

# Empowering indigenous-Owned Renewable Energy: David Isaac, W Dusk Group

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David Isaac  
*W Dusk Group*

## INTRODUCTION

David Isaac, also known as Wugadusk — his traditional Indigenous name — is a Mi'kmaq originally from Listuguj, Quebec. Isaac has been an advocate for Indigenous health, the environment, and renewable systems for years, and he has previously served as the Deputy Executive Director for the Vancouver Native Health Society and the Centre for Native Policy & Research (D. Isaac, personal communication, February 21, 2020). Isaac has always been intrigued by technology in the context of renewable energy. His motivation and drive for innovation is derived from his grandfather. Isaac's grandfather was one of the first Mi'kmaq

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to study engineering. Isaac's grandfather was a brilliant man; but due to the restrictions of the *Indian Act*, his grandfather could not officially get his engineering degree. While Isaac started out studying to become a doctor, he maintained his interest in renewable energy. Isaac grew up around creative innovation, which informed a vision as an adult for a renewable clean future grounded in his own Indigenous culture and beliefs. Isaac envisioned a future of wind turbines, and solar panels as drivers for a sustainable decentralized decarbonized economy. Isaac owns W Dusk Group, short for Wugadusk, his traditional Mi'kmaq name. W Dusk Group (WDG) was started eight years ago. Isaac's core values and focus are on assisting communities to become self-reliant through renewable energy empowerment with a system based, community-driven approach (D. Isaac, personal communication, February 21, 2020). Further, WDG makes it evident that the built environment and physical infrastructure should reflect the values, culture, and natural beauty of community. All of Isaac's work aligns with an approach that honours and respects nature, nurturing all of life's connections.

## CANADA'S ENERGY TRANSITION

It is imperative to understand the connection between the history of colonialism and the development of energy resources. There are some Canadians who push for a shift away from a colonial economy that is based on finite petroleum resources. Renewable energy technology drives the WDG agenda that is based on the Indigenous principles of stewardship in preserving natural resources and in leading to renewable energy sovereignty. Over the past century, humanity has gone through an extensive energy transition, resulting from a combination of technological, political, and environmental changes. Coal was once the driving force for primary fuel consumption and had major environmental impacts. Coal plants are responsible for over 42% of mercury emissions, a heavy metal that can cause damage to the nervous, digestive, and immune systems, as well as threaten child development (LeBlanc, 2019). More important, coal is a leading cause of CO<sub>2</sub> emissions responsible for the deterioration of the earth's ozone layer. Impacts of hydroelectric development will now be explored using the Manitoba experience.

## IMPACTS OF HYDROELECTRICITY ON CHEMAWAWIN, MANITOBA

Manitoba's first production of hydroelectric dams began in the early 1900s, with the construction of the Minnedosa generating station on the Little Saskatchewan River (Dipple, 2015). Shortly after, Manitoba Hydro's oldest hydroelectric generating station was developed by the Winnipeg Electric Railway Company, a forerunner of Manitoba Hydro, and in 1923 the first generator went into service. Grand Rapids hydroelectric generating station became Manitoba's first project in northern Manitoba (Manitoba Hydro, n.d.). This station is situated on the Saskatchewan River between Cedar Lake and Lake Winnipeg, near two First Nations communities, Chemawawin, and Grand Rapids (Dipple, 2015). Half a century ago, both the Chemawawin and Grand Rapids Indigenous communities completely lived off their land and natural resources. Ralph Thomas, a Chemawawin member, explains, "Food was plentiful, and people knew how to help each other.... If someone killed a moose, everyone would get a chunk of moose meat. Trappers sold pelts for extra cash. Life was good here.

We never experienced hardships. Families were self-sufficient” (Kusch & Glowacki, 2010). The community of Chemawawin suffered when the dam caused water levels in Cedar Lake to rise by 3.5 meters (Dipple, 2015). This rise in water levels caused significant flooding in the community. The flooding resulted in the relocation of the community (Dipple, 2015) and led to the destruction of the ancestral practices of hunting, trapping, fishing, and gathering. Burial sites, artifacts, and ancient trails were also destroyed. Cheap energy overrode any impacts on communities. These social/environmental impacts lie at the heart of current energy debates on development projects that went unacknowledged for years.

### **Environmental Displacement**

Due to the flooding caused by the hydro dam, the Chemawawin community was completely displaced, stripped of their land, their culture, and their rights. The community of Grand Rapids also suffered similar damage to their community and lifestyle but did not have to relocate. Reflecting on northern energy development, Ramona Neckoway, Indigenous scholar, says, “For me, this is a cultural genocide that’s going on. And I don’t use those words lightly. I say that because I see that there are entire generations of children in our communities that don’t go on the water, that don’t understand the importance of that water to who we are, that have never left the reserve, this cage that they’ve created through colonial policies that have been imposed on us” (Brake & Brandson, 2018). Further, Manitoba Hydro and other electrical energy providers continue attempts to reconcile with Indigenous-affected communities through land settlements and monetary claims. This loss of Indigenous lifestyle and community to hydroelectric dams denotes a common reality throughout Canada, where a monetary value cannot replace the cultural, land, and societal damage that has been done. It is imperative, moving forward, that a pragmatic shift in the energy paradigm must occur to further prevent future damage to Indigenous communities and Canada as a whole.

### **A SNAPSHOT OF TODAY’S ENERGY GENERATION**

Today’s energy generation is slowly moving away from the consumption of carbon-emitting fuels and destructive hydroelectricity to the consumption of non-carbon-emitting, environmentally sustainable practices. This process is called decarbonization. Drivers for energy needs are technological, economic, and political factors. The current environment has an added environmental driver focusing on non-hydro renewable energy forms. Solar energy, in the form of solar panels, produces clean, renewable, non-hydro energy that can power a community without the adverse effects of hydroelectricity. Interest can be measured by the impressive growth of solar energy use from 2 exajoules (EJ) in 2000 to 20 EJ in 2017. One EJ is equivalent to the energy content in 174 million barrels of oil (Canada Energy Regulator, 2019). No other primary energy source has experienced a ten-fold increase in growth by that amount in a 17-year timeframe. “Every square inch of Indigenous land in Canada has wind, solar or tidal energy potential. With the Internet of Things, we can optimize the interactions between a distributed energy system composed of solar panels, wind turbines, and tidal power based on real-time data from each component” (D. Isaac, personal communication, February 21, 2020). This transition from hydroelectricity to renewable non-hydroelectric practices is an important choice for decision-makers on a cost per watt basis

and on a natural energy renewable, environmental level. Issac notes, “An energy transformation is happening across the globe; one that resonates with Indigenous reconciliation, with environmental stewardship and with innovative technology” (D. Issac, personal communication, February 21, 2020). Canada should be proactively facilitating the development and distribution of renewables, such as solar and wind. Historically, not all global economies revolutionize technology changes at the same rate. In the author’s opinion, Canada seems to take a passive approach in the transition in comparison to most European countries related to renewable energy, which has caused Canada to fall behind in the transition to renewables. As Canadians, the author urges that it is vital that we take a proactive aggressive approach towards shifting the energy paradigm to a renewable and circular economy. It is prevalent that the energy future will be focused on renewables. Renewables will join hydroelectricity that will also evolve. “Fully embracing the renewable energy shift would marry reconciliation principles and this new industry with the modernization and resiliency of Canada’s economy. Doing this in concert with Indigenous principles and communities would position Canada as a global leader” (D. Issac, personal communication, February 21, 2020). Today, Indigenous communities are viewed as an important player in economic development within Canada. “The future infrastructure of the world will be based on Indigenous principles of having local abundant natural resources that minimize the negative extractions and the colonial technology that we see in oil and gas” (D. Issac, personal communication, February 21, 2020). W Dusk is creating economic development opportunities that do not strip away one’s Indigenous connection to the land. Instead, renewables help to reaffirm and strengthen Indigenous values and pride within Indigenous communities. Thus, this compassionate paradigm is a shift in the right direction toward meaningful reconciliation.

## **W DUSK GROUP ECONOMIC IMPACT**

W Dusk Group is challenging traditional energy methods to help communities become self-reliant through renewable energy empowerment. Isaac focuses on expanding capacity within Indigenous communities by providing intensive solar installation training to members within client communities. Young Indigenous community members are offered tutorials about solar energy, giving them a chance to hook up sample solar panels (D. Isaac, personal communication, February 21, 2020). With projected renewable energy growth, it is important that Indigenous youth have technical, trade-related skills including renewable installation and maintenance. These non-hydroelectric solar panels are the technology that embodies Indigenous ways of being by preserving precious relationships with land, water, and nature. Tangible community benefits include job creation and capacity building, and intangible benefits include a sense of pride and ties to heritage. Indigenous communities can build positive momentum from solar installations through the creation of an Indigenous sovereign power utility. It is noteworthy that solar projects will create an annual source of income for Indigenous communities for at least 20 years (Mathiesen et al., 2015, p. 1).

## **W DUSK YOUTH EMPOWERMENT**

Isaac gives Indigenous youth who have never seen solar panels before the opportunity to participate in a five-day concentrated training program and become certified to contribute to

building a solar farm in their community. This approach fills a capacity gap in technical and trade skills that many Indigenous youth lack. Most Indigenous youth want jobs that allow them to remain in their communities. Renewable energy projects are one tool that helps enable this lifestyle.

## **W DUSK CHALLENGES**

One of Isaac's largest challenges is in creating momentum to shift Canada from a carbonized economy to a decarbonized economy. Isaac feels that Canadians are behind in energy evolution, with a colonial focus on hydroelectric and petroleum that is deeply ingrained. The issue of the future for renewable energy is important and, of course, directly impacts potential growth in the evolution of energy use. Challenges raised by the Canadian government are storage issues for both solar and wind power, making them unreliable sources. Wind speeds often do not match demand periods, and solar only generates when the sun is shining. Run-of-the-river hydro dams (common in the Northwest Territories) also have limited storage capabilities, and outputs cannot be scaled to meet demand (Canada Energy Regulator, 2019, p. 2). These arguments seem to be the premise of the current roadblocks that are stopping the Canadian government from further investing into renewable sources of energy. As technology shifts to the Internet of Things (IoT), the IoT can leverage the interactions between a connected renewable energy system comprised of solar panels, wind turbines, and tidal power through real-time data of each component, making these sources more reliable (D. Isaac, personal communication, February 21, 2020). "Smart energy systems enable fluctuating renewable energy (such as wind, solar, wave power and low-value heat sources) to utilise new sources of flexibility such as solid, gaseous, and liquid fuel storage, thermal storage and heat pumps and battery electric vehicles. It can pave the way to a bioenergy-free 100% renewable energy system" (Mathiesen et al., 2015). Most importantly, the future of renewable energy can lead to reconciliation principles that can help to minimize the destructive effects of colonial hydroelectricity technology. Lastly, renewable energies will help to limit the damage done to the land for Indigenous communities and Canada in general.

## **RESEARCH AND LEARNING REFLECTIONS**

My reflections on Indigenous leadership have changed drastically since this course. I have learned the true meaning of inter-generational trauma, Indigenous sovereignty, Indigenous leadership, compassionate capitalism, capacity gaps, and much more. Thus, I believe it is crucial for all Canadians to understand that First Nations, Métis, and Inuit communities are collective communities that prioritize the relationships with the land, culture, and nature. I believe that Indigenous communities across Canada can and should position themselves to be the renewable energy leaders of tomorrow. As the world continues to shift to renewable energy, Indigenous communities stand to be an integral front-line part of this paradigm shift. Indigenous leaders of the future must focus on enhancing building capacity within the youth of their communities to achieve a secure and sustainable future.

## CONCLUSION

Indigenous Canadians were focused on preserving land, nature, and the waters long before natural resources preservation became an objective. Indigenous communities were and always will be reliant on healthy, accessible natural ecosystems. Indigenous communities are positioned to benefit from renewable energy. The future of energy in Canada may well be influenced by Indigenous values of natural resource and land protection. Through innovative companies like W Dusk, Canada can take a leap towards economic reconciliation and environmental stewardship that will benefit the future of all Canadians.

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