

Crude Lessons

Fossil Fuel Industry Influence on
Environmental Education in Saskatchewan

Simon Enoch and Emily Eaton



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CANADIAN CENTRE
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Cover image: by Terra Poirier

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How are Energy Issues and Climate Change Being Taught in Saskatchewan Schools?

The existential threat posed by global heating is now being recognized as a climate emergency by jurisdictions across the world. However, the role of public education in this time of climate crisis is contentious. This is especially the case in Canada's oil-producing jurisdictions where conservative politicians and commentators have represented public school teachers and students as biased against and even hostile to the oil and gas industry. For example, in response to a proposed curriculum redesign for energy and environmental issues in Alberta schools, United Conservative Party (UCP) leader and now Premier Jason Kenney stated:

"Parents say to me, 'Why do my kids come home from school accusing me of killing the planet because I work in the oil patch?' I hear a whole lot from Alberta parents and some teachers concerned that in a lot of classrooms there's an anti-energy bias."¹

In Saskatchewan, a group of Saskatoon grade 8 students enrolled in an "ecojustice" program participated in the rally "Stand with Standing Rock: A Peaceful Demonstration" in opposition to the Dakota Access pipeline. Prominent conservative radio talk-show host John Gormley used the incident as evidence of anti-energy bias in Saskatchewan schools. On-air, Gormley questioned the program's commitment to balance, and accused the students of "begging and diminishing the lives of 10,000 families in this province" who depend on the oilfields.²

Similarly, right-wing provocateur and "ethical oil" booster Ezra Levant has also embraced this narrative of imbalance and bias, accusing teachers throughout Canada as the country's most powerful "anti-oil lobbyists," with "every teacher's kit in Canada, whether officially coming from

1 Kelly Cryderman, "Teaching about energy issues becoming a political hot potato in Alberta." *The Globe and Mail*. August 31, 2018. Available at: <https://www.theglobeandmail.com/canada/article-teaching-about-energy-issues-becoming-a-political-hot-potato-in/> Despite Mr. Kenney's protests, it is important to note that the Alberta government reassured the oil and gas industry that a revamped science curriculum wouldn't portray them in a negative light, inviting industry representatives to provide input on the province's curriculum re-design. See Matthew McClure (2018). "Notley government comforts oilpatch during school curriculum makeover." *National Observer*. August 23. Available at: <https://www.nationalobserver.com/2018/08/23/news/notley-government-comforts-oilpatch-during-school-curriculum-makeover>

2 Alex MacPherson, "Student participation in anti-pipeline rally a 'significant concern': Greater Saskatoon Catholic Schools." *Saskatoon Star-Phoenix*. October 31, 2016. <https://thestarphoenix.com/news/local-news/student-participation-in-anti-pipeline-rally-a-significant-concern-greater-saskatoon-catholic-schools>

the leftist universities, or coming right in from environmentalist lobby groups into our schools, is anti-oil, anti-industry, anti-energy.”³

In this report we examine how energy and climate change issues are taught in Saskatchewan classrooms, focusing on whether conservative claims that public education is overwhelmingly pro-environment and anti-oil have any validity. We first give an overview and analysis of the scope for teaching about energy and climate change issues within the current Saskatchewan curriculum. We then go on to outline how third-party organizations — including those funded primarily by the oil and gas industry — have become involved in education on these topics. Finally, we turn to our interviews with teachers and third-party organizations to demonstrate how Canada’s oil and gas industry works to influence environmental education in the classroom, both directly through the funding of third-party teaching materials, lesson plans, and teacher development, and indirectly through the social power that the industry wields in the province.

Industry-funded teaching resources promote a form of market-based environmentalism that often fails to provide students with sufficient critical analysis or context about the true scope of the climate emergency and the most effective ways to address it.

Contrary to the claims of conservative politicians, we find that energy and climate change education in Saskatchewan is confined in the curriculum to only a few subject areas — namely science courses — many of which students do not elect to take and/or schools do not teach. Instead of climate change education being unduly influenced by environmentalists, we find that it is third-party, industry-funded groups that have an outsized influence on how climate change is taught in Saskatchewan schools. Our interviews with teachers (primarily grades 7-12) showed that they readily incorporate industry perspectives into their lessons on energy and climate change and that industry-funded teaching resources promote a form of market-based environmentalism that often fails to provide students with sufficient critical analysis or context about the true scope of the climate emergency and the most effective ways to address it. Finally, this report argues that the social sciences, with their focus on questions of power, influence and the common good, have an important part to play in climate change education. The social sciences are uniquely positioned to examine the interests both supporting and opposing climate change action, as well as the distribution of benefits associated with fossil fuel and green economies. Yet there are almost no curriculum outcomes related to energy and climate change in social science courses in Saskatchewan.

Our research is based on interviews with 21 teachers (primarily grades 7-12), three out-of-classroom educational employees, two administrators, as well as three representatives from third-party organizations engaged in providing resources, programming, and/or professional development related to energy and climate change in Saskatchewan. Teachers were selected based on two criteria: 1) participation in programming provided by organizations (mostly industry-funded) on topics of energy and climate change and 2) teaching about energy and climate change in rural oil-producing communities in the province. The educational employees and administrators were selected to provide insights into the approaches and opportunities for teaching about energy and climate change in the provincial curriculum as well as how organizations are engaging with curricula and teachers on these topics. Finally, representatives from third-party organizations were invited to discuss their strategies and goals in engaging with public education in Saskatchewan.

³ Ezra Levant, “Meet Canada’s most powerful anti-oil lobbyists: Your children’s teachers.” *The Rebel*. April 13, 2018. Available at: https://www.therebel.media/ezra_levant_show_april_13_2018?safari_redirect

Where in the Curriculum is Climate Change Being Taught?

Saskatchewan students are most likely to engage with the issue of climate change and energy in science courses at the higher-grade levels (grades 10 to 12). It is critically important that students understand the science of climate change, especially because there are high levels of dismissal of the climate science and the anthropocentric contributions to climate change in Saskatchewan, relative to other jurisdictions in Canada.⁴ A review of the Saskatchewan curriculum shows that knowledge about climate change is most frequently and meaningfully identified as a required outcome in Science 10, Environmental Science 20, and Earth Science 30.⁵

However, not all learning outcomes are taught by all teachers, so students completing courses where climate science is a learning outcome may have learned unevenly about climate science. Furthermore, not all students in the province take or are offered all of the above science courses. While all students in the province take Science 10, the Secondary Level Statistics from 2018 indicate that less than one third of students in the regular stream (including both French immersion and English programmes) in the province take Environmental Science 20 (a total of 4,047 students). Both Health Science 20 (8,772 students) and Physical Science 20 (8,373 students) receive the bulk of grade 11 science enrollments. Notably, there are no learning outcomes related to climate change in Health Science 20, and only vaguely related and minimal material in Physical Science 20. In 2018 only 212 students took Earth Science 30.

Social science is also a necessary component of climate change education. However, social science curricula in Saskatchewan are surprisingly silent on the topics of energy and climate change. The secondary social science curriculum is currently being renewed in the province and we are hopeful that the new curricula will enable teachers and students to learn about the policies, interests, ideologies and struggles that have both promoted and obstructed meaningful action on climate change in Canada and that are needed to transition our economies to the post-carbon future. In the current curricula, environment and energy topics enter the curriculum most substantially in Social Studies, Geography, and Native Studies. However, Geography was only taught to a total of 326 Saskatchewan students in grades 10, 11 and 12, in 2019. Moreover, the Secondary Level Statistics show that History and Psychology, where energy and environment are absent from the curricula outcomes, is being taught to more

⁴ Matto Mildenerger, Peter Howe, Erick Lachapelle, Leah Stokes, Jennifer Marlon and Timothy Gravelle (2016). "The Distribution of Climate Change Public Opinion in Canada. *PLoS ONE* Vol. 11, No. 8. Available at: <https://doi.org/10.1371/journal.pone.0159774>

⁵ Government of Saskatchewan (2018). *Secondary Level Statistics 2017-2018*. Available at: <https://publications.saskatchewan.ca/#/products/92512>

Opportunities for learning about energy and climate change are minimal for the majority of students in Saskatchewan.

students than Social Studies. In 2018 History 10 was taught to 8,768 students in the regular French immersion and English streams, while only 1,370 students took Social Studies. At the grade 11 level 5,823 students took History, and 4,129 students took Psychology, while only 819 took Social Studies. And at the grade 12 level 6,539 students took History, 3,532 students were enrolled in Psychology, while only 2,958 took Social Studies.

It is clear from these numbers that opportunities for learning about energy and climate change are minimal for the majority of students in Saskatchewan. The decision about which social sciences courses are taught is left with individual high schools, and constricted education budgets are removing options for high school students. Certainly, teachers who want to prioritize these issues can find places to do so in curricula at a variety of levels and subjects, but specific outcomes related to energy and climate change are minimal outside of Science 10, Environmental Science 20 and Earth Science 30.

At the primary and middle school levels there are opportunities to learn about the impacts of resource extraction (Science 7), renewable and non-renewable resources (Social Studies 3 and Science 9), the environmental impacts of electricity use (Science 6) and the carbon cycle (Science 7). As in secondary school, there is ample room within the curricula for teachers to prioritize issues related to climate change, energy and the environment, but here again, outcomes related specifically to climate change are scarce.

Examples of Climate Change and Energy Learning Outcomes in SK Curricula

Science 10

- Climate and Ecosystem Dynamics
- SCI10-CD1 Assess the implications of human actions on the local and global climate and the sustainability of ecosystems.
- SCI10-CD2 Investigate factors that influence Earth's climate system, including the role of the natural greenhouse effect.
- SCI10-CD3 Examine biodiversity through the analysis of interactions among populations within communities.
- SCI10-CD4 Investigate the role of feedback mechanisms in biogeochemical cycles and in maintaining stability in ecosystems.

Environmental Science 20

- Atmosphere and Human Health
- ES20 AH1 Assess the impact of human activities on indoor and outdoor air quality and the need for regulations and mitigating technologies to minimize risks to human health.
- ES20 AH2 Analyze the production, reliability and uses of geoscience data to investigate the effects of a changing climate on society and the environment.

Science 7

- Earth and Space Science – Earth's Crust and Resources
- EC7.2 Identify locations and processes used to extract Earth's geological resources and examine the impacts of those locations and processes on society and the environment.

Third-Party Engagement on Issues of Climate and Energy

Our research found six third-party organizations that have been active on issues of climate and energy in the province in the last decade.⁶ These organizations have developed curriculum resources, provided professional development for teachers and/or entered schools to deliver programming related to energy and climate change. The inset boxes give an overview of the organizations and their activities.

The Ministry of Education calls these third-party organizations “outreach organizations” and provides ample opportunity for their involvement in the K-12 system on a multiplicity of issues and topics. According to our interviews with the Ministry of Education, third-party organizations are consulted early on in the curriculum development process and are especially useful for developing locally relevant curriculum materials. For example, the Ministry actively seeks materials related to agriculture and mining and extraction because of their prominence in the province’s economy. One interviewee from the Ministry told us that the Ministry shares drafts of curricula with such organizations before the courses have been piloted so that outreach organizations can refine their materials, match them to the new learning outcomes and have them ready to go when the curriculum is formally adopted. One interviewee informed us that outreach organizations are invited to attend a meeting once to twice a year where they can learn from each other about resource development and from the Ministry about the needs of teachers. These outreach organizations include industry associations like the Saskatchewan Mining Association, environmental groups like the Saskatchewan Environmental Society, government departments, such as the Ministry of Agriculture, and industry-funded non-profits, such as the ones we examined in this research and many more.

Outside of the curriculum development process, third-party organizations are also active in the area of teacher professional development. According to one out-of-classroom educational employee, provincial budget cuts to education have all but eliminated funding to pull teachers out of the classroom to pursue professional development. But third-party organizations like the ones discussed in this report can pay for substitute teachers so that teachers can attend day-long, or multi-day professional development opportunities. One teacher commented that “we normally have a conference called Sci-matics every two years, but they didn’t have it this year,

6 Some of these organizations have already been the subject of studies and reports including Hodgkins, A.P. (2011). *Petrol’s paid pipers*. *Our Schools/Our Selves*, 20(2), 53 – 66. and Hodgkins, A. 2010. “Manufacturing (il) Literacy in Alberta’s Classrooms: The Case of an Oil-Dependent State.” *Journal for Critical Education Policy Studies* 8(1): 262—298

just with funding cuts in the province in education in general, our PD funds in a lot of divisions were cut so teachers weren't really able to attend that, so they cancelled that."

As budgets are cut back, more room opens for third-party engagement in public education.

As budgets are cut back, more room opens for third-party engagement in public education. Another teacher lamented that budget cuts had resulted in the elimination of a "sustainability" consultant for her school division. This consultant had previously organized professional development opportunities for teachers on sustainability issues. She commented that most professional development organized by the province and divisions is now more narrowly focused on the three "Rs". She worried about the loss of this sustainability consultant "which then translates into fewer professional learning opportunities for teachers, which means there's fewer teachers who are comfortable or confident or even knowledgeable. [It] is another erosion of services that I think is worrisome."

Finally, budget cuts have also resulted in less money and resources being available to teachers for class excursions and experiential learning. One teacher commented that an industry partner (she thought it was Cameco or Nutrien) had provided a small grant to her school to enable classes to visit an environmental learning centre in the province (incidentally the learning centre is sponsored by the potash company Nutrien). Here again, budget cuts have opened up space for third-parties to fill in. Teachers wanting to provide experiential and outdoor education have increasingly had to turn to industry-funded initiatives.

Organizations Involved in Education and Energy Messaging

In our survey of organizations active on the topic of energy and climate change in public education, we found a range of groups engaged in developing educational resources, providing teacher professional development, and entering schools to deliver content and activities. Fossil fuel industry efforts to influence how the topics of energy and the environment are taught in Saskatchewan schools are most often via the funding of third-party education programs that provide materials, lesson plans and professional development for teachers. In Saskatchewan, we identified three such organizations — Energy in Action, Inside Education and SEEDS — that have been active in Saskatchewan schools. Other organizations that develop and deliver educational resources on energy and environmental issues in Saskatchewan schools include the two major crown utilities, SaskPower and SaskEnergy, as well as an environmental non-profit, the Saskatchewan Environmental Society (SES). Below we give a brief description and funding sources of each organization.

SEEDS

Society Environment and Energy Development Studies Foundation (SEEDS) was established in 1976 by Calgary Power CEO Marshall Williams in the wake of the 1973 energy crisis and industry concerns that the Canadian public was ignorant of energy issues. SEEDS was developed to distribute “curriculum materials that would help explain the issues of energy supply and demand within the context of societal, economic and environmental concerns.”⁷ Alberta energy companies contributed \$500,000 to launch SEEDS with the budget allocated among the “Canadian Petroleum Association, the Independent Petroleum Association of Canada, the Coal Association of Canada and Alberta power companies.”⁸ Speaking of the need for such a program in 1977, SEEDS board member Dr. Bruce Johnstone stated,

“The need for it is seen mainly by representatives of the energy industry who feel school children

aren’t necessarily being exposed to good, sound, factual information about the energy industry. I think industry is tired of being bludgeoned by environmentalists on one hand, while its under tremendous pressure from Joe Citizen to give him energy on the other hand.”⁹

From the outset, SEEDS was careful not to be seen as a propaganda arm of the oil industry, assuring outside observers that “built-in safeguards” were in place to prevent industry from having too much influence.¹⁰ In the coming decades, SEEDS would become one of industry’s preferred third-party vehicles for influencing environmental education in Canadian classrooms. In 1981, SEEDS executive director Robert Westbury boasted that the program could become “the most successful independent curriculum project ever developed in Canada.”¹¹ By 1989, SEEDS would announce that its energy literacy programs had reached over 675,000 students across the country.¹² Thirty years after its inception in 2006, SEEDS offered its programs in more than 8,000 Canadian elementary, middle, junior high, and senior high schools.¹³

Inside Education

Founded in 1985, Inside Education (IE) is a Calgary, Alberta based non-profit that also delivers environmental education programming in Alberta, British Columbia and Saskatchewan. Originally known as the “Friends of Environmental Education Society of Alberta,” the organization changed its name to “Inside Education” in 2004. Funded by industry partners such as British Petroleum (BP), Cenovus Energy, Suncor Energy, and ConocoPhillips Canada, the organization is one of Canada’s most prolific energy literacy education organizations providing “curriculum-connected” resources and professional development for teachers. In their 2017 Annual Report, IE asserts that 24,736 students attended their programs, with 1,058 K-12 classrooms visited and 416 teachers enrolled in their professional development

7 SEEDS (2010). *SEEDS Annual Report 2010*. Calgary: Society, Environment and Energy Development Studies Foundation, 3. Available at: <http://www.seedsfoundation.ca/files/Infotables/seeds-annual-report-2010-2.pdf>

8 Tom Campbell (1977). “Energy use to be stressed in Alberta schools.” *Edmonton Journal*. February 12.

9 Vicki Barnett (1977). “Energy industry sponsoring school materials.” *Calgary Herald*. March 26.

10 June Sheppard (1977). No Title. *Edmonton Journal*. April 19.

11 Ted Ferguson (1981). “An energy education: Planting the seeds of energy wisdom.” *Imperial Oil Review*. No. 6, 26-27. By 1981, Esso Resources, a subsidiary of Imperial Oil had spent \$120,000 on SEEDS projects.

12 Advertising feature (1989). “Industry’s involvement in environmental education.” *Edmonton Journal*. June 4, D5.

13 SEEDS, 2010, 3.

programs.¹⁴ Inside Education offered its first teacher professional development program in Saskatchewan, *The Saskatchewan Environmental Education Program* in 2013, funded by the Canadian Association of Petroleum Producers, Cenovus Energy, Apache Oil and Penn West Energy.¹⁵ Inside Education has also worked in concert with Energy in Action to deliver programming in Saskatchewan schools.

Energy in Action

The Canadian Association of Petroleum Producers' (CAPP) "Energy in Action" (EIA) program is no longer in operation, but from its creation in 2003, delivered an energy and environmental literacy program for students primarily in grades four to six in "underserved schools in rural communities, where there are oil and natural gas operations."¹⁶ CAPP estimates the program was delivered to over 10,000 students, teachers and community members across Western Canada. EIA delivered programming in partnership with local oil firms in at least six Saskatchewan communities and schools (Lampman, Maple Creek, Carnduff, Elrose, Weyburn and Oxbow). EIA offered in-classroom presentations often delivered by local oil firm personnel coupled with outdoor activities. EIA often conducted its in-classroom programming in partnership with both Inside Education and SEEDS.¹⁷

Saskatchewan Environmental Society

The Saskatchewan Environmental Society (SES) was founded in 1970 and is one of the leading environmental non-profits in the province and "works towards environmental sustainability through public education, policy development, and community events," and aims to give Saskatchewan people "support, information and the tools they need to make informed decisions." SES' work in K-12 education comprises curriculum-connected programs delivered directly to students, in classrooms, in partnership between teachers and SES workers. The stated goal of their programs is to help youth reduce carbon emissions in Saskatchewan by reducing waste, energy or water consumption.¹⁸ In most cases, the students conduct audits of current consumption practices in their homes, schools and communities, and then install new technologies/retrofits, implement new programs (i.e.

recycling), or campaign to influence individual behaviours (i.e. turning off lights or water faucets). SES' education work is funded primarily by SaskPower and SaskEnergy, two publicly-owned crown corporations that produce and deliver electricity and natural gas, through annually recurring project-based grants, as well as donations and fees from individual members of the society.

SaskPower and SaskEnergy

The two provincial crown corporations also offer educational programming on energy issues in the province. Saskpower is the principal electric utility in Saskatchewan with the exclusive right and obligation (except in two cities) to supply electricity in the province. SaskPower generates over 3,500 megawatts of electricity at three coal-fired power stations, seven hydroelectric stations and two wind facilities (Annual Report 2017-18). SaskPower's website includes lessons about carbon capture and storage that were developed in collaboration with the Regina Catholic School Board, and IPAC CO₂, an organization funded by provincial and federal governments as well as Royal Dutch Shell.¹⁹ IPAC CO₂, was established in 2008 to create international standards for carbon capture and storage, but was abruptly closed in 2013 amid conflict of interest and other scandals. SaskPower prides itself on having established the world's first carbon capture facility on a power plant.

SaskEnergy is the province's natural gas distribution company it delivers natural gas to 93% of Saskatchewan communities through its 68,500-kilometre distribution system. SaskEnergy maintains a "Learning Centre" on its website where lesson plans and various activities relating to natural gas can be accessed.²⁰ SaskEnergy is a leading sponsor of public-school science fairs and sponsors scholarships 60 scholarships at post-secondary institutions in the province. It has partnered with the Saskatchewan Environmental Society for over 15 years on programming for schools centred on the conservation of energy. Provincial budget cuts have affected SaskEnergy's engagement in education; the corporation used to visit grade 4 and 5 classrooms giving presentation on safety and literacy. Their educational materials promote a message of safety, individual acts of conservation and understanding the uses of natural gas.

14 Inside Education (2017). *Annual Report to the Community*. Available at: http://www.insideeducation.ca/wp-content/uploads/files/IE_2017_Annual_Report_Final_WEB.pdf

15 Inside Education (2013). *The Saskatchewan Environmental Education Program*. Available at: http://www.insideeducation.ca/wp-content/uploads/files/2013_saskatchewan_report_0.pdf

16 Energy in Action (2012). *Energy in Action — Final Report*. Canadian Association of Petroleum Producers.

17 Janet Annesley, (2011). "Energy Literacy." *Calgary Herald*. April 27, A11.

18 <http://environmentalsociety.ca/programs/k-12-school-programs/sasf/>

19 <https://www.saskpower.com/about-us/Our-Company/Teacher-Resources>

20 https://www.saskenergy.com/about_saskenergy/

Why Third-Party Programming?

It is important to note the context within which these third-party materials and professional development programs have been made available to schools and teachers. As many education scholars have noted, the adoption of neoliberal economic policies in both the United States and Canada over the past three decades witnessed public schools facing growing funding crises and chronic budget restraints as governments sought to undo their financial commitments to public education. As the state withdrew funding, public schools became targets for aggressive commercialization by business, with school administrators seeking to plug budget holes through corporate partnerships, sponsorships and exclusive advertising and licensing agreements.²¹ As schools became under-resourced and teachers faced growing time pressures — including regular attacks on preparation time — public schools became more and more susceptible to industry offers of sponsored teaching materials.²² Industry-provided materials are often more up-to-date than official materials, more technologically savvy and visually-pleasing to students. For time-stressed teachers who may not have the means to develop their own curriculum materials — particularly in an area like energy and the environment where they may have minimal expertise — such pre-made lesson plans can be a godsend.²³ Indeed, several teachers whom we interviewed commented on the high quality of the teaching resources produced by the industry-funded groups.

For the oil and gas industry, the preference for third-party vehicles to influence environmental education in schools has been explicit since the outset. It was recognized early on that attempts by industry to directly produce and disseminate teaching materials would be met with suspicion. An advertising feature on behalf of SEEDS in 1989 points out this dilemma:

“The problem the energy industry in general has with going directly into education is that any material it produces is immediately suspect. It may, at worst, be branded propaganda. At best, teachers will look at it with suspicion as they wonder what the catch is. One solution is to fund someone else, someone recognized as a reliable

21 See CCPA (2006). *Commercialism in Canadian Schools: Who’s Calling the Shots?* Ottawa: Canadian Centre for Policy Alternatives, Alex Molnar (2006) “The commercial transformation of public education.” *Journal of Education Policy*. Vol. 21, No.5, 621-640, and Adriane Kayoko Peralta (2015). “Corporate-School Partnerships and Neoliberal Influences on Students as Future Participants in the Labor Market.” *BYU Education & Law Journal*. No. 297. Available at: <https://digitalcommons.law.byu.edu/elj/vol2015/iss1/10>

22 See Allen Kanner (2008). “Today’s class brought to you by...” *Tikkun*. January/February, and Gregory Smith (2000). *Defusing Environmental Education: An Evaluation of the Critique of the Environmental Education Movement*. National Education Policy Center, University of Colorado, Boulder. Available at: <https://nepc.colorado.edu/publication/defusing-environmental-education-an-evaluation-critique-environmental-education-movement>. For an overview of pressures on teacher preparation time in Saskatchewan, see *Task Force on Teacher Time – Final Report 2016*. Available at: <https://publications.saskatchewan.ca/api/v1/products/78442/formats/88175/download>

23 Kanner, 2008.

authority in the field of education. It was out of this concept that the SEEDS Foundation was born.”²⁴

It was also recognized that clumsy attempts at blatant propaganda would not have the kind of staying power required to influence environmental education over the long haul. Speaking to *Oilweek* magazine in 1999, SEEDS president David Sandermeyer observed,

“We can’t put propaganda into the school system. We might do it once, but not a second time. They [schools] are a place to get what we call bias-balanced information into their hands.”²⁵

It was also recognized that clumsy attempts at blatant propaganda would not have the kind of staying power required to influence environmental education over the long haul.

Third-party “bias-balanced” educational materials would be the solution to this dilemma, ensuring the environmental education curriculum took the industry’s interests into account by implicitly framing any lesson plan that failed to include industry’s perspective as “biased,” while offering up “bias-balanced” materials that purport to give equal representation to industry, environmental, and educational interests in how they present environmental issues like climate change. However, this doesn’t mean that the material produced by these organizations are immune from what might be characterized as more blatant industry propaganda. For instance, in 2002, SEEDs began distributing a package of instructional resources called “Creating a Climate of Change” to over 2,200 Canadian high schools.²⁶ The video, around which the modules are developed, includes voices that are clearly identified as representing the fossil fuel industry including Bob Page an “Energy Industry Executive” and Whitney Rockley, an “Energy Market Developer.” But the video also includes industry voices that are presented as neutral experts including ‘Climate Professor’ Robert Balling, Jr., a known climate-change denier whose research is funded by the fossil fuel industry.²⁷ ‘Lawyer’ Mitch Shier, who provides legal counsel for resource companies operating in Alberta’s tar sands, and ‘Publisher’ Evelyn Browning-Garriss who believes that observed changes in the global climate are caused by natural factors.²⁸ In the video, these voices cast doubt on whether the earth is really heating up and propose that the costs to industry and the economy are not worth action on climate change since the science is unclear.

Nevertheless, the bulk of the programming offered by these industry-sponsored organizations adheres to the “bias-balanced” approach that appears more concerned with inserting and legitimizing industry perspectives into environmental issues than with the dissemination of more overt industry propaganda. Often this includes materials emphasizing the centrality of fossil fuels to modern life as well as the economic benefits of oil and gas extraction. While this certainly sounds reasonable enough — who could be opposed to balance? — the consideration of industry “interests” when teaching established environmental science like climate change often serves to obfuscate that science. If there is a genuine debate within the environmental science community, that should certainly be emphasized in the classroom, but attempting to “balance” scientific arguments with the inclusion of industry arguments — or any other interest group — is to conflate political arguments with scientific ones. As science historian Naomi Oreskes emphasizes, “balance is a political concept, not a scientific one. It really has no place in science.”²⁹ Inserting industry perspectives into the teaching of climate science in

24 Advertising feature (1989). “Industry’s involvement in environmental education.” *Edmonton Journal*. June 4, D5.

25 Gordon Jaremko (1999). Back to school: SEEDS at work on planting an intelligent version of environmentalism. *Oilweek*, 50(31), 35-37.

26 <http://www.seedsfoundation.ca/programs/creating-a-climate-of-change/>

27 <https://www.desmogblog.com/robert-c-balling-jr>

28 <https://www.desmogblog.com/evelyn-browning-garriss>

29 Naomi Oreskes, cited in John Horgan (2014). “Merchants of Doubt Author Slams “Corrosive” Climate Change Skepticism.” *Scientific American*. October 5. Available at: <https://blogs.scientificamerican.com/cross-check/merchants-of-doubt-author-slams-corrosive-climate-change-skepticism/>

our classrooms effectively transforms a scientific debate into a political one. This is not to claim that science education should not engage with the social and environmental worlds of which science is a part and in which scientific discourse attempts to intervene. Indeed, curricula across the country have explicitly moved towards the integration of science, technology, society and the environment (or STSE) in environmental education. However, the integration of STSE should not prioritize the adoption of perspectives that speak from the narrow interests of one industry.

The social sciences ought to also be teaching about climate change and considering the politics, economics and societal impacts and/or responses to climate change and climate change policies. These are appropriate spaces to consider the kinds of interests involved both in obstructing and advocating for climate change action. Here industry perspectives could be included so long as their underlying motivations and consequences are also critically assessed. Instead the uncritical inclusion of industry perspectives without consideration of industry's underlying interests and its history in obstructing climate action through these third-party programs and materials works to further disguise industry's agenda.³⁰

From our interviews with educators, we found evidence that industry's strategy of exploiting "balance" to ensure its perspectives are included in any discussion of environmental issues has been a success. For one teacher and self-identified "tree-hugger," who participated in an Inside Education program, the exposure to a presentation on fracking changed her perspective significantly. According to her, she "went in pretty like nope there's no way fracking is a good thing. And I think [the presenter] did a pretty good job persuading me ... I remember thinking oh, OK so it's not nearly as bad as I thought it was ... I'm not anti-fracking anymore!" When asked how this change of perspective might influence her teaching, she supposed that, had she continued teaching Social Studies:

"It would have impacted my teaching a lot, because I would have been able to see things from the other perspective because I really did come from a very tree-hugger kind of perspective ... But because of that experience, I know that I was able to ... not be so biased in my teaching. And I think if I had continued to teach Social Studies, it would've probably lent itself to me inviting speakers [from industry] into my classroom."

For another teacher, a tour of the Alberta tar sands sponsored by Inside Education had a comparable impact. Asked whether her perception of the industry had improved as a result of the tour she stated:

"Before [the tour] I would've felt somewhat more negative. So, I mean it brought me up to neutral, how's that? And thus, I was able to be very neutral with the students and have them come up with their own [opinions] ... it's not my job to force them what I think, right?"

When asked about the need to feature industry perspectives in the classroom, the same teacher explained that she now considers a project one-sided if she cannot incorporate an industry voice:

"... it's so important to reach out and contact people, and get as much information as you can around the issue ... Just because it's big companies that have a lot of money behind them, doesn't mean that the information they have to share with us is any less

30 For example, see Eric Roston (2016) "Trying to Put a Price on Big Oil's 'Climate Obstruction' Efforts." *Bloomberg News*. April 7. Available at: <http://www.bloomberg.com/news/articles/2016-04-07/trying-to-put-a-price-on-big-oil-s-climate-obstruction-efforts> Paul Wells and Tamsin McMahon (2012). "How Ottawa runs on oil." *Macleans*. March 23. Available at: <https://www.macleans.ca/news/canada/oil-power/> Douglas MacDonald (2001). "The Business Campaign to Prevent Kyoto Ratification." Presented at the annual meeting of the Canadian Political Science Association, Dalhousie University, May 31, 2001.

valuable ... [L]ike I try to make sure that we don't do a project unless I have certain key people that we can connect with. There's been projects I've tried to do where I haven't been able to connect with the people I'd like to, so I basically kibosh it because I've only got one side of the picture."

Yet it would be incorrect to assume that only those educators who participated in such industry-funded third-party programming were committed to achieving this idea of "balance" in the classroom. One teacher, who considered himself particularly committed to ecological justice and had not engaged with any of the industry-funded third-party programming identified here, developed an experiential learning project for his students about a major interprovincial pipeline controversy that was receiving significant media and political attention at the time. That teacher put his students in touch with an Indigenous community along the proposed route that was opposing the pipeline due to the risks it posed to their territory's unique ecology. The teacher also connected students to the pipeline company in order to represent "the other side of the discussion," and "understand the industry and how it affects the economy." Here the focus on balance obstructs a deeper engagement with the inherent and Treaty rights of Indigenous Peoples, positioning inherent rights as somehow to be weighted equally with the interests of industry. This example also highlights the need for more instruction around Indigenous rights and relationships to energy and climate change policy, something that should be included across the social sciences curricula. Rather than the purported imbalance that typifies much of the conservative critique of environmental education, we found that teaching often gives too much space and weight to industry perspectives. In this case, equating the inherent rights of Indigenous Peoples to self-determination, to land, and to free, prior, informed consent (as laid out in the UN Declaration on the Rights of Indigenous Peoples) with the private interests of fossil fuel companies.

The focus on balance obstructs a deeper engagement with the inherent and Treaty rights of Indigenous Peoples, positioning inherent rights as somehow to be weighted equally with the interests of industry.

CLIMATE CHANGE IMPACTS

Read the following list of possible impacts of climate change and decide for each category whether or not the possible change to the climate would have a positive effect, a negative effect, or an unknown effect. Write a + for positive, - for negative and a ? for unknown.

Excerpt from *Inside Education's Stewardship: Energy, Climate and You Teacher's Guide* asking students to evaluate the positive and negative impacts of climate change

	Possible Impacts of Climate Change	Positive, Negative or Unknown Effects of Climate Change								
		Plants	Wildlife	Human	Health	Jobs	Towns/Cities	Recreation	Transportation	Agriculture
7.	Infestations of insect and/or other pest populations not normally expected in Alberta.									
8.	Reduced ice on northern lakes, rivers and oceans.									
9.	Warmer temperatures in northern Canada.									
10.	Changes to growing seasons.									
11.	Increase in the amount of land that can be farmed and crops grown in a season.									

What Kind of Environmentalism Do Third-Parties Promote?

Despite the diversity of third-party organizations involved in energy and climate change education in Saskatchewan, we found that the majority of them promote a very distinct form of what could be called “market environmentalism.” That is, a form of environmentalism that prioritizes market-based solutions and individual voluntary action over state-intervention and collective action as the best means to protect our environment.³¹ Certainly, it is this type of market environmentalism that is exclusively favoured in the bias-balanced material we reviewed. For instance, Inside Education’s learning module on the climate, *Stewardship: Energy, Climate and You* is almost entirely focused on individual student actions as a means to reduce greenhouse gas emissions, with no discussion of industry responsibility or culpability. Personal consumptive practices such as what lightbulbs you use in your home, the length of your shower, home composting and recycling are the horizon of possibilities offered to students to combat climate change. The sole instance of potential collective action described in the module consists of working for policy changes that would enshrine these individual actions into law, such as encouraging carpooling, curbside recycling or municipal bans on idling cars.³² Similarly, SEEDS’ *Teaching Activities for Climate Change* focuses exclusively on our individual responsibility to reduce GHGs through such activities as riding bicycles, turning off lights in the home, recycling and other personal energy-saving endeavors.³³ Even SEEDS’s theory of social change is suffused with individualism, characterizing the history of social change as merely the aggregation of “the activities of individuals across the school, city and country.” Modelling and communicating individual “sustainable behaviour” is put forward as a sufficient means to spark the societal-wide change required to combat climate change.³⁴ This pervasive focus on individual responsibility in these industry-sponsored materials confirms environmental writer Sami Grover’s observation that contrary to popular belief, “fossil fuel companies are actually

31 See John Huckle and Arjen E.J. Wals (2015). “The UN Decade of Education for Sustainable Development. Business as usual in the end.” *Environmental Education Research*. Vol. 21, No. 3, 491-505. David Hursh, Joseph Henderson and David Greenwood (2015). Environmental education in a neoliberal climate. *Environmental Education Research*. Vol. 21, No. 3, 299-318.

32 Inside Education (2018). *Stewardship: Energy, Climate and You: Teacher’s Guide*. Available at: http://www.insideeducation.ca/wp-content/uploads/2014/11/StewardshipTG_2018.pdf

33 SEEDS (2006). *TACC: Teaching Activities for Climate Change. Teachers Guide*. Calgary: Society, Environment and Energy Development Studies Foundation, 3.

34 *Ibid.*, 10-11.

all too happy to talk about the environment. They just want to keep the conversation around individual responsibility, not systemic change or corporate culpability.”³⁵

The emphasis on individual responsibility for climate action is further reinforced through the activity-based learning practices promoted by programs like Energy in Action and SEEDS. Energy in Action programs, which focused on energy uses and extraction technologies, were often followed by suggested actions for students such as planting trees in the schoolyard or building bird-boxes. Similarly, SEEDS has championed individual acts of conservation through its flagship Green Schools program. Green Schools is an online resource that provides ideas, support and recognition for environmental, recycling, and conservation projects initiated by students and teachers in their schools. In 2012, the SEEDS website listed 197 Saskatchewan schools that had achieved Green School status, having each logged at least 100 environmental projects with the organization (SEEDS, 2009). The vast majority of Green Schools projects focus on recycling, waste reduction, the reuse of items for art projects, and clean-up and gardening initiatives. In a recent example found on the Green Schools website a grade 4/5 class in Saskatchewan reused punch holes left over from school printers to create art. SEEDS often frames such individual environmental actions as sufficient to achieve sustainability:

“Participation in the GREEN Schools Program means that students use this environmental awareness base as a springboard to an outcome based orientation that features a conscious effort to weave environmental stewardship into one’s day-to-day lifestyle choices and, in so doing, contribute to the sustainability of a healthy planet.”³⁶

Yet, the dominance of market environmentalism is not exclusive to industry-sponsored organizations. For example, a representative from a non-profit environmental organization demonstrates the pervasive influence of market environmentalism as they argue that students should prioritize changes in individual consumption over and above more systemic concerns about climate policy:

“So carrying on and driving back and forth all over the city while you’re writing letters to the city council or writing letters to the government about reducing greenhouse gas emissions is — there’s a disconnect there. So I think that ... students don’t have the power yet to tell SaskPower how it makes its electricity. But they can turn off a light. or change it to an LED, or use a power bar or unplug stuff they’re not using. So they have the ability to do those things, and they can still write a letter. We still encourage that too ... But we’re pretty firmly entrenched that we can’t put what needs to be done off on other people, that it needs to be us learning to do it ourselves.”

Perhaps this shouldn’t be surprising, given that market-environmentalism has been the dominant mode of environmentalism promoted by governments and industry alike for the past thirty years.³⁷ Indeed, it has become so common-sense to many of us that even the most critical educators are subject to its influence. This preference for individual environmental action was often replicated by teachers we interviewed, even among those who had not directly participated in third-party programming. Teachers consistently prioritized individual environmental actions, that have little to do with greenhouse gas mitigation, as appropriate responses to energy and climate crises. In one example a teacher followed up a pipeline debate with a focus on personal water use and recycling:

35 Sami Grover (2019). “In defense of eco-hypocrisy.” *Noteworthy*. March 21. Available at: <https://blog.usejournal.com/in-defense-of-eco-hypocrisy-b71fb86f2b2f>

36 SEEDS (2012). *Green Schools Program Resource Manual*. Available at: <https://seedsconnections.org/sites/default/files/GREENSchoolsProgResManual2012sm.pdf>

37 Paul Rutherford (2006). “How have international business discourses on the environment changed over the last decade?” *Global Social Policy*. Vol. 6, No. 1, 79-105

“[W]e did this pipeline debate a little bit later, and the reaction I felt [that] I was getting from my students was ... ‘woah, I never even realized that I was taking showers that were that long’ or ‘ya I didn’t know that my family doesn’t know what to recycle.’”

Even teachers who are the most dedicated to teaching about and mitigating climate change often looked to individual consumption choices as the first remedy to climate change. An elementary school educator whose teaching prioritizes climate change more than any other we interviewed commented about his students:

“And the kids are talking about well it’s not normally 20 plus degrees at the end of November, what’s going on? ... However, there is still a disconnect between what they do and their choices ... So there’s still lots of kids who, every Easter and February break and every Christmas break they’re gone to a warm place on a plane. ... [W]e talk about needing to reduce our carbon footprint. I don’t say you shouldn’t be taking that many trips down to Mexico every year, but I mean, they shouldn’t, if we’re actually gonna reduce climate change we need to stop getting on the plane so much.”

This is not to disparage such individual actions — they are laudable in their own right and can instill a degree of empowerment — but if students are encouraged to believe that these actions are the extent of what is necessary to effectively combat climate change, they will not only be sorely misinformed but sorely disappointed. With just 100 fossil fuel corporations responsible for more than 70 percent of GHG emissions since 1988, no climate change strategy worth its salt can fail to address the inordinate power of the fossil fuel industry.³⁸ The Intergovernmental Panel on Climate Change (IPCC) concludes that to escape the more catastrophic effects of global heating, net human-caused emissions of carbon dioxide (CO₂) will need to fall by about 45 percent from 2010 levels by 2030, and reach ‘net zero’ by 2050.³⁹ This effectively means the end of the fossil fuel industry as a major sector of our economy in just over thirty years. Only state governments have the power to force these kinds of deep and rapid emission reductions on industry.⁴⁰ Moreover, only the state has the resources necessary to build the kind of sustainable energy and transportation infrastructure that allows us as individuals to make environmentally responsible choices. Ditching my personal automobile only becomes viable if there is a robust and effective system of public transportation for me to choose instead. But only mass collective action and popular pressure has the power to compel governments to act against what are often very powerful established interests. Ultimately, these educational materials do a disservice to students, as they evade the issue of corporate power altogether, while engendering a fantasy that small changes in personal consumption habits have the power to effectively address the planetary-scale threat of climate change.

They evade the issue of corporate power altogether, while engendering a fantasy that small changes in personal consumption habits have the power to effectively address the planetary-scale threat of climate change.

As our interviews with teachers demonstrates, market environmentalism has become so prevalent, naturalized and internalized in our thinking and practice that it privileges individual responses to a structural problem like climate change even among educators who have not participated in third-party programming. Indeed, environmental educators have long been critical of the degree to which neoliberal logic and market assumptions have penetrated the discipline, encouraging an “acritical form of education” whose sole focus on individual actions can “deflect away from broader economic, social and political influences” resulting in a failure

38 Tess Riley (2017). “Just 100 companies responsible for 71% of global emissions, study says.” *The Guardian*. July 10. Available at: <https://www.theguardian.com/sustainable-business/2017/jul/10/100-fossil-fuel-companies-investors-responsible-71-global-emissions-cdp-study-climate-change>



39 Intergovernmental Panel on Climate Change (2018). Summary for Policymakers of IPCC Special Report on Global Warming of 1.5°C approved by governments. October 8. Available at: <https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/>

40 Morten Byskov (2019). “Focusing on how individuals can stop climate change is very convenient for corporations.” *Fast Company*. January 11. Available at: <https://www.fastcompany.com/90290795/focusing-on-how-individuals-can-stop-climate-change-is-very-convenient-for-corporations>

“to equip learners with the skills and tools necessary for collective climate change action and political involvement.”⁴¹ While the third-party environmental education programming we examine certainly reinforces market environmentalism, it is by no means the sole source of it. It has become so common-sense to many of us that even the most critical educators are subject to its influence. The fact that market environmentalism — which has long been promoted by the fossil fuel industry — is the dominant frame through which environmental problems are understood in the classroom belies the conservative narrative that students are subject to a radical form of environmental education. Rather, the market environmentalist focus that dominates in environmental education is more in agreement with the stated interests of the fossil fuel industry than at odds with it.⁴²

HEARTS AND SUNS RIDDLE

Excerpt from
*Inside Education’s
Stewardship:
Energy, Climate
and You Teacher’s
Guide illustrating
the emphasis on
individual actions to
reduce emissions*

 Hearts - Actions to reduce greenhouse gases	Answer
This gadget makes showering the easiest yet, by using less water while still getting wet! — What am I?	18. Low-flow shower head
Take in your paper, metal and plastic; you can compost your apple core, that is fantastic! — Where am I?	7. Recycling Centre
You might find your old toys here at bargain prices. Buying cool used stuff is sometimes the nicest! — Where am I?	2. Yard Sale <i>(bonus for Thrift Store)</i>
When you come to school on me, you’ll often wear a pack. But make sure when you park, you put me in the rack! — What am I?	17. Bicycle
An easy way to save, and an important one too. Sure it’s cold outside, but grab a sweater and turn me down, It’s a stewardship thing to do! — What am I?	6. Thermostat
I spend my summers where tree stumps abound, when I’m done my stewardship, there’ll be seedlings in the ground! — Who am I?	8. Tree Planter
 Suns - Energy sources	Answer
It’s breezy, it’s easy! I use the wind to spin, spin, spin and for many people this green power is a stewardship win! — What am I?	h) Wind Turbine
The oil found here is mixed in with sand, at room temperature it’s as hard as a hockey puck in your hand. — Where am I?	c) Oil sands
I am a strong source of energy all through the day, I keep the Earth warm while you run and play. — What am I?	a) The Sun
I can be burned to create electricity to power cities and towns, by the year 2030 you might not see as much of me around. — What am I?	k) Coal
Look for a big reservoir that stores a powerful flow that can be turned into electricity, didn’t you know? — What am I?	g) Hydroelectric power

41 F. Waldron, B. Ruane, R. Oberman & S. Morris (2016). “Geographical process or global injustice? Contrasting educational perspectives on climate change.” *Environmental Education Research*. 1-17.

42 See Sharon Beder (2002) *Global Spin: The Corporate Assault on Environmentalism*. White River: Chelsea Green Publishing. Paul Rutherford (2006). “How have international business discourses on the environment changed over the last decade?” *Global Social Policy*. Vol. 6, No. 1, 79-105. Simon Enoch (2009). *The Potemkin Corporation: Corporate Social Responsibility, Public Relations and Crises of Democracy and Ecology*. Unpublished Dissertation. Ryerson University/York University.

Social Power of Industry

Even without industry-funded “bias-balanced” programming, the social power of the fossil fuel industry in Saskatchewan can exert a tremendous pressure on teachers to accommodate the interests of the industry in the classroom. This pressure can be particularly acute in oil and gas producing communities in the province. In these communities, educators reported fearing blow-back from parents and other educators if they were perceived to pay too much attention to the environment and too little on industry as the motor of local economies. One teacher who was involved in the outreach and implementation of the renewed environmental science curriculum remarked:

“We really tried, when it came out, we met with teachers all over the province. And so we’d meet them and say look, this is what needs to be emphasized. I mean a good friend of mine is in Kindersley, which is another oil and gas [community]. And she’s like, if I talk about this, I’m gonna have some fallout! We said well, ya you are, but that doesn’t change the science of it ... there’s some pretty touchy subjects for sure.”

The teachers we interviewed carefully self-monitored their presentation of curricula, ensuring that their own analysis and perspectives were left out of the instruction and that negative environmental impacts caused by fossil fuels were balanced with positive economic and social outcomes or positive steps that industry was taking to improve its environmental performance. One teacher described how they try to negotiate these competing pressures:

“I’m not bashing their parents, I’m not saying that oil companies are evil and terrible for the ecosystems ... And instead of like mentioning specific companies — minus the oil spill that we talk about in a case study — we just talk more in general. But usually the kids get a little bit riled up sometimes. They’re like, ‘well what are we supposed to do, not use any oil?’ ... [N]obody is wrong, we have all these ideas, and I like to present both sides, just let kids know, like we do need to talk about it from the environmental perspective, so it seems like we’re bashing companies all the time, but I do realize that most of their parents, that’s how they make their livelihood, and then I like to mention that my husband does work for an oil company as well.”

This pervasive belief that industry perspectives are part of balanced teaching extends itself to the process of curriculum development and renewal. One administrator we spoke with explained that outreach to industry and non-profit partners is a key to his job description. According to this administrator these “outreach organizations” are natural partners since they are able to develop resources that provide local context and content not available in textbooks with a more national, place-less focus. Indeed, the Ministry of Education includes industry and non-profit partners in the early stages of curriculum renewal so that new resources and professional development opportunities contributed by these organizations can be rolled out alongside new curricula. A teacher who piloted the new grade 12 Earth Science curriculum told us that industry representatives were invited to contribute at the meetings where piloting teachers

honed the new curricula before its formal adoption. According to her, industry representatives used these meetings to circulate new resources and to advocate that their industries be the focus of particular lessons.

The educators we interviewed often coupled a commitment to balance and representing all perspectives with a consistent message that it was not entirely reasonable for societies to consider transitioning off of fossil fuels because such a transformation could threaten our current standard of living. One teacher explains:

“In [grade 9 Science] in particular we’re looking at alternative sources of energy rather than mining coal or getting oil out of the ground. Kids did projects on hybrid cars and electric cars, and ... they were all baffled as to why we don’t have more alternative energy ... ‘You know we live in an oil town, you know how many of your parents are in the oil industry.’ And they all put up their hands, and then we talk about what would happen if we had more wind power, and if we didn’t have to get the oil out of the ground ... [But] when we talk about pollution from the oil industry or the impact ... [t]hey want to have their truck that goes really fast that burns a lot of fuel and they don’t want anyone to take that away from them.”

Similarly, the following teacher described how she tried to balance teaching about the negative environmental impacts of the local fossil fuel economy with the economic reliance of the community on that very same fossil fuel economy:

“... we look at asthma rates, they are way higher than anywhere across Canada here, because of the stuff that was coming out of those stacks throughout the year ... So we’re looking at the negative side-effects there, solution-wise, and then also looking at our community and how all of our — most of these kids’ parents ... had one or both parents ... working in the fossil fuel industries ... So just trying to show them that ya, it’d be great for the environment if we just cut off coal plants, and cut out oil, and just went green, but that’s not really an option for our community because we wouldn’t be here anymore. So ... that’s why we had some oil people come in and we had the mayor ... just to show both sides of that for the kids.”

Once again, our interviews demonstrate that the conservative argument of the classroom as a place hostile to industry is completely without merit. Rather, teachers — particularly those in oil and gas producing communities — often go out of their way to ensure industry’s perspectives are included in any discussion of environmental issues. Far from being hostile to industry perspectives, teachers in these communities appear to make every effort to accommodate the concerns of industry and the community when they discuss these topics in the classroom. In direct contrast to conservative representations of teachers as eager to inculcate students with anti-industry and pro-environmental dogma, we found professional educators trying mightily to navigate and negotiate conflicting societal pressures on how to deliver environmental education in an often highly politicized and highly charged environment.

Conclusion

In this report we have shown that the caricature of how energy and climate change are taught in the classroom, offered by conservative opinion, is entirely without merit. Rather than imbalance, we found teachers consistently fixated on achieving “balance” when discussing these issues, keenly aware of the pressure to include industry perspectives. Rather than one-sided pro-environmental advocacy, we found that industry-sponsored programming, materials and perspectives are readily available and promulgated in Saskatchewan schools. Rather than educators overly-eager to critique the fossil fuel industry, we found that the industry exerts a tremendous social power over the classroom — particularly in oil-producing communities — where teachers are often reticent to raise energy and environmental issues for fear of backlash from parents and the community. And rather than environmental instruction that radicalizes and alienates students against the oil and gas industry, we found the environmental education promulgated to be profoundly innocuous, almost entirely focused on individual environmental actions that mirror the types of market-based environmentalism long-promoted and advocated for by the fossil fuel industry. If anything, the ways these issues are framed and taught in the classroom begs the question of whether students are receiving an accurate picture of the scale of the climate crisis and the scope of the changes necessary to combat it.

Recently, a much publicized study by Seth Wynes and Kimberly Nicholas ranked Saskatchewan’s climate change curricula as the best in the country.⁴³ We don’t dispute the authors findings that Saskatchewan — due to a recently updated science curriculum — identifies learning outcomes in regards to climate change that are more comprehensive than other provinces. Our concern is *how* this curriculum is ultimately delivered in the classroom, a limitation that the authors of the study themselves recognize.⁴⁴ As our research demonstrates, even with some relatively robust curricula, the opportunities to learn about the science of climate change are limited, with the majority of students and/or schools opting out of courses that have an explicit climate science focus (like Environmental Science 20 and Earth Science 30). Moreover, the constant pressure on teachers to “balance” out climate science with industry perspectives has the potential to obfuscate that science, a probability that the authors of the study also concede.⁴⁵

We do not wish to argue that there is no legitimate space for industry perspectives in the classroom, but these perspectives need to be analyzed and assessed through the tools of social

43 Jacob Dube (2019). “Saskatchewan has the best climate change curriculum in the country, study finds.” *The National Post*. July 25. Available at: <https://nationalpost.com/news/canada/canadian-high-school-curriculums-not-teaching-vital-information-on-climate-change-study-says?fbclid=IwAR2VOEGMDyuBzqhSc6Rwu5yPzLmjKtCntoudiQRHRIDLxRcTRCKV-1-c0d8>

44 Seth Wynes and Kimberly A. Nicholas (2019). “Climate science curricula in Canadian secondary schools focus on human warming, not scientific consensus, impacts or solutions.” *PLoS ONE*. Vol. 14, No. 7.

45 Wynes and Nicholas, 2019., the authors note, “In terms of how the curriculum is delivered, and even the practices of those who design the curriculum, Canadian education sometimes tends towards balance rather than evidence. Being able to weigh the scientific merit of an argument is certainly a useful skill within scientific literacy, but should students be evaluating balance for issues where a scientific consensus already exists?”

Saskatchewan's students would receive a much more robust and comprehensive view of the politics, economics and interests at play on the issue of climate change if the social sciences curricula made climate change a priority.

science. Indeed, Saskatchewan's students would receive a much more robust and comprehensive view of the politics, economics and interests at play on the issue of climate change if the social sciences curricula made climate change a priority. These are the more appropriate spaces to consider the kinds of interests involved both in obstructing and advocating for climate change action. Here industry perspectives could be included so long as their underlying motivations and consequences are also critically assessed. The secondary social science curriculum is currently being renewed in Saskatchewan and we are hopeful that the new curricula will enable teachers and students to learn about the policies, interests, ideologies and struggles that have obstructed meaningful action on climate change in Canada and that are needed to transition our economies to the post-carbon future. We are also hopeful that the renewed curriculum will properly place the inherent and Treaty rights of Indigenous Peoples at the centre of energy and climate change curricula. There is no 'balance' to be sought between the private interests of the energy industry and the inherent rights of Indigenous Peoples to land, to self-determination and to free, prior and informed consent about development throughout their traditional territories. In order to heed the recommendations of the Truth and Reconciliation Commission, new curricula and teacher-training are needed to properly emphasize Treaty relationships and inherent rights. To that end, we conclude with the following recommendations for a climate-focused social science curriculum that would go some way to ensuring that our kids have the tools "to rise to the immense challenge they will face as the climate change generation."⁴⁶

46 Michael Mann (2019). "The climate change generation needs to know what's coming." *Newsweek*. April 24.

Recommendations

It is our recommendation that the social science curricula include the following outcomes:

1. Review Indigenous rights frameworks (including UNDRIP, inherent, and Treaty rights) in relation to resource development throughout Indigenous territories.
2. Investigate supply-side (e.g. Fossil fuel subsidy reductions, production quotas, bans and moratoria) and demand-side (carbon tax, cap and trade) climate change policies and highlight the strengths and weaknesses of each approach.
3. Examine the history of climate change denialism and the key roles played by fossil fuel companies, fossil fuel interests, and think tanks in blocking action on climate change.
4. Assess the scale and scope of emissions reductions (both provincially and in Canada) that would be needed in different sectors to meet the targets of the latest Intergovernmental Panel on Climate Change agreements.
5. Investigate First Nations' involvement in both fossil fuel and renewable energy sectors. Discuss what decolonization and reconciliation might mean as part of a national energy transition.
6. Explore collective actions and climate movements at both the local and global scales that have put pressure on governments and corporations to adopt rigorous climate change policies.

Other Recommendations

1. Enhance opportunities for professional development for educators interested in climate change issues offered by experienced environmental educators rather than industry.
2. Encourage both Ministry staff and teachers to scrutinize third-party materials and the interests that those third-parties serve.
3. Include climate change learning outcomes in all of the social and natural sciences.
4. Develop more independent curricula materials about climate change for the social and natural sciences that encourage student engagement in collective responses and actions that match the scale and scope of the problem ahead of us
5. Rework the Ministry of Education's conception of "engaged citizenship" which currently encourages students to contribute positively to the environmental, economic and social sustainability of local and global communities through personal responsibility and personal decisions. This should be amended to stress the importance of collective responsibility and collective action.



The Corporate Mapping Project is shining a bright light on the fossil fuel industry by investigating the ways corporate power is organized and exercised. The initiative is a partnership of academic and community-based researchers and advisors who share a commitment to advancing reliable knowledge that supports citizen action and transparent public policy making.

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