

INDIGENISING WELLBEING

ASSIGNMENT II: ENERGY POVERTY IN REMOTE COMMUNITIES

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Colonialism is considered one of the key determinants of Indigenous wellbeing today (Reading & Wien, 2009). With the enormous surge in production capacity and need for raw materials caused by the industrial revolution during the 18th century, European countries were fully equipped with both the power and desire to enter a “more aggressive and extensive form of imperialism” (Parvanova, 2017). During this New Imperialist era from 1870 to 1914, colonies were established overseas and maintained through intensifying means of oppression and extractivism directed at native populations and local resources (Parvanova, 2017). This retrospective illustrates the way in which the decline of Indigenous wellbeing through the past centuries co-aligns with that of the environment. Moreover, it points toward a historically shaped correlation between Indigenous communities and resource deprivation, culminating in a present state of energy poverty.

This historical background as well as the lived experience of discrimination by Indigenous peoples today is crucial to consider when conducting further analysis into the energy generation, distribution and security in Canada. Within the past century, the human reliance on polluting technology and extraction of finite resources, like oil and gas, has exacerbated climate change tremendously. This poses an increasing risk to marginalised populations around the world and underlines the necessity to find alternative and renewable sources of energy. Research has revealed that social, economic and political inequalities contribute to increasing climate injustice, which means that those most vulnerable to climate change have lesser means to mitigate and adapt to it (Dietzel, 2019). Due to rural locations and a lack of infrastructure, Indigenous people worldwide are confronted with a significantly higher risk to their livelihoods deriving from extreme weather events, loss of biodiversity and pollution. The same conditions contribute to energy poverty in remote communities, causing a large number of Indigenous communities to be off the North-American electricity grid and highly dependent on heavy fuel oil, such as diesel (Heerema & Lovekin, 2019), for power.

In order to find more concrete information on Indigenous communities’ access to electricity, in-depth research was conducted and a raw data set added to the appendix for future analysis. The following research questions helped guide the research and led to a more conclusive overview of the energy availability in remote Indigenous communities in Canada:

1. How connected are Indigenous communities to the North-American electricity grid?

Indigenous communities are predominantly located in rural areas, including around 60% of Indigenous peoples in Canada. 46% of them are living in what are considered rural remote regions (OECD Library). These remote communities are identified through specific characteristics that involve having existed at the location permanently (for over 5 years with more than 10 dwellings) and by being off the North-American electricity grid (Natural Resources Canada, 2018).

In total, this accounts for approximately 170 Indigenous communities in Canada not being connected to the North-American electricity grid (Heerema & Lovekin, 2019), constituting over 100,000 Indigenous people and 28% of Indigenous communities in Canada overall. This extreme isolation is often caused by the geography and vast distances in between communities. A lack of infrastructure, accessibility and development in those regions has therefore considerably decelerated and thus far prevented their linkage to the grid.

2. What are the common alternative ways of generating electricity in Indigenous communities?

As a result of this, Indigenous communities in remote locations “are overwhelmingly reliant on diesel fuel for heating and electricity generation” (Heerema & Lovekin, 2019). On the one hand, the fuel accelerates the process of climate change and air pollution, thereby causing environmental as well as health issues. On the other, it comes at a high cost as it requires transportation by road or plane. Due to warming temperatures and shorter winter seasons, the transportation of fuel becomes especially problematic as the ice roads that many communities depend on become infrequent and unsafe.

In order to ensure the continuity of essential services, such as light, heat, communication and refrigeration, alternative ways of generating energy are being championed in remote regions. Apart from heavy fuel oil and natural gas, clean energy is derived from renewable sources like hydro, solar and wind power. Some other sources are provided by using the available resources in remote locations, including oven-dried straw and forestry wood residues (Natural Resources Canada, 2018). While the momentum is strong to transition to environmentally-friendly methods of energy generation, the barriers to energy security for remote Indigenous communities remain critical.

3. What is the cost of energy? How impacted are remote Indigenous communities by it?

The discussed issues surrounding energy security in remote Indigenous communities are aptly reflected in the electricity prices across Canada. The Canadian average electricity price lies at 12,9 cents per kilowatt hour. In contrast, both the Northwest Territories and Nunavut pay more than 30 cents per kW.h. (Government of Canada, 2021). This discrepancy integrates into a larger trend in which territories, all of which are located in northern Canada, pay more than the national average electricity price (even if the Yukon is only above that margin by 0,7 cents), while six out of the ten provinces pay less (Government of Canada, 2021).

In British Columbia alone, 60% of Indigenous communities living on-reserve do not have access to natural gas, compared to only 5% of other BC residents (Anderson, 2020). Ecotrust Canada estimates that a typical on-reserve household spends “three times as much of their income as the median Canadian household on meeting their basic energy needs” (Anderson, 2020). The impact of that expense is significant, as it catapults Indigenous communities far across the energy poverty line (located at 6% of income spent on home energy) and contributes to the high poverty rates and inability to meet essential needs. Moreover, the Pembina Institute states that alongside the cost of transportation, taxes and generation efficiency, the actual cost of diesel fuel only adds to the marginal costs of energy experienced by remote communities. The costs that could be avoided by transitioning to renewable energy (cost of amortised capital, operation and maintenance) as well as the true costs of energy (involving subsidy costs and costs placed upon the society, planet and public health) are often not accounted for in the previous calculations (Heerema & Lovekin, 2019).

4. How does energy distribution relate to colonialism in the present day?

While there are many reasons as to why many remote Indigenous communities continue to face energy poverty, this is not true for all of them. In Appendix B, a map of remote communities in Canada demonstrates that the term ‘remoteness’ in this case does not necessarily relate to the conventional meaning of long geographical distances, but is rather defined by whether a

community is connected to the electricity grid or not. While many communities using diesel as their main power source are located in isolated areas, such as the northern territories of Canada, many of them are not. Indeed, it is noticeable that half of them are found in provinces at lower altitudes and several even close to urban centres that are connected to the North-American electricity grid. By cross-checking between different maps (Appendix B, E and F), we can furthermore discover that the majority of remote communities depending on diesel in the Northwest Territories, the Yukon, northern BC and particularly Vancouver Island are in close proximity to clean power generation facilities, that predominantly produce electricity through hydro or bioheat.

These observations pose critical questions, such as: How is it possible that remote Indigenous communities near power generation infrastructures are suffering from energy poverty? Moreover, how can this energy poverty be justified through the reason that their remote location causes transportation costs that are far too expensive, when in fact these distances are easier to bridge than those to the urban areas the energy is currently being offered to?

Even if our questions remain unanswered for now, they lead us to draw connections between an inequitable distribution of energy resources and the persistence of systemic colonialism in the present day.

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Appendix

A. Raw Data Set: *Remote Communities Energy Database (The Atlas of Canada)*

This table identifies a usable raw data set for further research. Key points were taken from the website and transferred into description, source and format information. Consequently, hypotheses were made on the potential future usage of this data.

Name	Description	Source	Format	Hypothesis
Remote Communities Energy Database (The Atlas of Canada)	<ul style="list-style-type: none"> • The only national data that provides factual information about the generation and use of electricity and other energy sources for all remote communities in Canada on one centralised and publicly available site • Communities are identified as remote if they are not currently connected to the North-American electrical grid nor to the piped natural gas network; and is a permanent or long-term (5 years or more) settlement with at least 10 dwellings. • Data is collected from several sources including the remote communities themselves, local utilities, provincial and territorial government's, Indigenous and Northern Affairs Canada (INAC), Statistics Canada, Natural Resources Canada (NRCan) and various other stakeholders. 	Natural Resources Canada by the Government of Canada: https://atlas.gc.ca/rced-bdece/en/index.html Date modified: 2018-08-03	CSV format Compressed CSV format	<p>“Remote Communities in Canada use for the most part Diesel to generate electricity.”</p> <p>“A substantial portion of remote communities’ energy generation sources remains unknown.”</p> <p>“The generation of energy correlates highly with the location of a remote community and the given geographic conditions.”</p>

B. Map: Remote Communities by Main Power Source and Type of Community

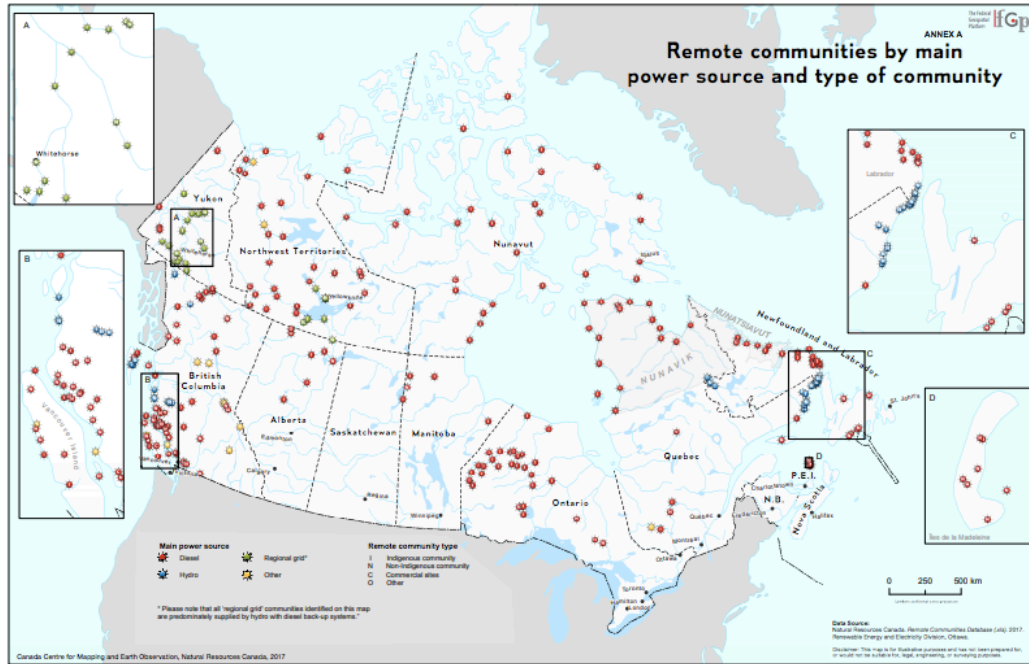
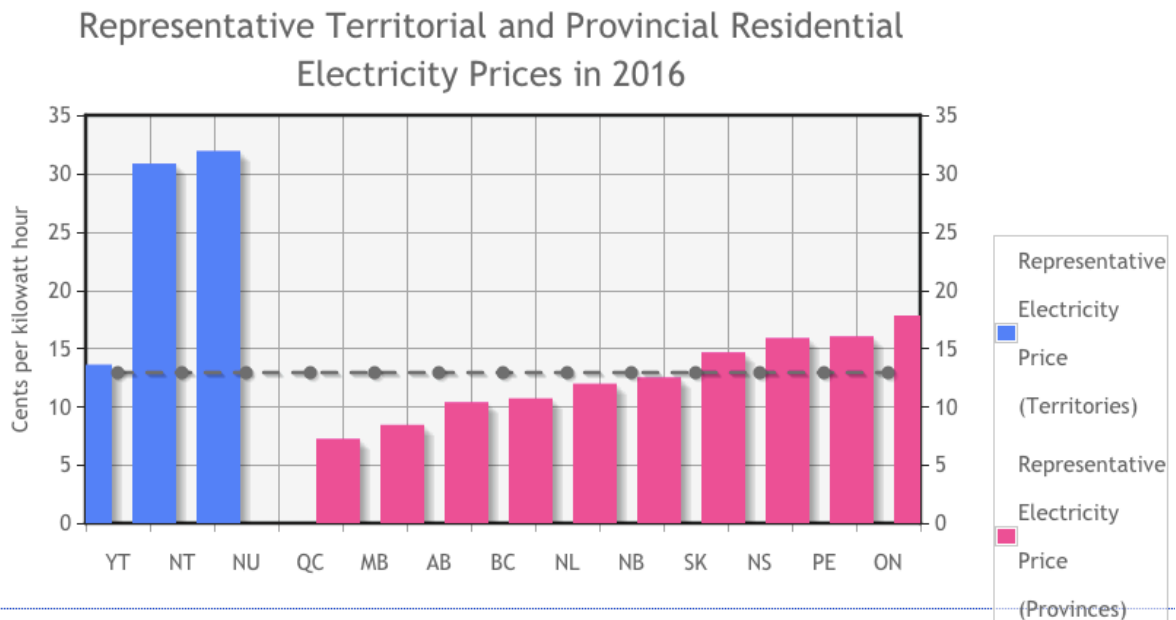


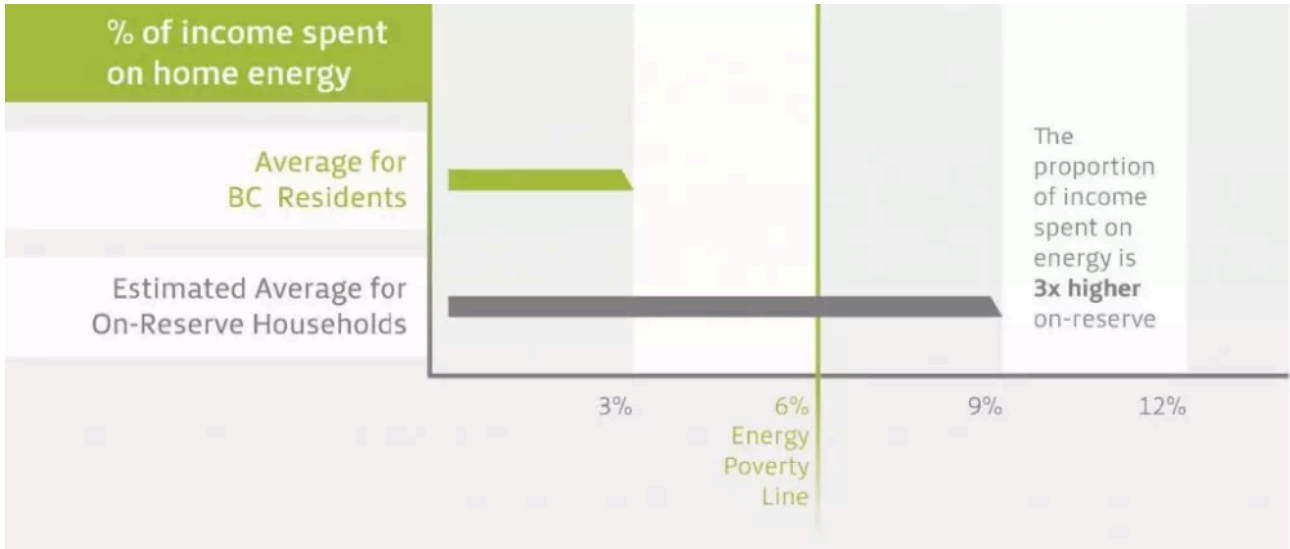
Figure 1. Remote communities in Canada

Source: Natural Resources Canada¹

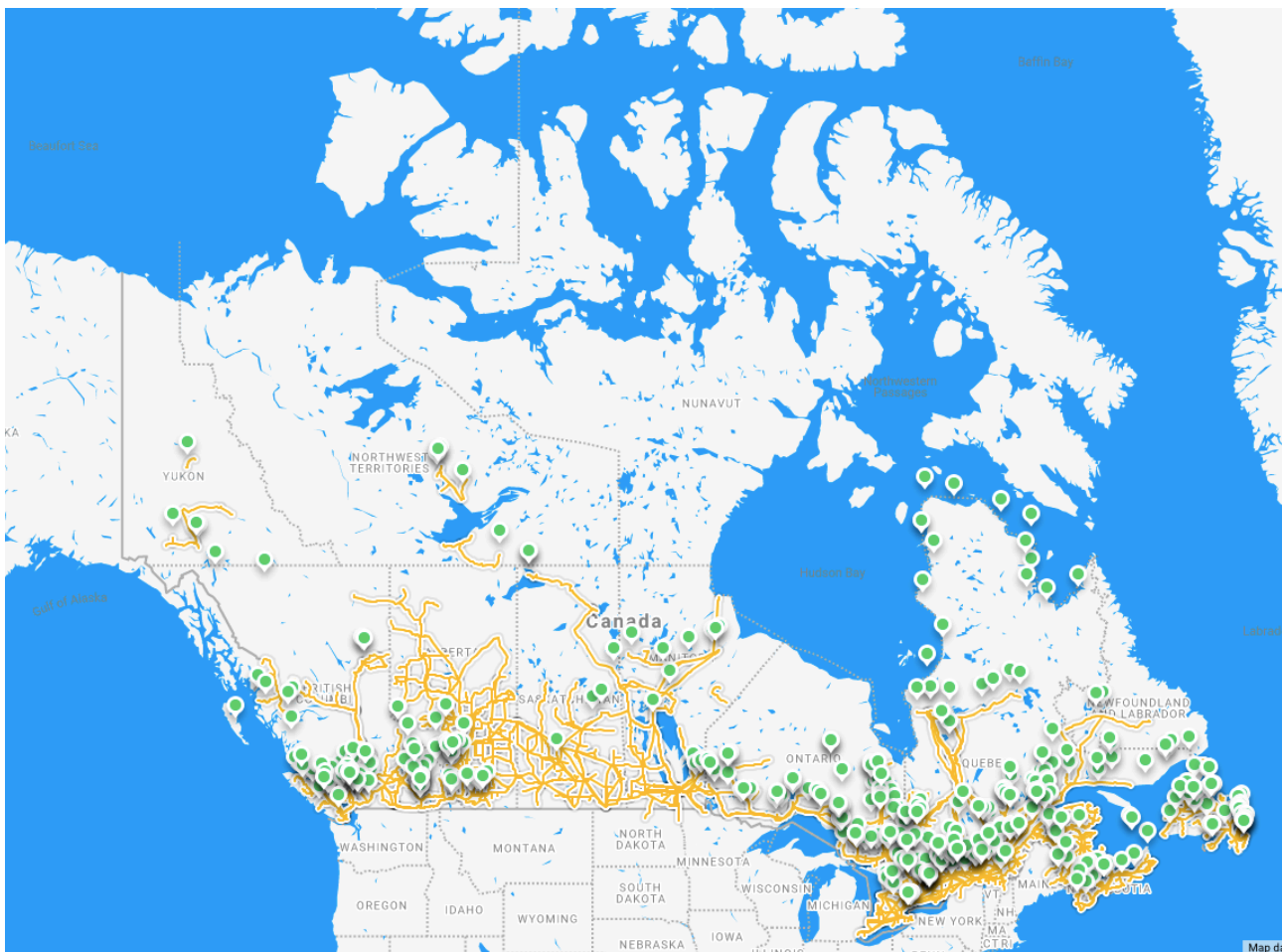
C. Graph: Representative Territorial and Provincial Residential Electricity Prices in 2016



D. Graph: *Percentage of Income spent on Home Energy*



E. Interactive Map: *Canadian Hydropower*



F. Map: Clean Energy Resources and Projects - CERP (The Atlas of Canada)

