global energy investment grow by 8% in 2022 [Press Release]. [\[LINK\]](#)

685 First Peoples Worldwide: University of Colorado Boulder. *Free, Prior and Informed Consent Due Diligence Questionnaire*. [\[LINK\]](#)

686 Hawkes, S. (2019, August 20). *Consent is Everybody’s Business: Why banks need to act on free, prior and informed consent*. Oxfam. [\[LINK\]](#)

8a. Bank of America

According to a report published by Rainforest Action Network, BankTrack, Indigenous Environmental Network, Oil Change International, Reclaim Finance, and the Sierra Club in 2022, Bank of America is the fourth largest bank financing the fossil fuel industry in the world. Since the Paris Agreement, the bank has poured over \$232 billion into the fossil fuel industry. In 2021 alone, Bank of America invested \$32 billion in fossil fuels, with \$8.4 billion going towards fossil fuel expansion.⁶⁸⁷ Additionally, Bank of America is the fourth largest banker of fossil fuel expansion companies in 2020 and the fourth largest banker of fracked oil and gas in 2020, 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 expansion and fracked sectors from 2019 to 2020. Bank of America's expansion spending will contribute to further pollution, which will in turn further exacerbate the health and safety risks of communities near fossil fuel activity.

Bank of America has voluntarily committed to many sustainability and carbon reduction initiatives, including the Carbon Disclosure Project, Task Force on Climate-related Financial Disclosures, the Green Bond Principles, the Partnership for Carbon Accounting Financials, the Carbon Principles, the Greenhouse Gas Protocol, the Business of Environmental Leadership Council, and the Global Compact.⁶⁸⁸ In its 2021 updated 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."⁶⁸⁹ The bank also states its "efforts to finance the transition to a low-carbon, sustainable economy."⁶⁹⁰ However, these statements do not align with Bank of America's \$8.4 billion in fossil fuel expansion and current status as the fourth largest banker in fossil fuels.

Bank of America is a signatory of the PRIs, 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."⁶⁹¹ By providing financing to Enbridge, whose Man Camps have contributed to human trafficking and threaten to perpetuate the MMIWG2S epidemic,⁶⁹² Bank of America is not in alignment with the PRIs. Financing companies at any level that results in the sexual abuse of Indigenous women is not identifying and preventing potential negative outcomes for people.

Bank of America's 2021 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...

⁶⁸⁷ Rainforest Action Network, Et. al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁶⁸⁸ BankTrack (2020). Bank of America. *Bank Track*. [\[LINK\]](#)

⁶⁸⁹ Bank of America Corporation, (2021, December). *Environmental and Social Risk Policy Framework*. [\[LINK\]](#)

⁶⁹⁰ Ibid.

⁶⁹¹ UNPRI. (2020, October 22). *Why and how investors should act on human rights*. [\[LINK\]](#)

⁶⁹² Lovrien, Jimmy. (2021, February 23). 2 arrests in human trafficking sting were Line 3 workers. *Duluth New Tribune*. [\[LINK\]](#)

we expect our clients to demonstrate alignment with the objectives and requirements of the International Finance Corporation (IFC) Performance Standard 7, which addresses impacts to Indigenous Peoples including free, prior and informed consent”⁶⁹³ (FPIC). Bank of America has provided loans to Enbridge, though tribal consent was never provided for the Line 3 pipeline, but the pipeline was completed anyway in October 2021. Now, Enbridge threatens to violate FPIC rights of Indigenous communities (e.g. Bad River Band, Red Cliff Tribe) along Enbridge Line 5 (Enbridge Line 3 and Line 5 discussed further in Section 6g.ii.-6g.iii). Indigenous tribes along Enbridge Line 5 have explicitly denied consent for this pipeline, yet Enbridge continues building plans.⁶⁹⁴ Bank of America’s statement to respect FPIC and abide by legal treaties is not being implemented.

In its 2021 Human Rights statement, Bank of America reiterated its commitment to addressing “critical human rights issues, such as economic empowerment, hunger, jobs, improved health, and access to sustainable energy and water...” and declared that its “policies and practices promote and protect human rights, and ... strive to conduct ... business in a manner consistent with the United Nations Universal Declaration of Human Rights, the United Nations Guiding Principles on Business and Human Rights and the International Labor Organization’s Fundamental Conventions.”⁶⁹⁵ Financing companies in the Permian Basin, which have been cited for emitting unsafe levels of sulfur dioxide emissions into communities, disregards communities’ right to health. Financing Enbridge, whose pipeline spilled at least one million gallons of oil into the Kalamazoo river in Michigan, which in turn spilled and leaked oil into communities’ water sources,⁶⁹⁶ is not protecting the right to clean water.

Bank of America has failed to incorporate sufficient policies restricting the financing of tar sands and fracked oil and gas projects; Bank of America has also failed to “mention any prohibition relating to coal infrastructure, or to the retrofitting of existing coal plants, thereby extending their lifetime.”⁶⁹⁷ However, in 2020 Bank of America publicly committed to measure the full carbon footprint of its financing.⁶⁹⁸ 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 companies behind the proposed Wink to Webster Pipeline, which would carry over one million barrels of fracked oil per day from the Permian Basin to terminals near Houston (Section 6c.).⁶⁹⁹ In 2020, Bank of America provided over \$1.194 billion in fossil fuel financing to Shell, which is one of the four global businesses behind 10% of the world’s carbon emissions since 1965.⁷⁰⁰

In February, 2021, Bank of America committed to Net Zero financed emissions by 2050.⁷⁰¹ 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

⁶⁹³ Bank of America. (2021, February). *Bank of America Corporation Environmental and Social Risk Policy Framework*. [\[LINK\]](#)

⁶⁹⁴ Gover, D.L., Furlong, W.J. Enbridge’s Line 5 Pipeline. *Native American Rights Fund*. [\[LINK\]](#)

⁶⁹⁵ Bank of America. (2021). *Bank of America Human Rights Statement*. [\[LINK\]](#)

⁶⁹⁶ Sierra Club: Michigan Chapter. *Kalamazoo River Disaster*. [\[LINK\]](#)

⁶⁹⁷ Reclaim Finance (2021, February). *Bank of America fails the coal policy test*. [\[LINK\]](#)

⁶⁹⁸ Rainforest Action Network Et. al. (2020 March). *Banking on Climate change: Fossil Fuel Finance Report 2020*. [\[LINK\]](#)

⁶⁹⁹ Rainforest Action Network, Et al. (2021, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2021*. [\[LINK\]](#); Bank Track. *Wink to Webster Pipeline*. [\[LINK\]](#)

⁷⁰⁰ Ibid; Taylor, M., Et al. (2019, October 9). Revealed: the 20 firms behind a third of all carbon emissions. *The Guardian*. [\[LINK\]](#)

⁷⁰¹ Bank of America. (2021, February 11). *Bank of America Announces Actions to Achieve Net Zero Greenhouse Gas Emissions before 2050*. [\[LINK\]](#)

of which approximately \$155 billion was for climate and environmental transition.”⁷⁰² While the updated policy makes important acknowledgments about the need to preserve biodiversity and respect Indigenous rights, Bank of America continues to finance and invest in companies engaged in extreme extractive and polluting activities, such as Chevron and ExxonMobil.

8b. 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.⁷⁰³ 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.⁷⁰⁴ 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.⁷⁰⁵

Liberty Mutual insured critical pipelines involved in Alberta Tar Sands extraction such as Keystone XL (insured for \$15.6 million and halted by the Biden administration) and the Trans Mountain Expansion Project (insured for \$250 million and delayed until 2023).⁷⁰⁶ It also insured the Mariner East Pipeline for an undisclosed amount.⁷⁰⁷ In contrast, Liberty Mutual claims that it has invested only \$1.5 million in “alternative energy.”⁷⁰⁸

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.⁷⁰⁹ That same year, Liberty Mutual integrated an ESG Review to monitor the environmental impact of oil and gas in credit research.⁷¹⁰ Liberty Mutual announced that it “will not insure new risks for companies with more than 25% exposure to coal; will phase out existing coverage to such companies by 2023; and will end new investments in companies that generate at least 25% of their revenue from coal mining or produce at least 25% of their power from coal.”⁷¹¹ However, “these policies leave the door open for the company to insure ‘hundreds of coal expansion projects;’”⁷¹² 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.⁷¹³ 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

⁷⁰² Bank of America (2022, April 13). Bank of America Announces 2030 Financing Activity Targets as Part of Net Zero Commitment. *Press Release*. [\[LINK\]](#)

⁷⁰³ Rainforest Action Network (2019, October). *Insurers and Climate Change*. [\[LINK\]](#)

⁷⁰⁴ Trans Mountain Canada Inc. (2021, February 22). “Request to Treat Certificate of Insurance Information Confidentially” submission to Canada Energy Regulator. [\[LINK\]](#)

⁷⁰⁵ Sulakshana, E. (2020, March 26). Liberty Mutual Stands With Tar Sands Oil. *Rainforest Action Network*. [\[LINK\]](#)

⁷⁰⁶ Sulakshana, E. (2022, May). Liberty Mutual Insurance Records. *Rainforest Action Network*.

⁷⁰⁷ Tsarouhis, F. (2020, June 22). Mass. State Legislators Urge Liberty Mutual To Cut Fossil Fuel Ties. *S&P Global Market Intelligence*. [\[LINK\]](#)

⁷⁰⁸ Liberty Mutual, (2021). 2021 *Environmental, Social, and Governance Review*. [\[LINK\]](#)

⁷⁰⁹ 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*. [\[LINK\]](#)

⁷¹⁰ Liberty Mutual (2019). *Environmental, Social and Governance Review 2019*. [\[LINK\]](#)

⁷¹¹ Turner, H.A. (2020, October 20). Liberty Mutual Faces Backlash for ‘Fueling the Climate Crisis: Property Casualty 360’. [\[LINK\]](#)

⁷¹² Ibid.

⁷¹³ Ibid.

“Good Health and Wellbeing,” 10 “Reduce... Inequalities,” and 13 “Climate Action.”⁷¹⁴ 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...”⁷¹⁵

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.⁷¹⁶ This viewpoint is simplistic and fails to recognize the gendered impacts, racial impacts, and environmental destruction that arise from bitumen extraction and processing. Liberty Mutual’s 2019 ESG Review acknowledged the financial risks associated with insuring fossil fuels,⁷¹⁷ but did not mention any resolutions to address such risks.

Liberty Mutual is also a signatory of the PRIs 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 the Trans Mountain Expansion Project (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.⁷¹⁸ The Trans Mountain pipeline expansion project has not “obtained the Free, Prior, and Informed Consent of impacted Indigenous communities,”⁷¹⁹ 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.

8c. BlackRock

BlackRock is the world’s largest investor in fossil fuels.⁷²⁰ As of January 2022, BlackRock has invested nearly \$176 billion in fossil fuel companies⁷²¹ (as of June 2022) and holds large stakes in companies operating in the report’s case studies.⁷²² Notably, BlackRock holds approximately 9% in Phillips 66 and Occidental Petroleum, 8% in Valero Energy, and ConocoPhillips; and 6% in ExxonMobil.⁷²³ In 2021, BlackRock was “the world’s largest asset manager” with \$8.7 trillion managed assets,⁷²⁴ giving the investment company considerable influence over numerous companies.⁷²⁵ As of February 2022, BlackRock held \$109 billion invested in the coal sector, \$34 billion of which is for ongoing coal expansion projects.⁷²⁶

⁷¹⁴ Ibid.

⁷¹⁵ Ibid.

⁷¹⁶ Ibid.

⁷¹⁷ Ibid.

⁷¹⁸ UN Global Compact. *The Ten Principles of the UN Global Compact*. [\[LINK\]](#)

⁷¹⁹ Biggs, S. (2020, May 27). URGENT: Insuring the Trans Mountain Pipeline. *Stand.earth*. [\[LINK\]](#)

⁷²⁰ BlackRock’s Big Problem. *THE PROBLEMS: Funding the Climate Crisis*. [\[LINK\]](#)

⁷²¹ Ibid.

⁷²² Ivanova, I. (2022, February 18) BlackRock touts investment in fossil fuels after threat from Texas official. *CBS*. [\[LINK\]](#)

⁷²³ Ibid.

⁷²⁴ Hansen, S. (2021, February 17). \$8.7 Trillion Asset Manager BlackRock Is Exploring Bitcoin As Institutions Flood Crypto. *Forbes*. [\[LINK\]](#)

⁷²⁵ Norrestad, F. (2020, October). December Largest Asset Management Companies Worldwide in 2019, by Managed Assets (in trillion U.S. dollars). *Statista*. [\[LINK\]](#)

⁷²⁶ Urgewald, (2022, February 15). New Research Reveals Banks and Investors Behind the World’s Worst Climate Offenders. [\[LINK\]](#)

In his 2020 Letter to CEOs, Larry Fink expressed dedication to holding sustainable investments, placing climate risk at the center of BlackRock's investment strategy, and increasing carbon pricing.⁷²⁷ The 2021 letter also highlights the importance of "transition[ing] to a net zero economy...to keep global warming well below 2°C."⁷²⁸ This standpoint was reinforced by Larry Fink's 2022 letter to CEOs, which states that, "few things will impact capital allocation decisions—and thereby the long-term value of your company—more than how effectively you navigate the global energy transition in the years ahead." 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.⁷²⁹

BlackRock is a signatory of agreements aligned with the Paris Agreement targets, including the PRIs, 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.⁷³⁰ The Climate Action 100+ ensures that the "world's largest corporate greenhouse gas emitters take necessary action on climate change."⁷³¹ 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 under a scenario where the Paris Agreement's goal of limiting global warming to less than two degrees is fully realized ..."⁷³² 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.⁷³³ 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."⁷³⁴

Despite signing numerous climate and human rights pledges, BlackRock has continued to support fossil fuel companies. 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.⁷³⁵

While 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.⁷³⁶ In March 2021, BlackRock released a memo encouraging FPIC more comprehensively, but the statement still did not explicitly outline accountability mechanisms that would require

⁷²⁷ Fink, L. (2020). Letter to CEOs: A Fundamental Reshaping of Finance. [\[LINK\]](#)

⁷²⁸ Fink, L. (2021). Letter to CEOs: Larry Fink's 2021 Letter to CEOs. [\[LINK\]](#)

⁷²⁹ BlackRock's Big Problem. Vanguard and BlackRock are the world's biggest investors in coal. [\[LINK\]](#)

⁷³⁰ UN Global Compact. The Ten Principles of the UN Global Compact. [\[LINK\]](#)

⁷³¹ Climate Initiative Platform. Climate Action 100+. [\[LINK\]](#)

⁷³² Fink, Larry (2020). Letter to CEOs: A Fundamental Reshaping of Finance. [\[LINK\]](#)

⁷³³ EcoJesuit. (2019, June 15). Energy CEOs Sign Joint Statements At The Vatican On Carbon Pricing And Climate Risk Disclosures. [\[LINK\]](#)

⁷³⁴ Businesswire. (2020, January, 22). Davos 2020 Climate Finance Partnership Press Release. [\[LINK\]](#)

⁷³⁵ Fink, L. (2022). Larry Fink's 2022 Letter to CEO's: The Power of Capitalism. BlackRock. [\[LINK\]](#)

⁷³⁶ BlackRock's Big Problem. The Problem: Fossil Fuels. [\[LINK\]](#)

and ensure that investee companies uphold FPIC and respect Indigenous and human rights.⁷³⁷ While this memo is an important step in the right direction, it would need to progress further to actually provide implementation and accountability measures to protect frontline communities.

8d. Royal Bank of Canada (RBC)

Royal Bank of Canada (RBC) is one of the largest bankers of fossil fuels in the world and a leading banker of tar sands oil.⁷³⁸ RBC funded fossil fuels with over \$201 billion from 2016 to 2021 making it one of the largest banks contributing to the climate crisis since the 2015 Paris Agreement.⁷³⁹

2021 witnessed a 51% increase in tar sands financing with RBC leading, especially towards Alberta Tar Sands Projects (e.g., Enbridge Line 3, Enbridge Line 5, Trans Mountain Pipeline).⁷⁴⁰ RBC was the largest banker of tar sands oil in 2021 and has funded a total of \$27.44 billion in tar sands oil from 2016 to 2021.⁷⁴¹ RBC increased fossil fuel investment by \$39 billion in 2021 alone, \$19 billion more than RBC investment in 2020. In other words, RBC accelerated fossil fuel financing as climate chaos continues to worsen. RBC was also among the top three bankers in LNG financing. In terms of assets, the bank holds the second largest stake in conventional and unconventional oil and gas assets.⁷⁴²

By financing fossil fuel operations such as the Trans Mountain Expansion Project,⁷⁴³ and companies such as Enbridge (behind Line 3 and Line 5 projects) and Occidental Petroleum (operating in St. James Parish, the Permian Basin, etc.),⁷⁴⁴ RBC is not in alignment with the RBC Task Force on Climate-Related Financial Disclosures 2021 Report, which makes the following “commitments” and “actions.”⁷⁴⁵

- 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 they will stop lending to “new coal-fired power generators, thermal coal mines, or coal mines that require mountaintop removal” and to “new clients that get more than 60 percent of their revenue from thermal coal or coal-fired power generation.”⁷⁴⁶ RBC will “lend to new clients that get some revenue from [fossil fuel] industries if they

⁷³⁷ BlackRock. (2021, March). *Our approach to engagement with companies on their human rights impacts: Investment Stewardship*. [\[LINK\]](#)

⁷³⁸ Rainforest Action Network, Et. al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁷³⁹ Ibid.

⁷⁴⁰ Ibid.

⁷⁴¹ Ibid.

⁷⁴² Corporate Mapping Project. *Royal Bank of Canada*. [\[LINK\]](#)

⁷⁴³ 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*. [\[LINK\]](#)

⁷⁴⁴ Rainforest Action Network Et al. (2021, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2021*. [\[LINK\]](#)

⁷⁴⁵ Task Force on Climate-Related Financial Disclosures, (2021). 2021 Report. *RBC Global Asset Management* [\[LINK\]](#)

⁷⁴⁶ Weber, B. (2020, October 2). RBC Announces New Restrictions On Financing Coal, Oil Developments. *Global News*. [\[LINK\]](#)

can show they're moving away from coal or reducing their greenhouse gas emissions."⁷⁴⁷ RBC is affiliated with the following several climate-risk monitoring authorities whose data can influence RBC's investment approach:⁷⁴⁸

- Global Reporting Initiative
- Sustainability Accounting Standards Board
- 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.”⁷⁴⁹ 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 \$19 billion in 2021 from 2020, and the bank remains one of the largest bankers of fossil fuels).

RBC is also a signatory of the EPs and the PRIs, and has stated its alignment with the Social Bond Principles.⁷⁵⁰ 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....”⁷⁵¹ The Social Bonds Principles target vulnerable groups such as women and “excluded and/or marginalized populations and/or communities.”⁷⁵² Such targets are oxymoronic to the disastrous environmental and social impacts resulting from the companies and projects that RBC finances.

8e. JPMorgan Chase

JPMorgan Chase is reportedly the largest banker of the climate crisis, with over \$382 billion in fossil fuel financing since the Paris Agreement was adopted (2016-2021).⁷⁵³ JPMorgan Chase spent nearly \$16 billion in 2021 on fossil fuel expansion alone, with the total 2021 fossil fuel spending exceeding \$61 billion.⁷⁵⁴ JP Morgan Chase is the top banker in fossil fuel expansion and fracking financing.⁷⁵⁵

In 2020, JPMorgan Chase approved a “financing commitment” aligned to the goals of the Paris Agreement: JPMorgan Chase's co-president Daniel Pinto expressed support for “turn[ing] the

⁷⁴⁷ Ibid.

⁷⁴⁸ BankTrack. (2020, May 4). *Royal Bank of Canada (RBC)*. [\[LINK\]](#)

⁷⁴⁹ RBC. (2021, February 25). *RBC announces progress on its climate strategy including new sustainable finance target of \$500 billion by 2025*. [\[LINK\]](#)

⁷⁵⁰ Royal Bank of Canada. *Our Commitment to Sustainable Finance*. [\[LINK\]](#)

⁷⁵¹ International Capital Market Association (2020 June). *Social Bond Principles: Voluntary Process Guidelines for Issuing Social Bonds*. [\[LINK\]](#)

⁷⁵² Ibid.

⁷⁵³ Rainforest Action Network, Et. al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁷⁵⁴ Ibid.

⁷⁵⁵ Ibid.

goals of Paris into a reality.”⁷⁵⁶ JPMorgan Chase’s expansion of fossil fuel financing of fossil fuels does not align with this commitment.

In a JPMorgan Chase ESG Report, published in February 2022, 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.”⁷⁵⁷ Following this report, JPMorgan Chase entered its Annual General Meetings (AGM) in March 2022, where shareholders voted against a shareholder proposal filed by Follow This to require Royal Dutch Shell to set and publish targets consistent with the goal of the Paris Climate Agreement. The resolution was supported by 30.4% of JPMorgan Chase shareholders.⁷⁵⁸ Despite the failure of these resolutions, civil society groups applaud increasing shareholder support for climate related proposals.⁷⁵⁹ However, JPMorgan Chase’s failure to improve financial accountability is still not in line with JPMorgan Chase’s earlier commitment to the NZAM Initiative.

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).⁷⁶⁰ Despite this internal policy, JPMorgan Chase continues to support clients who have demonstrated a disregard for tribal leadership and nonconsent.⁷⁶¹ For example, JPMorgan Chase finances Suncor and Enbridge, who have both committed Indigenous and Human Rights violations through the Suncor Sarnia Oil Sands Refinery project (Section 6f.) and Enbridge Line 3 and Line 5 oil pipelines (Section 6g.i.-6g.ii.). 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,⁷⁶² which is specified in the bank’s Code of Conduct.⁷⁶³



Frontline leaders and activists hold signs in front of JPMorgan Chase during an action held in parallel to COP26 in Glasgow, Scotland. (Katherine Quaid, WE CAN)

⁷⁵⁶ Harker, V. (2020, December 1). Banks Attack Carbon Emissions Through Lending And Investment. *Chamber Business News*. [\[LINK\]](#)

⁷⁵⁷ JPMorgan Chase, (2022, February 28). 2021 *Environmental Social Governance Report*. [\[LINK\]](#)

⁷⁵⁸ JPMorgan Chase, (2022, April 1). 2021 *Investment Stewardship Report*. [\[LINK\]](#)

⁷⁵⁹ Cleveland, G. (2022, May 17). Big investors fail to hold Chase accountable on climate, but activists applaud levels of support 'difficult to ignore.' *Sierra Club*. [\[LINK\]](#)

⁷⁶⁰ JPMorgan Chase, (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

⁷⁶¹ Amazon Watch (2021, November 11). COP26: Frontline Communities Confront JPMorgan Chase on Violating Indigenous Rights and Financing the Climate Crisis [Press Release]. [\[LINK\]](#)

⁷⁶² JPMorgan Chase & Co. *Human Rights*. [\[LINK\]](#)

⁷⁶³ JPMorgan Chase & Co. (2014, June). *Code of Conduct*. [\[LINK\]](#)

JPMorgan Chase finances Enbridge,⁷⁶⁴ 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.⁷⁶⁵ By June 2021, seven months after construction had started, four Enbridge Line 3 workers had been arrested on charges of human trafficking.⁷⁶⁶ 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 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."⁷⁶⁷ JPMorgan Chase coal investments amount to less than 0.6% of JPMorgan Chase's overall fossil fuel spending between 2017 and 2020.⁷⁶⁸ 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)."⁷⁶⁹ The framework restricts transactions with clients involved in oil sands development by subjecting them to "enhanced review," however, it does not mention any prohibitions.⁷⁷⁰

8f. Vanguard

As of 2022, Vanguard owned \$481.81 billion in fossil fuel investments, 7.6% of Vanguard's investment profile.⁷⁷¹ Vanguard is the biggest funder of coal, with \$86 billion in industry holdings.⁷⁷² 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.

In 2022, Vanguard announced a vague outline of disclosure expectations on the climate competence of boards of directors and risk mitigation. 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.⁷⁷³

⁷⁶⁴ Kirsch, A. (2020, November). Who's Banking Enbridge? *Rainforest Action Network*. [\[LINK\]](#)

⁷⁶⁵ 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. [\[LINK\]](#)

⁷⁶⁶ The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

⁷⁶⁷ JPMorgan Chase, (2021, October 8).

⁷⁶⁸ Harder, A. (2020, February 24). JPMorgan Chase To Pull Support For Some Fossil Fuels. *Axios*. [\[LINK\]](#)

⁷⁶⁹ JPMorgan Chase, (2021, October 8). *Environmental and Social Policy Framework*. [\[LINK\]](#)

⁷⁷⁰ JPMorgan Chase. (2020, February). *Environmental and Social Policy Framework as of February 2020*. [\[LINK\]](#)

⁷⁷¹ Fossil Free Funds. *Vanguard*. [\[LINK\]](#)

⁷⁷² Ibid.

⁷⁷³ #BlackRocksBigProblem (2022, January 13). *Vanguard has made it from 1999 to 2010 on coal; it's time the firm acts like it's 2022*. [\[LINK\]](#)

Vanguard also pledged to “continue to raise [its] voice on climate change” in a 2020 statement.⁷⁷⁴ Vanguard explicitly supports the Paris Agreement standards and “encourages companies to set targets that align with these goals and to disclose them.”⁷⁷⁵ Vanguard is also a signatory and supporter of the PRIs, the TFCDD, 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,” pawning the responsibility and leadership of climate mitigation onto governments, even though Vanguard holds tremendous financial power.⁷⁷⁶ Vanguard currently continues to finance companies behind dangerous projects in all eight regions in this report, such as the Mountain Valley Pipeline project which if completed, would emit dangerous amounts of neurotoxins and carcinogens into surrounding low-income communities of color.⁷⁷⁷ 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.⁷⁷⁸ The ESG funds are based on a screening process that excludes companies involved in harmful activities, such as oil and coal producing companies,⁷⁷⁹ and companies that exhibit activities detrimental to the UN Global Compact Principles.⁷⁸⁰ Vanguard also describes the ESG ETFs as an important step to the group’s goal to reach the UN Sustainable Development Goals.⁷⁸¹ According to a Morningstar report ranking asset managers incorporating ESG factors into investment decisions, Vanguard was given a low score “because [its] sustainable strategies accounted for only a fraction of assets under management and its ESG team is relatively small.”⁷⁸²

8g. Capital Group

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.⁷⁸³ In total, Capital Group has \$156.67 billion in fossil fuel investments, which accounts for 6.84% of Capital Group’s investment profile. The company has no reported funds with sustainability mandates.⁷⁸⁴

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

⁷⁷⁴ Vanguard. (2020, June, 24). *Vanguard Investment Stewardship Insights: How Vanguard Addresses Climate Risk*. [\[LINK\]](#)

⁷⁷⁵ Ibid.

⁷⁷⁶ Vanguard. (2022, April 21). *Vanguard’s approach to climate change*. [\[LINK\]](#)

⁷⁷⁷ Campbell K., Ahdoot S. (2021, November 26). Opinion: On environmental justice, the Mountain Valley Pipeline is an old story. *The Washington Post*. [\[LINK\]](#)

⁷⁷⁸ Ibid; Vanguard. *ESG Strategies*. [\[LINK\]](#)

⁷⁷⁹ Fox Business (2020, September). *Vanguard, Blackrock Add New Climate-focused ETFs As Demand Soars*. [\[LINK\]](#); Vanguard. *ETFs Explained*. [\[LINK\]](#)

⁷⁸⁰ Vanguard. (2020, September 24). Vanguard Launches ESG U.S. Corporate Bond ETF. *CISION PR Newswire*. [\[LINK\]](#)

⁷⁸¹ Jones, M. (2018, September 18). Opinion: As Vanguard Launches A Sustainable-investing ETF, Its Low Fees Are Only One Of The Factors To Consider. *MarketWatch*. [\[LINK\]](#); Miralles-Quirós, J.L. Et al. (2020, June 29). Sustainable Development Goals and Investment Strategies: The Profitability of Using Five-Factor Fama-French Alphas. *Sustainability* (Basel, Switzerland) 12(5), 1842. [\[LINK\]](#)

⁷⁸² Bloomberg News (2020, November 18). *Vanguard, Fidelity fall short in ESG fund ratings*. [\[LINK\]](#)

⁷⁸³ Urgewald, (2021). *Global Coal Exit List*. [\[LINK\]](#)

⁷⁸⁴ As You Sow, (2022). *Fossil Free Funds: American Funds*. [\[LINK\]](#)

to a low-carbon economy.”⁷⁸⁵ This involves “quantifiable financial and nonfinancial barometers, such as carbon emissions and executive compensation.”⁷⁸⁶ 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,⁷⁸⁷ which set 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.”⁷⁸⁸ By financially supporting Shell, whose Deer Park refinery was cited for emitting benzene at concentrations above federal action levels, 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.⁷⁸⁹

Capital Group is a part of several alliances that aim to decarbonise financing, including the PRIs 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.”⁷⁹⁰ 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,”⁷⁹¹ 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,”⁷⁹² 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.⁷⁹³ If Capital Group is serious about its commitment to the PRIs 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.

⁷⁸⁵ Capital Group. (2016, August). *Investing in a Context of Climate Change: Capital Group’s Approach*. [\[LINK\]](#)

⁷⁸⁶ Petersen, A. (2018, September 30). *Our Distinctive Approach to Sustainable Investing*. Capital Group. [\[LINK\]](#)

⁷⁸⁷ Capital Group (2020, November). *ESG Policy Statement*. [\[LINK\]](#)

⁷⁸⁸ Capital Group (2021). *2021 Task Force on Climate-related Financial Disclosures (TCFD) Report*. [\[LINK\]](#)

⁷⁸⁹ ShareAction. (2020, May, 14). *The world’s largest asset managers pay lip service to preventing human rights abuse*. [\[LINK\]](#)

⁷⁹⁰ ICGN. *ICGN Policy Priorities 2019/2020*. [\[LINK\]](#)

⁷⁹¹ SASB. *SASB*. [\[LINK\]](#)

⁷⁹² SASB. *Support from Investors*. [\[LINK\]](#)

⁷⁹³ Capital Group. (2020, October). *Task Force on Climate-related Financial Disclosures (TCFD): Statement of Support*. [\[LINK\]](#)

Market and Financial Risks



Water Protectors lead a march to stop Enbridge's Line 3 pipeline in Minnesota. (Katherine Quaid, WECAN)

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.⁷⁹⁴ 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.⁷⁹⁵

9a. 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 2022 with state governments like California making moves to halt 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 2035.⁷⁹⁶ In October, 2020, Capital Group recognized that regulatory risks affect its business model and its duty to provide low-carbon solutions.⁷⁹⁷

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.⁷⁹⁸ 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."⁷⁹⁹

As an example of an intergovernmental organization taking action: 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

⁷⁹⁴ Gelzinis, G. Et al. (2019, November 21). Climate Change Threatens the Stability of the Financial System. *Center for American Progress*. [\[LINK\]](#)

⁷⁹⁵ Ibid.

⁷⁹⁶ Office of Governor Gavin Newsom, (2021, November 11). *Governor Newsom Announces California has Joined New Global Alliance Committed to Ending Reliance on Fossil Fuels*. [\[LINK\]](#)

⁷⁹⁷ Capital Group. (2020, October). *Task Force on Climate-related Financial Disclosures (TCFD): Statement of Support*. [\[LINK\]](#)

⁷⁹⁸ Buckley, T., Et al. (2020, January 29). \$7tn Investor BlackRock Announces Coal Divestment, But Not Across All Funds. *Energy Post*. [\[LINK\]](#)

⁷⁹⁹ Shemkus, S. (2020, June 18). Massachusetts Lawmakers Ask Liberty Mutual To Stop Financing Fossil Fuels. *Energy News Network*. [\[LINK\]](#)

right to health, right to an adequate standard of living and cultural rights.”⁸⁰⁰ 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 two year delay to Formosa’s “Sunshine Project” (Section 6b.). For example, Formosa is currently charged with addressing water pollution caused by plastic pellet discharge (a byproduct of the “Sunshine Project”).⁸⁰¹

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. Because regulators have “a legal obligation to protect the prudential safety of banks and other financial firms,”⁸⁰² 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.⁸⁰³

9b. Credit Risks and Stranded Assets

Financing and investing in fossil fuel projects is financially unviable: financial experts increasingly report “climate change could... be the cause of the next systemic financial crisis.”⁸⁰⁴ Financial institutions are slowly recognizing how climate change poses a risk to shareholders: a Vanguard spokesperson recently stated that, “Vanguard considers climate change ‘to be a fundamental risk to many companies and their shareholders’ long-term financial success.”⁸⁰⁵

Banks with carbon-intensive fundings are exposed to credit risk stemming from borrowers’ inability to repay their debts.⁸⁰⁶ This can lead to higher “loss-given-default,” or banks losing money as a result of loan defaults.⁸⁰⁷ 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%.⁸⁰⁸ 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.”⁸⁰⁹ 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.⁸¹⁰

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

801 The Institute for Energy Economics and Financial Analysis, (2022, March 24). *IEEFA U.S.: Problems have mounted over last year for proposed Formosa petrochemical plant*. [\[LINK\]](#)

802 Ford, G. (2020, August 10). *Fossil Fuel Lending is a Financial Stability Issue*. *Environmental Finance*. [\[LINK\]](#)

803 Ibid.

804 Bolton, P., Et al. (2020, January). *The Green Swan: Central Banking and Financial Stability In The Age Of Climate Change*. *Banque de France*. [\[LINK\]](#)

805 Ibid.

806 Ibid.

807 Ibid.

808 Ceres (2020, October 19). *Financing a Net-Zero Economy: Measuring and Addressing Climate Risk for Banks*. [\[LINK\]](#)

809 JPMorgan Chase (2019, May). *Understanding Our Climate-Related Risks and Opportunities*. [\[LINK\]](#)

810 Hudson, M. Et al. (2019, January 11). *Finance, Fossil Fuels, and Climate Change: Networks of Power in Canada*. *Transnational Institute*. [\[LINK\]](#)

Fossil fuel assets are increasingly depreciated.⁸¹¹ 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 2050.⁸¹² The financial institutions spotlighted in the report are at risk of climate-related asset stranding. The two largest fossil fuels asset managers, Vanguard and BlackRock, have refused to join the investor-led initiative to end fossil fuel subsidies.⁸¹³ 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.”⁸¹⁴ LNG projects currently under construction will not recover their invested capital in the Net Zero Emissions by 2050 Scenario (NZE).⁸¹⁵ These stranded assets in LNG infrastructure are estimated to be worth \$75 billion, according to The International Energy Agency.⁸¹⁶

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.⁸¹⁷ 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.”⁸¹⁸ BlackRock owned 5% of Pacific Gas & Electric in 2018.⁸¹⁹

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.⁸²⁰ 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 2050.⁸²¹

Capital Group is aware of its exposure to stranded assets, but with \$9 billion invested in coal plant developers, the asset manager is exposed to a depreciation of such shares.⁸²² The collapse of oil prices has been exacerbated by the Covid-19 pandemic: in July, 2020, ExxonMobil (with investments from BlackRock and Vanguard) posted its first quarterly loss in three decades, and Shell (with investing from Capital Group, BlackRock, and Vanguard) cut its dividend for the first time since World War II.⁸²³

Financial institutions that do not align their financing and investing with lowering carbon emissions and with the targets of the Paris Agreement 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

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

812 Ibid.

813 Nauman, B. (2019, December 9). Global Investor Group Urges Action On Climate Change. *Financial Times*. [\[LINK\]](#)

814 Ibid.

815 International Energy Agency, (2021, May). *Net Zero by 2050*. [\[LINK\]](#)

816 International Energy Agency, (2021, December). *World Energy Outlook 2021*. [\[LINK\]](#)

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

818 Gold, R. (2019, January 18). PG&E: The First Climate-Change Bankruptcy, Probably Not the Last. *The Wall Street Journal*. [\[LINK\]](#)

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

820 Mercer (2019). *Investing in a time of Climate Change--The Sequel*. [\[LINK\]](#)

821 Ibid.

822 BankTrack. (2019, December 6). *Banks and Investors Against the Future*. [\[LINK\]](#)

823 Reiners, L. (2020, July 24). Pandemic Bailout of the Fossil Fuel Industry Highlights Financial Sector Risks. *Duke Law*. [\[LINK\]](#)

transform their business model or “they will face bankruptcy or significant shareholder wealth destruction (beyond those already incurred over the last decade), and often much faster than is anticipated, and with dire implications for investors, company employees and communities.”⁸²⁴ In addition, between 2010 and 2019, over 50 U.S. coal companies fell into bankruptcy.⁸²⁵ 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.⁸²⁶ 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...”⁸²⁷ The fracking industry is also poorly profitable to investors: “only a tenth of large shale companies reported positive cash flow in the first quarter of 2019.”⁸²⁸ Higher rates of fracking funding and the risk of a financing crunch threaten the fracking sector.⁸²⁹

9c. 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.⁸³⁰ According to UN Secretary General António Guterres, investing in fossil fuels is now considered “bad economics.”⁸³¹ 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.⁸³² 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 having particularly weak coal regulating policies.⁸³³

Insuring fossil fuel companies could lead to litigation risks: at the end of 2020, there were over 1,500 active climate lawsuits around the world and, as 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.”⁸³⁴ Because of climate material risks, insurance companies are decreasingly insuring fossil fuel companies.⁸³⁵ 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 billion in insured losses in 2019, \$155 billion in 2018, and a record \$350 billion in 2017.”⁸³⁶ Hence, oil and gas companies are seeing an increase of insurance groups opting out or refusing to cover damages (e.g., property damages).⁸³⁷ A report released by Insure Our Future found that “the number of insurers withdrawing cover for coal has more than doubled in 2019” as “coal exit policies have been announced by 17 of the world’s

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

825 Murray, J. (2020, May 6). Charting a decade of US coal company bankruptcies and plant retirements. *NS ENERGY*. [\[LINK\]](#)

826 Domonoske, C. (2020, September 15). Oil Demand Has Collapsed, And It Won’t Come Back Any Time Soon. *NPR*. [\[LINK\]](#)

827 Ibid.

828 Matthews, C.M., Et al. (2019, June 7). Frackers Scrounge for Cash as Wall Street Closes Doors. *The Wall Street Journal*. [\[LINK\]](#)

829 Ibid.

830 Mason, D., Et al. (2020, December). Insuring our Future: The 2020 Scorecard on Insurance, Fossil Fuels and Climate Change. *Insure Our Future*. [\[LINK\]](#)

831 Holder, M. (2020, August 28). UN Chief António Guterres: ‘The coal business is going up in smoke.’ *Business Green*. [\[LINK\]](#)

832 Mason, D. Et al. (2020, December).

833 Ibid.

834 Ibid.

835 McComber, K. (2020, April 22). Why the Insurance Industry Must Stop Supporting Fossil Fuels. *Property Casualty 360°*. [\[LINK\]](#)

836 Ibid.

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

biggest insurers.”⁸³⁸ Although Liberty Mutual has adopted a weak coal policy, the insurance company continues to insure the tar sands sector with no restrictions.⁸³⁹ 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.”⁸⁴⁰

9d. 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.⁸⁴¹

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”⁸⁴²). 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, 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.⁸⁴³ 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.⁸⁴⁴ 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.⁸⁴⁵ In 2020, BlackRock, Capital Group, and Vanguard were ranked among the five lowest global asset managers voting in favor of 51 climate-related proposals before the fall of 2020: BlackRock voted for 10% of climate-related proposals, Capital Group 11%, and Vanguard 14%.⁸⁴⁶ In 2019, Capital Group had the poorest voting record in support of environmental solutions, followed by T. Rowe Price, BlackRock, JPMorgan Chase, and Vanguard.⁸⁴⁷ In 2019, *The Guardian* reported that Capital Group opposed or abstained from 92% of “climate-related shareholder motions at fossil fuel companies between 2015 and 2019,” while JPMorgan Chase opposed or abstained from 75%.⁸⁴⁸ A report published by economists working for JPMorgan Chase warned of dreadful environmental and financial risks of global warming.⁸⁴⁹ This acknowledgement spotlights the fact that JP-

838 Insure Our Future. (2019, December 2). *Insurers Withdrawing Cover from Coal Projects Double in 2019*. [\[LINK\]](#)

839 Ibid.

840 Green America (2020, September 17). *In Industry first, 60 Companies Call on US Insurers to Drop Fossil Fuels*. [\[LINK\]](#)

841 Tasman-Jones, J. (2019, November 4). *Capital Group Named and Shamed for Voting Against Climate Action*. *Portfolio Adviser*. [\[LINK\]](#)

842 Fulton, M., Et al. (2015, July). *Carbon Asset Risk: Discussion Framework*. *World Resources Institute and Finance UNEP Initiative*. [\[LINK\]](#)

843 Ibid.

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

845 Mooney, A. (2020, October 25). *Chris Hohn Blasts BlackRock and Vanguard Over Climate Change*. *Financial Times*. [\[LINK\]](#)

846 Berridge, R. (2021, January 12). *How asset managers can improve their voting record on climate in 2021*. *GreenBiz*. [\[LINK\]](#)

847 Tasman-Jones, J. (2019, November 4). *Capital Group Named and Shamed for Voting Against Climate Action*. *Portfolio Adviser*. [\[LINK\]](#)

848 Greenfield, P. (2019, October 12). *World's Top Three Asset Managers Oversee \$300bn Fossil Fuel Investments*. *The Guardian*. [\[LINK\]](#)

849 Greenfield, P., Et al. (2020, February 9). *JPMorgan Economists Warn Climate Crisis Is Threat To Human Race*. *The Guardian*. [\[LINK\]](#)

Morgan Chase knowingly funds climate change.⁸⁵⁰ 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.⁸⁵¹

⁸⁵⁰ Ibid.

⁸⁵¹ Adriano, L. (2020, August 6). Major petition urges insurers to drop Trans Mountain coverage. *Insurance Business Canada*. [\[LINK\]](#)

Recommendations



Frontline leaders and allies take action in front of the White House during the People vs. Fossil Fuels week of Action. (Aishah Nyeta-Brown, WE CAN)

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 Protect⁸⁵²



Michelle Cook (Michelle Cook)

Frontline leaders, such as Roishetta Ozane (Founder of The Vessel Project and Community Organizer for HealthyGulf), argue that fossil fuel industries fail to uphold pledges they have made to communities, suggesting that future pledges will be as unproductive as current ones:

“None of the [petrochemical and gas] industries came to see how people were doing, what they needed [after a hurricane in Louisiana]. None of the industries have tried to assist or keep the promises that they made to the community, like hiring local folks or checking in on people.”⁸⁵³

There have been some encouraging signs 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 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.

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 for fossil fuel projects and companies.
- III. Exclude all financing to companies that do not have a clear and explicit timeline to align with limiting global warming to 1.5°C.
- IV. Adopt a full exclusion policy regarding financing for coal power, tar sands, and fracked oil and gas projects, and/or companies.
- V. Commit to reducing the bank’s climate impact to zero by 2050 at the latest, and explicitly define an immediate decline year-on-year from 2022.
- VI. 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.*

⁸⁵² WECAN/DIP. (2018, May 3). *Calls For Justice Raised By Indigenous Women’s Divestment Delegation During Meetings With Fossil Fuel Funders*. [\[LINK\]](#)

⁸⁵³ Ozane, R. (2022, May 19). WECAN Interview.

- 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 uphold human rights protection in accordance with the International Bill of Human Rights and the UN Guiding Principles on Business and Human Rights.

*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 agree to 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, and other notorious polluters.
- VII. Commit to reducing the institution’s climate impact to zero by 2050 at the latest, and explicitly define an immediate decline year-on-year from 2022.
- VIII. 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.
- IX. Eliminate exposure to all fossil fuel assets companies that do not have a clear and explicit timeline to align with limiting global warming to 1.5°C.
- X. 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.**
- XI. Include direct consultation with Indigenous, frontline, and local communities in decision-making processes in areas where operations impact those communities.
- XII. 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.

*This has been suggested by Larry Fink's latest letter to clients, but whether these promises will materialize has yet to be proven.

**This was suggested by BlackRock's 2021 memo which encourages FPIC, but does not explicitly outline accountability mechanisms that would require and ensure that investee companies uphold FPIC and respect Indigenous and human rights. While this memo is an important step in the right direction, it would need to progress further to actually provide implementation and accountability measures to protect frontline communities.⁸⁵⁴

Liberty Mutual and other insurance companies must:

- I. Halt insurance coverage of Trans Mountain, rule out insuring Line 3, 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 from coal, oil, and gas companies that are not in line with a timeline to limit global warming to 1.5°C, including assets managed for third parties.
- V. Commit to reducing its climate impact to zero by 2050 at the latest, and explicitly define an immediate decline year-on-year from 2022.
- 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.

⁸⁵⁴ BlackRock. *Our approach to engagement on natural capital: Investment Stewardship*. [\[LINK\]](#)

Steps Forward



Divestment activists take action during a reception for financial institutions held parallel to COP26 in Glasgow, Scotland. (Katherine Quaid, WECAN)

Steps Forward

The scope of 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' role in climate injustice, institutions such as La Banque Postale (holding \$901.7 billion) have “announced a 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.”⁸⁵⁵ 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. Of the top 60 largest banks, 40 have some type of restriction on oil & gas financing, but only 5 explicitly prohibit financing fossil fuel expansion projects—providing a loophole for existing clients.⁸⁵⁶

It should also be noted that crises—whether the overdue expiration of the Line 5 pipeline (see Section 6g.ii.) or a military conflict involving a significant fossil fuel exporter (e.g., Russia)—should not be used to increase fossil fuel extraction and development in the short-term. In response to Russia's invasion of Ukraine in 2022, there has been a push to increase fossil fuel development in the U.S. and Canada to decrease reliance on Russian fossil fuels. Politicians have called for increased Canadian oil production from the Alberta Tar Sands, calling Canadian oil “ethical oil” in contrast with Russia's “conflict oil.”⁸⁵⁷ 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.

Recently, there has been resistance from the fossil fuel industry to calls for divestment claiming discriminatory treatment against its activities. Pushback has also come from lawmakers who denounce ESG guidelines that discourage fossil fuel financing. Stuart Kirk, the Global Head for Responsible Investment for HSBC, a major European bank said, “Banks loan out money for an average of six years, so what happens after seven years is irrelevant. Who cares if Miami is six meters underwater in 100 years? Amsterdam has been six meters underwater for ages, and that's a really nice place. We will cope with it.”⁸⁵⁸ States such as West Virginia and Texas have threatened to boycott financial institutions who continue to have a “bias” against the fossil fuel industry, preventing institutions such as JPMorgan Chase and BlackRock from entering or remaining in banking contracts with the state.⁸⁵⁹ In response, financial institutions have adopted a more conciliatory tone towards fossil fuels recently. In May, BlackRock said it would support

⁸⁵⁵ Rainforest Action Network Et al. (2022, March). *Banking on Climate Chaos: Fossil Fuel Finance Report 2022*. [\[LINK\]](#)

⁸⁵⁶ Ibid.

⁸⁵⁷ Kestler-D'Amours J., (2022, March 8). Canada's 'petro-provinces' see opportunity in Russia-Ukraine war. *Al Jazeera*. [\[LINK\]](#)

⁸⁵⁸ Aton, A. (2022, May 31). What's next for climate-minded investing? *E&E News*. [\[LINK\]](#)

⁸⁵⁹ Wolman, J. (2022, June 14). Wall Street firms face W.Va. boycott over alleged fossil fuel bias. *Politico*. [\[LINK\]](#)

fewer shareholder proposals calling for climate action because “we do not consider them to be consistent with our clients’ long-term financial interests.”⁸⁶⁰ This positioning by the fossil fuel industry is an impediment to forward progress on the inevitable transition to renewable energy and mitigating climate chaos.

Moments that highlight our reliance on unstable energy sources also reveal a vital opportunity to accelerate a Just Transition toward renewable energy. Solutions to transition away from a fossil fuel-based economy have been promulgated by communities directly impacted by the fossil fuel industry. These frontline communities have had decades long experience living with fossil fuel extraction and infrastructure and fighting the injustices that spawn from industrial activity. It is critical to amplify this first-hand knowledge of the issues, include their voices and leadership in decision-making, and implement strategies proposed by women leaders and communities living in sacrifice zones. The transition away from fossil fuels must focus on A Just Transition for workers, clean regenerative and renewable energy, accountability and justice, new economic frameworks, and community-led solutions.

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.⁸⁶¹ Net Zero plans hinge on CCS technologies which are costly, carry their own carbon price tags, and present dangers to frontline communities.⁸⁶² In the process of removing and storing carbon, CCS technology also adds back 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.”⁸⁶³

In contrast with Net Zero goals, Real-Zero approaches argue for reducing and preventing carbon emissions before they enter the atmosphere, holding institutions accountable and eliminating the reliance on market-based carbon offsets. 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 clean energy.⁸⁶⁴ 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.

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.⁸⁶⁵ Current renewable energy metal mining processes are oftentimes just as environmentally hazardous as fossil fuel extraction and development.

⁸⁶⁰ Gelles, D., Tabuchi, H. (2022, May 27). How an Organized Republican Effort Punishes Companies for Climate Action. *The New York Times*. [\[LINK\]](#)

⁸⁶¹ 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)*. [\[LINK\]](#)

⁸⁶² Climate False Solutions, (2021). *Hoodwinked in the Hothouse: Resist False Solutions to Climate Change (Third Edition)*. [\[LINK\]](#)

⁸⁶³ Feit, S. (2021, August 8).

⁸⁶⁴ GreenPeace, (2022). *Real Zero*. [\[LINK\]](#)

⁸⁶⁵ 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*. [\[LINK\]](#)

Similarly, disposal, storage, and offsets of carbon waste will fall disproportionately on the Global South and Indigenous territories in the Global North.⁸⁶⁶ 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, which receives a majority of its revenue from fossil fuel activity and has a 21% poverty rate.⁸⁶⁷ 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.⁸⁶⁸ 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.⁸⁶⁹ 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.”⁸⁷⁰ This model would include a collaborative consumption and sharing economy, which lies in contrast with extractive capitalism.⁸⁷¹ 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.⁸⁷²

A Just Transition benefits from a feminist analysis of a circular economy—one in which industrial and economic practices that 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 75% women.⁸⁷³

⁸⁶⁶ Climate False Solutions, (2021).

⁸⁶⁷ Canon G., (2021, March 12). ‘Kern runs on oil’: as California confronts climate crisis, one county is ready to drill. *The Guardian*. [\[LINK\]](#); Plumer B. (2022, July 7). Quitting Oil Income Is Hard, Even for States That Want Climate Action. *The New York Times*. [\[LINK\]](#)

⁸⁶⁸ The Daily, (2022, April 24). The Sunday Read: ‘How Many Billionaires Are There, Anyway?’ *The New York Times*. [\[LINK\]](#)

⁸⁶⁹ The United Nations, (2022). *Gross National Happiness Index*. [\[LINK\]](#)

⁸⁷⁰ Balch, O. (2013, February 4). Buen vivir: the social philosophy inspiring movements in South America. *The Guardian*. [\[LINK\]](#)

⁸⁷¹ Ibid.

⁸⁷² Bristow, R. (2011, June 10). Collaborative consumption - Rachel Botsman live Q&A. *The Guardian*. [\[LINK\]](#)

⁸⁷³ Bilecik N., (2020, July 21). Feminist Economics Perspectives on Covid-19: Caring Labor, Care Economy and Gender Equality. *Columbia Global Centers*. [\[LINK\]](#)

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.

A 2015 study cited by the United Nations found that 80% of fossil fuel reserves must remain in the ground if the international community is to meet the Paris Agreement goal of a temperature rise below 2°C.⁸⁷⁴ The year 2020 was an extraordinary one for the planet: people were impacted across the globe by record breaking temperatures, the largest wildfires in history, unprecedented back to back hurricanes, and massive floods.⁸⁷⁵ 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.”⁸⁷⁶ Reducing current rates of greenhouse gas emissions through an immediate year on year decline from 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.

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,⁸⁷⁷ and children’s health and education improve⁸⁷⁸—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.⁸⁷⁹

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.⁸⁸⁰ In alliance with these frontline communities, CJA defines a

874 McGlade, C. Et al. (2015, January 7). The geographical distribution of fossil fuels unused when limiting global warming to 2 °C. *Nature*. (517), 187-190. [\[LINK\]](#)

875 World Meteorological Organization. (2020, December 2). 2020 on track to be one of three warmest years on record. [\[LINK\]](#)

876 Stockholm Environment Institute. (2018). *Aligning fossil fuel production with the Paris Agreement Insights for the UNFCCC Talanoa Dialogue*. [\[LINK\]](#)

877 Shearman, S. (2019, July 30). Want to add trillions to the global economy? Black female founders. *Reuters*. [\[LINK\]](#)

878 The Partnership for Maternal, Newborn and Child Health, Et al. (2013). Promoting women’s empowerment for Better Health Outcomes for Women and Children. *Partners in Population and Development (PPD)*. [\[LINK\]](#)

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

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

transition away from polluting industries that also “redress[es] past harms and creat[es] new relationships of power for the future through reparations.”⁸⁸¹ The process cannot cost workers or community residents their jobs or economic assets: the transition must create new clean energy job opportunities and compensate for job losses, especially for workers who will be directly impacted by changing industries.⁸⁸² Nayamin Martinez, Executive Director of the Central California Environmental Justice Network in Kern County, calls for the end of fossil fuel expansion and an immediate commencement of the Just Transition:

“[More oil and gas leases will] increase the air and water pollution that already disproportionately harms communities of color in Kern County. We need a Just Transition away from fossil fuels that protects workers, frontline communities and the environment.”⁸⁸³

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 clean energy.⁸⁸⁴ 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.”⁸⁸⁵ The Feminist Green New Deal also 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.”⁸⁸⁶

Traditional Ecological Knowledge is an essential framework for addressing the climate crisis. 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.⁸⁸⁷ Indigenous Peoples’ vast body of knowledge and land caring approaches 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.

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.⁸⁸⁸ 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:

⁸⁸¹ Ibid.

⁸⁸² Justice Transition Alliance. *What is Just Transition*. [\[LINK\]](#)

⁸⁸³ Center for Biological Diversity. (2020, September 25). *Thousands Oppose First Federal Oil Lease Sale in California in Eight Years*. [\[LINK\]](#)

⁸⁸⁴ 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. [\[LINK\]](#)

⁸⁸⁵ Feminist Green New Deal. *Principles*. [\[LINK\]](#)

⁸⁸⁶ Ibid.

⁸⁸⁷ Bioneers. *Indigeneity: Bringing Indigenous Perspectives to Global Conversations*. [\[LINK\]](#)

⁸⁸⁸ Staudinger, C. (2021, February). *St. John Takes, Marathon Takes. Antigravity*. [\[LINK\]](#)

“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.”⁸⁸⁹

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.⁸⁹⁰ The Energy Information Administration projected that most electric generation added in 2020 could come from wind and solar.⁸⁹¹ Financial institutions have the opportunity to be a part of the rapidly growing future of clean energy and to invest in frontline communities.

Additionally, comprehensive, collaborative efforts are necessary to address public health concerns. For example, national-level initiatives such as President Biden’s “Cancer Moonshot” program – which pledges to reduce cancer-related deaths in the U.S. by 50% in the next 25 years – are promising in whole-government responses to health crises.⁸⁹² However, the “Cancer Moonshot” program fails to address the role of fossil fuel pollution on cancer rates,⁸⁹³ missing a critical source of cancer for Indigenous communities and low-income communities of color like those in Louisiana’s “Cancer Alley” (detailed in Chapter 6b.). In order for President Biden’s “Cancer Moonshot” program to meaningfully decrease cancer deaths, fossil fuel corporations must be held accountable for their hazardous emissions, pollutants, and ecological damage.

Although immediate divestment is necessary, presidential executive orders are useful for establishing valuable short-term stopgaps to ongoing fossil fuel development. Executive orders are published directives from the President of the United States; they are not legislation and require no approval from Congress. Congress cannot overturn executive orders, however, Congress does have the power to pass legislation making executive orders difficult to carry out (such as removing funding). Only a sitting U.S. President can overturn an existing executive order by issuing another executive order nullifying the previous order.⁸⁹⁴ In other words, as of 2022, any executive order President Biden passed this year would have *at least* a two-year lifespan. President Biden should issue immediate moratoriums on new fossil fuel development (e.g., Enbridge Line 5, Mountain Valley Pipeline, Permian Basin drilling). The Biden administration is underutilizing executive orders compared to his predecessors, such that the Biden administration has a large, unrealized capacity to curb fossil fuel development; President Biden averages 73 executive orders per year, while President Roosevelt averaged 317.⁸⁹⁵

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. False solutions, such as increased natural gas extraction; mega-dams that cause irre-

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

890 Bird, L. Et al. (2020, May 12). Setting the Record Straight About Renewable Energy. *World Resources Institute*. [\[LINK\]](#)

891 U.S. Energy Information Administration. (2020, January 14). *New electric generating capacity in 2020 will come primarily from wind and solar*. [\[LINK\]](#)

892 National Institute of Cancer. (2022). *Cancer Moonshot*. [\[LINK\]](#)

893 Panditharatne M., (2022, February 15). Joe Biden’s Cancer Moonshot Falls Way Short. *Slate*. [\[LINK\]](#)

894 American Bar Association (ABA), (2021, January 25). What Is an Executive Order? [\[LINK\]](#)

895 The University of California Santa Barbara (2022). The American Presidency Project: Executive Order Statistics. *The American Presidency Project*. [\[LINK\]](#)

versible 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.

As mentioned in Section 7, for important guidance on respecting and upholding human and Indigenous rights as well as FPIC implementation specifically, we recommend, amongst others, the following two reports: *Free, Prior and Informed Consent Due Diligence Questionnaire*⁸⁹⁶ and *Consent is Everybody's Business: Why banks need to act on free, prior and informed consent*.⁸⁹⁷ 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.”⁸⁹⁸

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, clean 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.

⁸⁹⁶ First Peoples Worldwide: University of Colorado Boulder. *Free, Prior and Informed Consent Due Diligence Questionnaire*. [\[LINK\]](#)

⁸⁹⁷ Hawkes, S. (2019, August 20). *Consent is Everybody's Business: Why banks need to act on free, prior and informed consent*. Oxfam. [\[LINK\]](#)

⁸⁹⁸ 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). [\[LINK\]](#)

Conclusion



Indigenous women leaders stand together to honor MMIW during an action at COP26 in Glasgow, Scotland. (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 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.⁸⁹⁹ More Man Camps threaten Indigenous communities along Enbridge Line 5 construction in Wisconsin.⁹⁰⁰ 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, destorying land and water on Indigenous lands is in essence comitting 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 stay home and take care of the sick. The interlocking issues between caretaking and pollution can be seen in

⁸⁹⁹ The Associated Press (2021, July 3). Six men, including two Line 3 workers, arrested in human trafficking sting. *MPR News*. [\[LINK\]](#)

⁹⁰⁰ Williams N., (2021, September 29). Enbridge's long-delayed Line 3 oil pipeline project to start up Oct 1. *Reuters*. [\[LINK\]](#)

St. James Parish in “Cancer Alley,” where residents cannot grow safe food because of fossil fuel derived soil pollution. This soil pollution prevents women from fulfilling this food security role, which includes providing healthy food to their families. Formosa’s giant petrochemical plant, planned for a predominantly African American/Black/African Diaspora district in St. James Parish, is estimated to emit 1.6 million pounds of toxic air pollution annually, more than doubling the 1.4 millions pounds already emitted annually by other plants in St. James, like Marathon and Occidental Petroleum.⁹⁰¹ This would further exacerbate all pollution problems, particularly women’s role as the family’s caretaker. Marathon and Occidental Petroleum are backed by Vanguard and BlackRock.

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 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 Paris Agreement’s goals, 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 clean 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.

⁹⁰¹ Yawn, A. (2020, March 19). 5 things to know about Formosa, a new petrochemical plant in Cancer Alley. *Tennessean*. [\[LINK\]](#)

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 2019, Global Witness reported that 212 land and environmental defenders were killed protecting their communities and lands from extraction.⁹⁰² 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 worldwide.⁹⁰³

⁹⁰² Global Witness. (2020, July 9). *Defending Tomorrow*. [\[LINK\]](#)

⁹⁰³ 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.⁹⁰⁴ Gender and climate justice are at the core of WECAN's mission.⁹⁰⁵ 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.

⁹⁰⁴ WECAN. *Why Women*. [\[LINK\]](#)

⁹⁰⁵ WECAN. *About Women's Earth and Climate Action Network, International (WECAN)*. [\[LINK\]](#)