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Research Article

The Future of Divestment: Proliferations of Counter-Hegemonic and Post-Extractive Divestment Movements

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Abstract: Fossil fuel divestment has quickly become the largest divestment campaign in history, drawing attention to the large discrepancy between national climate commitments and the continued support of the fossil fuel industry. Yet, fossil fuel production and emissions continue to escalate rapidly. Our question is: what's next for the divestment movement? We propose a conceptual framework that identifies two waves of divestment leadership in which public pressure campaigns move towards targeting the extractive economic structures and predatory behaviors that permit fossil fuel extraction, and unsustainable resource extraction more generally, to continue without limit. Building on the three waves model of divestment, we postulate that a fourth wave of fossil fuel divestment organizing has already begun, one that focuses on banks, insurers, and other financiers of fossil fuel projects. Further into the future, we envision a fifth wave of divestment campaigns, whereby divestment is used in climate and environmental activists' arsenal to target firms that engage in environmentally damaging and unjust behaviors such as destructive mining activities, overconsumption, predatory debt or arbitration processes, or Indigenous rights violations. While divestment is not a panacea and does not displace the work of existing post-extractive or climate justice campaigns, we argue that divestment is a powerful tool that can be used to complement and amplify the work of environmental justice activists in other contexts beyond fossil fuels. This paper offers actionable suggestions for current and future activists and frames divestment as a tactic that will proliferate within other environmental movements in the transition towards a post-growth economy.

Keywords: Climate Movement; Fossil Fuel Divestment; Managed Decline; Post-Extraction; Social Movement; Sustainable Transition

1. Introduction

Climate change has exacerbated extreme weather events with destructive consequences [1]. Fossil fuel production, which increases the quantity of greenhouse gasses in the atmosphere, has been the primary driver of climate change [2,3]. Despite this, fossil fuel companies around the world continue operating with impunity. Moreover, fossil fuel companies anticipate increasing production over the next few decades, while governments funnel billions toward the development of new reserves [4–6]. There remains a discrepancy between industry forecasts and what is required for a low carbon transition. The International Energy Agency has determined that if we are to meet global climate commitments, fossil fuel production must fall and excess reserves will face asset stranding [3]. In response, institutions have begun divesting from fossil fuels [7].

Fossil fuel divestment has amassed a sizable body of literature in past years, ranging from research that examines the financial case for fossil fuel divestment [8–11], the role of divestment in sustainable transitions, [12,13] the actors and motivations for divestment, [14,15] and power relations and discourses of divestment [16–18]. Proponents are shown to adopt a mix of both moral and financial framing in justifying divestment [9] by arguing that it is wrong to profit from the cause of the climate crisis and that investing in fossil fuel companies is increasingly risky.

The divestment theory of change is two-fold, encompassing both direct and indirect impacts. Directly, divestment actions can increase a firm's capital costs by generating uncertainty and risk around its core business model, thus leading to increasingly restrictive financing conditions that make it difficult for extractive projects to continue [19], even sometimes resulting in declines in share price [9]. Indirectly, divestment campaigns work to change public discourse around the legitimacy of a harmful industry by reframing norms of acceptability and serving as 'moral entrepreneurs' in order to politicize and stigmatize extractive activity [7]. The goals of divestment are inherently political [20], with the overarching goal of removing an industry's social licence to operate [16]. The powerful combination of direct and indirect impacts makes divestment a tactic that could be useful in other environmental justice campaigns.

Fossil fuel divestment came about with the intention to stigmatize the fossil fuel industry using tools that were "uniquely available to activists" [20], and takes inspiration from previous divestment campaigns, including the anti-Apartheid campaign of the 1980s, and the campaign to divest from tobacco [21]. However, as Knuth points out, the fossil fuel divestment movement differs from past movements in that the targeted industry requires a market replacement [20]. We pose that, while divestment operates within the confines of a capitalist system, it can also be used to build a bridge to a post-growth future by divesting from extractive industries and opening opportunities to reinvest in solutions that build community wealth and promote social and environmental well-being.

Fossil fuel divestment emerged in the early 2010s as a way for non-state actors to indirectly exert pressure over the supply side of fossil fuel extraction [17]. While fossil fuel divestment emerged as a tactic within the larger climate movement, as Hestre and Hopke have argued, fossil fuel divestment has shown characteristics of becoming a fully-fledged movement of its own [22]. The divestment movement exists as a collective of campaigns seeking to achieve the same outcome: the stigmatization of the fossil fuel industry, the reinvestment of fossil assets into the clean energy transition, and an end to fossil fuel hegemony.

After a decade of campaigning, fossil fuel divestment is now mainstream, [19,23] with trillions of assets under management committed to some form of divestment from fossil fuels. However, as the extraction and production of fossil fuels continues to increase, we must ask: what is next for divestment? Through examining existing discourse among divestment activists and scholars, this paper extends the conceptual foundation for what the future of divestment might entail. We build on Ansar et al.'s [19] three-wave framework by introducing a vision for two additional 'waves' of fossil fuel divestment over the next several decades. We assert that a fourth divestment wave has already begun that focuses on the managed decline of fossil fuel production, including increased attention on linking bank and insurance divestment. Wave 5 extends the discussion further, focusing on the transition towards a post-extractive, post-growth economic system that emphasizes justice and public well-being over profit. This research contributes to literature on divestment by taking inspiration from its history and introducing novel applications and targets for divestment actions. This research also presents a practical and actionable framework for activists in continued and future divestment campaigns.

Our paper has temporal boundaries, investigating the evolution of the fossil fuel divestment over the last decade and envisioning what the future of divestment might resemble by the year 2050. Our analysis is focused primarily on the role of divestment activists, who we define as grassroots organizers and civil society organizations that aim to compel financial institutions and other actors to divest from environmentally and socially harmful activities. We describe how divestment as a tactic can complement and extend the goals of existing post-extractive campaigns by exploring how activists can forge ties with other environmental justice movements. We seek to demonstrate the advantages of divestment as an activist strategy and recommend tangible opportunities for cross-pollination and partnerships between existing organizations.

1.1. Waves 1-3: The Establishment and Expansion of Fossil Fuel Divestment

In their seminal paper from 2013, Ansar et al. [19] proposes a framework that conceptualizes three successive waves over which most divestment campaigns evolve. In the first wave, small religious or educational institutions typically make divestment announcements based on primarily moral arguments [19]. The first wave of fossil fuel divestment took shape as commitments from Hampshire College, Unity College, and Sterling College were made from 2011-2013 [24]. The second wave is defined by larger commitments from prominent universities, cities, and other public institutions that help to legitimize institutional divestment within the broader community [15]. The fossil fuel divestment movement entered Wave 2 in 2013 [19], with milestones that included Stanford's divestment from coal in 2014, the University of California's partial divestment in 2015, and Columbia's divestment from coal in 2017 [24].

The third wave of divestment includes the widespread adoption of new commitments by large and more conventional financial institutions [19]. Recent research by Strauch et al. [23] maps divestment commitments onto this framework, proposing that fossil fuel divestment entered its third wave in 2018, with commitments from Norge Bank, New York Cities Pension fund, and Ireland being the first country to legislate divestment in 2018. The fossil fuel divestment campaign is now the largest and most prominent divestment movement in history [25].

We note that while we mark the transition between these waves with particular years, these dates are approximations, and these waves are not strictly linear in terms of timeline. While we argue below that we are now in the fourth wave of the fossil fuel divestment movement, we note that we are still seeing significant wins for the second and third waves of divestment: Harvard University's and the University of Toronto's fall 2021 divestment commitments [26,27] are important pillars of the second wave of this movement, and the fall 2021 divestment of Caisse de dépôt et placement du Québec [28] and the EU's largest pension fund, ABP, [29] are important wins for the third wave of fossil fuel divestment.

Despite recent progress, fossil fuel production continues to expand, and emissions continue to rise [3]. The global scale and rapid escalation of the climate crisis has brought divestment into the mainstream but has also exposed other vulnerabilities in our current economic structures. Fossil fuel divestment alone does not interrogate the pursuit of infinite growth that continues to drive resource extraction and thus environmental degradation. Future divestment campaigns can begin to directly oppose the extractivist structures in which fossil fuel production occurs. We thus conceptualize two additional waves of fossil fuel divestment focused on debt-financing of fossil fuels and divestment from financial markets, and on economic activities that transgress planetary boundaries more generally.

1.2. Wave 4 - Managed Decline of Fossil Fuels

Several pivotal events have occurred since 2020 which indicate that Wave 4 of the fossil fuel divestment movement is under way, contributing to a managed decline of fossil fuels driven by divestment actions targeting the lending and underwriting of fossil fuel projects. 2020 was a key inflection point in the energy transition, as the price of oil dipped below zero and the fossil fuel industry suffered from one of its least profitable years in decades, making the financial case for divestment even more compelling [30]. Eni and BP became the first major oil companies to openly commit to cutting production levels [31], and the European Parliament voted to end all fossil fuel subsidies by the year 2025 [32]. In 2020, five major US banks and all of the major Canadian banks refused to fund Arctic oil drilling, setting a precedent among financial institutions to rule out projects that pose a climate risk [33].

It is now known that 60% of proven oil and gas reserves, as well as 90% of coal reserves, must remain in the ground if we are to limit the global temperature increase to 1.5 degrees Celsius [34]. In 2021, the International Energy Agency released a groundbreaking report which urged, for the first time, that no new fossil fuel projects should be permitted to proceed in a net-zero transition [3]. This announcement bore major implications for financial institutions, as it explicitly calls on capital markets to halt all lending for all new fossil fuel extraction projects, rather than simply divesting their ownership in fossil fuel companies [35]. Consequently, the announcement put increased public attention on the role of banks and insurers in enabling fossil fuel expansion, and has created a discursive environment that makes traditional financial institutions more receptive to divestment arguments. As the realities of the climate crisis become starker, it is becoming increasingly clear that there is no suitable alternative to a rapid and complete phaseout of fossil fuel resources.

While a broader political and economic shift towards the managed decline of fossil fuels has been the result of many factors, fossil fuel divestment has played a key role in catalyzing this change. As divestment becomes increasingly mainstream, this creates the opportunity for activists to focus on extractive structures that have traditionally encountered less public opposition, including the complicity of the financial industry. A central means by which divestment activists can continue to weaken the industry is by targeting the capital that propels continued production, targeting debt-financing institutions in particular. Thirty-five private banks have provided over $2.7 trillion in loans to the fossil fuel sector since 2015 [36]. In Wave 4, we are seeing that divestment activists are beginning to target banks, insurers, and other large financiers of major fossil fuel companies and expansion extractive projects, and we argue that this trend can be dramatically accelerated over the subsequent decade.

1.3. Banks and Insurance Divestment

As outlined by Ansar et al, without a focus on debt-financing of fossil fuel projects, the direct financial impacts of divestment are limited [19]. In many scenarios, divested funds are simply redirected to other banks and financial institutions that appear to have a lower carbon intensity per dollar of investor earnings [37]. Given that major banks are among the largest lenders to fossil fuel companies [36], redirecting funds to these institutions means redirecting them to some of the largest enablers of the fossil fuel industry. Ansar et. al note that targeting debt-financing of fossil fuel companies has the potential to make a greater impact on the ability of the fossil fuel sector to operate [19]. In Wave 4, we identify that the fossil fuel divestment movement has broadened to take on this challenge, and not only target fossil fuel investments, but also lending and underwriting of fossil fuel projects by financial institutions. Following widespread wins from the earlier waves of fossil fuel divestment, more activists are now turning to the largest global financiers of the industry.

However, influencing banks to withdraw financial support of fossil fuel projects has proven to be particularly challenging. Debt financing assumes less risk than equity investing [38], and therefore lenders have less financial incentive to pull out. Fossil fuel financing from the world's 60 largest banks has increased every year (with the exception of 2020) since 2015 [36]. The 2021 COP26 conference saw the first critical look at the role of finance through the introduction of Mark Carney's Glasgow Financial Alliance for Net Zero (Gfanz), an initiative to which over 450 financial institutions became signatories [39]. However, in October of 2021, the Financial Times reported that the banks who had committed to join the Net Zero Banking Alliance were resistant to aligning with the IEA's 2021 scenario, which specified no new expansion, and instead favoured aligning with the IPCC report which does not unequivocally bar new fossil fuel projects [35]. There is a clear reluctance on behalf of banking institutions to confront their critical role in ongoing expansion, and significant organizing power is still needed to move these major institutions.

This shift in focus to bonds, lending, and underwriting of new fossil fuel projects has emerged, largely following frontline campaigns targeting expansion projects. In the North American context, bank and insurance campaigns have been picked up in response to the Stop Dakota Access Pipeline (DAPL) campaign [40], Indigenous led resistance to Enbridge's Line 3 [41], and as pressure to uninsure the TransMountain Pipeline aligns behind the work of grassroots Indigenous land defenders like the Tiny House Warriors [42]. Indigenous matriarchs on the frontlines of these conflicts, in particular, have initiated this shift. Between 2017 and 2020, following events at Standing Rock, the Indigenous Women's Divestment Delegation met with global financial institutions to pressure them to end not only their investments in fossil fuel companies, but their lending and underwriting of fossil fuel projects like DAPL and Line 3 [43]. The delegation assumed the slogan "Divest, Invest, Protect" [43], helping to bring pressure to end the provision of capital, loans, and insurance to Energy Transfer Partners.

As this wave grows, activists are making use of many of the same tactics as university divestment organizers, and in particular are working to damage these banks' brand and public image by exposing their role in financing harmful projects that violate Indigenous sovereignty. JP Morgan Chase was an early target of this type of action in 2020 following the release of the report 'Banking on Climate Change' by the Rainforest Action Network, which revealed that the bank had financed nearly $196 billion in fossil fuels. Labeled the "Doomsday Bank" by Bill McKibben [44], while facing lobbying from northern Indigenous community leaders [45] and public pressure from climate activists, JP Morgan took a small step towards winding down fossil fuel lending and committed to curb loans to coal firms and Arctic drilling projects [46].

The consequences of private capital markets disassociating from the fossil fuel industry are apparent. In submissions to the inquiry into regulation of investment in Australia's export industries, three miners and contractors said that business risks and costs were rising due to worsening access to finance [47]. The recent reluctance of Australian banks to participate in syndicated loans to coal companies has led Asian banks to also step away from this lending [47]. Contractors warned that if this trend continues the industry will face significant damage [47].

Targeting fossil fuel insurers is also proving to obstruct firms' ability to operate. BMD Constructions Pty Ltd, which is constructing a rail line for the Adani Coal mine, has not been able to find insurance from any of the 37 insurers they have approached, [48] and has had to appeal to the government in a last-ditch effort to avoid absorbing the risk [49]. A campaign targeting insurers of the Trans Mountain Pipeline has shown similar promise, leading Zurich, Munich Re, Talanx, Argo [50], and most recently Chubb Group to drop the project [51]. In April of 2021 Canada's federal energy regulator granted a request to not publicly disclose the insurers of the TMX pipeline, [52] indicating that pressure on insurance companies is causing concern within the industry.

We see bank divestment as the first proliferation of the fossil fuel divestment movement. As response to banks' fossil fuel financing, some divestment activists have turned to divestment from banks themselves to stigmatize these companies, establish reputational risk, and pressure them to end financing for fossil fuel companies. In 2017, thousands mobilized to end their relationship with Wells Fargo and Citigroup, firms that were funders of the Dakota Access pipeline [40]. Now, campaigns to cut ties with commercial banks that lend to fossil fuels are again emerging in both Canada and the United States, driven particularly by young organizers [53,54].

Cities can also be moved to sever relationships with banks that are financing fossil fuel expansion. In February of 2017, the Seattle city council unanimously passed an ordinance to end its $3 billion depository relationship with Wells Fargo (due to the firm's financing of Dakota Access Pipeline) and instead establish a public bank [40]. Establishing public banks can both further stigmatize major banks, and aid the transition away from fossil fuels, particularly if cities or states establish green development banks that offer concessionary lending and investing to support renewables and low carbon infrastructure [55]. A critical step in this process is establishing public banks with a mandate that focuses on the low carbon transition [55]. While the Bank of North Dakota has strengthened local infrastructure and protected the state against risky speculative practices by Wall Street firms [56], its lack of a clear climate mandate has led the bank to continue supporting fossil fuels and even to fund police militarization of at the Standing Rock protests [56]. On the other hand, Germany's KfW focuses specifically on climate change and the environment as one of its primary objectives, and targets 35% of its lending towards the energy transition [55]. In the context of the Covid-19 crisis, public banks across the world were able to respond to the crisis quickly with the full support of public authorities, prioritizing the needs of the public [57]. If established with a mandate to embrace just climate solutions, public banks have the potential to offer similarly strong and swift responses to the climate crisis. We argue that bank divestment represents a new offshoot of divestment advocacy, one that works in tandem with its predecessor to sever the ties between the financial sector and the fossil fuel industry.

1.4. Wave 5 - Managed Decline of Environmental Degradation

Although the managed decline of fossil fuel production will be necessary for climate change mitigation, ameliorating environmental degradation in all its forms will require scaling down resource extraction in all sectors. The relentless appropriation of raw materials presents a threat to both human and environmental well-being [58]. Combating extractivism is the most salient means to alleviate the world's ecological crises and remain within planetary boundaries; not only is the climate crisis a crisis of fossil fuel extraction, but 90% of the world's biodiversity loss and water stress are also a result of resource extraction [59].

Extractivism is a structural imperative in growth-oriented economies, where efficiency improvements from technological advances tend to be reinvested in extractive processes and thus work to intensify environmental exploitation [60]. This paradox jeopardizes global climate mitigation efforts as energy demand outpaces the ability of clean energy to replace fossil fuels [60]. Recognizing this dilemma, the IPCC proposes a 'Low Energy Demand' scenario as the only 1.5 degree pathway that does not rely on speculative negative emissions technologies, but instead requires a reduction in the 'material throughput' of the global economy [61].

A post-extractive economy requires shifting towards a steady-state economic system that defies the logic of infinite economic growth. However, trends appear to be moving in the opposite direction as extractive pressures continue to accelerate. From 1970 to 2017, the annual extraction of materials rose from 27 billion tonnes to 92 billion tonnes [59]. While proponents of green growth argue that relative decreases in materials intensity will allow for the 'decoupling' of economic growth and resource use, most evidence appears to point in the opposite direction. Since 2000, growth in material footprints have outpaced GDP growth, and the world is on track to be extracting more than 200 billion tonnes of materials per year by 2050 [60]. Many studies have concluded that the absolute decoupling of resource use from economic growth is simply not possible, and many scientists have openly begun advocating for post-growth futures [62,63].

We argue that divestment can be used as a tool to create solidarity with other environmental justice movements in this space, and that divestment activists should aim to complement and amplify the work of other campaigns targeting extractive economic systems, including resistance to mining, resource imperialism, consumerism, and Indigenous rights abuses. The divestment movement is (in part) situated within a much broader history of Indigenous climate justice, the 'environmentalism of the poor', and resistance to petro-imperialism and neocolonial resource extraction [64]. Much of the momentum of the early divestment movement emerged from demonstrations against the Dakota Access Pipeline at Standing Rock, and the worldwide movement to 'Keep it in the Ground' led by Indigenous land defenders [65]. Naomi Klein has written persuasively about 'Blockadia', a global region of spaces of resistance that aim to disrupt the petro-economy in the fight for global climate justice [66]. In interrogating extractive structures, we also borrow concepts from political ecology [67] such as the notion of ecological debts owed from the Global North to the Global South [68], and the need to understand the neocolonial dimensions of the climate emergency. In seeking to undermine fossil capitalism as an economic system, divestment activists could also problematize the systems of exploitation that trap poorer nations in the extractive economy in the first place, including plantation agriculture, export-processing zones, debt-servicing traps, and other structures that perpetuate injustice while degrading social and environmental well-being [69].

Our analyses of future evolutions of the divestment movement are also situated in a broader discussion of post-growth, 'pluriversal' alternatives that seek to align economic systems with global planetary boundaries more generally [70,71]. In doing so, we argue that divestment activists would benefit from moving past the "carbon reductionism and technocratic environmental approach" of mainstream environmentalism, and merging the fight against fossil fuel companies with the broader struggle against all forms of environmental destruction [69]. Rather than narrowly framing divestment as a market-based instrument to achieve the 'decarbonization' of the economy, divestment activists can build bridges with existing activist movements and work to undermine the whole system of neoliberal globalization, neocolonial exploitation, and limitless economic growth, embedding their work with the more holistic vision of 'System Change, not Climate Change' [69].

Because fossil fuel divestment has been enormously effective in stigmatizing and politicizing the extraction of fossil fuels, it should be viewed as a pertinent model for other anti-extractive campaigns to emulate. In the effort to phase-out resource extraction in general and move towards a more circular society, divestment can be a potent weapon to target large polluters and rights violators and thus raise the reputational and financial costs of unsustainable and unjust business practices. Divestment can be used as a transformational tool in two ways: to target extractive firms themselves, and to target the wider systems of exploitation which draw actors into the extractive economy in the first place. We do not propose that divestment activists advocate for divesting from every major corporation, but instead focus on those firms which do not meet an acceptable standard of corporate responsibility. Divestment campaigns can both be used to address mineral extraction and the crisis of overconsumption in the Global North, while also targeting the firms that employ debt peonage, unfair trade rules, and neocolonial land grabs in order to enclose the resources of vulnerable communities primarily in the Global South. In this sense, post-growth divestment campaigns can be a powerful tool in driving transformative, post-extractive climate justice while scaling down environmental degradation at a global level.

2. Divestment from Mining

A low carbon transition that expands renewable energy capacity will consequently require much more mining of critical metals, such as copper, zinc, aluminum and iron [60]. Mineral extraction represents a large and growing threat to the health of the global biosphere and the welfare of local communities. Large-scale mining concessions currently cover 18% of the Amazon rainforest, one of the most biodiverse regions on the planet; moreover, 20% of these concessions overlap with Indigenous lands and thus represent a significant threat to tribal sovereignty [72]. There are numerous anti-mining and mining-related conflicts, [73] sparked by the environmental concerns of resistant and often agrarian and Indigenous communities [74–77]. These communities are often displaced due to the resulting contamination of their land, [78] or sometimes even targeted by paramilitaries and security forces hired by energy and mining firms [79]. The Environmental Justice Atlas, a global database of mining-related conflicts, has identified over 1,500 ongoing conflicts over water, land, spills, pollution, ill-health, relocations, waste, land grabs, floods and falling water levels, primarily affecting nations in the Global South [80].

Without concomitant efforts to scale down absolute energy use, it is likely that the renewable energy transition will accelerate a worldwide boom in 'green extractivism' where the demand for minerals required for electrification will exacerbate threats to biodiversity, the integrity of habitats, Indigenous rights, and other issues. Global net-zero ambitions will require an additional 34 million metric tonnes of copper, 50 million tonnes of zinc, 162 tonnes of aluminum, and 4.8 billion tonnes of iron [60]. The World Bank estimates that the production of key minerals such as graphite, lithium and cobalt will need to increase by 500% by 2050 to meet the demand from clean energy technologies [81]. As a result of these environmental pressures, many scholars have advocated for a systems-based [82], holistic assessment of environmental justice in energy [13,40]. This entails consideration of procedural and distributive justice throughout the life-cycles of mining projects and along entire energy supply chains, as well as environmental impacts [82–84]. Specific focuses could include effects on water, [85,86] vegetation and soil, [87,88] and local health.

The global renewable energy transition is fraught with complex tensions. To move to a truly post-extractive future, the global divestment movement should evolve beyond fossil fuel emissions, and can achieve this by placing greater emphasis on planetary ecological boundaries and the commitment to free, prior, and informed consent in relations with affected communities. A proliferation of the fossil fuel divestment movement that focuses on mining should begin by identifying the worst offenders driving ecological degradation, social conflict, or violations of Indigenous rights. Such divestment campaigns are particularly important in the Canadian context, where 75% of the world's mining companies are headquartered [89]. Prominent examples include firms such as Blackfire Exploration, a Calgary-based company with a dozen mining concessions in Mexican state of Chiapas, which has been investigated by the Royal Canadian Mounted Police for various repressive campaigns to subdue local resistance [90]. There are well-documented cases of Canadian firms such as Hudbay Minerals, Goldcorp, and Tahoe Resources evicting and violently oppressing non-consenting Indigenous communities in Guatemala [91]. In this case, NGOs from Guatemala and Quebec urged Canadian pensions to divest from companies that operated without the consent of affected communities, a strategy which should be replicated more widely in other jurisdictions [92]. To achieve these outcomes, divestment activists can build coalitions with other anti-mining groups, such as MiningWatch Canada, Yes to Life and No to Mining, and other organizations, which would benefit anti-mining campaigns by applying the financial expertise of the divestment movement while also providing alternative tools of change complementary to existing frontline efforts. Key gaps here represent an opportunity for future research to determine criteria for selecting mining divestment targets and goals. In determining targets for divestment, it will be helpful to identify positive behavior to encourage, such as engaging in integrative and circular recycling of waste byproducts and of refined and spent metals. Furthermore, although financially material climate risks may not apply to mining companies [93], emerging risks due to ecological and social abuses and associated reputational costs [94] may present new financial arguments against predatory extractivism.

3. Divestment from Consumerism

Extractive capitalism is driven by a crisis of overconsumption in the Global North, an issue which has not received sufficient public attention. In recent decades, relentless consumption growth has eclipsed all efficiency gains from technological improvements, and consumption levels are the largest predictor of an individual's environmental impacts [95]. As global supply chains gradually become more transparent, divestment can be used as a tool to target companies that maintain linear production models and contribute to the crisis of overconsumption. To politicize the issues of sustainable procurement and post-consumer waste, divestment could be employed as a means to pressure firms to commit to robust waste reduction plans and transition towards more circular business models [96]. In a circular economy, the average lifespan of a product is extended so that it may remain within use for as long as possible, or even indefinitely [97]. Future divestment campaigns can use life cycle analyses [96] to determine which producers contribute most acutely to overconsumption by promoting practices such as seriality, planned obsolescence, and obstructions to repairability. Divestment from corporations that continue linear models of production can encourage the proliferation of alternative product development models which reduce waste and optimize resource use.

Divestment can be used to encourage open and accessible product repair practices by stigmatizing the companies that lobby against 'the right to repair' and anti-obsolescence legislation [97,98]. While addressing planned obsolescence ultimately requires policy change, other issues stemming from overconsumption such as poor labour standards may benefit from a focus on supply chain sourcing, advocating for Fair Trade certified food and beverages, and locally-produced apparel [99]. Furthermore, targeting companies which rely on single-use plastics, such as Coca-Cola and Nestle, could reduce the amount of landfill waste generated by linear production. By examining the supply chain of a company, divestment activists can target companies that plan obsolescence, oppose the right to repair, have low waste diversion rates or violate labour rights. Divestment activists can specifically target companies that are not working to attain circular supply chains or closed-loop production models, and firms that fail to disclose or manage their waste, and work to establish partnerships with other anti-consumerist groups such as Deep Green Resistance, War on Want, or Extinction Rebellion.

4. Divestment from Economic Imperialism

The international financial system employs debt and unfair trade rules to create a global extractive economy that is predicated on patterns of unequal exchange between nations in the Global North and Global South [60,100]. Export-oriented growth policies, often imposed as loan conditionalities through structural adjustment programs, compel resource-rich nations to turn to extractive projects as a means to generate the foreign reserves to service debts owed to international creditors [58,101]. In such 'debt traps', governments are required to remove barriers to growth in an effort to attract the foreign direct investment that will generate funds to pay increasingly expensive interest payments [60]. Such exploitative patterns are generated because lending institutions like the International Monetary Fund are pursuing the interests of the international financial community [101]. The resulting 'Dutch disease' directly impedes local development in order to generate profit for transnational firms [101]. These relationships are particularly evident today in Latin America [58,77] as well as Africa, a continent where for every dollar of loan inflows there are 80 cents of capital flight [102,103].

Multinational companies have also been increasingly turning to Investor-State Dispute Resolution (ISDS) lawsuits [104] whereby foreign investor interests are protected to sue a national government for both real and perceived financial damages [105,106]. Complications arise when, for example, a government restricting mineral extraction near vulnerable ecosystems may be seen as expropriating private capital [104]. ISDS arbitration lawsuits related to mining have rapidly increased in frequency since the late 1990s [104], and are often used by transnational corporations to coerce poorer governments into allocating resource concessions [107]. Countries are often sued for sums that represent sizable portions of their annual GDP [106]. In some cases, the threat of arbitration can pressure governments to reverse environmental protections, as was generally regarded to be the case when Indonesia exempted several foreign investors from a ban on open-pit mining in protected forests [107].

The case of Vancouver-based Eco Oro Minerals suing the state of Colombia over a protected wetland is a salient example of this kind of predatory behaviour [108]. For several years, Eco Oro had planned to mine for copper and gold in Colombia's Santurban Paramos, a high-altitude wetland which provides the drinking water for two million people. The World Bank's private finance arm divested from Eco Oro in 2016 due to ongoing opposition from the local community, led by groups such as the Committee in Defense of the Water and Paramos of Santurban [109]. Despite the ecological and social risks posed by the project, Eco Oro has sued the state of Colombia through an ISDS mechanism in the bilateral Canada-Colombia Trade Agreement, claiming damages of $750 million USD. This arbitration is funded by Tenor Capital, a financial firm aiming to turn a profit from the compensatory payments for perceived lost profits [110]. In contexts like this, divestment activists could forge connections with local organizations such as the Committee in Defense, economic justice groups such as the Transnational Institute, and apply public pressure campaigns on Eco Oro and Tenor Capital.

The neocolonial nature of the international financial system is complex and often shrouded in secrecy. There is a need for future research to further specify these dimensions of international inequality and identify criteria for targeting certain companies for exploitative behaviours. In order to publicize and politicize these issues, divestment activists can identify firms or investor groups that are known to be debt profiteers or abusers of private arbitration processes. Divestment activists might specifically target 'vulture funds', or international investors that purchase sovereign debts at a discount and use litigation to coerce debt-distressed nations into paying the full face value [111]. Activists might also target companies that abuse ISDS processes by making them the target of public pressure campaigns, such as ConocoPhillips [106]. At a broader level, activists can join international calls for debt restructuring or a global 'debt jubilee', calling on international creditors to repudiate illegitimate or 'odious' debts [111,112]. In doing so, activists can strive to create partnerships with international groups such as the Jubilee Debt Campaign, the Committee for the Abolition of Illegal Debt, or the Asian People's Movement on Debt and Development.

5. Divestment from Indigenous Rights Violations

The continued displacement of Indigenous communities from their land by non-Indigenous actors for resource extraction is rooted in colonial genocide [113] and has led to the erasure of ecological knowledge including traditional food and land management systems [114]. Resource extraction projects frequently result in both ecological and socioeconomic decline in Indigenous communities [115] and Indigenous resistance is often met with violence and criminalization [116]. Indigenous sovereignty remains unrecognized in many countries [115] and national and corporate land-use projects often commence without Free, Prior and Informed Consent (FPIC) [115]. Even when titles to land and resources exist, laws may lack implementation or may be contradictory to other laws, largely due to the lack of government compliance with the UN Declaration on the Rights of Indigenous Peoples [115]. Emerging 'Land Back' movements call on governments to honour treaty agreements [117], which is a central demand in the current resistance to Enbridge's Line 3 Pipeline [118].

An analysis of 370 extractive sites based on or near Indigenous land found that 92% of companies had poor or non-existent relationships with Indigenous peoples, making them medium to high-risk investments [115]. Due to increased media attention focused on Indigenous-led protests, the report found that 58% of companies had medium to high-risk exposure from negative media coverage. Extraction sites based in countries with poor governance and protection for Indigenous peoples were also more likely to be high-risk investments. Adamson and Pelosi, propose that holding companies financially accountable is more effective than relying on government policy, as targeting the market value of a company will highlight associated business risks and can incentivize practices that respect Indigenous rights [115]. One example is the Canadian firm Tahoe Resources, which was accused of human rights abuses at its Guatemalan mine, including the shooting of unarmed protesters and multiple assassinations [119]. Between 2013 and 2019, six complaints against these abuses were filed by the Justice and Corporate Accountability Project which led to media attention from major publications. Investors in Tahoe Resources, including the Norwegian Government Pension Fund, divested from the company due to public opposition. As a result, Tahoe Resources' stock plummeted from a high of $27 to $4 and the mine was suspended. Considering this example, divestment shows considerable promise as a tool to hold companies accountable for upholding FPIC [119].

As has been previously noted, future extractivism will continue to threaten Indigenous sovereignty. Indigenous peoples protect 80% of the world's biodiversity, despite making up 5% of the global population [120], and Indigenous resistance to fossil fuel projects has prevented 1.587 billion metric tons of CO_2 from entering the atmosphere in the last decade alone [116]. Anti-extraction divestment movements will do well to align themselves with movements to divest from industries that continue to violate FPIC, and follow Indigenous leadership to confront the colonial mindsets that underlie relentless resource extraction.

Michelle Cook and Hugh MacMillian, reflecting on the highly visible global divestment campaign led by Indigenous matriarchs that emerged after Standing Rock, affirm that "divestment remains a critical intersectional strategy for the protection of the climate and the world's Indigenous peoples and their cultures" [30]. Ojibway economist and activist Winona LaDuke praises the global divestment movement as a source of hope [121], and urges solidarity with Indigenous movements that resist oil pipelines, referred to as 'black snakes' [122]. Looking beyond fossil fuels extraction alone, LaDuke and Potawatomi scholar Robin Wall Kimmerer warn against the extractivist paradigm of 'Windigo' economics [121,123], while Cook and Macmillian call for community-led, regenerative economies that resist capitalist extraction [124]. Divestment activists can partner with groups such as Survival International, Indigenous Climate Action, or the Indigenous Environmental Network to advocate for firms and governments to respect Indigenous sovereignty and meaningfully implement recommendations of the UN Declaration of the Rights of Indigenous People.

6. Reinvestment in Communities

Divestment is not itself a solution to the climate crisis, which is rooted in the limitless accumulation of resources caused by the infinite growth paradigm. However, divestment as a tactic does invite activists to think critically about where capital is allocated. The question of reinvestment has been considered since the fossil fuel divestment movement's inception, calling for investment in community empowerment, democratized workplaces, and ecological restoration, as well as renewable energy [125]. While reinvestment narratives often focus on relocating funds to green energy infrastructure, we argue that there is a need to broaden the scope of mainstream reinvestment alternatives to focus on post-capitalist transformation. As Knuth has noted, there is need for caution around aligning divestment demands with reinvestment in clean technology, given its potential to enable a continuation of the 'green growth' status quo [20].

Future offshoots of the fossil fuel divestment movement that aim for a post-growth economy should call for an expansion of reinvestment initiatives that invest directly into communities. We argue that through an increased push for positive investment screens focused on justice and sustainability, and campaigns to expand the scope of traditional notions of fiduciary duty, community reinvestment movements can become a proliferation of the original fossil fuel divestment movement.

Fossil free 'responsible investing' and ESG portfolios still hold investments in the extractive economy. In 2020, Parnassus, the fourth largest ESG fund under assets, held 17.26% of shares in companies including Apple, Alphabet and Amazon [126]. Apple and Amazon have both fought rights to repair laws [127] and new electronic devices require energy intensive mining [128], while Amazon has been widely criticized for poor treatment of employees [129]. Forward-looking divestment thinkers might identify these industries as clear targets for future divestment movements.

To revisit the discussion of university campuses, to where the fossil fuel divestment movement began, we note that university endowments are tied to the capitalist growth paradigm [24]. Brown et al. assert that the growth rate of most endowments has far exceeded university expenditures in recent decades, turning endowments into purely a symbol of status and prestige [130]. Future student-led divestment campaigns might confront this by turning to non-extractive community reinvestment by advocating for institutions to invest in community credit unions, community banks, or loan funds that work to reallocate capital directly into community initiatives. Some institutions have made deposits to Community Development Financial Institutions (CDFIs) through annual operating budgets [131], but some campaigns are pushing schools to invest a percentage of their endowed funds into CDFIs. This will likely require future efforts to explore the limits of fiduciary duty. In the United States, the Uniform Prudent Management of Institutional Funds Act outlines that the management of university endowments should reflect the entity's mission, and that mission goals can be integrated into management strategy [132,133]. As a starting point, divestment activists might consider campaigning for reforms to academic missions that prioritize the well-being of local communities.

The Socially Responsible Investing (SRI) movement has already led to changes in the application of fiduciary duty [134]. Traditionally, fiduciary duty called for maximizing profits and the consideration of noneconomic factors was discouraged [134]. Due to the SRI movement, noneconomic factors have played an increasingly important role, particularly due to the risks and uncertainties associated with environmental harm and political unrest [134]. As offshoots of the fossil fuel divestment moment proliferate, greater risks of this sort will be associated with industries that are now seen as prudent ESG investments (i.e. mining companies, technology firms), thus pushing SRI considerations in a more ambitious direction.

On a regional scale, cities and regions have begun to reinvest funds into public green development banks with clear mandates to support local communities and infrastructure and build a low carbon, non-extractive economy [55]. Establishing or investing in institutions that practice concessionary lending will be a superior way to channel funds to small community ventures [55]. One prominent example is Seed Commons, a national network of loan funds in the United States that has a mandate to "channel investment to marginalized communities that have faced the brunt of the extractive economy, deindustrialization, and systemic discrimination" [135]. Seed Commons practices concessionary lending in which the cost of capital is consistently less than or equal to 50% of profits [136]. Non-extractive community reinvestment can challenge growth paradigms by permitting lower returns while increasing community well-being through the redistribution of capital, and universities could be ideal candidates to begin investing endowed funds into this type of community lending institution.

7. Conclusion and Discussion

This study builds on existing divestment literature by extending the 'three wave' model of Ansar et al (2013) and Strauch et al (2020), working to conceptualize fourth and fifth divestment waves which aim towards the managed decline of fossil fuel resources and resource extractivism in general. This study also builds on the broader literature of post-growth and pluriversal movements by recognizing the potential role of divestment in scaling down ecologically destructive industries and moving towards a steady state global economy. In so doing, this study contributes to the existing research on climate and energy justice, political ecology, and decolonization by advocating for divestment activists and researchers to problematize resource extraction in general, rather than focusing on greenhouse gas emissions, in a way that holistically addresses the root causes of both environmental degradation and (neo-)colonial violence. By working in solidarity with campaigns for mining justice, anti-consumerism, debt abolition, Indigenous sovereignty, and economic democracy, divestment activists can use divestment as a bridge towards alternative economies that focus on the well-being of environments and communities.

We consequently put forth a research agenda to predict the shape of future divestment campaigns and identify synergies between fossil fuel divestment and other social justice movements. Researchers can explore how the definition of fiduciary duty is evolving to encompass more non-economic factors, and how this changing definition will affect divestment decisions in the future. More research is also required to understand the linkages between the reputational costs and financial costs that firms face as a result of public anti-extractive campaigns, to better comprehend how public outrage against polluters and rights violators can be wielded to move markets. As divestment has historically focused on actions from private sector actors, future research is necessary to better comprehend how divestment can be employed in ways that support and reinforce movements for public finance, green public banking, community wealth-building, and other economic models which lie outside the realm of traditional financial markets.

The rapid success of the fossil fuel divestment movement, coupled with the accelerating pace of the low carbon transition, indicates that the managed decline of fossil fuel production is increasingly being viewed as both necessary and feasible. As fossil fuel divestment becomes more mainstream, there is increasing room for divestment to be used in a wider diversity of contexts. As an inherently political tool, divestment can be a powerful campaign in the environmental justice movement by applying pressure to large institutional investors and companies, stigmatizing polluting industries, and generating public opposition to 'fossil hegemony' and other forms of corporate dominance. As such, divestment should occupy a central place in the toolkit of techniques that aim towards a post-extractive, post-growth future that remains within planetary boundaries.

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