



Spotlight on Women in Geothermal – January 2026

Andrea Warren, Project Coordinator, Tu-Deh-Kah

Guiding Tu-Deh-Kah Geothermal Toward a New Energy Future

From Newfoundland to Northern BC: A Journey Rooted in Community



In the remote northern community of Fort Nelson, British Columbia, a profound energy transition is underway, one led entirely by Indigenous people and driven by a team so small it’s almost impossible to imagine. At the center of this transformation is Andrea Warren, Project Coordinator for Tu Deh-Kah Geothermal, whose leadership, cultural grounding, and unwavering commitment to future generations are shaping what may become one of the most significant clean-energy stories in Canada.

Andrea’s path into geothermal began far from the world of subsurface engineering. Originally from Corner Brook, Newfoundland, she is a proud member of the Alapu Mi’kmaq First Nation. Through an accelerated academic program, she completed her business administration degree just before receiving her high school diploma, setting the stage for an early and ambitious career start.

Learning Energy from the Ground Up



After moving west, Andrea began administrative roles in the oil and gas industry, supporting operations at the Cabin Gas Plant, North River Plant, and Fort Nelson Gas Plant between 2015 and 2020. These years provided firsthand exposure to an industry that had long shaped Fort Nelson’s economy and identity.

But beneath the aging Clark Lake natural gas field lay a secret that locals had sensed for decades: heat rising from an ancient coral reef formation. Workers warmed lunches on hot pipes in -40°C weather. Snow refused to accumulate. Wildlife gathered around naturally heated ground. When geothermal evaluators finally assessed the area, they confirmed what generations had quietly observed—the region was ripe for geothermal energy.

The Birth of Tu-Deh-Kah: An Indigenous-Led Energy Vision

When the opportunity emerged to convert the depleted gas field into a geothermal project, Fort Nelson First Nation chose to lead rather than allow external companies to control the resource. Tu Deh-Kah Geothermal—meaning “water in the form of steam” in Dene, was born from a community committed to long-term energy independence rather than another cycle of extraction.

Andrea joined during the project's early transition phase and quickly became one of its central leaders. Today Tu Deh-Kah h operates with only three people, CEO Jim, Training and Employment Coordinator Cindy, and Andrea—yet their impact is national in scale.

Proving the Resource and Building Momentum

In 2022, the team drilled two geothermal wells and completed a 30-day pump test, recording surface temperatures of 114°C—enough heat to generate between seven and fourteen megawatts of clean power. That capacity could one day supply Fort Nelson First Nation, the town of Fort Nelson, and nearby communities.

However, like many Indigenous-led energy initiatives, the project faces challenges. Progress toward a Power Purchase Agreement (PPA) with BC Hydro has been slow, delaying full-scale power production. Still, the team remains committed to their vision and continues to move the project forward.

District Heating and Greenhouses: Geothermal Benefits Today

While the PPA remains in limbo, Andrea and the team pivoted toward district heating opportunities, beginning with a landmark greenhouse project. In partnership with Chalo School, they built a year-round greenhouse, currently heated by natural gas until geothermal integration is complete, that now grows vegetables, flowers, and trees throughout the year.

Students participate in planting, harvesting, and horticulture education, turning the greenhouse into a hands-on learning environment. The output has been so abundant that surplus produce is regularly offered to the community.

Cultural Engagement at the Heart of the Work

Community connection is at the core of Tu Deh-Kah's philosophy. Andrea and Cindy lead communications, host workshops for both Nation members and town residents, and ensure that cultural knowledge remains integrated into the project. They facilitate canning classes, traditional medicine workshops, tea blending using local plants, and land-based learning activities guided by land guardians.

These efforts empower community members to participate directly in the project's development, ensuring geothermal becomes not just a technical endeavor but a cultural one.

Building Skills, Confidence, and Paths to Employment

One of the most transformative aspects of Andrea's work involves community capacity building. Cindy, with Andrea's support, has helped numerous Nation members access training and obtain essential certifications. Even something as simple as acquiring a driver's license—an enormous barrier in remote regions—has changed lives. Over the past year and a half, seventeen Nation members have earned their licenses through targeted support and advocacy.

Balancing Leadership, Motherhood, and Advocacy

Beyond her work, Andrea is a dedicated mother to three children—twin nine-year-old boys and a five-year-old daughter recently diagnosed with significant hearing loss. Learning ASL alongside her children has reshaped her view of communication, accessibility, and resilience, themes that echo throughout her leadership style. She often reflects on her role not as a technical position but as a generational responsibility.

Toward 2026 and the Future of Indigenous Energy

Looking ahead, Andrea hopes to complete feasibility studies for geothermal-powered commercial greenhouses, secure a final decision from BC Hydro on the PPA, and drill additional wells needed for full-scale power production. Despite the challenges, she remains grounded in optimism, driven by cultural responsibility and the belief that this work will benefit her children, grandchildren, and the generations beyond.

Andrea's leadership represents the intersection of innovation, community empowerment, and cultural stewardship. She is not only guiding a geothermal project; she is helping build a legacy of Indigenous-led clean energy for northern Canada, grounded in the strength of land, culture, and community.

WING CORE Value Courageous 2025 Award

Andrea was a 2025 recipient of the WING Core Value Courageous award.

