COMPLICITY IN THE CLIMATE EMERGENCY

An Investigation into the Links Between the University of British Columbia and the Fossil Fuel Industry

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CJUBC

Complicity in the Climate Emergency | Research Team & Acknowledgements

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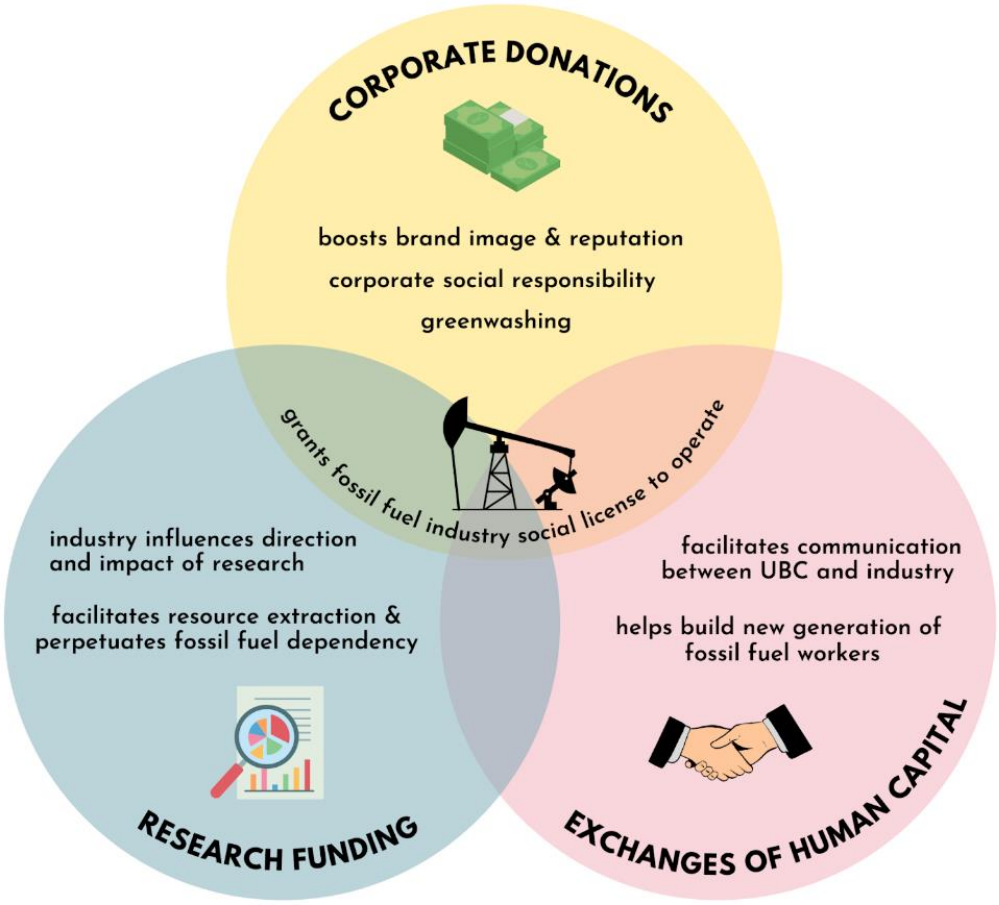
Executive Summary

Fossil fuel emissions are the leading cause of global warming, which is now widely recognized as an immediate and existential crisis for humanity and the biosphere as we know it. Although most Canadians remain dependent on fossil fuels to power their daily lives, the fossil fuel industry — which directly propels oil and gas extraction — is the ultimate culprit to be held accountable for the climate crisis. The University of British Columbia (UBC) committed to fully divest its $2.8 billion endowment from fossil fuels in 2020 to cease support for the industry's unsustainable activities. However, UBC continues to receive financial support from the fossil fuel industry through corporate donations research funding, and other key pathways. These links have the potential to legitimize the fossil fuel industry as a social and economic actor, and to damage UBC's integrity as a world-renowned university. Our research aims to identify the extent of fossil fuel influence at UBC so as to promote just transitions towards sustainable and ethical alternatives, and to put UBC in line with its stated climate commitments as per the 2019 Climate Emergency Declaration and Climate Emergency Task Force Report & Recommendations.

This report investigates the connections between the fossil fuel industry & UBC in three main areas:

1. Fossil fuel corporate donations
2. Research funding
3. Exchanges of human capital between industry and UBC



Methods

We analyzed lists of donors, student awards, research funding data, career fair exhibitors, and UBC decision-makers through document surveys and case studies. To determine research funding, we amalgamated data from NSERC and the Web of Science databases using targeted search terms, then performed a scan of funding sources and research outcomes.

Key Findings

1. Through fossil fuel-funded donations, student scholarships, and research, significant links between the fossil fuel industry and UBC persist despite divestment efforts.
    - 7 of every 50 donors to UBC between 2008 and 2015 were connected to the fossil fuel industry
    - 23 student awards totaling $208,900 were funded by fossil fuel-related companies during the 2021W session alone, the majority affiliated with Sauder School of Business
    - UBC researchers have received at least $18,861,311.00 of federal funding for projects in partnership with fossil fuel corporations since 1999, with at least $2,369,580 occurring after UBC declared a climate emergency in 2019
    - Since 2011, UBC researchers have also published 509 papers which acknowledge fossil fuel funding
    - At least 5 former fossil fuel industry executives are now professors at UBC
    - 1 in 3 directors of the UBC Investment Management Trust — which oversees financial operations including divestment — are current or former directors of fossil fuel-affiliated companies

2. Fossil industry funding of research and academic operations aids the fossil fuel industry through (1) producing technology which helps the fossil fuel industry optimize oil and gas extraction, and (2) funding research projects that enhance the fossil fuel sector's public image.
    - A research consortium called SINBAD led by UBC geoscience researchers and industry developed technology to directly help fossil fuel corporations, including Chevron and BP, to discover and exploit new oil reserves
    - The fossil fuel industry funds biodiversity, conservation and pollution remediation-related research at UBC. While these projects may produce ecological benefits, they also misleadingly enhance the fossil fuel industry's public image — an unwarranted positive reputation as these same corporations continue to propel and profit from the climate crisis

3. By partnering with fossil fuel corporations, UBC provides both direct benefits such as future employees, and indirect benefits such as social license and enhanced public reputation.
    - Teck Resources Ltd. has contributed $3.8 million in research funding to UBC's Faculty of Applied Sciences and gifted $7.5 million for creation of UBC's mining research institute

    - A former Teck executive founded the UBC Canadian International Resources and Development Institute, a research centre which aims to inform international policy on natural resource governance
    - Teck benefits from its partnerships with UBC through enhanced reputation, research outcomes, employment of co-op students, and personnel exchange
- The UBC Pipeline Integrity Institute, which is a collaboration between UBC engineering researchers and the pipeline industrial sector, upholds the fossil fuel industry's public image by offering specialized student training in pipeline engineering, and funding awards and research that serves industry needs

Recommendations

- UBC should develop an ethics of engagement policy to avoid implicitly promoting the fossil fuel industry, similar to policies implemented by institutions such as the University of California in the early 2000's towards the tobacco industry
- UBC should coordinate and support research departments to conduct internal reviews of their funding sources
    - A just transition in research funding must work to align funding sources with the Climate Emergency Declaration while supporting students and faculty in their scholarship
- Based on the limitations encountered in our data collection, UBC should make research donation sums and sources, faculty employment histories, and comprehensive donor data publicly-available
- Future directions of research
    - Investigate similar relationships between UBC and the mining industry
    - Conduct similar investigation into fossil fuel ties for UBC's Okanagan campus

DEFINITIONS

Definitions

Decision-maker: Person at UBC with any of the following titles: (co-)director, coordinator, executive, executive director, president, vice-president, council member, governor, chair.

Donation: "Voluntary transfer of property from a donor to UBC without any expectation of return or benefit… Donations generally are in the form of cash, cash-equivalents, or gifts-in-kind (example: cash, cheque, credit card, physical property, shares)."[1]

Fossil fuel extractors: Corporations that are directly involved in extracting, processing, and selling oil, natural gas and/or coal.

Fossil fuel enablers: Organizations that enable fossil fuel production and transportation, such as banks, railways, insurance companies, legal and consulting firms, construction companies, and industry-friendly regulators.

Fossil fuel industry: We aggregated three publicly available lists of fossil fuel industry organizations (Corporate Mapping Project's Fossil Top 50 List, Urgewald's Global Oil and Gas Exit List, and members of The Canadian Association of Petroleum Producers) to create a non-exhaustive list of fossil fuel companies that is available to organizers upon request.

Just transition The framework of shifting to a renewable and sustainable economy that prioritizes the livelihoods, jobs, and dignity of the working class — including those currently employed in the fossil fuel sector.

Revolving door phenomenon: The reciprocal relationship between universities and industry wherein actors from the industry move into decision-making positions at the University and vice versa, mimicking a revolving door and strengthening the ties between academy and industry.

Social license: Institutional credibility and legitimacy that universities lend to industry through fiscal and social ties. Forms of social license include investments, degrees and honorary degrees, research and student award funding, and a 'revolving door' of decision-making positions. Divestment is a tactic to remove social license from the industry.[2]

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[1] Office of the University Counsel, "Fundraising and Acceptance of Donations," last modified 2021, https://universitycounsel-2015.sites.olt.ubc.ca/files/2021/10/Fundraising-Policy_FM6.pdf

[2] Daniel C. Apfel. "Exploring Divestment as a Strategy for Change: An Evaluation of the History, Success, and Challenges of Fossil Fuel Divestment," *Social Research: An International Quarterly* 82, no. 4 (2015): 913-937, https://muse.jhu.edu/article/610667

INTRODUCTION

INTRODUCTION

To effectively address the climate crisis, humanity must cease the extraction and combustion of fossil fuels. To do so requires eroding the power of the fossil fuel industry, which exerts political influence within sectors including education, governance, and finance to maintain its ability to operate and extract profit. As one of the most profitable industries in the world, part of this influence is exerted through sheer economic power. However, researchers argue that the fossil fuel industry also holds power by occupying positions of influence in public institutions to gain what critical sociologist William K. Carroll terms "social license to operate."[3] Student activists at institutions in the U.K. and Singapore present links between their universities and fossil fuel corporations as pillars which implicitly support the industry, and so contribute to the climate crisis.[4]

Our research suggests that the fossil fuel industry exerts influence — and derives meaningful benefits — through affiliations with the university's interlocking roles as a producer of innovation, educational and societal influence, and as an economic actor.

THE FOSSIL FUEL INDUSTRY IS CAUSING THE CLIMATE CRISIS

The climate crisis is a multifaceted issue which is contributing to and exacerbating ecological, relational, and humanitarian crises globally. The Intergovernmental Panel on Climate Change (IPCC) has determined that rising average global temperatures have already increased the frequency of extreme weather events, longer and drier droughts, and rising sea levels as the polar ice caps melt from rising global temperatures.[5] As such, their 2021 report unequivocally states that human activities contribute to rising emissions and, causally, the climate crisis.

The climate crisis is also a matter of social justice and public health. The impacts of climate disasters compound with social determinants of health (such as but not limited to income and job security, gender/sex, race/ethnicity, housing access, education) and impose negative impacts on already marginalized populations. As such, these disasters disproportionately jeopardize the health, wellbeing and livelihoods of systemically vulnerable groups.[6] Climate change-exacerbated impacts are only expected to worsen unless we cease global fossil fuel dependence as soon as possible.

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[3] Garry Gray and William K. Carroll, 'Mapping Corporate Influence and Institutional Corruption Inside Canadian Universities', *Critical Criminology* 26, no. 4 (1 December 2018): 491–507, https://doi.org/10.1007/s10612-018-9420-0.; Emily Eaton and Nick Day, 'Petro-Pedagogy: Fossil Fuel Interests and the Obstruction of Climate Justice in Public Education', *Environmental Education Research* 26 (5 September 2019): 1–17, https://doi.org/10.1080/13504622.2019.1650164. ; Matthew Megura and Ryan Gunderson, 'Better Poison Is the Cure? Critically Examining Fossil Fuel Companies, Climate Change Framing, and Corporate Sustainability Reports', *Energy Research & Social Science* 85 (1 March 2022): 102388, https://doi.org/10.1016/j.erss.2021.102388.

[4] Oxford Climate Justice Campaign, 'Money, People, Reputation: Oxford's Ties to the Fossil Fuel Industry'.; Students for a Fossil Free Future, 'Fossil-Fueled Universities: A Call for Universities to End Links with the Fossil Fuel Industry.'

[5] IPCC, *Global Warming of 1.5°C: IPCC Special Report on Impacts of Global Warming of 1.5°C above Pre-Industrial Levels in Context of Strengthening Response to Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, 1st ed. (Cambridge University Press, 2022), https://doi.org/10.1017/9781009157940.

[6] Nathan Gillett et al., 'Human Influence on the 2021 British Columbia Floods', *SSRN Electronic Journal*, 2022, https://doi.org/10.2139/ssrn.4025205.; Health Canada, *Health of Canadians in a Changing Climate: Advancing Our Knowledge for Action.*, 2022, https://epe.lac-bac.gc.ca/100/201/301/weekly_acquisitions_list-ef/2022/22-07/publications.gc.ca/collections/collection_2022/sc-hc/H129-121-2022-eng.pdf.

Since the fossil fuel industry is the primary driver of increasing greenhouse gas (GHG) emissions, it is the focus of this report.[7] None of the largest fossil fuel companies, including Shell and BP, are on-track to meet their Paris-aligned emissions reductions goals, according to an August 2022 analysis of industry decarbonization timelines.[8] A 2021 study estimates that 83% of Canada's current oil and gas reserves must remain in the ground to have a chance of maintaining warming to 1.5 degrees.[9] Still, corporations such as ExxonMobil plan to increase their production, exploration, and combustion of fossil fuels each year.[10]

Not only does the fossil fuel industry maintain the unsustainable extraction of fossil fuels as the foundation of their business model, but fossil fuel lobbyists and corporate interests pose a major obstructionist influence on environmental governance.[11] Fossil fuel corporations exert approximately five times as much lobbying power as environmental non-governmental organizations (ENGOs), leading to a federal political agenda which disproportionately represents the interests of the fossil fuel industry.[12] In one especially clear case, the Corporate Mapping Project noted a 2012 spike in fossil fuel corporation Kinder Morgan Canada's lobbying efforts to expand the Trans Mountain Pipeline. The pipeline lobbyists contravened the interests of land defenders from the Secwepemc Nation, the Tsleil-Waututh Nation, and other Indigenous communities whose traditional territories the pipeline crosses — although it is important to note that some Indigenous leaders support the pipeline as a source of economic opportunity.[13] Furthermore, fossil fuel expansions contravene the stated interests of the majority of the public, as a 2021 survey found that two-thirds of Canadians support more government action to reduce greenhouse gas emissions.[14]

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[7] Simon Lewis, 'Let's Say It without Flinching: The Fossil Fuel Industry Is Destroying Our Future', *The Guardian*, 10 August 2021, https://www.theguardian.com/commentisfree/2021/aug/10/fossil-fuel-companies-ipcc-climate-report-governments.
[8] Robert J. Brecha et al., 'Institutional Decarbonization Scenarios Evaluated against the Paris Agreement 1.5 °C Goal', *Nature Communications* 13, no. 1 (16 August 2022): 4304, https://doi.org/10.1038/s41467-022-31734-1.
[9] Dan Welsby et al., 'Unextractable Fossil Fuels in a 1.5 °C World', *Nature* 597, no. 7875 (9 September 2021): 230–34, https://doi.org/10.1038/s41586-021-03821-8.
[10] David Tong, 'Big Oil Reality Check: Assessing Oil and Gas Companies Climate Plans', Discussion Paper (Washington D.C.: Oil Change International, 2020), http://priceofoil.org/content/uploads/2020/09/OCI-Big-Oil-Reality-Check-vF.pdf.
[11] Angela V. Carter and Truzaar Dordi, 'Correcting Canada's "One Eye Shut" Climate Policy Meeting Canada's Climate Commitments Requires Ending Supports for, and Beginning a Gradual Phase out of, Oil and Gas Production', Technical Paper #2021-4, v1.1 (Cascade Institute, 2021), https://cascadeinstitute.org/wp-content/uploads/2021/04/Carter-Dordi-Canadas-one-eye-shut-climate-policy-1.1-April-16.pdf.; Natasha Bulaski, 'Politicians and Lobby Groups Using Crisis in Ukraine to Push Pro-Oil Message Is "Crass Opportunism": Elizabeth May', *Toronto Star*, 7 March 2022, sec. Canada, https://www.thestar.com/news/canada/2022/03/07/politicians-and-lobby-groups-using-crisis-in-ukraine-to-push-pro-oil-message-is-crass-opportunism-elizabeth-may.html. ; Eaton and Day, "Petro-pedagogy: fossil fuel interests and the obstruction of climate justice in public education,"; Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*, 1st U.S. ed (New York: Bloomsbury Press, 2010).
[12] Nicolas Graham, William K Carroll, and David Chen, 'Big Oil's Political Reach: Mapping Fossil Fuel Lobbying from Harper to Trudeau' (Corporate Mapping Project, 2019), http://www.deslibris.ca/ID/10102708: 47
[13] Graham, Caroll, & Chen, 'Canada's Fossil Fuel Lobby Influences Policy and Decisions for Major Federal Government Projects,': 48 ; Robert Tuttle, 'Arrests Escalate Protest Over Trans Mountain Pipeline in Canada', *Financial Post*, 19 October 2020, https://financialpost.com/pmn/business-pmn/arrests-escalate-protest-over-trans-mountain-pipeline-in-canada.; CBC News, 'Indigenous Groups Lead Protest against Kinder Morgan's Trans Mountain Pipeline Plan | CBC News', *CBC*, 10 March 2018, https://www.cbc.ca/news/canada/british-columbia/yes-and-no-protests-kinder-morgan-vancouver-march-2018-1.4571160.
[14] Matto Mildenberger et al., 'The Distribution of Climate Change Public Opinion in Canada', ed. Henrik Österblom, *PLOS ONE* 11, no. 8 (3 August 2016): e0159774, https://doi.org/10.1371/journal.pone.0159774.; David Coletto, 'What Do Canadians Think about Climate Change and Climate Action?', Abacus Data |, 28 October 2021, https://abacusdata.ca/climate-change-cop26-canada/.

Despite the fossil fuel industry's detrimental impacts on people and the plant, fossil fuel corporations have increasingly shifted their public relations strategies to frame themselves as benevolent partners in climate action.[15] Notable strategies to rehabilitate fossil fuels' positive public image include corporations such as Shell releasing statements asserting their intentions to become carbon neutral by 2050 — while continuing to explore for new reserves of fossil fuels.[16] Other corporations, including petroleum conglomerate BP, have revised their mission statements to make their fossil fuel extraction "greener" by increasing investments in natural gas, a fossil fuel which emits less GHGs than oil or coal upon combustion, but not necessarily throughout its life cycle[17], or in experimental technological measures such as carbon capture.[18] Often such actions have been dubbed performative greenwashing tactics, as these statements do not stop fossil fuel corporations from simultaneously lobbying to increase extraction, or propagating climate denial, delay, and disinformation.[19]

FOSSIL FUELS IN HIGHER EDUCATION

We aim to scrutinize the mechanisms through which fossil fuel corporate power functions within a crucial site of knowledge production and social norm-setting: higher education.[20] Given that universities hold power over informing policies and practices through their role as knowledge-generating institutions, interactions with industry have the potential to legitimize the actions of the fossil fuel industry by association. A growing coalition of activists and scholars advocate for universities to divest from fossil fuel companies as one method to strip social license from the fossil fuel industry and bolster public support for regulation to reduce fossil fuel production.[21] Alarmingly, research undertaken by The Corporate Mapping Project revealed that a network of corporate fossil fuel actors donate strategically to institutions — a relationship not addressed by university divestment campaigns. These donations aimed to incentivize fossil fuel industry-aligned research and to garner positive press to boost their public image.

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[15] Gunderson & Megura. 'Better Poison Is the Cure? Critically Examining Fossil Fuel Companies, Climate Change Framing, and Corporate Sustainability Reports.'

[16] Shell plc, 'Our Climate Target', 20 April 2022, https://www.shell.com/energy-and-innovation/the-energy-future/our-climate-target.html.

[17] J. David Hughes, 'BC's Carbon Conundrum: Why LNG Exports Doom Emissions-Reduction Targets and Compromise Canada's Long-Term Energy Security' (Vancouver BC, July 2020), http://epe.lac-bac.gc.ca/100/200/300/cdn_centre_policy_alternatives/2020/bc_s_carbon/ccpa-bc_BCs-Carbon-Conundrum_full.pdf.; Adam Morton, 'Booming LNG Industry Could Be as Bad for Climate as Coal, Experts Warn', *The Guardian*, 2 July 2019, sec. Environment, https://www.theguardian.com/environment/2019/jul/03/booming-lng-industry-could-be-as-bad-for-climate-as-coal-experts-warn.

[18] Megura & Gunderson. 'Better Poison Is the Cure? Critically Examining Fossil Fuel Companies, Climate Change Framing, and Corporate Sustainability Reports.'

[19] Zach Boren, Alexander C. Kaufman, and Lawrence Carter, 'Revealed: BP And Shell Back Anti-Climate Lobby Groups Despite Pledges', *HuffPost*, 28 September 2020, sec. Business, https://www.huffpost.com/entry/bp-shell-climate_n_5f6e3120c5b64deddeed6762.; Damian Carrington and Damian Carrington Environment editor, 'Oil Firms' Climate Claims Are Greenwashing, Study Concludes', *The Guardian*, 16 February 2022, sec. Environment, https://www.theguardian.com/environment/2022/feb/16/oil-firms-climate-claims-are-greenwashing-study-concludes.

[20] UBC, 'Vision, Purpose and Values | The University of British Columbia', accessed 16 August 2022, https://www.ubc.ca/about/vision-values.html.

[21] Emily Lowan, 'The Future of University Divestment Campaigns: Reflections From… – Corporate Mapping Project', 7 January 2022, https://www.corporatemapping.ca/universities-divest/.; William K Carroll. *Regime of Obstruction: How Corporate Power Blocks Energy Democracy*.

Similar research groups in Canada, USA, the U.K. and in Singapore, among others, have documented the many ways fossil fuel companies rely on partnerships with universities to gain profitable research innovations, expert personnel, and social license.[22]

Overview of Fossil Fuel-University Ties

• Donations	• Student scholarships
• Research grants	• Branding & advertising
• Career fairs	• Curricula
• Honorary degrees	• Building funding

For example, Cambridge University has a research center called the BP Institute (BPI) — established by a £22 million donation endowment from British Petroleum (BP)[23] — which funds research to improve the efficiency of oil and gas recovery in order to ultimately increase the profitability of fossil fuel extraction.[24] Through this partnership, Cambridge University, as a prestigious and internationally-renowned institution of learning, not only directly supports increased fossil fuel extraction, but also delivers the implicit social message that the fossil fuel industry's practices and economic role are acceptable and beneficial.

Similarly, UC Berkeley's Energy & Biosciences Institute (EBI) was commissioned and funded by BP to explore the application of biology to the energy sector.[25] While the institute plays a role in innovating renewable energy solutions, its widely-publicized affiliation with BP demonstrates a case of the fossil fuel industry deriving positive press and thus social license through university partnerships.
In response to student and activist advocacy which has mobilized around the issue of the BP Institute and other fossil fuel influence — as of August 18, 2022 — Cambridge faculty and senior staff plan to vote on a motion to prohibit research donations by fossil fuel corporations.[26] The aim of our research project is to follow their precedents, and identify and disrupt similar partnerships at UBC.

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[22] Laurie E Adkin and Laura Cabral, 'Knowledge for an Ecologically Sustainable Future? Innovation Policy and Alberta Universities' (University of Alberta: Corporate Mapping Project, June 2020), https://d3n8a8pro7vhmx.cloudfront.net/parklandinstitute/pages/1796/attachments/original/1593031832/knowledge.pdf?1593031832. ; Kelsey J. Griffin and Kevin A Simauchi, 'Divest Activists Lambast Harvard's Remaining Ties to Fossil Fuel Industry in Research Funding, Governance | News | The Harvard Crimson', 16 November 2021, https://www.thecrimson.com/article/2021/11/16/activists-criticize-fossil-fuel-ties/.; Oxford Climate Justice Campaign. 'MONEY, PEOPLE, REPUTATION: OXFORD'S TIES WITH THE FOSSIL FUEL INDUSTRY'; Students for a Fossil Free Future, 'Fossil-Fueled Universities: A Call for Universities to End Links with the Fossil Fuel Industry.'
[23] 'BP Institute for Multiphase Flow', University of Cambridge, 1 August 2009, https://www.cam.ac.uk/research/news/bp-institute-for-multiphase-flow.
[24] 'Innovation & Engineering | What We Do | Home', bp global, accessed 16 August 2022, https://www.bp.com/en/global/corporate/what-we-do/innovation-and-engineering.html.
[25] Rick DelVecchio, 'BERKELEY / Cal Sees BP Deal as Landmark / Research Could Lead More Quickly to Making Alternative Fuel a Reality', SFGATE, 2 February 2007, https://www.sfgate.com/green/article/BERKELEY-Cal-sees-BP-deal-as-landmark-2619983.php.
[26] Hiroko Tabuchi, 'Kicking Oil Companies out of School', *The New York Times*, 16 August 2022, sec. Climate, https://www.nytimes.com/2022/08/16/climate/cambridge-university-oil-gas-funding.html.

CONTEXT TO DIVESTMENT AT UBC

The process of divestment as a tactic for political, social, and economic change relies on removing the industry's social license to operate.[27] **Social license refers to the societal and economic norms which frame the fossil fuel industry as instrumental for jobs, infrastructure, and Canadian national identity**. Leaders in divestment movements acknowledge that universities or other public institutions divesting their endowments in itself will not cause the fossil fuel energy system to grind to a halt, considering the relatively small role each endowment plays in the immense fossil fuel economy.[28] Rather, the goal is to send a normative signal. A university's public commitment to divestment communicates that institutions have a moral duty to cease support for an industry which abundant scientific evidence shows to cause direct harm to human health, and to the stability of the earth system itself. This action then can compel other institutions to divest, creating a ripple effect to propel a transformative shift in public norms against the fossil fuel industry and towards renewable energy transitions.[29]

This ripple effect has been observed with twelve Canadian universities — most recently, University of Montreal in June 2022 — committing to divestment since 2017, precipitated by Université Laval in Quebec City.[30] However, to substantively erode the fossil fuel industry's social license, researchers and student activists at universities in the U.K. and in Singapore argue that not only should universities cease investing in fossil fuels, but that universities must cut all corporate ties entirely.[31] This research project stems from the same position. While not explicit in initial endowment divestment demands, campaigns to cut university ties with fossil fuel donors, funders, and research sponsors similarly aim to promote a social norm shift to delegitimize fossil fuel operations in the public eye.

Our community partner, **Climate Justice UBC (CJUBC)**, is a grassroots student group that started campaigning for fossil fuel divestment in 2013. Following 6 years of student and faculty organizing and a groundswell of pressure in Fall 2019, UBC committed to divest from fossil fuels and declared a climate emergency in December 2019.[32] The declaration recognized that fossil fuel extraction imposes disproportionate harm upon Indigenous and marginalized communities, and highlighted

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[27] Daniel C. Apfel, 'Exploring Divestment as a Strategy for Change: An Evaluation of the History, Success, and Challenges of Fossil Fuel Divestment', *Social Research* 82, no. 4 (2015): 913–37, https://www.jstor.org/stable/44282147.
[28] Luis E. Hestres and Jill E. Hopke, 'Fossil Fuel Divestment: Theories of Change, Goals, and Strategies of a Growing Climate Movement', *Environmental Politics* 29, no. 3 (15 April 2020): 371–89, https://doi.org/10.1080/09644016.2019.1632672.; Julie Ayling and Neil Gunningham, 'Non-State Governance and Climate Policy: The Fossil Fuel Divestment Movement', *Climate Policy* 17, no. 2 (17 February 2017): 131–49, https://doi.org/10.1080/14693062.2015.1094729.
[29] Ayling & Gunningham. 'Non-state governance and climate policy: the fossil fuel divestment movement.'
[30] Sindark.com. 'Canadian Campus Fossil Fuel Divestment Successes.' Accessed March 17, 2022. https://www.sindark.com/projects/phd-thesis/canadian-campus-fossil-fuel-divestment-successes/
[31] Oxford Climate Justice Campaig. 'MONEY, PEOPLE, REPUTATION: OXFORD'S TIES WITH THE FOSSIL FUEL INDUSTRY.; Students for a Fossil-Free Future. "Fossil-Fuelled Universities: A call to universities to end links with the fossil fuels industry."
[32] UBC VP Finance and Operations, 'Update: Next Steps Following Climate Emergency Declaration and Commitment to Divestment | VPFO | UBC', 10 January 2020, https://vpfo.ubc.ca/2020/01/ubc-update-moving-toward-divestment/.

the need for a "decisive shift away from fossil fuels toward alternative energy sources, as laid out by the science of the Intergovernmental Panel on Climate Change (IPCC), the UN Production Gap Report and the Paris Agreement."[33] This declaration launched a community engagement process and the creation of a Climate Emergency Task Force, producing a report in February 2021 outlining 28 recommendations for UBC.[34] The report was endorsed by the University Board and Senate.[35]

One of the report's recommendations is for UBC to "establish climate justice standards for the University's activities," which extends an expectation that the University's external partners should comply with UBC's commitment to climate justice. This recommendation specifically refers to student recruitment, financial management and external fundraising, and calls for "an internal review to determine the level of activities and research at UBC's [Vancouver and Okanagan] campuses that are currently funded by the fossil fuel sector."[36]

The ultimate aim of CJUBC's fossil fuel divestment campaign was to compel an influential institution to publicly denounce fossil fuels, thus eroding the industry's social license and legitimacy. **While UBC is slowly phasing out fossil fuel investments from its endowment, UBC has made no other steps to end partnerships with the industry — violating the Climate Emergency Task Force's recommendations.[37]**

This project's overarching intention is to support our community partner Climate Justice UBC in developing a new phase of its divestment campaign, calling for an end to *all* university partnerships with the fossil fuel industry, building on the examples set by student divestment organizers at Oxford and Cambridge.[38]

DEFINING THE FOSSIL FUEL INDUSTRY: EXTRACTORS AND ENABLERS

Our research uses the framework of "social license" to investigate the ways in which institutions such as UBC legitimate the fossil fuel industry through public partnerships and indirect financial relationships, beyond the direct investments included in the university endowment.

The *Fossil Fuel Universities Report* addresses the whole industry of corporations whose primary form of business involves the exploration, extraction, refinement, processing and/or distribution of coal,

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[33] Santa J. Ono, 'Declaration on the Climate Emergency | Office of the President', 5 December 2019, https://president.ubc.ca/homepage-feature/2019/12/05/climate-emergency-declaration/.
[34] UBC Climate Emergency Engagement: Final Report and Recommendations. 2020. https://bm-climate-emergency-2020.sites.olt.ubc.ca/files/2021/02/4_2021.02_Climate-Emergency-Engagement.pdf
[35] 'UBC Climate Emergency Engagement Final Report and Recommendations' (UBC Climate Emergency Task Force, January 2021), https://bm-climate-emergency-2020.sites.olt.ubc.ca/files/2021/02/4_2021.02_Climate-Emergency-Engagement.pdf.
[36] Ibid.
[37] Ibid.
[38] Oxford Climate Justice Campaign. 'MONEY, PEOPLE, REPUTATION: OXFORD'S TIES WITH THE FOSSIL FUEL INDUSTRY'.; Ollie Banks et al., 'DISMANTLING THE FOSSIL FUEL UNIVERSITY: The Entanglement of the University of Cambridge and the Fossil Fuel Industry' (Cambridge Zero Carbon Society, 2019), https://zerocarbonsoc.soc.srcf.net/inform/dismantling-the-fossil-fuel-university/.

oil and gas — what we term "extractors." Additionally, drawing from the Corporate Mapping Project's framework for analyzing the fossil fuel industry's network of influence, we also address UBC's connections to companies that enable the fossil fuel industry. The power of the fossil fuel industry is dependent on many pillars of support. A range of different companies or corporations, including banks, insurers, law firms, and think tanks all enable fossil fuel extraction through technological, legal, and capital support.[39] They allow the fossil fuel industry to continue to extract, profit, and hold sociopolitical power.

For example, the Royal Bank of Canada (RBC) is both a major donor to UBC and a consistent exhibitor at UBC career fairs. Considering that RBC is one of the world's top bankers to the fossil fuel industry — supporting it through direct capital investments — its affiliations with UBC deserve analysis and critique within the divestment framework for change.[40]

By recognizing the enablers of the fossil fuel industry as part of the problem, we can better analyze how the fossil fuel sector is structured, financed, and connected to the broader global corporate system — with universities like UBC imbricated as nodes within this network via the fossil fuel capital they receive.

[39] Rainforest Action Network et al, 'Banking on Climate Chaos: Fossil Fuel Finance Report 2021', 2021, https://www.bankingonclimatechaos.org/wp-content/uploads/2021/10/Banking-on-Climate-Chaos-2021.pdf.; Margreet Simons and Joeri de Wilde, 'The Involvement of European Insurance Groups in the Fossil Fuels Sector: A Report for the Sunrise Project' (Amsterdam, The Netherlands: Profundo Research & Advice, 24 April 2017), https://global.insure-our-future.com/wp-content/uploads/sites/2/2017/04/Profundo-report-final-0417.pdf.; Law Students for Climate Accountability, '2022 Climate Scorecard', Law Students for Climate Accountability, 2022, https://www.ls4ca.org/climate-scorecard.; https://doi.org/10.1007/s10584-020-02820-4

[40] Don Pittis, 'Despite Calls for Change, Canada's RBC Is One of World's Top Bankers to Fossil Fuel Industry | CBC News', *CBC*, 24 March 2021, https://www.cbc.ca/news/business/canada-banks-fossil-fuels-report-1.5960845.

Part 1

CAUSES AND IMPACTS OF FOSSIL FUEL DONATIONS TO UNIVERSITIES

PART 1: CAUSES AND IMPACTS OF FOSSIL FUEL DONATIONS TO UNIVERSITIES

As public funding for the Canadian post-secondary education system has decreased dramatically over the past three decades, these institutions of higher education have become increasingly dependent upon donations from corporations to cover costs.[41] We define "donations" as charitable gifts from corporations to public institutions, either of raw funds or of other resources donated below market price.

Firstly, corporate donations to universities can increase companies' profitability in the short-term, as it is a branding strategy. By donating to universities, companies brand themselves as charitable, ethical, and socially responsible. Corporate support of specific programs within universities also may enable a long-term supply of labor for the company by training future employees. Corporate donations for research also increase the chances of innovations that could be helpful in reducing company costs in the long-run. This can help weave a narrative that these corporations are integral in propelling future economic growth.

Although corporate donations to universities do not always have explicit strings attached, companies rarely make large sums of donations without motivation, or by gaining something in return. For example, Mobil Foundation was revealed to use donations to American universities as a tool to shape research agendas and to weaken environmental regulation.[42] At the University of Cambridge, the BP Institute (BPI), established by a £22 million donation endowment from BP, is not free from BP's influence. BP is invited to suggest two candidates for appointment as the fund manager. The Director of the BPI explained that the close working relationship with BP allows the researchers to gain in-depth exposure to technical challenges in the oil and gas industry. He went on to say "this means that we can frame research directions that are fundamentally interesting to us as academics and can also solve problems that are of relevance to the industry."[43]

Donor influence can also be seen in tenure appointments and scholarly direction.[44] For example, at the University of Toronto's (U of T) law school, Valentina Azarova's appointment as director of its international human rights program came to an abrupt halt when a major donor shared concerns of the appointment with an assistant vice-president that handles donor relations at U of T.[45]

Although most donors do not demand explicit control over academic or non-academic decisions, the fossil fuel industry may benefit from the "chilling effect" of self-censorship as a consequence of the

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[41] Canadian Union of Public Employees, 'The Corporatization of Post-Secondary Education', Canadian Union of Public Employees, 29 January 2019, https://cupe.ca/corporatization-post-secondary-education.
[42] Sharon Kelly, 'How Mobil Pushed Its Oil Agenda through "Charitable Giving"', *The Guardian*, 12 July 2019, https://www.theguardian.com/business/2019/jun/12/mobil-foundation-donations-oil-company.
[43] Cambridge Zero Carbon Society, "Dismantling the Fossil Fuel Industry," 15.
[44] Shannon Dea, 'The High Price of Donations', *University Affairs*, 15 September 2021, https://www.universityaffairs.ca/opinion/dispatches-academic-freedom/the-high-price-of-donations/.
[45] Jeremy Appel, 'The Azarova Affair: Did the University of Toronto Pass on a Professor for Being Critical of Israel?', *Forward*, 14 May 2021, https://forward.com/news/469690/the-azarova-affair-did-the-university-of-toronto-pass-on-a-professor-for/.

partnership.[46] As discussed in sociologist Neil Tudiver's book *Universities for Sale*, self-censorship often begins from nothing more than polite reluctance to criticize a benefactor, as there is a need to maintain the relationship given the prospect of future support.[47] Although funders should expect no further returns for their contributions as per most fundraising policies, including UBC's, the patrons still carry psychological obligations which encourage alignment with donor agendas.

For example, the Dalhousie University (Dal) divestment campaign has faced strong opposition despite its impressive organizing power. To investigate potential reasons behind the resistance, Divest Dal filed a Freedom of Information (FOI) request in July 2015. The FOI revealed that the divestment motion was decided during the same time the administration was working on a new donor agreement with Shell Canada — which had donated a total of $1.9 million to Dalhousie University from 2006-2016.[48] In fact, Dalhousie Dean of Science Chris Moore publicly admitted the conflicts that the university would have if they decided to divest: "A senior executive at Shell… told me directly that the company is monitoring the university divestment movement closely and would look unfavorably on any university that divested in regard to future investment."[49]

Fossil fuel-funded scholarships: Boosting brand image while influencing student outcomes

Brand image is particularly important for the fossil fuel industry as more people are becoming aware of its negative social and environmental impacts. Through corporate donations, including to fund student financial aid and awards, the fossil fuel industry can bolster their reputation and maintain their social license.[50] By offering scholarships that enable access to higher education, companies engage in strategic philanthropy to gain the trust of the general public.[51] Including fossil fuel donor names on scholarships and buildings helps construct a positive brand image that detracts attention away from the social and environmental harm they are causing.

Reports from Singapore and Oxford both flag major scholarships at their respective universities that are endowed by oil and gas companies, including Shell and BP. Divestment activists recommend that universities eliminate their affiliations with these funders in favor of soliciting scholarship funding from the renewable energy industry within the next 5-10 years.[52] Our research builds from those

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[46] Students for a Fossil-Free Future. "Fossil-Fuelled Universities." 24.
[47] Neil Tudiver, *Universities for Sale: Resisting Corporate Control over Canadian Higher Education* (Toronto [Ont.: J. Lorimer, 1999), http://site.ebrary.com/id/10220596. : 182
[48] Lowan, 'The future of university divestment campaigns.'
[49] Charles Mandel | News and Energy | April 27th 2016, 'How Big Oil Seeps into Canadian Academia', *Canada's National Observer*, 27 April 2016, sec. News, https://www.nationalobserver.com/2016/04/27/news/how-big-oil-seeps-canadian-academia.
[50] Oxford Climate Justice Campaign, 'Money, People, Reputation.' 27.
[51] Emily Eaton and Simon Enoch, 'The Oil Industry Is Us* Hegemonic Community Economic Identity in Saskatchewan's Oil Patch', in *Regime of Obstruction: How Corporate Power Blocks Energy Demoncracy*, ed. William K. Carroll (Edmonton, Alberta, 2021).
[52] Campaign, Oxford Climate Justice. 'Money, People, Reputation: Oxford's Ties With The Fossil Fuel Industry.'; Students for a Fossil-Free Future. "Fossil-Fuelled Universities: A call to universities to end links with the fossil fuels industry."

precedents to determine the amount of fossil fuel-funded student awards at UBC. We then analyze what student awards reflect about the relationship between UBC and the fossil fuel industry.

Given the evidence highlighting how fossil fuel donations to universities are problematic, our study investigates what extent UBC's donors are linked to the fossil fuel industry, so that the university can critically reassess their acceptance of donations from these donors, and so those involved in the university's actions or inactions are able to obtain increased agency in holding accountability.

FINDINGS: AWARDS & DONATIONS

7 of every 50 donors to UBC between 2008-2015 were connected to the fossil fuel industry

To determine what cross-section of people who donated money to UBC had a connection to the fossil fuel industry, as well as their corresponding amounts donated, data was collected from "donor light pillars." The donor light pillars are an interactive light installation located in front of the Robert H. Lee Alumni Centre which display the names of more than 4,300 donors to UBC between 2008 and 2015 as part of UBC's seven-year "Start an Evolution" fundraising campaign. In total, this campaign raised $1.62 billion dollars and all of the donors got to choose which initiatives or projects at UBC they wanted to support.[53]

We Google searched 1,253 donors (excluding individuals, individual foundations, and family foundations) to determine their connections to the fossil fuel industry. Out of the 1253 donors, 174 donors are tied with the fossil fuel industry — **13.9% of the total donors** amounted to **at least $77 million**. The greatest percentage of fossil fuel related donors is found within the second largest donation range, $1-5M at 24.2% of donations.

Donors which directly extract and emit fossil fuels include: Teck Resources ($5M+); FortisBC, Lundin Mining Corporation, and Shell Canada Limited ($1-$5M); Encana, Golden Eagle Group, Nexen Energy, and TC Energy, Vale, Kiewit, and Glencore ($250K - $1M). However, the majority of fossil fuel-affiliated donors were not the fossil fuel corporations themselves. Rather, UBC is significantly funded by industry donors which provide vital direct support to the fossil fuel industry's legal, technological, and capital needs. Canada's Big Five banks which have been recognized as international leaders in the funding of fossil capital are on the donor list.[54] RBC, Scotiabank, TD, and BMO donated in the range of $1 - $5M, and CIBC donated in the range of $25-$250K.

[53] Samantha McCabe, 'UBC Raises $1.6 Billion in Seven-Year Fundraising Campaign', *The Ubyssey*, 24 November 2015, https://ubyssey.ca/news/ubc-got-a-ton-of-money-from-alumni/.
[54] Donald Gutstein, 'Fossilized Finance: How Canada's Banks Enable Oil and Gas Production' (Corporate Mapping Project, 29 April 2021), https://policyalternatives.ca/publications/reports/fossilized-finance.

Donated Amount	Extractors	Enablers	Total fossil fuel related donors	Total donors	Percentage of fossil fuel related donors
$5M+	1	6	7	45	15.6%
$1M - $5M	3	25	28	120	24.2%
$250K - $1M	7	34	41	209	21.5%
$25K - $250K	21	60	81	879	10.6%
Total	32 [2.6%]	125 [10%]	174	1253	12.6.%

Table 2. *Frequency table of donors categorized by the amount of donation and the extractor/enabler framework.*

Majority of Fossil Fuel-Linked Student Awards Affiliated with Sauder School of Business

A systematic review of scholarships, bursaries, fellowships, and prizes offered through UBC's Faculty of Graduate Studies, Sauder School of Business, Peter A. Allard School of Law, Faculty of Applied Science, and Faculty of Science, found that fossil fuel-related companies funded 23 student awards totaling $208,900 during the 2021W session. The Sauder School of Business had both the greatest quantity of awards and largest cumulative award amount endowed by fossil fuel-related corporations. Most of these award donors fell into the category of enablers, which includes the likes of pipeline construction companies, legal supporters of the oil and gas industry, and Canada's Big Five Banks. The donors with direct ties to the fossil fuel industry, which were categorized as extractors, included Westcoast Energy Inc., Methanex Corp., and Talisman Energy.

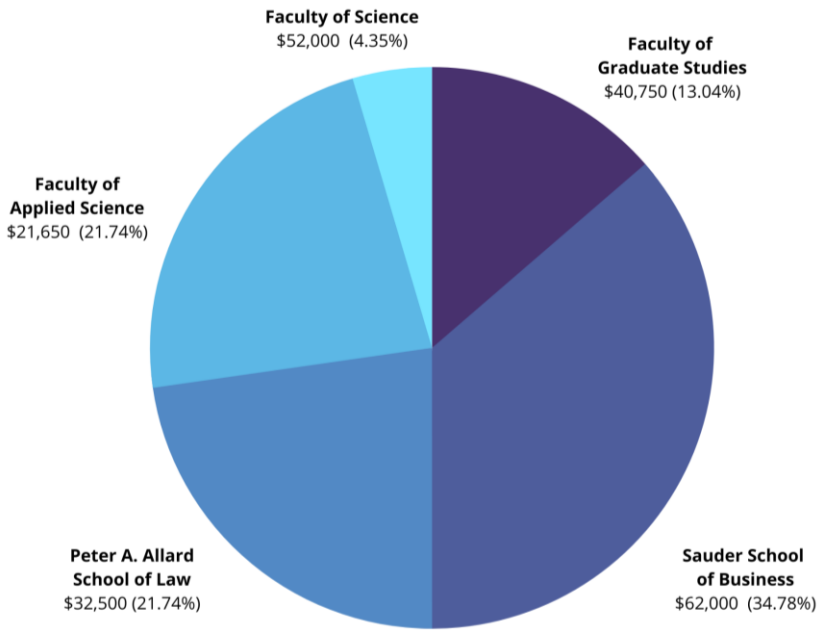

Figure 7. *Breakdown of total amount of fossil fuel funded student awards ($208,900 CAD) by faculty / school from UBC Vancouver for the 2021W session.*

Faculty/Department	Extractors	Enablers	Number of Fossil Fuel-Related Awards
Faculty of Graduate Studies	1	2	3
Sauder School of Business	4	5	9
Peter A. Allard School of Law	0	5	5
Faculty of Applied Science	1	4	5
Faculty of Science	0	1	1
Total	6	17	23

Table 3. *Frequency table of student awards funded by fossil fuel-related companies from the 2021W session sorted by faculty / department, and the extractor and enabler framework.*

Case Study 1: Teck resources donates to UBC to position itself as a sustainability leader

Among fossil fuel donors to the 'Start an Evolution' campaign, Teck Resources' donation of $5 million is the largest. In 2008, Teck rebranded itself as "Teck Resources" after facing numerous sanctions for its environmental infringement throughout its operation under its former name, Teck Cominco. The company has initiated a substantive PR campaign since then to promote its environmental and social ethics.[55]

Although Teck positions itself as a "green" mining company, it is rapidly diversifying its steelmaking coal-heavy portfolio into oil production.[56] Teck owns 21 per cent of the $17 billion oil sands project called Fort Hills.[57] The project, which began production in January 2018, aims to extract 194, 000 barrels of oil per day over a 50-year lifespan.[58] However, Fortis Hills is a relatively small project compared to the $20 billion Frontier oil sands project.

Meanwhile, Teck has been recognized as a global sustainability leader by multiple organizations including the S&P Dow Jones Sustainability World Index and the 2022 Global 100 Most Sustainable Corporations by Corporate Knights.[59] With Teck's contradictory actions and commitments towards climate change, it is worth further investigating the different ways in which Teck leverages partnerships with UBC to position itself as a sustainability leader.

The $7.5 million gift to UBC led by Teck in 2006 exemplifies how corporate donations function as both a branding strategy and generator of short and long-term returns. Teck's donation resulted in the creation of the Norman B. Keevil Institute of Mining Engineering, the only mining energy program at UBC.[60] The institute was named after Norman B. Keevil, former President, Chairman, and CEO of Teck, who received an honorary UBC degree in 1993.[61]

With the institute framed as a hub for innovation in "environmental stewardship, sustainability, community enhancement and positive First Nations relations," Teck's donation works to bolster its public reputation as a socially responsible company. This is demonstrated in the statement made by UBC Mining Engineering Head Malcolm Scoblem: "This gift is a natural evolution of our collaboration and represents the strong commitment of Teck Cominco and partners to higher education and to a sustainable future for the industry."[62] The statement suggests that Teck's business is based on sustainability with strong commitments towards both society and the environment even though in reality, Teck is not doing enough to meaningfully reduce planet-warming emissions.[63] **This is a clear demonstration of how the university is paying the company with social license in return for a donation**. The institute also ensures long-term supply of labour in the mining industry. Investing in mining education is especially important for Teck's long-term profitability given declining mining education enrollment rates.[64] In fact, Teck is one of the largest employers of UBC Engineering co-op students, having hired over 1,100.

Case Study 2: Canadian Energy Pipeline Association engaged in corporate social responsibility by strategically funding student awards in pipeline engineering.

The Canadian Energy Pipeline Association Award in Pipeline Engineering is a $5,000 CAD award for students who excel in pipeline engineering courses, with priority given to "(1) First Nations, Inuit, or Metis students of Canada or (2) women."[65] This is a strong example of corporate social responsibility in practice. It has been awarded 3 times since 2019, totalling to $15,000.

Especially considering the growing affordability crisis in higher education, supporting marginalized students is crucial and students should not be faulted for accepting fossil fuel funding. However, it should also not be left to the oil and gas sector to select which educational programs and career trajectories are deserving. Furthermore, the Climate Emergency Task Force recommends phasing out fossil fuel energy and funding as a necessary part of a just transition.[66] In that context, these scholarships are neither financially or ecologically sustainable. UBC should instead devote resources and policy to developing alternative sources of funding for marginalized students in renewable sectors.

CONCLUSION: Fossil fuel corporate donations jeopardize UBC's climate commitments, and suggest the need for an ethics of engagement policy.

UBC prominently displays the names of fossil fuel donors including Teck Resources and the Canadian Institute of Mining, Metallurgy and Petroleum on the names of buildings, such as the Earth, Ocean, and Atmospheric Science building. Accepting and welcoming donations from fossil fuel companies in a very visible way implicates UBC in legitimizing the harms caused by the industry.[67] Geoffrey Supran, a postdoctoral researcher at MIT and Harvard, captures this in his statement regarding fossil fuel funding to universities: "When you take it, you pay with your university's social

[55] 'Teck Resources', Corporate Mapping Project, accessed 16 August 2022, https://www.corporatemapping.ca/profiles/teck-resources/.
[56] Ibid
[57] Ibid
[58] Ibid
[59] 'Teck Named Industry Leader on 2021 Dow Jones Sustainability World Index', Teck Resources Limited, accessed 16 August 2022, http://www.teck.com/news/news-releases/2021/teck-named-industry-leader-on-2021-dow-jones-sustainability-world-index.
[60] UBC News, '$7.5M Gift Led by Teck Cominco Creates Norman B. Keevil Institute of Mining Engineering at UBC', UBC News, 3 May 2006, https://news.ubc.ca/2006/05/03/archive-media-releases-2006-mr-06-046/.
[61]'UBC Archives - Honorary Degree Citations - 1992-1995', accessed 16 August 2022, https://www.library.ubc.ca/archives/hdcites/hdcites10.html#bentley.
[62] UBC News, '$7.5M Gift Led by Teck Cominco Creates Norman B. Keevil Institute of Mining Engineering at UBC'
[63] Climate Action 100+, 'Teck Resources Ltd.', Climate Action 100+, 3 October 2020, https://www.climateaction100.org/company/teck-resources-limited/.
[64] Tyler Nyquvest,'Canadian Universities Not Keeping up with Mining Industry Demands—Report', *MINING.COM*, 12 December 2018, https://www.mining.com/mining-outlook-reveals-employment-education-gaps/.
[65] Student Services, 'Award #5420 - 2021W - Canadian Energy Pipeline Association Award in Pipeline Engineering', Student Services, 31 July 2019, https://students.ubc.ca/enrolment/finances/award-search/vancouver/faculty-applied-science/general/5420.
[66] 'UBC Climate Emergency Engagement Final Report and Recommendations' 70.
[67] Oxford Climate Justice Campaign, "Money, People, Reputation," 27.

license. You pay by helping facilitate these companies' political and public relations tactics."[68] Although many of UBC's fossil fuel-affiliated donors are fossil fuel enablers, such as technology companies, we argue that any corporation which continues to uphold the fossil fuel industry's destructive extractivism at this stage of climate emergency also deserves to face meaningful public pressure.

Given that UBC is "ranked number one in the world for taking urgent action to combat climate change" by Times Higher Education, partnering with the university through the provision of donations or funding research helps companies improve their reputation as partners in climate action.[69] As for UBC, allowing fossil-fuel-related companies to offer awards and advance its vision and purpose, indirectly and falsely suggests that continued fossil fuel extraction is compatible with UBC's commitment to 1.5 degree climate targets. It also breaks UBC's stated commitment to phasing out fossil fuels.[70] Consequently, we argue that UBC should publicly cease acceptance of fossil fuel donations, and conduct a critical review of funding sources.

An ethics of engagement policy, created in consultation with campus advocacy groups such as Climate Justice UBC and the Social Justice Centre, could help ensure that UBC's financial partnerships with donors do not compromise the university's climate commitments. Other universities have adopted similar policies of ethical review before agreeing to partnerships or accepting donations from institutional benefactors. For example, the University of Southern California adopted an ethics of engagement policy for healthcare researchers and the pharmaceutical industry to prevent conflicts of interest which may be detrimental to patients' health.[71]

Many universities, including Harvard's T.H. Chan School of Public Health, similarly adopted a policy of blanket refusal of research funding from the tobacco industry due to its documented damaging impacts on health and wellness.[72] UBC has a precedent of using moral and normative concerns to inform partnership policy. In March 2022, the UBC Senate voted to cut ties with Russian institutions, companies, and governing bodies due to Russia's abuses of human rights in waging war against Ukraine.[73] Considering the way the fossil fuel industry is already jeopardizing the lives and futures of nations, communities, and ecosystems, a similar policy surrounding UBC's donation and student award ties is both warranted and necessary

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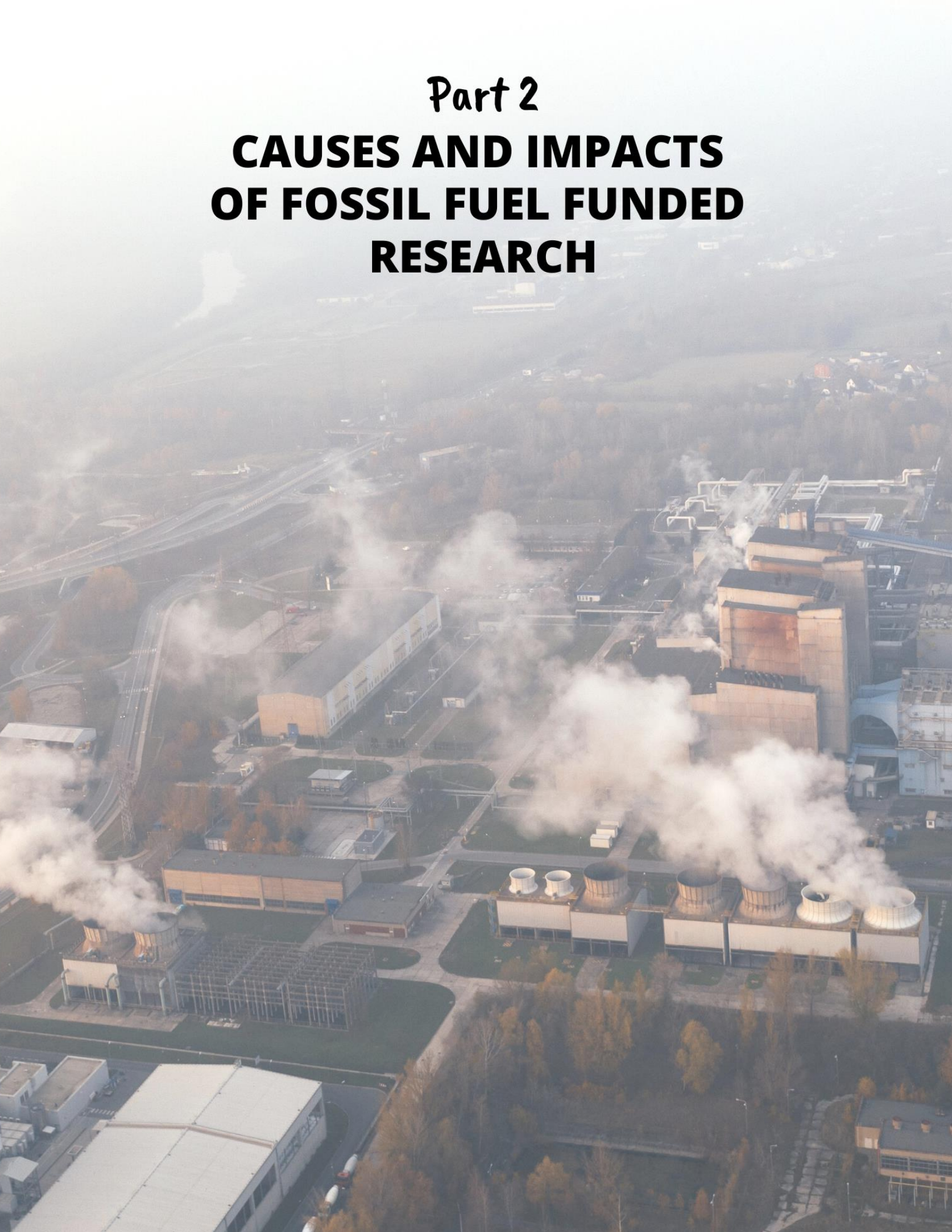
[68] Kelly, "How Mobil pushed its oil agenda through 'charitable giving.'
[69] UBC Sustainability, 'THE Ranks UBC #1 in Climate Change Action and Sustainable Cities', sustain.ubc.ca, 15 April 2019, https://sustain.ubc.ca/stories/ranks-ubc-1-climate-change-action-and-sustainable-cities.
[70] UBC Climate Emergency Task Force, 'UBC Climate Emergency Engagement: Final Report and Recommendations,' 11.
[71] USC, 'Relationships with Industry – Policies and Policy Governance', USC, accessed 17 August 2022, https://policy.usc.edu/industry-relationships/.
[72] Harvard T.H. Chan School of Public Health, 'Policy on Tobacco-Related Companies', Office of Faculty Affairs, 5 September 2012, https://www.hsph.harvard.edu/faculty-affairs/faculty/policy-on-tobacco-related-companies/.
[73] Khushi Patil, 'Senate Summed Up: Senators Vote to Cut Academic Ties with Russian Government Entities, Increase Support for at-Risk Scholars', *The Ubyssey*, 22 April 2022, https://ubyssey.ca/news/senate-summed-up-4-21/.

Part 2

CAUSES AND IMPACTS OF FOSSIL FUEL FUNDED RESEARCH



PART 2: CAUSES AND IMPACTS OF FOSSIL FUEL-FUNDED RESEARCH

The fossil fuel industry has much to gain from establishing research relationships with academic institutions.[74] By embedding itself in the university through capital investment, the fossil fuel industry can access researchers and therefore externalize research costs, appropriating research skills for industry needs at much cheaper rates.[75] Fossil Free Research, a student-driven campaign and growing international movement, seeks to disrupt links between the fossil fuel industry and university research. They argue that fossil fuel funding of university research can directly bolster fossil fuel corporations' bottom lines by optimizing extraction technology and surveying new deposits. For example, the Sharp Research Consortium at Edmonton's Northern Alberta Institute for Technology carries out applied research designed to support Alberta oil sands industry.[76] Sociologist Nicholas Graham documents similar clusters of Canadian research institutes that support "fossil knowledge networks" through their collaborative research.[77] These research consortiums therefore work with and for industry, allowing industry partners to harness research capacities while also enabling them to influence and commercialize research outcomes.

Social scientists Laurie Adkin and Nicholas Graham argue that fossil fuel companies can also indirectly benefit from funding research through the legitimacy it grants to their public image.[78] A systematic study of fossil fuel research funding flows at Alberta universities found that fossil fuel-funded researchers often frame their work as environmental.[79] Examples include carbon capture technology to reduce the GHG emissions of fossil fuel-burning factories, and environmental remediation of abandoned oil and gas wells.[80] These research projects are designed to minimize the environmental and public health dangers posed by the fossil fuel industry. However, Adkin describes how they also grant fossil fuel corporations the veneer of environmental responsibility, while allowing the industry to continue to operate along the same unsustainable model of extraction, combustion, and capital accumulation.[81] In this way, the fossil fuel industry endeavors to achieve social license through its connections with legitimate and well-respected academic institutions via research funding, while benefiting financially from useful new technology transfer.[82]

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[74] Raffy Boudjikanian, 'How TransAlta Used a University-Sanctioned Research Project to Lobby for the Coal Industry', *CBC*, 24 July 2018, https://www.cbc.ca/news/canada/edmonton/transalta-coal-report-1.4752314.; Gray & Carroll. 'Mapping Corporate Influence and Institutional Corruption Inside Canadian Universities.'; Jamie Brownlee, Chris Hurl, and Kevin Walby, eds., *Corporatizing Canada: Making Business out of Public Service* (Toronto, Ontario: Between the Lines, 2018).
[75] Gray & Carroll. 'Mapping Corporate Influence and Institutional Corruption Inside Canadian Universities.'
[76] NAIT, 'Technology Access Centre for Oil Sands Sustainability - NAIT Applied Research', accessed 17 August 2022, https://www.nait.ca/applied-research/about/centres/tac-for-oil-sands-sustainability.
[77] Nicolas Graham, 'Fossil Knowledge Networks: Science, Ecology, and the "Greening" of Carbon Extractive Development', *Studies in Political Economy* 101, no. 2 (3 May 2020): 93–113, https://doi.org/10.1080/07078552.2020.1802831.
[78] Adkin and Cabral, 'Knowledge for an Ecologically Sustainable Future? Innovation Policy and Alberta Universities'.
[79] Ibid.
[80] Graham, 'Fossil Knowledge Networks: Science, Ecology, and the 'Greening' of Carbon Extractive Development.'
[81] Laurie E. Adkin, 'Technology Innovation as a Response to Climate Change: The Case of the Climate Change Emissions Management Corporation of Alberta', *Review of Policy Research* 36, no. 5 (September 2019): 603–34, https://doi.org/10.1111/ropr.12357.
[82] Adkin, "Technology innovation as a response to climate change: The case of the Climate Change Emissions Management Corporation of Alberta.'

Implications of fossil fuel funding upon research integrity, quality, and impact

Fossil fuel research funding has been shown to impact research output and educational curriculum.[83] At the University of Calgary, the multinational pipeline company Enbridge provided a $2.25 million endowment fund to facilitate the launch of the Enbridge Center for Corporate Responsibility. In return, Enbridge gained influence over the research center's partnerships, funding decisions and researchers — an arrangement later criticized by the Canadian Broadcasting Company as "a pattern of corporate influence at both the level of curriculum and day-to-day operations."[84]

The influence of industry on scientific research has the potential to skew research agendas. For example, fifty British geoscientists signed a 2014 letter in defense of the environmental safety and economic necessity of fracking.[85] Fracking is a natural gas extraction process which poisons watersheds with salinated wastewater and releases the potent GHG methane.[86] At least 15 of the 21 university departments represented in the letter had received prior fossil fuel industry funding. Geologists David Smythe and Tim Atkinson argue in a letter to *The Guardian* that fossil fuel funding compromised the integrity and quality of the signatories' research conclusions, leading them to condone fracking despite the abundant scientific evidence condemning it.[87] Thus, corporate funding can direct researchers towards certain conclusions, discouraging them from alternate areas of inquiry and discovery.[88]

By gaining proximity to research institutions, the fossil fuel industry can exert influence over science-for-policy. For example, at the University of Alberta, leaked emails exposed that TransAlta, an energy giant with five operating coal mines, paid a sum of $54,000 to the university in exchange for a study produced by a researcher selected by the company. TransAlta then used the findings of the study to lobby the Alberta government on behalf of the coal industry, with the affiliated researcher also producing lobbying materials like presentation slides.[89]

Fossil fuel industry gains access to government funding for research through university-partnered grants

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[83] Tudiver, *University for Sale.*
[84] Gray and Carroll, 'Mapping Corporate Influence and Institutional Corruption Inside Canadian Universities.' 8.
[85] Richard Selley et al, 'Lancashire's Shale Gas Can Fill UK Energy Gap', *The Guardian*, 4 June 2014, sec. Environment, https://www.theguardian.com/environment/2014/jun/04/lancashire-shale-gas-uk-energy-gap.
[86] Qingmin Meng, 'The Impacts of Fracking on the Environment: A Total Environmental Study Paradigm', *Science of The Total Environment* 580 (February 2017): 953–57, https://doi.org/10.1016/j.scitotenv.2016.12.045.; Madelon Lubin Finkel, ed., *The Human and Environmental Impact of Fracking: How Fracturing Shale for Gas Affects Us and Our World*, Public Health Issues and Developments (Santa Barbara, California; Denver, Colorado; Oxford, England: Praeger, an Imprint of ABC-CLIO, LLC, 2015).
[87] Tim Atkinson, 'Fossil Fuels, Research Funding and Academic Independence', *The Guardian*, 9 June 2014, sec. Environment, https://www.theguardian.com/environment/2014/jun/09/fossil-fuels-research-funding-academic-independence.
[88] Jamie Brownlee. 'The Corporate Corruption of Academic Research.' *Alternate Routes: A Journal of Critical Social Research*, *26*. https://www.alternateroutes.ca/index.php/ar/article/view/22311
[89] Boudjikanian, 'How TransAlta Used a University-Sanctioned Research Project to Lobby for the Coal Industry.'

Fossil fuel funding occurs through publicly-funded research pathways as well as private donations. The Natural Science and Engineering Research Council of Canada (NSERC) is a federal agency which provides grants to science and engineering researchers, including via several corporate-partnered grant programs.[90] Higher education scholars Janice Newson and Janet Atkinson-Grosjean frame NSERC as a mediator between universities, government, and industry.[91]

To evaluate the linkages between fossil fuel funders and university research, NSERC's online database of projects, grant recipients, and funding partners serves as a useful resource. This research follows the precedent of political economist Laurie Adkins, who maps 1999-2016 NSERC funding at the Universities of Calgary and Alberta to analyze how fossil fuel industrial research partnerships shape research priorities.[92] In Alberta and Calgary, the number of NSERC-funded researchers undertaking fossil fuel-related projects increased by 276% between 1999 and 2015.[93] Evaluating NSERC project data similarly allows us to ascertain the extent to which NSERC serves as a bridge between the fossil fuel industry and UBC researchers, influencing university operations and providing benefits to the fossil fuel industry in the form of social license and tangible contributions to research and development.

There are several types of NSERC industry-partnered grants which UBC researchers receive, entailing varying types of support and direction from their corporate partners. For both the Collaborative Research and Development Grants (recently renamed Alliance Grants) and the Industrial Research Chair program, grant support is contingent on industry approval — and thus contingent on the extent to which the research project aligns with corporate priorities. The corporate research partner(s) then funds the project with cash contributions, representing the direct links NSERC can facilitate between university research agendas and the fossil fuel industry. An NSERC program review from 2016 describes industry-partnered grant programs as "designed to meet the needs of both industrial partners and academic researchers: projects address real world challenges that are relevant to industry."[94]

NSERC also describes the far-reaching impacts of such partnerships, qualifying the Industrial Research Chairs program as "generally successful at fostering meaningful collaborations that last beyond the funding period."[95] NSERC therefore represents one explicit pathway for corporations

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[90] 'Industry-driven Collaborative Research and Development' (NSERC, June 2019), https://www.nserc-crsng.gc.ca/_doc/Reports-Rapports/Evaluations/IDCRD-Evaluation_e.pdf.
[91] Janet Atkinson-Grosjean, 'Adventures in the Nature of Trade : The Quest for 'relevance' and 'excellence' in Canadian Science', 2002, https://doi.org/10.14288/1.0076832.
[92] Adkin and Cabral, 'Knowledge for an Ecologically Sustainable Future? Innovation Policy and Alberta Universities.' Claire Polster, Janice Angela Newson, and Centre canadien de politiques alternatives, *A Penny for Your Thoughts: How Corporatization Devalues Teaching, Research, and Public Service in Canada's Universities*, 2015.; Henry Steck, 'Corporatization of the University: Seeking Conceptual Clarity', *The ANNALS of the American Academy of Political and Social Science* 585, no. 1 (January 2003): 66–83, https://doi.org/10.1177/0002716202238567.
[93] Adkin and Cabral, 'Knowledge for an Ecologically Sustainable Future? Innovation Policy and Alberta Universities.'
[94] NSERC. "Industry-Driven Collaborative Research and Development," iii.
[95] Ibid, iv.

and industry to influence research through funding, bolstered by NSERC as a legitimizing state actor. These research partnerships can directly bolster research partners' financial performance.

These benefits extend to the fossil fuel industry. In a 2012 NSERC performance report on their industry-partnered grant initiatives, an engineer for energy company and fossil fuel extractor TC Energy is quoted saying: **"This kind of technology is not likely something we could have developed in-house, because it really needs specialized expertise and input from a wide range of disciplines. That's the great advantage of working with the university."**[96] As these fall within the same category of projects undertaken at UBC, investigating fossil fuel corporations' participation in NSERC-partnered grants with UBC researchers can reveal to what extent UBC research may be directly improving the financial performance and extractive capacity of fossil fuel corporations.

Universities frame research as one of their central contributions to society, playing a significant role as instigators of innovation and drivers of technological change. UBC's Climate Emergency Task Force (CETF) specifically notes that research is UBC's "primary role" in combating the climate crisis. Fossil fuel research funding profoundly compromises this role.

FINDINGS: RESEARCH FUNDING

Between 2012-2022, 509 pieces of published research on the Web of Science database acknowledged funding from the fossil fuel industry. Schlumberger, the world's largest offshore oil drilling company, was acknowledged the most, with mentions in 58 pieces of published research that had at least one UBC author.

Using the NSERC database to determine the amount of funding, we identified that UBC Vancouver researchers have received at least $18,861,273 of public funding from NSERC for projects in partnership with fossil fuel corporations between the 1999-2000 and the 2020-2021 fiscal years. Since NSERC partnership grants generally ask for in-kind cash contributions from their industry partner(s), fossil fuel industry partners have contributed a roughly equivalent amount of direct funding in addition to the $18.9 million supplied by NSERC.

UBC's Earth Ocean & Atmospheric Science Department Receives The Most Research Funding From Fossil Fuel Industry Partners

The department of Earth Ocean & Atmospheric Science received the most fossil fuel-partnered research funding via NSERC by a significant margin (see *Figure. 8*). Similarly, on the Web of Science database, the most recurrent fossil fuel-funded research areas include Environmental Sciences,

[96] NSERC, 'Strategy For Partnerships And Innovation Interim Progress Report', December 2012, https://www.nserc-crsng.gc.ca/_doc/business/SPI-Report_e.pdf.

Geochemistry Geophysics, Mineralogy and Mechanics, and the most recurrent affiliated researchers receiving this funding are within the departments of Earth Ocean & Atmospheric Sciences, Mechanical Engineering, and Chemical and Biological Engineering.

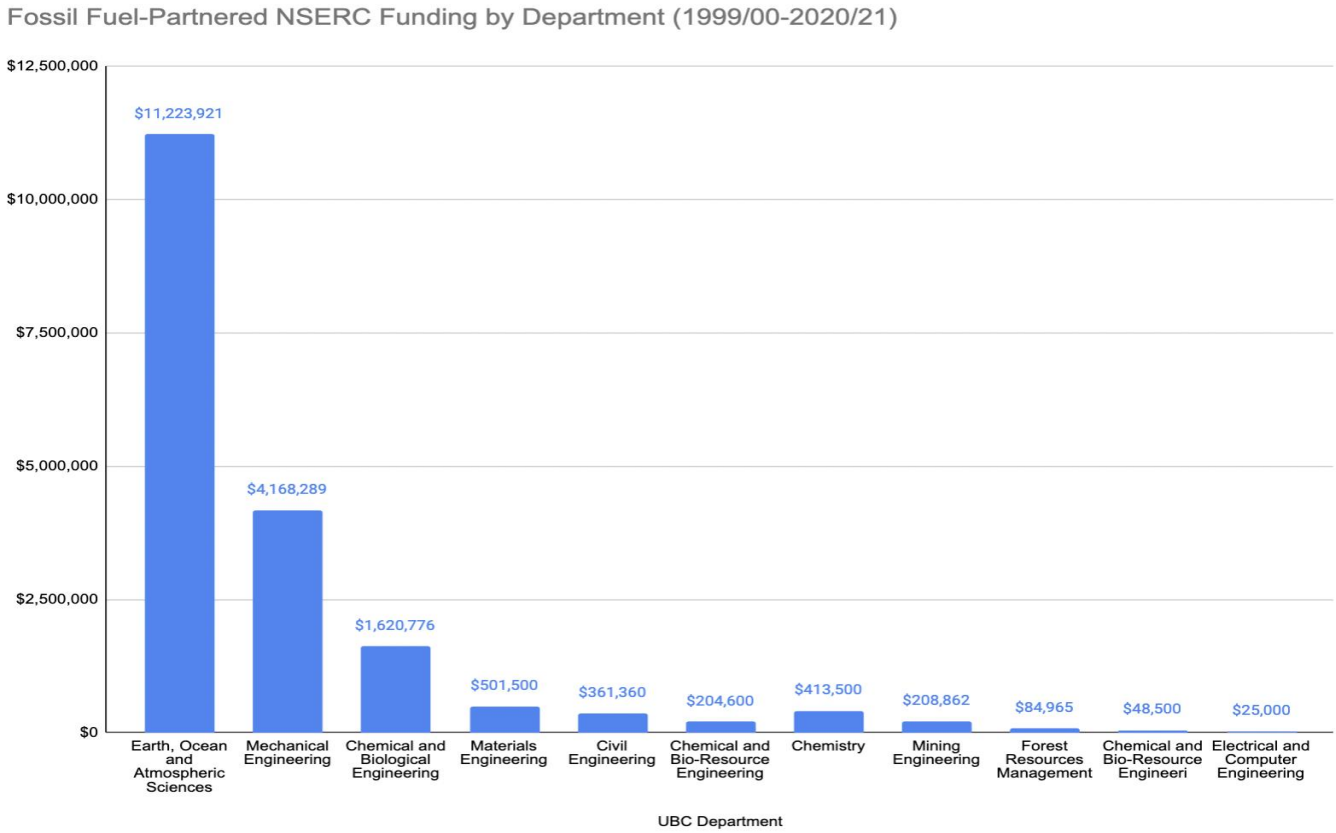

Figure 8. *Fossil Fuel Partnered NSERC Funding by Department (1999-2021)*[97]

Case Study 1: SINBAD-UBC and Research in Seismic Imaging

One UBC research project that received frequent funding from the fossil fuel industry concerns seismic imaging and processing technologies — developing and improving their ability to understand the geology of the earth — to further fossil fuel extraction. The project was conducted by an interdisciplinary team of UBC researchers called the *UBC-Seismic Laboratory for Imaging Modeling* (UBC-SLIM) which ran from 2003-2017 under the leadership of professors from UBC's Departments of Earth Ocean and Atmospheric Science, Computer Science, and Mathematics.[98]

[97] In 2012, the Department of Earth and Oceans Sciences and the Department of Geological Sciences were both folded into the renamed Department of Earth, Oceans and Atmospheric Sciences. Although the NSERC database lists these departments as distinct, this chart aggregates them to reflect the current departmental structure.
[98] 'Welcome to SLIM!', Georgia Tech Seismic Laboratory for Imaging and Modeling, accessed 17 August 2022, https://slim.gatech.edu/.

UBC-SLIM's primary goal was to conduct research into developing more cost-effective technology for fossil fuel industry partners. In 2005, at a time when the fossil fuel industry was shifting to smaller and less accessible hydrocarbon reserves, UBC-SLIM established the *Seismic Imagining by Next-Generation Basis Functions Decomposition* (SINBAD) consortium. The consortium offered members-only unrestricted access to the findings of SINBAD's research, and fossil fuel industry partners, namely BG Group (now Shell), Chevron, ConocoPhillips, Hess, Petrobras and Woodside, DownUnder GeoSolutions, PGS, WesternGeco and Sub Salt Solutions, paid up to $83,500 annually to be part of this consortium.[99]

During the operation of SINBAD, industry members could utilize the expertise of UBC staff and students and influence the consortium's research objectives to align with industry needs. For example, SINBAD researchers applied their technology and developed new workflows to help Chevron extract oil in the Gulf of Mexico.[100]

Furthermore, UBC-SLIM created a research program called *Characterization of Reflectors and Modeling (CHARM)*, which was funded by a donation of $35,000 from Chevron, to help further develop oil extraction technology.[101] After encouragement from multinational oil and gas corporation Shell, researchers at SINBAD, Imperial College London and Universidade Federal do Rio Grande do Norte (UFRN) engaged in a joint venture called the *International Inversion Initiative* (I^3). This project capitalized on the mandatory 1% research and development levy imposed by the Brazilian government - a legal obligation for all petroleum operating companies with qualifying production in Brazil to fund research and development to at least 1% of their annual gross production.[102]

After cross-referencing SINBAD with the NSERC database to determine if it received any further federal research funding, we found that SINBAD received $3,244,644 from the NSERC Collaborative Research and Development (CRD) Grant– under the name of a project called DNOISE (standing for *Dynamic Nonlinear Optimization for Imagining in Seismic Exploration*), and its subsequent renewal, DNOISE II.[103] DNOISE and DNOISE II were established as a seemingly separate project from SINBAD, despite their overlapping research objectives. The NSERC CRD Grant is an opportunity for Canadian research projects to secure funding from the Government of

[99] 'Seismic Imaging by Next-Generation Basis Functions Decomposition (SINBAD)', UBC Faculty of Science: Department of Earth, Ocean, and Atmospheric Sciences, accessed 17 August 2022, https://www.eoas.ubc.ca/research/collaborative-initiatives/seismic-imaging-next-generation-basis-functions-decomposition.;'SINBAD (UBC)', Georgia Tech Seismic Laboratory for Imaging and Modeling, accessed 17 August 2022, https://slim.gatech.edu/projects/sinbadseismic-imaging-next-generation-basis-functions-decomposition.

[100] Felix J. Herrmann et al., 'Frugal Full-Waveform Inversion: From Theory to a Practical Algorithm', *The Leading Edge* 32, no. 9 (September 2013): 1082–92, https://doi.org/10.1190/tle32091082.1.

[101] 'CHARM: Characterization of Reflectors and Modeling (UBC)', Georgia Tech Seismic Laboratory for Imaging and Modeling, accessed 17 August 2022, https://slim.gatech.edu/projects/characterization-reflectors-and-modeling.

[102] 'International Inversion Initiative (UBC)', Georgia Tech Seismic Laboratory for Imaging and Modeling, accessed 17 August 2022, https://slim.gatech.edu/projects/international-inversion-initiative.

[103] 'DNOISE II (UBC)', *Seismic Laboratory for Imagining and Modelling*, accessed February 23rd, 2022, https://slim.gatech.edu/projects/dynamic-nonlinear-optimization-for-imaging-in-seismic-exploration

Canada that matches the dollar-for-dollar contributions made by industry partners. Importantly, since the funding received from CRD Grant matched the payments made by SINBAD's fossil fuel industry partners, the research group received a total of at least $6,489,288 in funding for fossil fuel-aligned research. **SINBAD's research team used their access to government-affiliated NSERC funding to effectively double the funding available for their consortium to direct towards fossil fuel industry-aligned research goals.** Despite UBC-SLIM and its associated projects termination in 2017, SLIM has since been relocated to the Georgia Institute of Technology where its research is still ongoing.[104] UBC faculty continue to currently sit on the SLIM research team.[105] UBC has thus been involved in developing and facilitating more cost-effective technologies for the exploration and extraction of fossil fuels through research.

Other Canadian universities have documented similar instances of fossil fuel industry actors inserting themselves into public funding flows. A similar project at Edmonton's Northern Alberta Institute for Technology, called the Sharp Research Consortium, carries out applied research designed to cater for the needs of the Alberta oil sands industry.[106] **These consortiums represent nodes in a concerning network: fossil fuel interests shape public research funding, which delivers tangible financial and implicit social benefits to the industry, further entrenching its influence.**

Case Study 2: Grizzly-PAW Research

A surprising area of research funded by the fossil fuel industry concerns grizzly bear conservation research in the Yellowhead region of Alberta, via the 2016 Grizzly-PAW research project. It involves students and staff from a multi-disciplinary research team within the UBC Faculty of Forestry, as well as others from the University of Calgary, University of Saskatchewan, University of Victoria and Foothills Research (FRI) Institute. Grizzly-PAW currently receives $1.4 million through the NSERC Collaborative Research and Development (CRD) Grant, matching dollar-for-dollar funding provided by the project's 12 industry partners. Of these partners, seven are in the fossil fuel industry: Cenovus, Repsol, Seven Generations Energy, Shell Canada, TC Energy Pipelines, Teck Resources and Westmoreland Coal.[107]

The research project is centered on eight research questions. Research questions four and five directly relate to assessing the impacts of anthropogenic extractive industry activity on grizzly bear habitat, health and movement in the study region:

[104] "Welcome to SLIM'
[105]'Our Team', Georgia Tech Seismic Laboratory for Imaging and Modeling, accessed 17 August 2022, https://slim.gatech.edu/people/team.
[106]NAIT 'Centre for Oil Sands Sustainability'
[107]'About Grizzly Paw', UBC Faculty of Forestry, accessed 17 August 2022, https://paw.forestry.ubc.ca/.

"*Q4: Have changing landscape conditions associated with anthropogenic natural resource extraction resulted in changes in habitat selection by, and the health of, grizzly bears within the study area?*"

Q5: Are the movement patterns of grizzly bears being impacted by natural resource extraction activities, including the development and use of roads and linear features, and have approaches to access control on the landscape influenced habitat use or grizzly bear movements?"[108]

The research addresses how natural resource extraction affects grizzly bears in various ways, such as changing food availability, stress levels, bear habitat and physiology. This adds to existing literature which documents how grizzly bear population decline has been attributed to habitat fragmentation, change and loss as well as human-bear interactions caused by petroleum and mining developments.[109]

Even as this work seeks to minimize industrial impact and inform conservation efforts, fossil fuel industry partners continue to engage in extractive activities within the region: research partners Westmoreland Coal and Repsol own operating coal and gas extraction sites near Edson, an area within the Yellowhead study region.[110] These two patterns therefore appear contradictory; the fossil fuel industry is investing in scientific research that informs grizzly bear conservation while simultaneously engaging in extractive activities that cause(d) grizzly bear decline. By funding research into improving grizzly bear conservation, which includes minimizing harm from the fossil fuel industry's own extraction sites, corporations can put forth an environmentally-friendly public image. **Focusing research on making grizzly bear habitat safer redirects attention from the bigger issues of continual extraction in the Yellowhead region — which ultimately represents one of the greatest underlying threats to grizzly bears.[111]** In other words, these companies present an image of environmental responsibility through incremental nods towards grizzly bear protection without meaningfully changing its unsustainable business model. **Therefore, in accepting funding to conduct this research, UBC provides the fossil fuel industry with the social license and expertise to continue to operate extraction sites in vulnerable ecosystems.**

[108] 'Research', UBC Faculty of Forestry Grizzly Paw, accessed 17 August 2022, https://paw.forestry.ubc.ca/research/.
[109] B. N. McLellan and D. M. Shackleton, 'Grizzly Bears and Resource-Extraction Industries: Effects of Roads on Behaviour, Habitat Use and Demography', *The Journal of Applied Ecology* 25, no. 2 (August 1988): 451, https://doi.org/10.2307/2403836. ; Karen Laberee et al., 'Oil and Gas Infrastructure and the Spatial Pattern of Grizzly Bear Habitat Selection in Alberta, Canada: Grizzly Bear Habitat Selection', *The Canadian Geographer / Le Géographe Canadien* 58, no. 1 (March 2014): 79–94, https://doi.org/10.1111/cag.12066.
[110] 'Exploration & Production', REPSOL, accessed 17 August 2022, https://www.repsol.ca/en/about-us/exploration-production/index.cshtml.; Canadian Mining Journal Staff, 'Westmoreland to Reopen Coal Valley Mine', *Canadian Mining Journal* (blog), 10 August 2021, https://www.canadianminingjournal.com/news/westmorland-to-reopen-coal-valley-mine/.; 'Coal Valley Coal Mine', Global Energy Monitor, 17 June 2022, https://www.gem.wiki/Coal_Valley_coal_mine.
[111] John Boulanger and Gordon B. Stenhouse, 'The Impact of Roads on the Demography of Grizzly Bears in Alberta', ed. Antoni Margalida, *PLoS ONE* 9, no. 12 (22 December 2014): e115535, https://doi.org/10.1371/journal.pone.0115535.

Case Study 3: NSERC and Long-term Research Partnerships

Several researchers have been receiving yearly fossil fuel partnered NSERC grants. One researcher in particular received NSERC grants for 21 consecutive years, totaling $2,293,662 in partnership with the world's largest oilfield services company, Schlumberger, as well as other fossil fuel corporations like Petroleum Technology Alliance Canada and Syncrude Canada.[112] This researcher represents both the longest-running and the most profitable link between UBC research and the fossil fuel industry within our study. Since all of these grants were Collaborative Research and Development (CRD), which mandates in-kind donations from the industry partner, the $2,293,662 was matched (or exceeded) by the fossil fuel corporation — producing an approximate total of $5 million towards their fossil fuel-partnered research projects.

The long-term research partnerships this case study represents allow corporations to cultivate profitable research relationships over time and can potentially inform the trajectories of these researchers' long-term inquiries. Although the vast majority of UBC researchers do not receive fossil fuel funding, many of those that do hold long-term links with their corporate funders, receiving renewed NSERC grants regularly. This suggests a trend toward deep yet narrow relationships in the fossil fuel research funding landscape at UBC.

To analyze the intent, rhetorical framing, and environmental impacts of this specific relationship, we performed an abstract scan on this researcher's projects. Of the 23 grants they received, the highest-funded single grant was awarded in 2021. The project studies how to safely abandon Canadian oil and gas wells to prevent them from leaking toxic pollutants leftover from extraction processes into the surrounding environment. This raises a question: Does divestment include cutting ties with remediation, conservation, or extractive sites closures that are not just green-washing but could actually impact communities inflicted by decades of environmental injustice?

The project description begins by praising the role of the oil and gas industry in the Canadian economy. After explicitly aligning the project with industry goals, it positions the research as an environmentally-motivated means to decrease the industry's polluting impact. It also cites efficiency as a goal, so as to improve the fossil fuel industry's bottom line through innovating cheaper and more effective cement engineering techniques to plug abandoned oil and gas wells. It is also worth noting that one of the grant's industry partners, Petroleum Technology Alliance Canada, explicitly mentions in their mission statement that one of their primary goals as an organization is to **"provide our industry with the social license to operate."**

This 2021 grant is larger than 90% of all grants in the dataset. It has also been renewed three times, running between 2019 and 2021 — the same timeframe in which UBC committed to divestment and endorsed the Climate Emergency Task Force Recommendations.

[112]Technavio, 'Top 18 Offshore Drilling Companies in the World 2019', *Technavio* (blog), 2 February 2019, https://blog.technavio.org/blog/top-18-offshore-drilling-companies.

Case Study 4: UBC Pipeline Integrity Institute

The UBC Pipeline Integrity Institute (PII) operates through the Faculty of Applied Science and is the first initiative of its kind in North America, making it a leader in the field of pipeline engineering.[113] The main goals of the institute are to explore applied research topics that promote technological innovation and robust pipeline infrastructure, equip engineering students with specialized knowledge of the pipeline sector, and build strong partnerships to influence regulatory frameworks and disseminate information to the general public and industry.[114] This is achieved through research funding, partnerships, recruitment opportunities, course offerings, and donations. A professor in civil engineering and another in material and chemical engineering founded the PII in 2014. The two professors have connections to the Canadian Institute of Mining, NACE International, and the Engineering Institute of Canada. As Zondag and Brink conclude in a peer-reviewed paper, faculty connections to the industry can help students network and influence their perceptions of the fossil fuel industry as stable, desirable, and reputable.[115]

Industry connections lie at the heart of the PII. There are four partnership categories: Research and Training Support, Affiliate Members, Corporate Sponsors, and Foundation Partners — the latter doubling as members of an advisory board that influences teaching and research activities.[116] One way companies benefit from these partnerships is by gaining access to interns, co-op students, and upper-year undergraduates at UBC who are specially trained and ready to be recruited into the oil and gas industry.[117] Another perk is the platform given to promote company interests and values through guest lectures, investments in applied research, and involvement in UBC's Annual Partners Meeting & Symposium.

Company	Extractor	Enabler	Donated Amount
TC Energy	X		$1M - $5M
Enbridge	X		Unknown
FortisBC	X		$1M - $5M
Trans Mountain Corporation	X		Unknown
BC Oil & Gas Commission		X	$1M - $5M
Ledcor		X	$250K - $1M
Michels Corporation		X	$25K - $250K
Shawcor		X	$25K - $250K
Speciality Polymer Coatings Inc.		X	$250K - $1M
Canadian Energy Pipeline Association			Unknown

Table 4. *Distribution of extractors and enablers who are partners with UBC's Pipeline Integrity Institute and their donation range.*

Through the PII, UBC offers three undergraduate courses that can be taken through the Specialization in Pipeline Engineering. IGEN 450 and IGEN 451 equips students with knowledge of pipeline materials, manufacturing, processing, welding, corrosion, and energy infrastructure, whereas IGEN 452 covers pipeline design.[118] Applied science co-op students who are simultaneously registered in these courses are encouraged to pursue work in the field of pipeline engineering. UBC enables this process by connecting students to "employers who are active in the pipeline sector, as well as sponsors of the Pipeline Integrity Institute."[119] These partnerships work to establish industry connections early in a student's career and help facilitate a recruitment pipeline between UBC and the fossil fuel industry.

As previously mentioned, companies who partner with the PII help develop instructional materials by delivering guest lectures. A 2021 course outline for IGEN 452 indicates that VP Engineering, Integrity & Technical Compliance, Chief Operating Officer, and VP Permitting & Authorizations from the BC Oil & Gas Commission were brought in to share their expertise on pipeline regulations and codes, stakeholders, and communications.[120] Similarly, the Assets and Improvement Manager, Project Director of Major Gas Line Projects, and Indigenous Relations Manager from FortisBC spoke about pipeline construction strategies, technical design, capital planning, and Indigenous relations. Other guest lecturers were affiliated with Shawcor, TC Energy, Ledcor, and Trans Mountain.

In terms of research, the PII receives funding from both the fossil fuel industry and NSERC. These partnerships reduce the cost of research for industry members by lending university resources, including faculty time, and leveraging government funding which would otherwise not be available to corporations. Corporate partners have a direct impact on the research activities of the institute, as their funding produces work that aims to minimize pipeline damage and strengthen pipeline

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[113] 'Young Energy Infrastructure Professionals', Young Energy Infrastructure Professionals, 2022, https://yeip.energy/.
[114] 'A University & Industry Partnership for Pipeline Integrity and Safety', White Paper (Vancouver, British Columbia: UBC Pipeline Integrity Institute, February 2021), https://apsc-pii.sites.olt.ubc.ca/files/2021/02/PII-White-Paper-Feb-2021.pdf.
[115] Marcel M. Zondag and Kyle E. Brink, 'Examining US College Students' Career Information Sources across Three Decades', *Education + Training* 59, no. 9 (1 January 2017): 978–89, https://doi.org/10.1108/ET-01-2017-0002.
[116] 'See Our Partners | Pipeline Integrity Institute', Faculty of Applied Science Pipeline Integrity Institute, accessed 17 August 2022, https://pii.engineering.ubc.ca/join/see-our-partners/.; Dharma Wijewickreme and Eduardo Asselin, 'Pipeline Integrity Institute at the University of British Columbia', *Canadian Geotechnique*, Spring 2021, https://online.flippingbook.com/view/509131415/62/?sharedOn=.
[117] 'Partner With Us | Pipeline Integrity Institute', accessed 17 August 2022, https://pii.engineering.ubc.ca/join/partner-with-us/.
[118] 'Undergraduate Courses | Pipeline Integrity Institute', Faculty of Applied Science Pipeline Integrity Institute, accessed 17 August 2022, https://pii.engineering.ubc.ca/education/undergrad-courses/.
[119] Ibid.
[120] Pipeline Integrity Institute, 'IGEN 452 Pipeline Design Course Topics' https://drive.google.com/file/d/10Me4eDtifFSVq9pU0m-xP54yU19YBS5f/view?usp=sharing

design.[121] Financial contributions allocated to applied research projects like these are also eligible for the Scientific Research and Experimental Development (SR&ED) subsidy from the federal government. Such incentives encourage technological innovation and "discoveries and ideas that may lead to Canadian economic growth and competitiveness."[122] Research and development tax credits have been identified as a significant source of indirect support for fossil fuel extraction.[123] Thus, the pursuit of initiatives that aim to strengthen pipeline practices has allowed the PII and its industry partners to perpetuate fossil fuel dependency.

From 2017-2020, $336,380 CAD in NSERC funding went towards studying soil-structure interactions of buried pipelines in collaboration with Conetec Investigations Ltd., TC Energy, and Ledcor.[124] This project helped inform the design and construction processes of the Pipeline Research Council International.[125] Another $360,500 CAD from 2016-2020 was granted to conduct research alongside Shawcor Limited and Speciality Polymer Coatings Inc. to improve protective pipeline coatings.[126] $84,980 CAD in research funding also went towards exploring medium temperature sulfide concentrate leaching in partnership with Teck Resources and identifying geotechnical hazards that threaten pipeline integrity alongside TC Energy.[127] Findings from these investigations into corrosion and coatings have helped the industry implement more reliable materials for pipeline construction.[128]

There are two awards offered to students who are part of the Pipeline Integrity Institute and have excelled in IGEN 450, 451, and/or 452. The Young Pipeliners Association of Canada — which rebranded in 2022 to the Young Energy Infrastructure Professionals — Prize in Pipeline Engineering is valued at $1000 CAD and is intended for a recipient who is "an active participant in

[121] Lee, 'Pipeline Integrity Institute (PII) Undertakes New Research with Government and Industry Support', UBC Civil Engineering, 14 June 2017, https://civil.ubc.ca/pipeline-integrity-institute-pii-undertakes-new-research-with-government-and-industry-support/.
[122] Canada Revenue Agency, 'Scientific Research and Experimental Development Tax Incentive - Overview', service description, 24 December 2021, https://www.canada.ca/en/revenue-agency/services/scientific-research-experimental-development-tax-incentive-program/overview.html.
[123] Will McDowall, 'R&D Tax Credits Can Be a Significant Source of Taxpayer Support for Fossil Fuel Innovation', *Environmental Research Letters* 16, no. 6 (1 June 2021): 064061, https://doi.org/10.1088/1748-9326/ac0379.
351800391_RD_tax_credits_can_be_a_significant_source_of_taxpayer_support_for_fossil_fuel_innovation
[124] NSERC, 'Geotechnical Characterization of Muskeg Soils for Engineering Design of Buried Energy Pipelines', Details - NSERC's Awards Database - Natural Sciences and Engineering Research Council of Canada, 28 June 2016, https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=692455.https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=668554; https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=618050
[125] Asselin and Wijewickreme. 'Pipeline Integrity Institute at the University of British Columbia'
[126] NSERC, 'Evaluation and Improvement of Pipeline Coating Performance', NSERC's Awards Database - Natural Sciences and Engineering Research Council of Canada, 28 June 2016, https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=696737.https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=696737; https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=692143
[127] NSERC. "Iron control in medium temperature sulphide concentrate leaching." 2015. https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=574349; NSERC, 'Trench-Backfill Particle Size Effects on the Performance of Buried Pipelines Subject to Ground Movement Research Details', NSERC Awards Database, 28 June 2016, https://www.nserc-crsng.gc.ca/ase-oro/Details-Detailles_eng.asp?id=586641.
[128] Asselin and Wijewickreme. 'Pipeline Integrity Institute at the University of British Columbia'

current industry events."[129] The Canadian Energy Pipeline Association Award in Pipeline Engineering is worth $5000 CAD and gives preference to students who identify as Indigenous or women.[130] These two associations boast a roster of hundreds of companies like Enbridge, TC Energy, and ATCO, that collaborate in perpetuating extractivism.[131] Their funding of student awards can be seen as an attempt to engage youth in pipeline work in response to the dwindling state of employment within the fossil fuel industry.[132] Offering student awards helps strengthen the industry's ability to recruit a new generation of pipeline workers and bolster their reputation by associating with prestigious institutions of higher education like UBC. Further evidence of this can be found in the Young Pipeliners Association of Canada's 2021 Sponsorship Report, which explicitly cites how their partnership with UBC aligns with their mission and values by allowing the fossil fuel industry "attract and retain high potential talent… to join the pipeline industry and become advocates."[133]

In 2019, the PII also launched a two day short course for new pipeline engineers to provide an overview of onshore pipeline basics, pipeline integrity management, and risk assessment analysis.[134] In its second year, the institute featured the former Executive Director of Penspen Ltd., and Director of Pipeline Services at TC Energy. As individuals who are well connected and experienced within the sector of pipeline engineering, instructors act as mediators of industry knowledge who enrich students' learning in ways that increase their employability, thus strengthening the industry's supply of labour. Their involvement with the PII can also lay the groundwork for future collaboration between the university and industry such as student job opportunities, career fair recruitment, and research partnerships.

Case Study 5: Teck Resources Funds UBC Mine Remediation Research

In 2017, Teck Resources along with Genome BC, funded a $400,000 research project at UBC to find solutions to treat mine-affected water using microbes. As Teck claims on its website, this is one of its approaches to "address water quality challenges in the Elk Valley, where five steelmaking coal operations are located."[135]

[129] Student Services, 'Award #5420 - 2021W - Canadian Energy Pipeline Association Award in Pipeline Engineering'.
[130] Ibid.
[131] Zoë Yunker, 'Canadian Energy Pipeline Association – Corporate Mapping Project', accessed 17 August 2022, https://www.corporatemapping.ca/profiles/canadian-energy-pipeline-association/.
[132] Duane Dickson, Tom Bonny, and Noemie Tilghman, 'The Future of Work in Oil, Gas and Chemicals', Deloitte Insights, accessed 17 August 2022, https://www2.deloitte.com/us/en/insights/industry/oil-and-gas/future-of-work-oil-and-gas-chemicals.html.
[133] Young Pipeliners Association of Canada. "PII Short Course 1 and 2 Outline." 2020. https://drive.google.com/file/d/1Jhuw040PTlCoaw2pVyINq3HGpEgY7ZWK/view?usp=sharing
[134] Young Pipeliners Association of Canada. "Sponsorship Annual Report Fiscal Year 2020-2021", 5.
[135] 'Finding the Right Microbe: Teck, Genome BC and UBC Partner to Improve Water Quality', Teck Resources Limited, 11 January 2019, http://www.teck.com/news/stories/2019/finding-the-right-microbe--teck,-genome-bc-and-ubc-partner-to-improve-water-quality.

In 2021, the Court ordered Teck to pay $60 million in fines for contaminating southeastern B.C waterways, particularly Elk and Fording Rivers. The sentence is the largest ever fine imposed by a court under the Canadian Fisheries Act.[136] The 2021 charges were made after a comprehensive investigation by Environment and Climate Change Canada revealed that Teck was depositing harmful coal mine waste, specifically selenium, into the upper Fording River in 2012 and had not made sufficient efforts to address the problem.[137] The Fording River and other streams in the area are home to westslope cutthroat trout, a native endangered species, and the Ktunaxa First Nation people. High concentrations of selenium have been shown to be toxic to both humans and wildlife. Therefore, contamination of the Fording River does not only affect the safety of all the fish in the river and other streams connected to it, but also the health of the Ktunaxa people.

While making efforts to ameliorate hazardous pollution is a necessary reparative contribution, Teck does not simultaneously address the source of the problem: Teck's own coal operations. Pursuing social legitimacy through scientific innovation occupies space in the press far more conspicuously than more direct calls to address pollution by reducing and halting extraction. Funding a $400,000 environmental project is a very small price to pay for enhancing the company's positive environmental reputation, especially compared to the billions of dollars Teck has made from extraction in the Elk Valley,

Furthermore, Teck has contributed $3.8 million in research funding to UBC's Faculty of Applied Science since 2002.[138] They also funded 48 other NSERC research projects at UBC. Just recently in 2022, Teck partnered with UBC to install antimicrobial copper in high-traffic spaces in the name of public health. The project builds on Teck-funded research collaborations with Applied Science faculty members, which helps enhance Teck's reputation as an advocate for health and wellbeing.

The Dean of UBC Faculty of Applied Science, Professor James Olson said that "It's important that we work with industry leaders like Teck, who display a commitment to innovation and sustainability." This is worrying because partnering and accepting funds from Teck may directly and indirectly impact research direction, which could not only compromise academic freedom but also create a bias towards the industry, influencing the opinions of faculty and student researchers.

[136] Environment and Climate Change Canada, 'Teck Coal Limited to Pay $60 Million under the Fisheries Act and Must Comply with a Direction Requiring Pollution Reduction Measures', news releases, 26 March 2021, https://www.canada.ca/en/environment-climate-change/news/2021/03/teck-coal-limited-to-pay-60-million-under-the-fisheries-act-and-must-comply-with-a-direction-requiring-pollution-reduction-measures.html.
[137] Bob Weber, 'Coal Company Teck Fined $60M for Contaminating Rivers in Southeastern B.C. | CBC News', *CBC*, 26 March 2021, https://www.cbc.ca/news/canada/british-columbia/teck-fined-60m-contaminating-bc-rivers-1.5965646.
[138] 'More Copper, Less Infection - News | UBC Applied Science', UBC Faculty of Applied Science, 7 April 2022, https://apsc.ubc.ca/news/2022/more-copper-less-infection.

CONCLUSION: Fossil fuel research funding to UBC facilitates extraction and grants social license. However, it is targeted to specific areas (including earth sciences and materials / civil engineering).

The Climate Emergency Task Force recommends creating a "Just Transition Fund" for researchers who are traditionally reliant on the fossil fuel sector."[139] Our finding of deep-rooted funding links between select UBC research and fossil fuel corporations affirms the urgency of such a fund. UBC research funded by fossil fuel extractors has implications upon the fossil fuel industry's economic, social and political power as well as upon the integrity of UBC's climate emergency commitments. Particularly in the areas of seismology and geologic sciences, this funding helps produce innovations that directly increase the feasibility and efficiency of fossil fuel extraction. Projects such as the Pipeline Integrity Institute and SINBAD-UBC use UBC's researchers' technological capacity to more efficiently locate and exploit new reserves of oil and gas. Not only does this research directly contribute to greenhouse gas emissions, but it further entrenches the economic power of the fossil fuel industry by optimizing their profit margins. This in turn has the capacity to increase their lobbying power to further obstruct decarbonizing regulations. Beyond direct support for extraction, our case studies also suggest that UBC fossil fuel-partnered researchers may contribute to a societal impression of the fossil fuel industry as a force of good for Canada.

Fossil fuel-funded research compromises UBC's commitments to divestment by impacting research direction and maintaining social license

The long-term links we found among several researchers in the narrow yet crucial areas of study of fluid mechanics and seismic imaging reveal how the fossil fuel industry is an entrenched part of UBC's research funding landscape. Scholars including Nicholas Graham and Jamie Brownlee suggest that the mere availability of industry funding can incentivize specific areas of inquiry while deprioritizing others. Since specific UBC researchers can access a steady stream of funding by aligning with fossil fuel goals, this may implicitly disincentivize other research trajectories, which aims to more substantively disrupt the fossil fuel industry's business model.

This is incompatible with UBC's stated commitment to divestment, and to the decisive action needed to address the climate emergency. As *Case Study 3* demonstrates, fossil fuel research partnerships have continued into 2021 without signs of decline, even as UBC has supposedly ramped up its institutional commitments to transformative climate action via the Climate Emergency Task Force recommendations. UBC frames research as one of its central contributions to society, playing a significant role as an instigator of innovation and driver of technological change. UBC's Climate Emergency Task Force (CETF) specifically notes that research is UBC's "primary role" in combating the climate crisis. UBC's research links to the fossil fuel industry compromises this role.

[139] UBC Climate Emergency Task Force, 'UBC Climate Emergency Engagement Final Report and Recommendations'. 38.

Although fossil fuel funded research is significant, it is concentrated in several areas. These could become clear targets for the development of just transition campaigns to phase out fossil fuel funding in favor of sustainable funding sources.

According to our data, fossil fuel funding represents a relatively small and concentrated stream within the broader UBC research funding landscape. UBC reports receiving over $62 million in research funding from industry in 2020/2021.[140] Although limited access to data prevents us from decisively calculating how much fossil fuel funding UBC received in that year, NSERC awarded $1.1 million total to ten researchers in partnership with fossil fuel companies in the 2020/2021 fiscal year. Meanwhile, an initial search on the Web of Science (WoS) shows that 68 pieces of research published in 2020, and 65 pieces in 2021, acknowledged fossil fuel funding. Meanwhile in 2021, the WoS reports that 10,116 UBC research projects received funding across all sources — revealing fossil fuel funding to be a relatively small contribution to UBC's research funding landscape.

Though WoS and NSERC do not represent the full scope of research funding, the data we have collected suggests that fossil fuel funding represents a relatively small contribution to research across the University.[141] However, it packs a large punch in terms of tangible contributions to the fossil fuel industry's financial and reputational outcomes.

Consequently, we posit that addressing fossil fuel research funding could be a useful area of targeted intervention for future research, campaign organizing, and institutional climate reform. UBC can make meaningful change towards eroding the fossil fuel industry's influence on research — and thus its social license to operate — without impacting the operations of the vast majority of UBC researchers.

[140] Ubc.ca. "Research Funding Statistics." Accessed March 17, 2022. https://research.ubc.ca/research-excellence/research-funding-statistics.
[141] Ubc.ca. "Research Funding Statistics." Accessed March 17, 2022. https://research.ubc.ca/research-excellence/research-funding-statistics.

Part 3

EXCHANGES OF HUMAN CAPITAL: "REVOLVING DOOR" AND CAREER FAIRS

PART 3: EXCHANGES OF HUMAN CAPITAL: "REVOLVING DOOR" AND CAREER FAIRS

The 'revolving door phenomenon' describes a system in which personnel move between positions of influence in the public and private sectors, mimicking the motion of a revolving door.[142] Some individuals hold concurrent positions of influence in both. Revolving doors can potentially compromise public institutions' integrity by keeping avenues of communication and influence active with industry.[143]

Initial scholarship on the revolving door phenomenon comes from the aftermath of the 2008 financial crisis and describes the effect of former finance industry executives in government on financial policy. Elisa Wirsching (2018) describes the revolving door between finance and government as a "major driving force [of] regulatory capture of public policy by financial institutions."[144] Central bank governors who were formerly employed in finance tended to enact policies deregulating the financial industry in the industry's interest. She illustrates how the revolving door is a channel for the interests of private industry to enter the public realm. If institutions such as universities allow fossil fuel corporate executives to hold concurrent appointments on boards, that may represent a conflict of interest which may impact the way executives vote in key financial decisions regarding issues of divestment and the climate crisis.

The revolving door from universities into the fossil fuel industry operates through the means of concurrent board appointments, as well as through career development resources like career fairs which help bolster the industry's social license by providing a platform for student recruitment and exposure.[145] Despite the steady growth of the Canadian labor market, prior to COVID-19, employment within the fossil fuel industry has significantly decreased since 2014.[146] With roughly half of the workers currently employed in the industry retiring in the next five years, it has become increasingly important for companies to attract young talent through universities.[147]

Career development resources offered through institutions of higher education — including career service centres, faculty members with industry connections, and career fairs — significantly influence students' career trajectories and perceptions of the job market.[148] These opportunities play a crucial role in facilitating anticipatory socialization for students who are just beginning to navigate their career paths, equipping them with the knowledge, skills, and experiences needed to

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[142] Will Kenton, 'Understanding Revolving Doors', Investopedia, 24 May 2021, https://www.investopedia.com/terms/r/revolving-door.asp.
[143] 'Revolving Door', OpenSecrets, accessed 18 August 2022, https://www.opensecrets.org/revolving/.
[144] Elisa Wirsching, 'The Revolving Door for Political Elites: Policymakers' Professional Background and Financial Regulation', European Bank for Reconstruction and Development Research Paper Series 222 (Rochester, NY, 8 November 2018), https://doi.org/10.2139/ssrn.3280933.
[145] Ådne Vik, Bjørn Nørbech, and Debora Jeske, 'Virtual Career Fairs: Perspectives from Norwegian Recruiters and Exhibitors', *Future Internet* 10, no. 2 (12 February 2018): 19, https://doi.org/10.3390/fi10020019.
[146] Jim Stanford, 'Employment Transitions and the Phase-Out of Fossil Fuels' (Vancouver BC: The Centre for Future Work, January 2021), https://www.centreforfuturework.ca/wp-content/uploads/2021/01/Employment-Transitions-Report-Final.pdf.
[147] Dickson, Bonny, and Tilghman, 'The Future of Work in Oil, Gas and Chemicals'.
[148] Zondag and Brink, 'Examining US College Students' Career Information Sources across Three Decades'.

further pursue work in a given sector. The connections gained through career fairs can act as the first point of contact in catalyzing the revolving door phenomenon. Thus, fossil fuel corporations benefit from career development partnerships with universities, as they not only lend their credibility and prestige through branding associations, but also provide access to a pool of pre-screened, educated talent.

FINDINGS: REVOLVING DOOR & CAREER FAIRS

8.57% of Career Fair Exhibitors Tied to the Fossil Fuel Industry

Of the 280 exhibitors who recruited students at UBC career fairs in 2021, 8.57% were associated with the fossil fuel industry. Extractors, who are the most directly linked to the fossil fuel industry, included TC Energy, Generac Power Systems, and Schneider Electric Canada. The Canadian Imperial Bank of Commerce (CIBC), Menard Canada Inc., PERI Framework Systems Inc., and BC Pension Corporation were the four fossil fuel-linked exhibitors who appeared at multiple career fairs in 2021.

	Extractors	**Enablers**
Frequency	3	21
Percent of Total Employers at 2021 Career Fairs	1.07%	7.50%

Table 5. *Frequency table indicating the types of exhibitors featured at the 2021 West Coast Virtual Fair, Spring Career Fair, and UBC Career Day.*

According to an email from the UBC Careers Office, the registration system for the West Coast Virtual Fairs, Career Day, and Spring Career Fair all "operate on a sign-up process [where] employers can simply apply (and pay) to be a fair exhibitor."[149] Companies pay UBC $150-$1,200 CAD to be an exhibitor or $3,000 CAD to be a presenting sponsor, representing traceable financial links between UBC and the fossil fuel industry. Presenting sponsors receive an array of additional perks by having their logo placed on all promotional material, targeted communication to job fair attendees after the event ends, and two free information sessions held within one year of the career fair.[150] CareersOnline, the site where virtual career fairs are hosted, amasses roughly 30,000 unique student and alumni logins and 1,100,000 total views per year which makes it a significant platform for reaching and recruiting new talent.

[149] Employer & Alumni Engagement, Centre for Student Involvement and Careers, Email. March 20, 2022.
[150] Centre for Student Involvement & Careers, 'Career Fairs', Hire UBC Students, accessed 18 August 2022, https://scs-hireastudent-2021.sites.olt.ubc.ca/campus/career-fairs/.

Revolving Door Between University and Industry

At least five executives who held CFO, Chairman, or Senior VP positions at emitting and enabling fossil fuel corporations have moved into teaching professorships at UBC. Two are former executives at Teck Resources. Their former roles do not necessarily impact their current stances on divestment or renewable energy transitions, as we are primarily concerned with employees who serve in fossil fuel industry roles concurrently with their UBC positions. However, two of these professorships are through the Norman B. Keevil Institute of Mining Engineering, which was established through a donation from Teck.[151] Teck's continual involvement in education at UBC via both donations and personnel represents a worthy area to investigate.

UBC governance institutions with linkages to the fossil fuel industry include UBC's Investment Management Trust Board of Directors, the VP Finance and Operational Excellence portfolio, and the UBC Board of Governors.

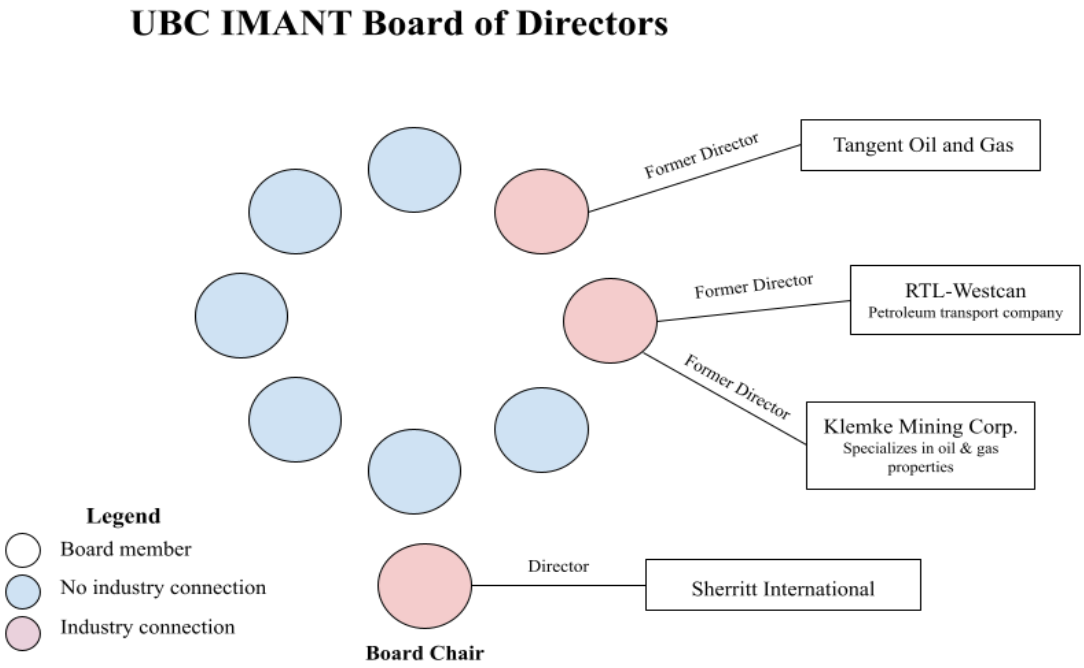

Figure 9. *Industry connections within UBC's Investment Management Trust Board of Directors*

UBC's Investment Management Trust, Inc, or IMANT, handles UBC's investment portfolio and oversees UBC's process of divesting from fossil fuels.[152] The IMANT board is made up of seven Corporate Directors from other corporations, a chair, and the VP Finance & Operations at UBC. One third — or 33.3% — of the IMANT board has some connection to the fossil fuel industry.

[151]UBC News and 2006, '$7.5M Gift Led by Teck Cominco Creates Norman B. Keevil Institute of Mining Engineering at UBC'.
[152]'Profile – UBC Investment Management Trust', Investment Management Trust Inc. University of British Columbia, accessed April 2022, https://www.ubcimant.ca/about/profile/.

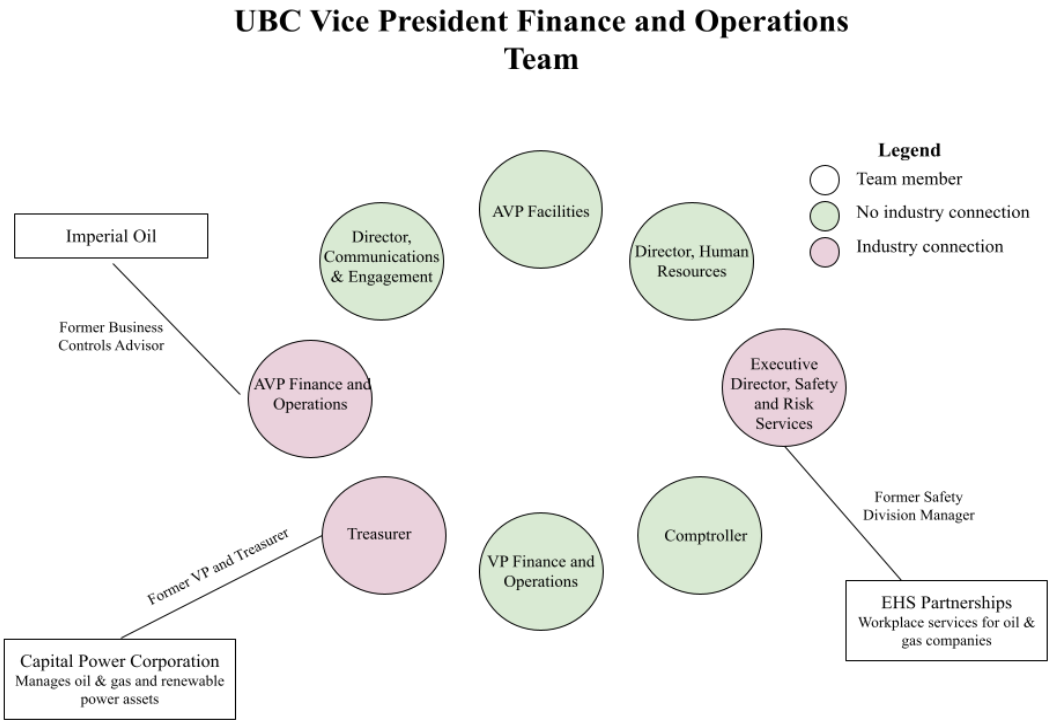

Figure 10. *Industry connections within UBC's Vice President Finance and Operations Team*

The UBC Vice President Finance and Operations (or Finance and Operational Excellence) portfolio oversees UBC's budget, endowment, and facilities, as well as IMANT and the UBC Properties Trust.[153] Of the eight-person executive team under the VPFO portfolio, three executives had former executive roles in the fossil fuel industry.

Other UBC board members include a lawyer (until 2021) at McCarthy Tetrault, a law firm specializing in representing oil and gas clients along with other industry sectors and the current chair of the Board who is the former CFO of Seaspan, a shipbuilding company that operates at least 4 barges transporting refined oil.[154]

Teck Resources

Teck's Vice President of Sustainability left in March 2013 to take up an adjunct professorship and an executive-in-residence position at UBC, beginning April 2013. At UBC, the former Teck VP helped found the Canadian International Resources and Development Institute, which provides research, training, and public administration reform to world governments on natural resource governance issues.[155] The former VP's contributions were noted in a 2016 article entitled "How UBC is Digging

[153] UBC, 'About Us', Vice President Finance & Operations Portfolio (VPFO), accessed 18 August 2022, https://vpfo.ubc.ca/about-us/.
[154] Seaspan, 'Our Fleet', Seaspan, accessed April 2022, https://www.seaspan.com/seaspan-marine/our-fleet/.
[155] Canadian International Resource and Development Institute, 'Who We Are', *CIRDI* (blog), 2022, http://cirdi.ca/about/who-we-are/.

the Mining Industry Out of a Hole,"[156] which neatly illustrates the revolving door between Teck's executives, the research power of UBC, and international mining governance.

CONCLUSION: Ethics of engagement policies for hiring and for student career recruitment could disrupt fossil fuel influence at UBC.

Multiple key decisionmakers in UBC's financial operations — including fossil fuel divestment — have previously worked for fossil fuel extractors. While we cannot definitively establish these connections as conflicts of interest, these revolving doors represent potential connections in personal networks, values, and priorities between fossil fuel employers and UBC's governance. By continuing to hire fossil fuel-affiliated staff for high-level positions, universities send a powerful normative signal that fossil fuel employers operate in line with the principles and values of the university. Just as divesting a university's endowment is a tactic to revoke social license, divesting human capital has the capacity to do the same in areas of sensitive research or governance, such as career fairs and the University-Industry Liaison's Office. Climate organizers should continue to place pressure on UBC to make hiring decisions in line with UBC's commitments to divestment and climate action, such as key financial appointments in IMANT, which exercise the university's power as an institution with a $2.8 billion endowment.

In terms of student career preparedness, consultation with the UBC community by the Climate Emergency Task Force revealed a broad consensus towards "supporting job preparedness through climate-related curriculums and learning opportunities that are practical and solutions-focused."[157] However, by allowing fossil fuel corporations to continue recruiting students at career fairs, universities remain complicit in legitimizing and perpetuating fossil fuel dependency.

According to an email from a representative from the Centre for Student Involvement and Careers, UBC does not have any specific policies that outline what types of companies or sectors are authorized to participate in career fairs. Unlike some other university career centres, UBC allows companies to hire co-op students regardless of industry, so long as they meet the requirements of the BC Employment Standards Act. In comparison, the University of Sheffield Careers Service has a policy that specifically outlines the center's ability to "decline participation in events and activities at [their] discretion which it reasonably believes not to be in the best interests of either students, graduates or the University. In particular, this includes organizations and/or opportunities which… are involved in the manufacturing of tobacco products."[158] A similar policy could be modeled at UBC, with constructive input and consultation with student groups and faculty, in relation to the fossil fuel industry to direct student talent towards more sustainable career paths.

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[156] Frances Bula, 'How UBC Is Digging the Mining Industry out of a Hole', *BC Business*, Accessed 1 June 2016, https://www.bcbusiness.ca/how-ubc-is-digging-the-mining-industry-out-of-a-hole.
[157] Climate Emergency Task Force, 'UBC Climate Emergency Engagement: Final Report and Recommendations.'
[158] 'Terms and Conditions of Engagement for Employers', University of Sheffield Careers Service, Accessed 28 June 2022, https://www.sheffield.ac.uk/careers/employers/tcs-engagement-employers.

Next Steps for Climate Organizers

Our research found that fossil fuel industry influence at UBC appears to be concentrated in several notable areas within our focus areas of donations, research, and careers. Based on our data, the majority of UBC fossil fuel research funding flows towards directly fulfilling the industry's financial and public relations needs — including petrogeology, pipeline engineering, and forestry. We also found significant research funding streams associated with pipeline and fluid mechanics, which may connect to prominent natural gas pipelines in British Columbia such as the Coastal GasLink LNG project.

Since 1999, UBC has received at least $18,861,311.00 of federal funding for projects in partnership with fossil fuel corporations. Although this is an underestimate due to data unavailability and methodological limitations, it remains a relatively small sum for 21 years of research.[159] Similarly, while we conclude that fossil fuel donations to UBC represent a meaningful conflict of interest for UBC's climate commitments, they are not large enough to represent an indispensable element of UBC's financial landscape. Our findings here diverge from similar studies regarding connections between universities and the fossil fuel industry, such as Laurie Adkin's research on Albertan universities, which revealed pervasive and deep-seated fossil fuel influence.[160]

Unlike in Alberta, we found that corporate links to the mining industry are equally, if not more, prevalent at UBC than fossil fuel extractors. Considering the geographical context of UBC and the geology of the wider British Columbia province, it makes sense that research orients toward gold and metals mining to a greater degree than fossil fuels such as coal. As mining occupies a different role than fossil fuels in the climate crisis, we opted to exclude them from this study. Some energy researchers present mining of primary metals such iron, zinc, and nickel as necessary to decarbonization via renewable energy technology such as solar panels.[161]

Others present mining as a useful driver for economic development.[162] However, technocentric perceptions of mining often overlook the documented deleterious impacts of mining on watersheds, greenhouse gas emissions, and resistance from local and Indigenous communities — vital issues of equity and public health which garner increasing advocacy.[163] Further research could outline UBC's

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[159] Due to time limitations and lack of searchability, we only examined the NSERC and Web of Science databases for information about research funding sources. This makes our result an underestimate, as the Web of Science fails to include the quantity of industry contribution, and there are other sources of data about industry funding, such as MITACS, which are not accounted for.

[160] Adkin and Cabral.'Knowledge for an Ecologically Sustainable Future?'

[161] Jane H. Hodgkinson and Michael H. Smith, 'Climate Change and Sustainability as Drivers for the next Mining and Metals Boom: The Need for Climate-Smart Mining and Recycling', *Resources Policy* 74 (December 2021): 101205, https://doi.org/10.1016/j.resourpol.2018.05.016. ; Chris Bataille, David Sawyer, and Noel Melton. *Pathways to deep decarbonization in Canada*. Sustainable Development Solutions Network, 2015.

[162] Wanvik, Tarje Iversen, and Ken Caine. "Understanding Indigenous Strategic Pragmatism: Métis Engagement with Extractive Industry Developments in the Canadian North." *The Extractive Industries and Society* 4, no. 3 (2017): 595–605. https://doi.org/10.1016/j.exis.2017.04.002.

[163] Chang Hoon Oh et al., 'Location Matters: Valuing Firm-specific Nonmarket Risk in the Global Mining Industry', *Strategic Management Journal* 41, no. 7 (July 2020): 1210–44, https://doi.org/10.1002/smj.3153. ; Deanna Kemp, John R. Owen, and

relationship to the mining industry, and address its implications upon the university's climate and sustainability commitments.

While significant and damaging, the unexpectedly narrow distribution of fossil fuel connections within UBC provides potential pathways to action. If fossil fuel funding is concentrated with specific researchers, departments, and through specific donation pathways, organizers can press for specific institutional actions which can reduce the influence of the fossil fuel industry without necessitating a broad restructuring of UBC's foundational operations. The fossil fuel industry frames itself as indispensable to job markets, economies, and Canadian national identity. However, our research suggests fossil fuel funding is not indispensable to UBC. Through further collaborative research and consultation with UBC researchers, organizers, and policymakers, a just transition away from fossil fuel university funding is not only possible, but vital to fulfill UBC's climate commitments.

Deeper analysis of UBC-fossil fuels links can be conducted if researchers gain ethics approval to conduct qualitative interviews with fossil fuel-funded researchers to provide insight into the perspectives of those directly impacted by the topics of our research. Doing so could contextualize and deepen our analysis of how researchers frame their relationships to the industry and the impacts of their research. This, in turn, could help work with rather than against researchers to promote a just transition away from fossil fuel funding and secure university support for students and professors to find alternative funding sources and partnerships on a fair and appropriate timeline. Similarly, it could be useful to interview researchers at UBC who have decided to refuse fossil fuel research funding, to gain insight into how to encourage other researchers to do the same.

Climate organizers are encouraged to use this paper as a jumping-off point for future organizing aimed at weakening the industry ties found at UBC and at other universities. This could start with sharing the findings found in this paper through a roundtable discussion or teach-ins to build student power around addressing remaining ties to the fossil fuel industry. Our findings may also serve a contextual purpose in designing campaign demands that hold UBC accountable for their complicity in the climate emergency.

Opportunities for advocacy extend beyond UBC. A cross-university campaign could address the networks of federal funding which flow through institutions such as NSERC and MITACs to cement fossil fuel power over research and education. By presenting alternatives to existing fossil fuel-dependent funding structures and building capacity to push for them, organizers can press universities to become more sustainable, affordable, and ethical.

Éléonore Lèbre, 'Tailings Facility Failures in the Global Mining Industry: Will a "Transparency Turn" Drive Change?', *Business Strategy and the Environment* 30, no. 1 (January 2021): 122–34, https://doi.org/10.1002/bse.2613. ; Dawn Hoogeveen, 'Sovereign Intentions: Gold Mining Law and Mineral Staking in British Columbia', *BC Studies: The British Columbian Quarterly*, 31 July 2018, 81-101 Pages, https://doi.org/10.14288/BCS.V0I198.189417. ; Warren Bernauer and Gabrielle Slowey, 'COVID-19, Extractive Industries, and Indigenous Communities in Canada: Notes towards a Political Economy Research Agenda', *The Extractive Industries and Society* 7, no. 3 (July 2020): 844–46, https://doi.org/10.1016/j.exis.2020.05.012.

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Josh is a recent graduate from the University of Manchester with a BSc Geography and specialization in Human Geography. His research interests include climate justice, postcolonialism, feminism, inequality, and queer theory. Originally from Northern Ireland, he is an uninvited visitor here on a study exchange, living and learning on the unceded homelands of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səl̓ilwətaʔɬ (Tsleil-Waututh) people.

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Michelle Xie (she/her)
Michelle is a sociology undergraduate at UBC and community organizer, who was born and raised on the stolen homelands of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səl̓ilwətaʔɬ (Tsleil-Waututh) peoples. She is passionate about building anti-oppressive, justice-centred spaces that are rooted in care and abundant in creativity. Michelle is currently a coordinator with Climate Justice UBC, facilitator with The Climate Justice Organizing HUB, and the Climate Resilient Communities Lead for the UBC Sustainability Ambassadors Program. Through her work, she strives to strengthen cross-movement solidarity and shift power into the hands of the people by equipping folks with the knowledge and skills needed to move towards collective liberation.

Husna Zaidi (she/her)
Husna is a recent BSc Physics graduate from UBC. She is an international student from Malaysia, currently living on the unceded land of the xʷməθkʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), and səl̓ilwətaʔɬ (Tsleil-Waututh) people. Being a student in an educational system that is based upon colonialism and systemic injustices has indirectly influenced her views on climate change-related issues.

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