



Working Together: A Conversation on Indigenous Knowledge and Science

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Summary

Environmental stewardship, energy-based economic sustainability, inclusivity and decision-making based on science and local knowledge are frequent topics of discussion in the boardroom, at round tables and in the media. This paper and conversation will reflect on the history of the Saa Dene Group, with its roots in the Fort McKay First Nation (FMFN) and diverse range of initiatives with partners from industry to academia. Founded by Chief Jim Boucher, Saa Dene Group is a collective of companies with one clear vision: *To increase diversity and inclusion through economic and social participation in the global economy.* Chief Boucher has been an advocate for uniting Indigenous people in business ventures during his travels, identifying with Cree Dene communities throughout North America (Figure 1). With a theme of *"working together"*, Chief Boucher will be joined by Dr. Chelsea Benally in this paper and conversation. Chelsea is Diné Navajo, from the *One Who Walks Around* Clan in northern Arizona. Dr. Benally is an Environmental Engineer who was the first Indigenous woman to obtain a PhD in Engineering from the University of Alberta (2018), with her dissertation on the treatment of oil sands process water by membrane filtration and adsorption. Led by the University of Calgary, the REDEVELOP program was launched in 2017 to train students to work across disciplines, distance and cultures, with a vision of preparing graduate students for effective leadership in the energy-sector. Now in its fifth year, multi-university student teams have presented findings on 18 energy-related questions asked by industry, government and Indigenous communities. Volunteering their time to serve as Dragons, judging the presented works of student teams in *The REDEVELOP Challenge*, both Dr. Benally (2020) and Chief Boucher (2021) have played a significant role in shaping the views of young professionals about to enter the workforce.

Introduction

As a young chief in the 1980s, Jim Boucher observed how the world was changing around him. Initially opposed to moving away from familiar ways of life, he recognized the need to adapt and evolve with the changing landscape. Under the 30-year leadership of Chief Boucher, a group of First Nation companies was formed with a vision of creating employment, educational opportunities, economic advancement, and to improve the FMFN community's standard of living. Achievements to date include annual revenues in excess of \$500 million, a vibrant community with almost zero unemployment, a \$65 million trust fund, and 49% ownership of Suncor's East Tank Farm Development. Since the changing climate and landscape indicate that we are evolving again, the Saa Dene Group was launched last year. As an engineer and a mother, Chelsea Benally made the journey from Arizona to Alberta to continue her studies and unite her son with his paternal family of the Sucker Creek First Nation. With an MSc in Chemical Engineering from the University of Arizona and five years' experience with Sandia National Laboratories in New Mexico, Chelsea chose an unfamiliar path to find a career which would align more closely with her personal values of environmental stewardship.

The Conversation

Today, academics are working to adapt education in science, technology, engineering and math (STEM) to the changing landscape and to navigate unfamiliar paths to prepare the next generation for the workforce. A philosophical approach to STEM-based partnerships was recently shared by Chief Boucher that is worthy of repeating. *Don't ask yourself why you should partner with a business or community. Instead, acknowledge that everyone is trying to protect something. What is it that you are trying to protect? and why?* For example: Protect the water and the fish to sustain a way of life for the future generations that follow. Protect the ecosystems of the land, water and air to preserve the planet. Protect our natural resources to ensure future sustainable development and socio-economic prosperity. To suggest that we can replace one form of energy with another is foolish. Simply put, we aren't ready. We need to continually innovate, adapt and conserve. Look to our northern friends as leaders in conservation, because they do more with less and live within their means. Education of future generations should focus on capacity development of people and purpose. Ask your students: *What is your contribution to knowledge and to humanity?* Join us for an enlightening wrap-up of this session in a conversation with Chief Jim Boucher and Dr. Chelsea Benally.



Figure 1. Map pair showing distribution of Dene communities in North America, particularly in northern Alberta and the Arizona - New Mexico region. Sources: K.Feisel (<https://www.archaeology.org/issues/393-2009/features/8918-walking-into-new-worlds>) and Geology.com (<https://geology.com/world/north-america-satellite-image.shtml>)

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