

Predicting the fossil fuel divestment decisions of Canadian post-secondary educational institutions

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**Submitted to the Institute of Environment in partial requirement for the degree of M.Sc.
Environmental Sustainability**

University of Ottawa

Abstract

This report provides an analysis of the fossil fuel divestment campaign and its impacts on Canadian post-secondary institutions. Based on the divestment decisions of 22 Canadian post-secondary educational institutions, we illuminate institutional attributes that are associated with a divestment campaign and decision. We also collected divestment press releases and news reports and characterized the rationales, and alternative actions into distinctive types. The results bear important implications for increasing our understanding of higher education endowment fund management.

Key Words: divestment; endowment; environmental, social, governance (ESG) criteria; fossil fuels; responsible investing; stranded assets

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Introduction

Background

It is widely recognized that anthropogenic loading of greenhouse gases to the atmosphere will cause further warming on the Earth and that warming above 2°C, relative to the pre-industrial period, could lead to catastrophic economic and social consequences. The projected effects of global warming above the 2°C threshold include species extinction, increasingly severe droughts and storms, increased health risks from heat extremes and changing disease vectors, and risks to water availability and food production (IPCC 2014). The global recognition of these risks is evident from the Paris Agreement, where 195 countries agreed to strengthen the global response to the threat of climate change by “holding the increase in the global average temperature to well below this 2°C benchmark and to pursue efforts to limit rising temperature to 1.5°C above pre-industrial levels” (UNFCCC, 2015; IPCC, 2014)

According to the IPCC, cumulative CO₂ emissions must stay below a certain threshold, if we are to meet this ambitious target, and prevent catastrophic climate change. Coal, gas, and oil are responsible for the majority of climate warming carbon dioxide emissions (IPCC, 2014). According to McGlade and Ekins (2015), 18% of coal, 51% of gas, and 67% oil reserves can be burned while staying within the 2°C warming limit. That means that most of the coal reserves (82%) and a large portion of gas and oil reserves (49% and 33%, respectively) are incompatible with 2°C warming limit. Stranded asset theory (Ansar et al. 2013) suggests that changes in regulation and technological innovation in response to climate risk will cause carbon assets to lose economic value before the end of their expected life (Briand et al. 2015) due to one or more realized risks. Such risks: environmental challenges like climate change and water constraints; changing resource landscapes; new government regulations such as carbon pricing and air pollution regulation; falling costs for clean technology, particularly solar PV and onshore wind; evolving social norms such as the fossil fuel divestment and consumer behaviour; and litigation and changing statutory interpretations (Ansar et al. 2013).

Technological innovation in areas such as renewables, electricity storage and enhanced oil recovery are factors that may increase the risk of stranded assets. The costs of renewable energy have substantially decreased over time (HSBC, 2015) and will likely continue to do so, and in some regions onshore wind and solar prices are now competitive with fossil fuels Baron and Fischer (2015). Offshore wind remains more expensive than coal or gas fired power on average, although, its costs are coming down due to the technological advances in the size of turbines, cables, and offshore substations. Likewise, solar prices have substantially fallen, from approximately \$225/Mwh in 2011 to \$125/Mwh in 2013 HSCB (BNEF, 2014).

Moreover, the advancement in battery technology, particularly the efficient use of lithium or aluminum battery technology, has the potential to solve the current problem with electric vehicles; expensive and bulky batteries. Overcoming this obstacle would take a substantial market share from petroleum-based engines and significantly change the demand profile for oil, particularly in the transport sector which currently uses oil for 95% of its energy (HSBC, 2015). This advancement would also allow these batteries to store energy as needed and would enhance the growth of renewables.

Over the past two decades, regulatory risks to pollution intensive companies have also increased. While coal faces immediate regulatory risks through the closing of power stations and smelters in China, in the long-term, the use of oil in transport may become subject to more health driven regulation related to the large emissions of pollutants, in particular sulphur oxides and particulate matter. Shipping regulations designed to reduce sulphur and nitrogen oxides and particulate matter in city areas and populated shipping channels is already being introduced (HSBC, 2015). Other non-expected events, like oil spills and explosions that cause loss of life, can result in more regulations and/or stricter regulations. HSBC predicts that new climate change regulation will continue to have restraining effects on pollution intensive projects, such as the capping of emissions, emissions trading schemes, or the increasing cost of emissions through taxes that will make pollution intensive projects less economically desirable. Additional economic risks for the fossil fuel industry include increases in the cost of production, greater taxes on earnings, and/or the removal of subsidies (HSBC, 2015).

Perhaps the most significant stranding risk concerns the fall in oil prices (HSBC, 2015). With lower prices, businesses must make a decision to either continue to operate in hope of recovery, or cut losses and shut down facilities. The abilities to withstand the depression depend on the type of producer and diversification of reserves across the cost curve. Assets become economically stranded when businesses decide to not produce a proven reserve or to cease productions. Whether assets are stranded permanently or only in the short term depend on the cost benefit analysis of preserving the production of a facility without using it to produce versus abandonment.

Fossil Fuel Divestment Movement

The Fossil Fuel Divestment Campaign

Divestment has been proposed as one solution to mitigate the risks to investors from stranded assets. The economic rationale behind divestment is that it reduces the demand for equities and bonds of a company which increases their cost of capital and ultimately limits their ability to finance expensive projects that would otherwise lead to further extraction of carbon (HSBC, 2015). Generally speaking, divestment is a socially motivated activity of private wealth owners, either individuals or groups, such as university endowments, public pension funds, or their appointed asset managers, and is about withdrawing or withholding financial investment in firms that are engaged in a socially problematic activity (Ansar et al. 2013b).

Divestment campaigns tend to evolve over three waves. The first wave begins with a primary group of investors and multilateral institutions divesting from a target industry. The amounts divested in the first wave tend to be very small; it creates widespread public awareness on the issue. In the second wave, research has credited divestment by prominent American universities as signaling a tipping point (Ansar, 2013), which paves the way for other universities (in the US and abroad), cities and select public institutions to also divest (Ansar, 2013). In the third wave, the divestment campaign goes global and begins to target very large pension funds and market norms, such as through the establishment of social responsible investment funds.

Divestment from fossil fuels is principally driven by the Go Fossil Free campaign, organized by the international environmental organization, 350.Org. The campaign argues that it is unethical to profit from

activities that are responsible for climate change, and encourages investors to immediately freeze any new investment in fossil fuel companies, and to divest from direct ownership and any funds that include fossil fuel public equities and corporate bonds within five years (Baron and Fischer, 2015) because of the carbon emissions embedded in their reserves and their political influence (Ritchie and Dowlatabadi, 2015a). The global fossil fuel divestment campaign has three principal objectives (Ansar 2013a). The objectives: to ensure transparency with regard to carbon exposure of fossil fuel companies and pressure governments to restrict fossil fuel extraction; to pressure fossil fuel companies to undergo transformative change by switching to less carbon intensive forms of energy supply; and to pressure government to enact legislation as a ban on further drilling or a price on carbon.

The fossil fuel divestment movement gained momentum when a group of students launched a coordinated series of divestment efforts on post-educational institutions in the US. Since then, students, alumni, and professors launched sit-ins, rallies, and occupations of administration offices on campuses around the world, seeking to convince the institutions to divest their endowment funds from fossil fuel companies (Arabella, 2015). The movement has grown beyond universities to include faith organizations, environmental NGOs, municipalities, and the private sector.

Responsible Investment

The movement gained more momentum as the moral arguments of the student divestment campaign converged with an increasing financial risk associated with investments in fossil fuels. Increasingly climate change risk is being recognized as a major issue for some responsible investors (Briand et al 2015), with pension funds and insurance companies representing the largest sectors committing to divest from fossil fuel (Arabella, 2016) in some manner.

Responsible investment is variously referred to as socially responsible investing (SRI), ethical investing, sustainable investing, triple-bottom-line investing, or green investing. Responsible investing is an investment strategy which seeks to generate both financial and sustainable value by considering a set of Environmental, Social Governance (ESG) criteria. ESG criteria are a set of standards for a company's operations that investors use to screen investments that are based on how a company performs¹ both financially and ethically.

The environmental criteria considers a company's stewardship of the natural environment by assessing energy use, waste, pollution, natural resource conservation and animal treatment, while also evaluating which environmental risks might affect a company's income and how the company is managing those risks. For example, some companies may have environmental risks if it owns a contaminated land, disposes hazardous waste, manages toxic emissions, or is in compliance with environmental regulations².

The social criteria are a consideration of the company's business relationships. For example, an investor may evaluate whether a company works with other businesses that hold the same values, show a high regard for its employees' health and safety, donate profits to the community, or performs volunteer work.

¹ Investopedia. <https://www.investopedia.com/terms/e/environmental-social-and-governance-esg-criteria.asp>

² Ibid.

With respect to the ESG governance criteria, investors want to know that a company uses accurate transparent accounting, methods, stockholders can vote on important issues, avoid conflicts of interest in their choice of board members, avoid companies that engage in illegal behaviour or use political contributions to obtain favourable treatment.

Institutions are implementing ESG practices through their responsible investing policies (Hebb, 2016) and/or by becoming signatories of the United Nations-supported Principles for Responsible Investment (UN PRI). The UN PRI is an international network of investors working together to implement a set of six principles that provides a global standard for responsible investing in relation to ESG considerations. The six principles include:

- (1) incorporate ESG issues into investment analysis and decision-making processes;
- (2) incorporate ESG issues into our ownership policies and practices;
- (3) seek appropriate disclosure on ESG issues by the entities in which we invest;
- (4) promote acceptance and implementation of the Principles within the investment industry;
- (5) enhance our effectiveness in implementing the principles;
- (6) report on activities and progress towards implementing the Principles.

UN PRI is based on monitoring ESG factors, engaging with companies as shareholder and collaborating with other investors to exchange information. Signatories must sign a declaration on a company letterhead committing to the six principles. The principles are considered aspirational, and organizations can become signatories as long as they are working toward the principles. Under the UN PRI, ESG considerations should be incorporated where consistent with the institutions fiduciary duty, which suggests financial metrics are still the primary consideration over any ethical concerns about investments (MUPAC, 2016).

Pros and Cons of Fossil Fuel Divestment

The divestment approach as a solution to mitigate carbon bubble risk ignores the short-term financial risks of deviating from market norms in favour of long-term considerations (Briand et al. 2015). This view is criticized by Ritchie and Dowlatabadi (2014) because the re-investment of the divested funds places money back into an economy that is structured around high emissions throughout the supply chain as fossil fuels provide 87% of commercial energy, including the renewable energy sector which relies of combustion of fossil fuels for manufacturing, transporting, and installing wind turbines and solar panels Ritchie and Dowlatabadi (2014). Reinvesting in renewable energy equities will do little to reduce carbon exposure of a financial portfolio: Ritchie and Dowlatabadi, (2015a) found that under stringent carbon policy, many firms outside of the energy industry would also experience cash flow disruptions including auto manufacturers, agricultural producers, construction, and a wide array of processes used in production and consumption of goods and services would face costs from abating fossil fuel use in their operations; even replacing roughly 10% of University of British Columbia fossil fuel investments with randomly selected renewable energy companies would only reduce the endowment carbon shadow by less than 1%. On the other hand, renewable equities are recognized for not having sufficient capital to conduct normal business operations (Gertler, 2016), therefore, greater investment in this area could directly contribute to developing replacements for fossil fuels (MUPAC, 2016).

The financial case for divestment is that it will reduce a company's supply of capital and impact their bottom lines. Some studies of divestment suggest this economic outcome is conditional on factors such as a relatively high degree of illiquidity in the market (Heinkel et al. 2001; El Ghouli et al. (2001). However, in a reasonably efficient market, like the fossil fuel industry, divestment is predicted to have little effect on a targeted firm's cost of capital as most investors targeted by the campaign are irrelevant when compared to the total oil and gas equity capital and debt (Hebb, 2016), for example, the average US endowment to fossil fuel companies is 2-3% (Ansar et al. 2013). In a market where assets are able to sell quickly, it is presumed that other investors will buy these shares with little impact on the fossil fuel companies targeted, and holdings are likely to find their way to neutral investors that may have less developed corporate engagement toolkits and less willing to pressure companies on environmental issues (Hebb, 2016).

The environmental case for divestment is that it keeps carbon in the ground by targeting publicly listed fossil fuel companies. This view, however, ignores the fact publicly traded fossil fuel companies control less than 30% of world's fossil fuel reserves (Nelson et al. 2014). While the rapid withdrawal of investment from public companies may result in their reserves to be left in the ground, state owned companies have sovereign funds that can continually support extractive activities (Ritchie and Dowlatabadi, 2015b). In this light, the approach of the fossil fuels divestment campaign is not an effective intervention for keeping carbon reserves in the ground

Irrespective of the direct impacts of divestment, fossil fuel divestment campaigners believe that taking a moral stand against the industry can change public opinion, stigmatize the industry, and pressure governments to enact more binding regulation of carbon emissions; in this view, the effectiveness of divestment is more symbolic than trivial (University of Toronto brief, 2015). Almost every divestment campaign reviewed by Ansar (2013) was successful in lobbying for restrictive legislation affecting stigmatised firms. The stigmatization process could impact fossil fuel lending by limiting access to debt markets by influencing major banks or multilateral institutions (Cleveland, 2015). In 2014 the World Bank turned its energy finance from coal to renewable energy, citing that the decision was in part, driven by the dialogue generated by divestment campaigns (Ritchie and Dowlatabadi, 2015a).

The responsible investor community tends to prefer the reweighting approach (Hebb, 2016), which seeks to measure and reduce portfolio exposure to carbon by shifting investment away from companies or sectors associated with high carbon emissions (Briand et al. 2015). By reweighting portfolios investors send a clear signal to the market of future change while maintaining portfolio diversification. This strategy, practiced continually in the long run, may reduce the risk of high emission stocks underperforming from future and unforeseen changes in environmental regulations, technological changes or market forces (Briand et al. 2015). In shorter time periods, however, the low carbon portfolio may underperform a traditional broad equity portfolio because of differences in their weighting strategy. For example, a portfolio that is underweight in energy stocks may cause underperformance relative to the benchmark when energy sectors outperforms the market, and thus could be considered sub-optimal (Briand et al. 2015).

This Study

Institutional commitments to the fossil fuel divestment campaign span a range of responses. At one end of the spectrum an institution may decide to reject divestment in any form whatsoever. At the other end of the decision spectrum is so-called full divestment, where the institution makes a binding commitment to divest from any fossil fuel company (coal, oil, natural gas). Alternatively, institutions may choose to partially divest, and make a binding commitment to divest from asset classes like coal and oil sands only, recognizing the higher carbon emissions these fuels create compared to conventional oil and natural gas.³ On the other hand, some investors may prefer a gradual shift of their portfolio towards less carbon holdings. Re-weighting a portfolio may include diminishment to x%, targeted divestment, creating a separate low carbon or fossil free fund from the main fund; also known as parallel investing, or monitoring ESG performance and selecting better performers; otherwise known as positive screening/best-in-class performance (MUPAC, 2016). Alternatively, institutions may decide not to invest any more in fossil fuel companies (while retaining existing investments), as oppose to getting rid of current holdings.

Understanding the attributes of institutions that predict the outcome of decision is important information, particularly, for donors, as these factors, in part, may influence the way fund managers invest donations. Some institutions, based on their attributes may be, more or less, susceptible to a particular form of investment style as a result of the divestment campaign. Tracking the effect of divestment today and in the future is important as the phenomenon gains importance and diversity, with a growing number of institutional investors taking part (Baron and Fischer, 2015).

In this study, we assess the Fossil Free Divestment Campaign that spread across Canadian post-secondary institutions and the resulting divestment decisions. We use a limited set of institutional attributes to predict the occurrence of a fossil free divestment campaigns and the outcome of the divestment decisions. Finally, we characterize the divestment decisions, rationales, and other actions to understand the potential effect of the divestment movement on Canadian post-secondary institutions.

Study Objectives

The objectives of this study were:

- (1) To identify institutional attributes that predict a divestment campaign, decision, and creation of a sustainability fund;
- (2) To characterize the divestment decision and rationale, and the alternative actions into distinctive categories.

Attribute Selection

The Sustainability Tracking Assessment and Rating System (STARS) is a transparent self-reporting framework for colleges and universities to measure their sustainability performance. STARS encompass long-term sustainability goals for already high-achieving institutions as well as entry points of recognition

³ Fossil Free. <https://gofossilfree.org/divestment-commitments-classifications/>

for institutions that are taking first steps toward sustainability.⁴ Institutions participating in STARS are used in this study to broadly differentiate sustainability oriented schools from those that are not, and to explore the effect of this attribute on divestment campaign and decision.

Only since April 2014 has more high profile institutions committed to fossil fuel divestment (e.g. Pitzer College, the San Francisco State University Foundation (SFSU), Stanford University). As more prestigious colleges with larger endowments join those who have divested, (Grady-Benson and Sarathy, 2015) have predicted that other institutions may follow suit. In vein of Grady-Benson and Sarathy (2015) prediction, we hypothesize that school size will be predictor of divestment campaign and decision. Numbers for full-time student enrollment and faculty composition were included in this study to provide some measure of school size and type, whereas endowment size was used as a financial indicator of size. We predict that smaller endowment size will increase the likelihood of a full divestment decision, as was seen by Hebb (2016) whereby the majority of divestment commitments made by US schools had small endowment sizes (approximately less than \$65 million).

Evaluating the effect of investment policies that systematically consider ESG criteria on divestment decision is of interest as Hebb (2016) found that schools committed to divestment did not have an existing SRI policy in place prior to the divestment campaign. We predict that systematic considerations of ESG will influence the divestment decisions. Hebb (2016) also did not observe a geographic pattern among universities in the US, while internationally, committed schools are concentrated in UK/Europe and Australia/NZ. To determine if there is a geographic pattern in Canada, we evaluate whether metropolitan areas and/or Canadian regions are associated with the divestment campaign and/or decision.

Methods

Data Collection

Canadian Post-Secondary Educational Institutions

The study sample includes 96 Canadian post-secondary educational institutions from across Canada. Each institution is a member of Universities Canada (UC), formerly known as the Association of Universities and Colleges of Canada (AUCC). These schools were included in this study, in part, because members of Universities Canada are widespread across the nation, including all provinces, data on their institutional attributes were readily available from other sources, and it provided a sufficient sample size for analysis.

Institutional attributes were collected from various sources. Data on the number of enrolled students and employees by faculty were provided by Universities Canada⁵ the Canadian Association of University Teachers (CAUT). Missing student enrolment data were found either by collecting the numbers from the school's website directly, or from the search hits of Google using the search string "institution name" + "student enrollment". There were several instances where this information was not obtained. CAUT also provided numbers on full-time faculty composition for 45 institutions which made it the primary limiting

⁴ STARS. <https://stars.aashe.org/pages/about/stars-overview.html>.

⁵ Universities Canada. <https://www.univcan.ca/universities/facts-and-stats/enrolment-by-university/>.

variable of the analysis. Numbers of full time employees in each faculty/department were provided by CAUT and aggregated into four faculty classes on the basis of program content (Table 1).

Table 1. The faculties and departments provided by CAUT that were aggregated to 4 faculty classes.

Faculty Class	Faculties and Departments
Arts	<ul style="list-style-type: none"> • Humanities; • Social and Behavioural Sciences, and Law; • Visual and Performing Arts, and Communications Technologies
Technical	<ul style="list-style-type: none"> • Agriculture, Natural Resources and Conservation; • Architecture, Engineering and Related Technologies; • Physical and Life Sciences, and Technologies; • Mathematics, Computer and Information Sciences
Business	<ul style="list-style-type: none"> • Business, Management and Public Administration
Other	<ul style="list-style-type: none"> • Personal, Protective and Transportation Services; • Health, Parks, Recreation and Fitness; • Education

The secondary limiting variable was endowment size. The majority of UC schools endowment sizes (net asset balances, end of year) were obtained from the CAUBO report 2016. Missing endowment information was collected from various sources (Wikipedia, financial statements, and online sources) using the google search string: "school name" + endowment size. Only 35 of the 45 schools with faculty compositions had endowment sizes obtainable in the CAUBO 2016 report: for these schools, missing endowment information was gathered from Maclean's 2012 report⁶, Wikipedia, and financial statements, which dated between 2008 and 2017.

Institutions located within a census metropolitan were identified from Statistics Canada census metropolitan area data (Statistics Canada, 2011). Statistics Canada defines a census metropolitan area (CMA) as an area consisting of one or more adjacent municipalities situated around a major urban core. To form a CMA, the metropolitan area must have a population of at least 100,000, at least half within the urban core. To be included in the CMA, adjacent municipalities must have a high degree of

⁶ Dehaas. Josh. Maclean's. <http://www.macleans.ca/education/university/see-the-size-of-your-universitys-endowment/>.

integration with the core, as measured by commuter flows derived from census data (Statistics Canada, 2007).

Institutions located in the Atlantic, Central, Prairie, or Pacific regions of Canada were identified based on province. The regions were defined as *Atlantic*: Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick; *Central*: Quebec and Ontario; *Prairies*: Manitoba, Saskatchewan, Alberta; *Pacific*: British Columbia. There were no schools from the northern region (Northwest Territories, Nunavut, and Yukon).

The investment policies of the institutions that made a divestment decision were also assessed to evaluate the degree to which these policies reflect ESG criteria. Any statement related to ESG factors was extracted, verbatim, and stored within the divestment decision matrix. The variation in ESG statements was classified into three levels: policies that, more or less, systematically consider ESG within investment analysis; policies that make reference to the UN PRI; and policies that merely consider ESG on an ad hoc, rather than systematic, basis. Institutions that are signatories of the UN PRI⁷ or participants of STARS⁸ were identified from the organizations' respective website.

Divestment Campaigns and Decisions

Many campaigns were identified from Fossil Free Canada website⁹; however, we increased our divestment campaign search effort by conducting Google searches using the search string: "Institution name" + "Divest" + "Campaign" + "Fossil Fuel", for each school. Additional evidence of a fossil fuel divestment campaign was collected from a variety of online news sources within the Google Search hits. Google searches were also conducted using a combination of search strings to gather evidence of a divestment decision made by an institution. Search strings included: "University name" + divest + "fossil fuel"; "University name" + divest + "fossil fuel" + Board Governors; "University name" + divest + "fossil fuel" + minutes. The Investment policies of the institutions were acquired from the school's website, or from the google search hits using the search string: "Institution name" + "Policy" + "Investment"; "Institution name" + "Policy" + "Responsible Investing"; and "Institution name" + "Policy" + "ESG". Unless information was found before the 10th search page from the search hits produced by the search strings, divestment campaign and/or decision was considered as missing information.

Divestment decisions were extracted, verbatim, from Board of governors' media releases, meeting minutes, news articles from the institution itself, and/or other online articles, and investment policies. Through these methods, a divestment decision matrix was synthesized to represent the attributes of the divestment decision for each of the 22 institutions. The first column of the matrix contains all the universities that made a divestment decisions. The second and third column contains the verbatim text of the rationales, and alternative actions, respectively. The columns that follow are the categories that were developed to characterize the related rationale (those that support divestment and those that did not) and alternative actions of the institutions, see results, table 5 and 6 for the list and description these categories.

⁷ UN PRI. <https://www.unpri.org/signatories>.

⁸ STARS. <https://stars.aashe.org/institutions/participants-and-reports/>.

⁹ Fossil Free Canada. <https://campaigns.gofossilfree.org/partnerships/fossil-free-canada>.

Divestment decisions were categorized as full, partial, or rejected. Full divestment was defined as an investment commitment to be fossil-free. For the purpose of this study, partial divestment included the following forms: partial divestment, diminishment to x%, targeted divestment, portfolio tilting, and creation of a separate “sustainability” fund, or institutions that are pursuing or updating their SRI policies as a result of their divestment decision. Some of the institutions that rejected divestment did so explicitly. Institutions with ESG statements in their investment policies that rejected full divestment, but did not increase or update their ESG consideration in their divestment decision statements, were characterized as rejecting divestment.

Statistical analysis

We used logistic regression to explore correlates of whether an institution had a divestment campaign (Y/N), the nature of the divestment decision (Y/N, with Y including both full and partial divestment), and the commitment to create a sustainability fund (Y/N).

Potential predictor variables are given in Table 2. Values for all variables were not available for all institutions (Table 2). As numbers of full-time faculty in the 4 classes are positively correlated, we extracted the first two principle components for the subsample of institutions for which faculty data were available, and used these components as candidate predictors (PC1 and PC2).

Table 2. The variables and sample size for each subsample employed in the analysis of divestment campaign, divestment decision, and the creation of separate Socially Responsible Investment (SRI) fund.

Analysis		Variables						Sample Size
Campaign	STARS	CMA	Regions					N=99
	STARS	CMA	Regions	Student enrollment	Endowment size			N=78
	STARS	CMA	Regions	Student enrollment	Endowment size	PC1	PC2	N=42
Decision			Regions	Student enrollment	Endowment size			N=22
Separate SRI fund			Regions	Student enrollment	Endowment size			N=32

Institutions were also evaluated as to whether they were in a census metropolitan area (Y/N). Finally, institutions investment policies were assessed as to whether they systematically consider ESG criteria (Y/N). Beginning with a null model, variables were added individually and retained on the basis of their contribution to model fit, with the residual deviance and AIC employed to guide model selection. Institutions that were in the process of making a divestment decision were included in the analysis of a separate sustainability fund because in several such cases, a decision was made to create a sustainability fund prior to any decision on divestment.

Table 3. Predictor variable classification and description.

Predictor variables	Levels of measurement	Ranges and Levels
Log10 Endowment Size	Interval	Continuous Range = 4.20
Log10Student Enrollment	Interval	Continuous Range = 2.28
Number of full-time academic faculty in each of 4 units: technical, arts, business, others	Ratio	Discrete Range _{Arts} = 462 Range _{Technical} = 513 Range _{Business} = 231 Range _{Other} = 333
ESG	Ordinal	Discrete An ESG score of 1 was for investment policies that did not have an ESG based investing statement; a score of 2 was for investment policies that make simple reference to ESG factors without systematically considering it; a score of 3 was for investment policies that systematically consider ESG; a score of 4 was for policies that made explicit reference to the UN PRI.
Canadian regions (excluding the North)	Categorical	Level ₁ = Atlantic Level ₂ = Central Level ₃ = Prairies Level ₄ = Pacific

Results

Principal Component analysis of full-time faculty

PC1 loaded negatively on all 4 variables, explained 83% of the total variation in the sample, and is interpreted as a generalized index of the size (in terms of full-time faculty) of the institution. PC2 loaded negatively on the commerce and other faculties, and positively on arts and technical, explained 92% of the total variation in the sample and is interpreted as contrast between the faculty compositions of the schools (arts, technical, business, Other). Hence, institutions with a large negative PC2 are those with greater than average faculty numbers in the Arts and Technical classes, and smaller than average faculty numbers in Business and Other. By contrast, institutions with positive PC2 scores are those with greater than average business and other classes, and smaller than average faculty numbers in Arts and technical (Figure 1).

Table 4. Principal component loadings of log10 endowment size for the faculty classes

Faculty Class	First Principle Component (PC1)	Second Principle Component (PC2)
Arts	-0.50	0.54
Technical	-0.49	0.36
Business	-0.49	-0.74
Other	-0.52	-0.17

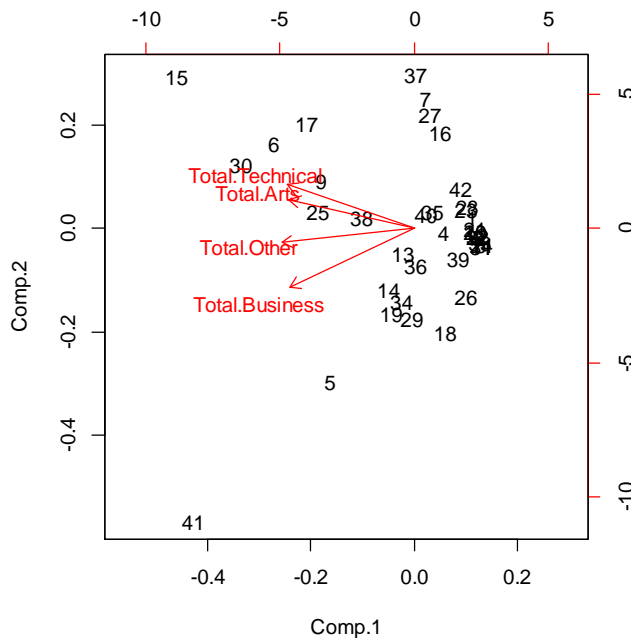


Figure 1. Principle component analysis biplot of PC1 vs. PC2

Correlates of divestment campaigns and decisions

Of the 96 Canadian educational institutions in the sample, 39 had a divestment campaign. Members of STAR were more likely to have a divestment campaign than non-members ($n = 99$, $\beta = 1.53 \pm 0.44$, $p = 0.0041$, Null Deviance 134.96, Residual Deviance 121.85, AIC = 125.85; Fig. 2). Similar effects were detected in other subsamples of campaign through simply binary regression but were not retained in the final models.

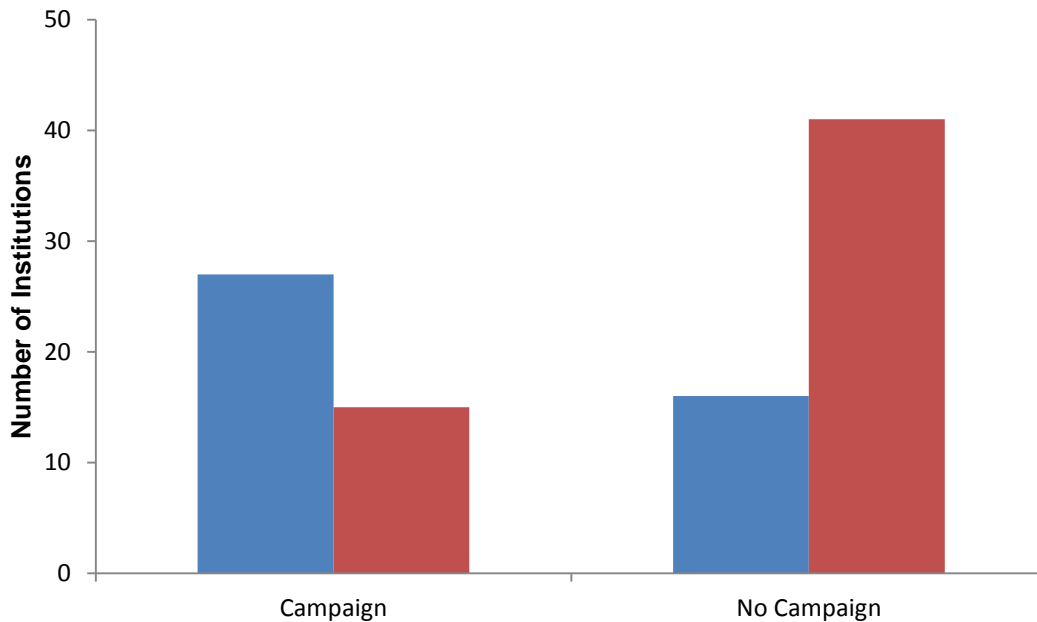


Figure 2. Number of institutions that are participants (blue bars) and non-participants (red bars) of STARS in relation to having a divestment campaign. Three non UC schools were included in this analysis.

The presence of a divestment campaign showed positive associations with both log₁₀ endowment size ($\beta = 1.00 \pm 0.42$, $p = 0.018$) and log₁₀ student enrolment ($\beta = 1.49 \pm 0.6302$, $p = 0.018$), $df = 77$, null deviance = 108.13, residual deviance = 78.20, AIC = 84.2; Fig. 3 and 4. However, for the sample of 42 schools with faculty numbers as well as student enrolment and endowment size, $df = 41$, null deviance = 58.13, residual deviance = 30.22, AIC = 38.2, the presence of a campaign was positively correlated with log₁₀ endowment size ($\beta = 2.20 \pm 1.00$, $p = 0.028$) and PC2 ($\beta = 2.15 \pm 1.21$, $p = 0.075$) and negatively correlated with PC1 ($\beta = -0.90 \pm 0.47$, $p = 0.059$). Thus, larger institutions with a larger than average arts faculty (i.e. liberal arts schools) are more likely to have had a campaign than smaller institutions and those with large business schools. The Principle Component Analysis on the log transformed data of the faculty sizes revealed that the first component loaded negatively on all four variables (Technical, Arts, Business, and Other) to the same degree; the larger the PC1 is in the negative direction, the larger the schools; hence the negative coefficient.

When STARS is added in the model with endowment size and campaign (N = 78), the model's AIC increases by approximately 1 unit ($\beta = -0.45 \pm 0.65$, $p = 0.48$). Similar results emerge when STARS is added to the model from the third subsample of campaign (N = 42). Hence, the other variables are stronger predictors of campaign.

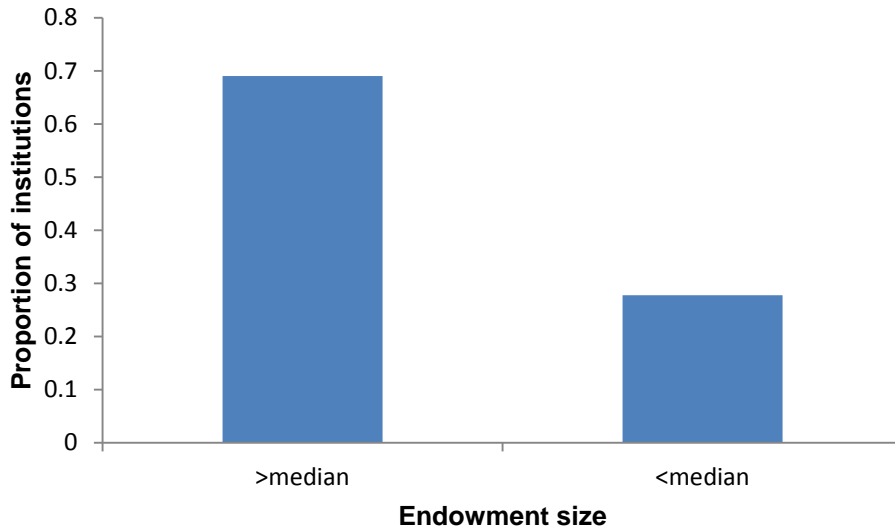


Figure 3. Proportion of institutions having a divestment campaign in relation to the median endowment size of \$34 million (N = 78).

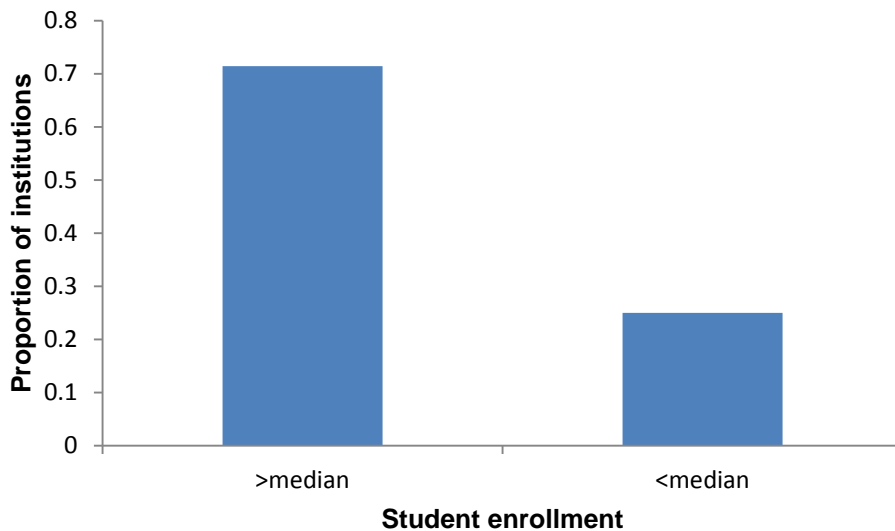


Figure 4. Proportion of institutions having a divestment campaign in relation to the median student enrollment of 8400 students (N = 78).

This analysis was restricted to the N = 22 institutions who had made a divestment decision. Notwithstanding the resulting limited power, marginal associations were detected for ESG ($\beta = 2.26 \pm 1.23, p = 0.066$), CMA ($\beta = 5.14 \pm 3.02, p=0.89$), $df = 21$, **null deviance = 23.58, residual deviance = 11.87, AIC = 17.88**), hence, it would appear that institutions that have some level of policy commitment to ESG and are found in large metropolitan areas are more likely to have taken a complete or partial divestment decision. Simple binary regression detected a marginal association for endowment size ($\beta = -1.08 \pm 0.84, p = 0.20$), $df = 21$, **null deviance=23.58, residual deviance 21.40, AIC=25.40**, such that institutions with larger endowments are more likely to reject divestment, despite the lack of significance.

For the sample of 32 institutions that made or are in progress of making a divestment decision, a marginal association was detected for ESG ($\beta = 0.74 \pm 0.44, p=0.090$), $df = 31$, **null deviance = 38.02, Residual deviance = 34.37, AIC = 38.37**); hence, it would also appear that institutions that have some level of commitment to ESG are more likely to create a separate sustainability fund. No other predictor variables were detected to have had an effect on the creation of a separate sustainability in this sample.

Descriptive Results

Over the set of 22 divestment decisions; 3 institutions committed to full divestment, 14 partially divested, 5 rejected, and 10 are still in progress of making a decision. The list of rationale categories is provided in table 5.

Table 5. Rationale types for (shaded) and against (non-shaded) divestment.

Rationale	Description
Ethical	Refers to values of sustainability and social justice as a reason to divest from fossil fuels (Hebb, 2016).
Leadership	Refers to institutional leadership on sustainability as a reason to divest from fossil fuels (Hebb 2016).
Existing SRI Policy	Refers to the justification of divestment based on policy (i.e. makes direct reference to divesting from fossil fuels in investment policies.)
Social Injury	Refers to divestment decisions that claim fossil fuels do not cause social injury or the existence of social injury criteria was not established, as a reason not to divest.
Funding from fossil fuel industry	Refers to institution receives direct or indirect funding from the fossil fuel industry (e.g. alludes to having close ties to the industry or receives donations from a third party (e.g. government, a wealthy family, business/industry) associated with fossil fuels as a reason to not divest.
Policy Criteria	Refers to the refusal of a divestment decisions based on the framework of the institutions investment policy. Some investment policies consider divestment

only if certain criteria are met, whereas, other policies do not recommend negative screening (i.e. divestment). Other institutions consider fossil fuel investment within the framework of ESG factors. Also refers to policies that explicitly state they will not divest from fossil fuels.

Fiduciary duty to ESG	Refers to the perceived fiduciary responsibility of the institution on ESG factors as a reason not to divest.
Costs	Refers to the direct costs of divestment including, change to investment management approach and selling/purchasing shares.
Risks	Refer to loss to investment returns of portfolio due to removing fossil fuel sector from investment options (Hebb, 2016) or the risk of losing portfolio diversification, as a reason not to divest.
Not effective	Refers to the presumed truth of the claim that there is little evidence of the effectiveness of divestment.
Not Right Tool	Refers to direct reference of divestment as not the right tool, or demonstrates a preference towards research, education, or shareholder activism/engagement-advocacy, if specified (Hebb, 2016)
Inconsistent	Refers to the complexity of divestment from fossil fuels and contradictory position of the campaign as a reason not to divest (Hebb, 2016).
little leverage	Refers to small proportion of holdings in fossil fuels, therefore little leverage to influence fossil fuel companies, as a reason not to divest.
Slippery Slope	Refers to institutions that refuse to divest based on the vulnerability of creating a precedent for future divestment demands (Hebb, 2016)

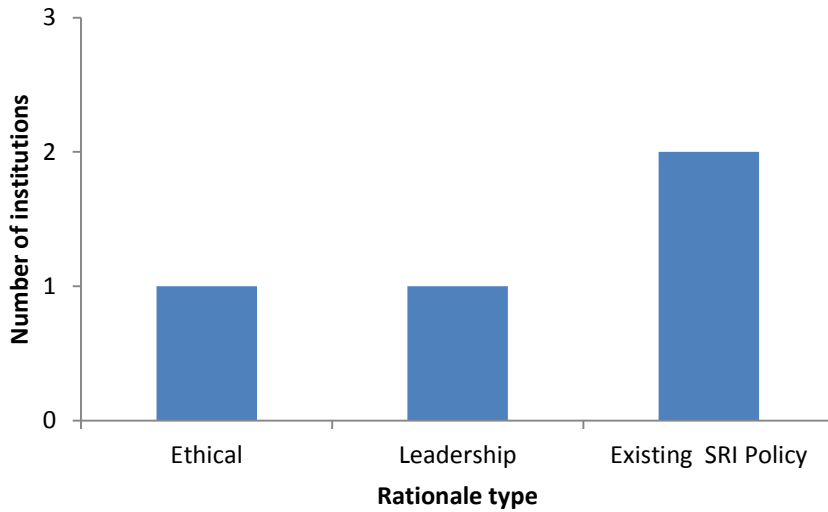


Figure 5. Number of institutions with full divestment commitments in relation to rationale type (N = 3).

Campion College, King’s University of Western, and the University of Laval were the three institutions to make a full divestment decision. The only rationale supporting the University of Laval’s divestment decision was leadership. King’s University College and Campions College’s rationale was supported by their existing SRI policies that explicitly avoid fossil fuel investments. King’s University College commitment is contingent on financial factors, whereas Campion College’s policy is designed to primarily advance an ethical mission; financial gain while important is secondary.

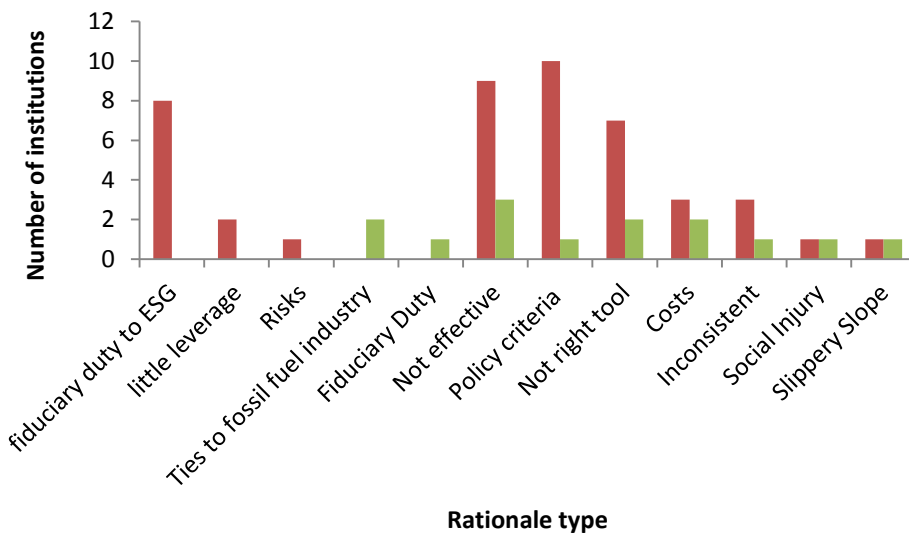


Figure 6. Number of institutions with partial (red bars; N = 14) and no divestment (green bars; N = 5) commitments in relation to rationale type.

The most common rationale cited by the institutions with partial and no divestment commitments was based on the presumed truth of the claim that there is little evidence of the effectiveness of divestment. For 10/14 and 1/5 institutions, their rationale for partial divestment and no divestment, respectively, was considered in the framework of the institutions investment policies, whereby divestment did not meet not meet the investment policy criteria (e.g. divestment policy criteria, policy does not recommend negative screening (i.e. divestment)). For 8/14 institutions, their rationale for partial divestment was based on their perceived fiduciary responsibility on environmental issues.

For 7/14 and 2/5 institutions (partial divestment and no divestment, respectively), their rationale was based on the notion that divestment is not the right tool, defined as the institutions stated preference to research, education, or shareholder activism from the divestment decisions, over divestment. Of these schools, 8 institutions were observed to prefer shareholder activism instead of divestment.

Queens University provided the most number of rationales of the institutions that decided not to divest, these included: social injury, shareholder activism, fiduciary duty, not effective, not the right tool, and inconsistent. For 2/5 institutions (University of Calgary and University of New Brunswick, their rationales for no divestment were based on claims to having close ties to the fossil fuel industry, costs associated with full divestment, not effective, and not the right tool (1/5).

Table 6. Alternative actions characterized by the divestment decisions of 22 Canadian institutions.

Alternative Action	Description
Sustainability Initiatives	Entails increasing the institutions environmental initiatives including research, education, workshops, and committees related to sustainability.
Reduce carbon foot print	Refers the institution reducing carbon usage and greenhouse gas emissions at source (e.g. campus emission reductions)
Pursuing ESG	Making a commitment to update or create a responsible investment/SRI policy. Making a commitment to socially responsible investing UN PRI, developing a relevant statement of ESG based investing as a result of the divestment decision.
Shareholder Activism	Refers to explicit preference for shareholder activism; may be referred to as shareholder engagement or advocacy. Includes schools that claim they did not want to lose moral suasion with companies in the fossil fuels sector.
Separate Sustainability Fund Innovation	Refers to the establishment of a separate fund to allow donors to direct their endowments to environmentally sustainable fund options if they so choose. Refers to institutions that are investing and/or developing alternative forms of renewables, alternative energy, and clean energy.
Responsible Investment Advisory Committee	Refers to the creation of a responsible investment committee to advise fund managers on ESG factors.

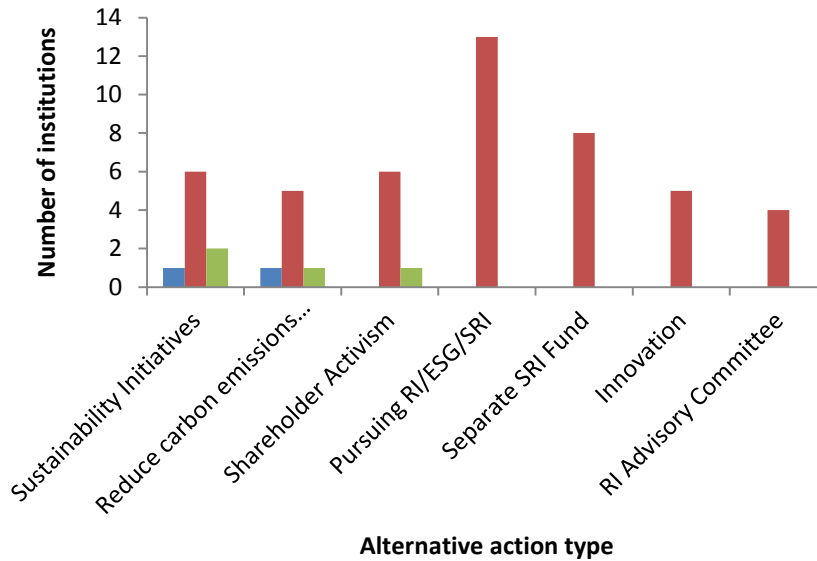


Figure 7. Number of institutions with full (blue bars), partial (red bars) and no (green bars) divestment commitments in relation to alternative action types.

Laval University was the only school to commit to divestment alongside other actions like reducing carbon footprint and increasing sustainability initiatives. Most schools with partial divestment commitments pursued ESG (13/14) and/or created a separate sustainability fund (n=8/14). Some funds were fossil-free, others were termed a sustainability fund or a socially responsible investment fund, and one school (University of Ottawa) created clean innovation research fund. For institutions with no divestment commitment, Queens University committed to reduce its carbon footprint and increase its sustainability initiatives along with the University of Calgary.

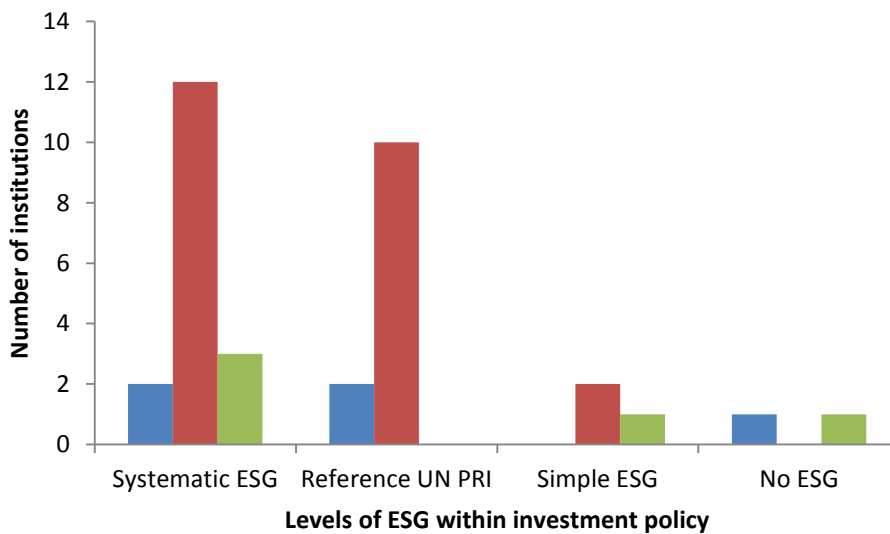


Figure 8. Number of institutions with full (blue bars), partial (red bars) and no (green bars) divestment commitments in relation the level of ESG within investment policies.

For 2/3 institutions with full divestment commitments, their investment policies systematically consider ESG to some degree and reference the UN PRI, whereas the University of Laval made no reference to ESG criteria in its investment policies. All of the partially divested schools include an ESG statement in their investment policies: 12 systematically consider ESG; 10 referenced the UN PRI; and 2 merely consider ESG. For 3/5 institutions that made no commitment to divestment, their investment policies systematically consider ESG to some degree, whereas 1/5 simply considers ESG, and the other makes no reference to ESG criteria in its investment policies.

There were 10 institutions still in progress of making a divestment decision at the time of this report. From this sample, 2 institutions created a sustainability fund, and 3 are exploring the development of ESG requirements for investing.

Discussion

Divestment campaigns and decisions

From each sample size of campaign, we demonstrate STARS membership is associated with a divestment campaign through simple binary regression. The primary correlate of divestment campaign was school size, in terms of endowment size and student/faculty size, whereby larger institutions are more likely to have a campaign. A second, correlate of divestment campaign is faculty composition, whereby liberal art schools are more likely to have a campaign; on the contrary, business schools were less likely to have campaign. Notwithstanding the smaller power within the sample predicting divestment decision, institutions located in census metropolitan areas and those that have some level of commitment to ESG are more likely make a partial or full commitment to divestment. Finally, institutions with ESG commitments are also more likely to create a separate sustainability fund.

The primary rationales for institutions with full divestment commitment are based on ethics and leadership. The most common cited rationales of institutions with partial divestment commitments were based on the notion that there is little evidence of the effectiveness of divestment, fiduciary duty to ESG, policy criteria, not the right tool, and shareholder engagement. Little evidence of effectiveness was also the most common rationale for institutions with no divestment commitment, followed by ties to fossil fuel industry and costs related to divestment.

STARS encompasses institutions that are already recognized as high achieving institutions with respect to sustainability, as well as entry points of recognition for institutions that are taking the first steps.¹⁰ Members of STARS membership, or in other words, schools that are already recognized for environmental stewardship are associated with a divestment campaign. STARS seek to recognize and reward institutions for investment decisions that promote sustainability by providing a publicly available credit score to institutions that: make sustainable investments (i.e. ESG based investing, socially

¹⁰ <https://stars.aashe.org/pages/about/stars-overview.html>

responsible investing, mission-related investment); have committees on investor responsibility; and have investment disclosure (i.e. regularly make their investment holdings publicly available)¹¹.

When the analysis of STARS is based on a different subsample (N=78), including the variables endowment size and student enrollment, STARS is not retained in the model, despite the distribution being relatively similar in the first sample and subsample (43/99 and 40/78, respectively). The comparable distribution between these samples may suggest that statistical power is not overly limited. Therefore STARS is not retained in the main model because the other variables are stronger predictors of campaign within the subsamples.

A commitment to positive social change is a data-supported distinction for many liberal arts schools, (Rest and Narvaez, 1994), and is in accordance with our result that liberal art schools are more likely to have a divestment campaign. On the other hand, the literature argues a lack of moral in the discipline of business of business as it tends to be vocationally oriented (Rest and Narvaez, 1994). Broadly speaking, one could expect that schools with larger business bodies would have a larger endowment size; hence why it is interesting that larger endowment size increases the likelihood of a campaign, while at the same time, schools with larger business bodies are independently less likely to experience a campaign. Consequently, the effects of faculty composition on campaign may not be due to the presence of a liberal arts body, but the comparative absence a business body.

Unlike Grady-Benson and Sarathy (2015) descriptive analysis of the divestment decisions in US higher education that revealed smaller endowments played key roles in decision, we did not detect a significant effect of endowment size on the divestment decision. The lack of significance of endowment size may be due to the lack of variability in the sample of divestment decisions as there were only 4 schools with an endowment size less than \$10M, whereas, the remaining 18 schools had endowment size greater than \$40M. Larger schools are more likely to have a campaign, and virtually all schools in the divestment decision model also had a campaign. Therefore, schools in this sample are less likely to have a smaller endowment size. Nonetheless, the ranges of the endowment sizes with full, partial, and no divestment commitments, \$36M, \$210M and \$790M, respectively, are in accordance with endowment size observation of Grady-Benson and Sarathy (2015).

Broadly speaking, my results suggest that institutions that consider ESG systematically are more likely to commit in some form to divestment, and establish a separate sustainability fund. Ansar (2013) describes the third wave of divestment as targeting large pension funds and market norms. The divestment campaign appears to be in the third wave, as this study demonstrates large endowments and ESG considerations are predictors of campaign and the establishment of a separate SRI fund, respectively.

We detect that schools situated in a census metropolitan area are more likely to make a partial or full divestment commitment. The analysis by Hebb (2016) did not identify a geographic pattern among universities with divestment commitments in the US, whereas international schools with commitments are concentrated in UK/Europe and Australia/NZ. Our result of schools situated in census metropolitan area increasing the probability of a partial or full divestment commitment contributes to a geographic gap in knowledge about the nature of the divestment decision in Canada. People in urban environments tend to

¹¹ <http://www.aashe.org/wp-content/uploads/2017/07/STARS-2.1-Technical-Manual-Administrative-Update-Three.pdf>

be better educated (Cutler and Jenkins, 2002), more liberal (Wasko and O'Neil, 2007), more socially engaged (Mayer, 2015), and more cosmopolitan (Wasko and O'Neil, 2007). On the other hand, the result of metropolitan areas in this study may not have anything to do with divestment because the same pattern could be observed for any liberal social activist movement (Mayer, 2015).

Descriptive Analysis of Divestment Decisions

Committed Divestment Decision

Qualitative analysis of the institutions that fully divested indicates that the decision was based primarily on either (a) desire to show leadership; (b) an ethical or moral stance; and/or (c) SRI policy criteria. The University of Laval displayed leadership by being the first school in Canada to commit to full divestment. Whereas, the Catholic Campion College embraced Pope Francis' encyclical on climate change (Laudato Si, 2015) through its socially and ecologically responsible invest policy that primarily advances Campion College mission; financial gain, while important is secondary. By contrast, King's University College policy aims to divest from all fossil fuel investments so long as there is no significant impact upon financial risk and returns used to support academic activities. Interestingly, King's University College is affiliated with Western University, a university that is still in progress of making a divestment decision.

Partial Divestment Decisions

All of the institutions that provided the rationale that divestment was not the right tool also did not divest on the basis of the claim that divestment is not effective. These institutions, instead of full divestment, committed to alternative actions such as reducing carbon emissions on campus, invest in renewable/alternative energy/clean technology, increase sustainability initiatives, create a sustainable investment fund, and pursue or increase ESG practices.

Most schools are interpreting a fiduciary duty on environmental criteria as a reason for partial divestment. Institutions that argue divesting would breach a fiscal fiduciary duty assume that fossil fuels will continue to be profitable, thereby ignoring or discounting what many perceive as mounting regulatory and demand-related risk (HSBC, 2015; Baron and Fischer (2015) , and may not consider the broader impacts of climate change on all financial investments (MUPAC , 2016). However, views of fiduciary duty are shifting to take a wider set of concerns into account through analyzing non-financial aspects of investments like ESG performance is becoming more common for financial as well as ethical reasons (MUPAC, 2016). A multinational legal review, that included Canada, found that consideration of ESG in investment decisions does not breach fiduciary duty (UNEP, 2005). Additionally, a meta-study of over 2200 empirical studies found that socially responsible stocks either had no difference or slightly better performance in 90% of the conducted studies (Friede et al. 2015). Future financial performance is unknown as many factors including regulation, carbon pricing, and the availability of alternative energy sources would affect future demand for fossil fuels (Ansar, 2013). None the less, the many rationales perceiving fiduciary responsibility on environmental issues reflects the current acknowledgment of the material risks of not considering ESG.

Many Canadian schools are now pursuing or increasing their consideration of ESG factors in their investment policies as a result of their divestment decisions. ESG can be practiced on its own (e.g.

University of Ottawa), or it can be combined with divestment (e.g. University of British Columbia) to allow investors to express dissatisfaction with the ESG practices of a company. Four schools with divestment decisions have policies that combine ESG and divestment. These policies tend to include a list 3 to 5 divestment criteria including: proven social, political, economic or environmental rationale; reasonable evidence that divestment is an effective way to achieve the desired outcome; absence of alternative policies that are as effective at a lower cost, or more effective at the same cost; the degree and relative degree to which the entity itself is involved in contributing to social injury and the severity of the injury; consistency with the University's legal obligations as trustee; or consistency with its other University relationships. The divestment criterion is designed to safeguard against the unintended consequences of divestment being more symbolic than effective. Schools that only practice ESG did not fully commit to divestment on the framework set out in their investment policies.

Divestment is generally seen as a bolder symbolic action that gains more public and policymaker attention (MUPAC, 2016), while ESG is a quieter approach to filtering investments that have material effect on investor return. The ESG approach is more comprehensive than full divestment, and is an ongoing process as ESG evaluation applies to all holdings and is applied continuously in monitoring company behaviour. Responsible investors tend to prefer ESG as it allows for best-in-class companies within an industry to be identified, or those that are improving their governance performance. The advantage of more selective screening is that a portfolio can remove worst ESG performers without eliminating a sector entirely, while maintaining portfolio diversification. The ESG approach is often combined with shareholder activism and is increasingly becoming mainstream creating opportunities for minority shareholders with little voice to coordinate on passing shareholder resolutions (MUPAC, 2016).

The institutions that preferred stakeholder activism over divestment tend to do so by claiming the benefits of this tool to shape company actions. Since the inception of the UN PRI in 2006, Shareholder activism has grown and created more opportunities for minority shareholders to coordinate on passing shareholder resolutions (MUPAC 2016).

Many of the universities in this study requested their fund managers to engage with the industry on sustainability matters. This request, however, may place too much authority on managers that are being evaluated against short-term performance benchmarks (Hebb, 2016), consequently, managers may not engage companies on ESG resolutions that undermine short-term financial performance, and/or not challenge profitable companies about their ESG performance (MUPAC, 2016).

To date, most engagement with company management on climate risk has been slow and minor in scope (Covington and Thamotheram 2015, often focussing information disclosure (Hebb, 2016). Fund managers may also be met with conflict as information requests from shareholders have been met with resistance (Byrd and Cooperman, 2017). Fundamental change to a company's business model is unlikely through shareholder activism, as success would require shareholders to take over and change each publicly traded company individually, when most are not publicly traded (MUPAC, 2016). Until it becomes economically profitable to change their main business to renewable energy, transformation will be unlikely.

Divestment rejection

There are few schools in the sample that rejected divestment; this is likely an underestimate as it only includes schools that made their decisions public. Presumably, schools that had no campaign would be less inclined to be public with a decision to reject.

As with institutions with partial commitments, the rationale for rejecting divestment is mostly centered on claims about its ineffectiveness. The two schools that said it is not the right tool are also the only schools to reduce carbon emissions on campus and increase sustainability initiatives. Queen's University is the only school citing they prefer stakeholder engagement over divestment and is the only school to systematically consider ESG. Two schools alluded to having close ties to the fossil fuel industry in their divestment decisions: the University of Calgary which receives philanthropic support from the energy sector to support students, faculty, research and capital structure; and the University of New Brunswick expressed that divesting would not be beneficial to the schools due to the donations given by an unnamed family who is associated with fossil fuels.

With respect to the costs of divestment, the prevalence of this rationale was considerably smaller than was estimated by Hebb (2016), where all schools that rejected full divestment implicated the costs and risks of divestment as determining factors in the decision. This may be in part because there are still 10 institutions in progress of making a decision or fewer schools may not be public about their divestment rejection.

Study Limitations

A major limitation of the model predicting divestment decision is we treat the divestment decision as a binary dependent variable. Therefore, the bulk of schools in this analysis are pseudo-divestment decisions, when in reality, they consist of a broad set of alternative approaches to divestment.

Another limitation is the lack of available data for each school and/or reliable data which limited the scope of our analysis. A limitation in this analysis is the lack of available and reliable data for each school. For instance, data on how much of a school's endowment is invested in fossil fuels may be an important predictor of the divestment decision. When this data was accessible, the reliability of the data was poor as it often came from online news articles without referencing data sources and not enough schools had this information available to sufficiently test the effect of amount invested in fossil fuels on divestment decision.

Data on how much of a school's endowment is invested in fossil fuels may be an important predictor of the divestment decision, however the information was not easily accessible for analysis due to project timeline constraints. When this data was accessible, the reliability of the data was poor as it often came from online news articles without referencing the source of the data. Not enough schools had this information available to sufficiently test the effect of amount invested in fossil fuels on divestment

decision. The amount of endowment invested in fossil fuels has been explored by the Sustainability and Education Policy Network (SEPN)¹²; however, methods were not reported on the numbers they provided.

Future Work

Conducting this type of analysis with an international scope would increase the study sample to, preferably, allow for a multinomial analysis of the divestment decision whereby the three levels of the dependent variable would be full, partial, and no divestment. Such a sample could potentially be extracted from the divestment decisions from numerous US and other international schools that were evaluated by Hebb (2016).

Divestment can have material impacts on those that rely on the endowment to fund intutional operations (Fischel, 2017). The most common categories of endowment expenditure are scholarships and financial aid, faculty chairs and salaries, and academic support programs (Association of American Universities, 2009). Conducting this analysis with a similar PCA analysis with endowment expenditures is of merit to determine if there is an association with divestment decision.

The amount of endowment invested in fossil fuels has been explored by the Sustainability and Education Policy Network (SEPN)¹³; however, methods were not reported on the results they provided. The lack of information creates an opportunity for a study to collect this evidence and supplement this analysis. We predict that larger investments in fossil fuels will decrease the likelihood of divestment.

Evaluating ESG on a more granular level is of merit to determine if the broad effect of ESG in this study is due to a particular ESG attribute or a combination thereof. Krosinsky (2015) suggests the divestment movement at large, as well as the move to decarbonize portfolios with insufficient data and thought are both particularly dangerous and potentially unhelpful. Alternatively, what investors can and should do to advance the transition to a low carbon economy is to include:

- (1) ESG as primary considerations in active and passive investment choices with all or a majority of their assets under management, and to explain if not, why not;
- (2) Vote their proxies supporting thoughtful resolutions and engage with companies on the most pressing issues of the day;
- (3) Have a culture that specifically seeks a positive environmental and social transition for all stakeholders, including shareholders, with intentionality, including as involves future asset allocation strategies;
- (4) Have the capacity to execute on these strategies, and if not, to commit to training their professionals to fully understand the direction global society is taking and can take;
- (5) Commit to engaging with policymakers on what is needed to remove unnecessary obstacles to societal progress, such as old fiduciary interpretations, misaligned incentives and loopholes in disclosure and regulation which otherwise prevent or seriously inhibit investors from taking effective action (Krosinsky, 2015)."

¹² Marina, Naomi. http://sepn.ca/research_results/research-brief-state-fossil-fuel-divestment-canadian-post-secondary-institutions/.

¹³ Marina, Naomi. http://sepn.ca/research_results/research-brief-state-fossil-fuel-divestment-canadian-post-secondary-institutions/.

Moreover, for each of the six principles of responsible investment, the UN PRI provides voluntary policy actions for an institution to incorporate ESG issues and satisfy each of the principles. For example to satisfy the third principle, the UN PRI recommends the following actions:

- Ask for standardised reporting on ESG issues (using tools such as the Global Reporting Initiative);
- Ask for ESG issues to be integrated within annual financial reports;
- Ask for information from companies regarding adoption of/adherence to relevant norms, standards, codes of conduct or international initiatives (such as the UN Global Compact);
- Support shareholder initiatives and resolutions promoting ESG disclosure.

Broadly speaking, many of the investment policies in this study that systematically consider ESG reflect the recommendations of Krosinsky (2015) and the actions to meet the six UN PRI principles¹⁴. Future work should characterize these investment policies by categorizing the recommendations of Krosinsky (2015) and UN PRI actions as binary predictors (Y/N) of the divestment decision and creation of a SRI fund.

The decisions that were characterized as partial divestments, in this study, include a range of different approaches for mitigating portfolio carbon exposure. The partial divestment decisions defined by this study ought to be re-assessed according the approaches defined by HSBC (2015).

HSBC (2015) identifies 3 alternative approaches to full divestment: partial divestment; value chain analysis, and the worst-in-class approach. Partial divestment is intended to sell fossil fuel investments that are considered high risk by either (a) looking at stock market index classification categories which allow for general exclusion of fossil fuel companies, (b) identifying an acceptable standard for revenues related to fossil fuel to allow investment in a company, or (c) assessing individual project break even points to assess the likelihood of stranding. In the re-evaluation of the decisions partial divestment should have three sublevels (a, b, and c). Alternatively, value chain analysis entails moving investments away from companies that produce and consume large amounts of fossil fuels and is viewed to be particularly effective for managing the risk of stranded assets as it places pressure on sectors responsible for greater emissions (HSBC, 2015). In contrast, the worst-in-class approach is specifically based on the carbon intensity of individual companies and tends to be combined with shareholder activism (MUPAC, 2016). This approach is based on the idea that different methods of extracting and consuming fossil fuels leads to various emission profiles. On average, natural gas tends to be the cleanest of the fossil fuel types (coal vs. oil, vs. natural gas). Institutions that committed to divest from a particular sector (i.e. oil or coal) or from sectors that demand fossil fuels should be characterized as having made a commitment to value chain analysis. However, due to the range in emissions associated with the fossil fuel types, the emissions generated from cleanest coal can be less polluting than the emissions of the dirtiest natural gas (World Nuclear Association, 2011). The worst-in-class approach, therefore, would exclude the worst in class natural gas companies, while keeping the least polluting coal companies. Institutions committed to the worst-in-class approach ought to be categorized as its own approach in future work.

Conclusion

Understanding the institutional attributes that predict a divestment decision bears important implications for endowment donors as these attributes may increase the susceptibility of their donations to a particular

¹⁴ UN PRI. <https://www.unpri.org/pri/what-are-the-principles-for-responsible-investment>

investment management approach. Our analysis demonstrates that larger schools, in terms of number of student and faculty employees, as well as endowment size increased the likelihood of a Canadian divestment campaign. We also show that liberal art schools are more likely to have a campaign. The opposite was the case for business schools. The divestment decision is associated with metropolitan areas and policies that consider some level of ESG. Characterizing the partial divestment decisions on a moral granular level, using the approaches stated above would provide greater detail to the alternative divestment approaches than what was provided in this study. Continuing to track the effect of divestment in Canada is important as there are still 10 institutions in progress of making a decision.

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