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Energy Policy and Management Centre

Rainbows in the Falls

By Maya Chambers, HBA 2021

The energy industry talk was annoying. The people in government never shut up about it. Everybody had a loud opinion on social media. The executives were angry. The protestors were angry. With a teacher mother, a family lawyer father, and a future career in marketing, Katie had no stake in any of it. She couldn't care less.

"Hey, have you found anything yet?" Over the phone, Chloe's voice sounded like just another irritating reminder of the endless controversy. A born and bred Torontonian whom Katie had met in University, Chloe was a young leader in the growing climate change movement. She had spent the better part of her summer organizing a protest against the oil and gas industry, and was currently curating an archive of renewable resource plants throughout history in an attempt to illustrate the viability of these forms of energy in comparison.

"Yeah, I'm on my way home now." Home was Calgary, 7 hours of rolling prairies from Elmworth, where Katie was now. Her yearly visit to her grandparents had proved triumphant not only in catching up with family, but in finding the ancestral records of renewable resource plants Chloe had asked her to look for. "I'm driving but I'll send it to you when I get home." In the passenger seat of the car beside a box of baked goods was a weathered, leathery postcard.

"Dear Ida," the postcard began. "We are having a great trip but have not seen much since we left Winnipeg as they are taking us up through the Northern part of Ontario and there is nothing but bush and rocks. Goodbye for now. Will write later. The cake was fine."

Greta hoped the jealousy in her heart wasn't apparent in the words. The daughters of German settlers in Winnipeg, Greta and Ida had been raised with a voracious will to survive. Sensibly, Greta had quickly married an accountant. Her sister Ida fell in love with a wild-hearted man, and the two of them moved to Gladys, Alberta, as part of the rush
to conquer the newly discovered oil wells of the west.

In the summer of 1916, Alberta was the place to be. Only two years earlier, the Calgary Petroleum Products Company struck oil for the first time in Turner Valley. The next day, hordes of people rushed. It wasn't just the possibility of wealth that magnetized the public. A new form of energy promised to accelerate the long societal burn

towards modernity. The Ford Model T was recently invented; the Einstein equations were just published; jazz music began to break through; Picasso and Duchamp revolutionized art; and oil made the wheels turn. It felt like the spark that lit everything up. Sure, energy is an industry with massive economic opportunity, but it's also always been the lifeblood of a modern society. Energy touches everything and is exempt from nothing.

When Greta felt especially jealous, she imagined Turner Valley on the day the news broke. Shiny new cars and horse-drawn wagons dotted the fields. The valley held an enormous bank of "wet gas," which seeped out in shiny ribbons along the banks of the river. The men tipped their straw hats and smoked cigars; the women blushed in cream coloured cotton. The energy spread through them like a fog beneath their feet. It was a bullish time in Alberta, and in the middle of it all, Greta pictured Ida, laughing and hugging her oilman husband, knowing that she was part of the future.

In 2019, oil wasn't the future anymore. The nature of energy hadn't changed, but the world had. It was weird, because Katie could still feel it there. The oil was buzzing beneath her feet as she drove out of her grandparents' neighbourhood; it brought her clothes and shampoo; it was in the skeleton of her iPhone, beneath her fingertips as she hung up on Chloe. It was there, but no one wanted to be part of the oil anymore. It was easy to not care like Katie, or to be angry like Chloe.

Canadian oil, however, was proportionally less there. With 80.7% of Canada's oil production centered in Alberta[1], not all of it made it completely east. And as it has been since Greta and Ida's days in 1916, energy is a cultural phenomenon. With rising tensions over land sovereignty, rigorous environmental regulations, and resource depletion, it had become more difficult for industry players to mine, refine, and transport Canadian oil. And of course key global players Venezuela and Saudi Arabia had proven themselves to have some of the only larger oil reserves than Canada.

For Alberta, which had relied on Canadian oil and gas for so long, times were not good anymore. Katie had seen it first-hand. While she went away to university, family friends lost their jobs, provincial budgets were slashed, and small businesses struggled. It started in oil and gas, but by summer 2019 there wasn't a single company that hadn't felt it.

While she felt for her community, she also felt fear. Every generation grows up with a deep seated anxiety. Her parents used to tremble under their desks during cold war nuclear bomb drills. For Katie, she was sometimes

[1]"Energy Factbook 2018-2019," Natural Resources Canada, https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/pdf/energy-factbook-oct2-2018%20(1).pdf

paralyzed by the thought that the world would be irreparably ecologically damaged by the time she was old enough to enjoy it. It was why she helped Chloe with her protests, even though it sometimes felt like backstabbing everyone she grew up with.

Katie had never touched the energy industry, but sometimes it felt so personal. That's why it was easier to just not care.

Greta didn't care. She handed off her postcard and hurried back to the car to meet her boring husband. He sat unblinkingly in the front passenger seat. On the driver side sat his client, another boring man in wrinkled suit who worked for Kaministiqua Power Company and had insisted on pulling over so "the lady" could send a postcard of his hydroelectric plant (boring!) to one of "her little friends" as "a token of good spirits to her husband." The two now babbled in the front seat about hydroelectricity, while Greta did her best to ignore them. She really didn't care.
But the car lurched away from the Kakabeka hydroelectricity power plant, downstream, around a couple of bends, pulling up to Kakabeka Falls. Greta found herself so enthralled by the sight she nearly flipped over the tufted leather arms enclosing the backseat of the client's Ford Model T. While the concrete boxiness of the powerplant was unassuming, unharnessed hydroelectricity thundered like a wild beast over the falls.

Caught up in the oil fever of her time period, Greta had failed to acknowledge the breadth of the Canadian energy industry. The Kakabeka Falls Generating Station, one of the oldest hydroelectric plants in Ontario, had only been in operations for 10 years in 1916.[2] Hydropower had been in its infancy in the 1890s, and developing the plant had been an impressive feat of engineering. Even nowadays, 60% of Canada's renewable energy comes from hydroelectricity.[3]

There were rainbows, and shimmering mist. The size was immense and the water churned and dumped over and over into itself. But what struck Greta most was that the magic she was seeing whistle in the river in Ontario existed at the same time as the magic her sister was seeing seep from the ground in Alberta.

What struck Katie most about the postcard in the passenger seat was the pure legacy of its age. Whatever the words on the back meant, they were written by another complicated human being over 100 years ago. And

[1] "Kakabeka Falls Generating Station: 100 Years," Ontario Power Generation, https://www.yumpu.com/en/document/read/25017834/kakabeka-falls-generating-station-ontario-power-generation

[2] "Provincial and Territorial Energy Profiles-Canada," Canada Energy Regulator, Government of Canada, https://www.cer-rec.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/cda-eng.html

she knew the Kakabeka Falls Generating Station still stood. It had stood through booms and busts. Various regions and energy sources prospered and failed on broad economic and societal scales, but renewable energy sources stood quiet and constant in the face of history.

It was common sense that non-renewable resources eventually must end. For Canadian oil and gas, regardless of sociopolitical changes that could slow or speed it in the short term, an era of slowdown was dawning. If this postcard still existed another 100 years later, whoever held it would see things very differently.

Katie also knew that renewable resources alone weren't the answer. Or at least, not the whole answer. Not right now. While the stability of renewable resources was enviable, oil and gas was by far the most efficient and widely integrated form of energy production at the time. Ceasing production without a viable alternative could quite literally stop the world from moving; and of course, Canadian regional energy production was distributed so unevenly. What were the ethical implications of an entire province's suddenly lost livelihoods in a bearish time, when Alberta had contributed instrumentally to the national economy for so many years?

Exiting sleepy Elmworth, Katie passed by the newly established LNG plant. Something urged her to pull over, get out of the car, stand alone on the empty whistling highway, and take a photo of the vast industrial plant. Her grandparents had been excitedly telling her about the new addition to their quiet town during the visit. LNG, standing for Liquefied Natural Gas, was a relatively new innovation. It was most well-known for being easily stored and transported in trucks without the use of a pipeline.

Katie wasn't quite sure what to think of LNG. Supporters claimed that it could be the most environmentally friendly form of natural gas, due to its low carbon dioxide emissions per unit of energy, and that it was a safe form of transport. Naysayers argued that there was higher upstream emissions in the production of LNG. With unknown outcomes, all she could really say for sure, was that it was an example of human innovation at the face of increasing barriers.

Katie was willing to bet that Chloe had never even heard of LNG. But the plant was there pumping out energy alongside the oilfields and the hydroelectric generating stations and the windmills and solar panels and everything else. Each energy source and corresponding

region went through cycles of boom and bust. Now, more than ever, the future of the industry demanded rigour and the present of the industry demanded innovative transition.

Abstractly, on the windy highway in the rolling prairies, Katie thought about an investment concept she had learned in business school that year. Modern Portfolio Theory argued that an investment's risk and return characteristics should be evaluated by how the investment affects the overall portfolio's risk and return. In all facets of the energy industry there was high return and high risk, whether it be environmental, economic, or social. Of course, there had to be competition, but it was dangerous to pit different resources and regions against one another as a means to solve the others' issues. These issues could no longer be navigated regionally, without a respectful national community genuinely invested in one another's wellbeing.

Katie realized she wasn't as apathetic as she thought. Energy was the lifeblood of a society, and everyone needed to understand it as a unified social force. Every Canadian citizen had to buy into a well managed diversified portfolio, not into a singular segment of the industry. The solution, and a healthy transition into a clean future, could only come with balance.

The prairies swelled around her, and Katie wished she could make sense of her revelation to Chloe. After all, the thing the girls had in common was that they both cared about the future. After some thought, Katie pulled up the photo of the LNG plant she had just taken and forwarded it to her friend. In the tiny digital bubble she wrote, "New type of oil & gas. Will explain more in person- I want you to get all the facts. Looks like everyone's trying to grow from their own perspective."

In 2019, Katie hit send in Alberta and the text messaged whizzed through space to Ontario. She climbed into her car and the sunlight lit up Greta's postcard. Katie drove home, and every type of energy plant buzzed across the country.