



VUNTUT GWITCHIN GOVERNMENT

Government of Vuntut Gwitchin First Nation

MEDIA RELEASE

Sree Vyah (the Old Crow Solar Project) Advances the Transition to Clean Energy in Canada's North

Old Crow, Vuntut Gwitchin First Nation Traditional Territory, Yukon - August 17, 2021

Dependence on diesel generation in Canada's North is becoming a thing of the past with the completion of Sree Vyah, the Old Crow Solar Project. Last week, the Vuntut Gwitchin First Nation community of Old Crow went quiet when the diesel generators shut off and the full electrical load was met by solar power. Yukon's only fly-in community, Old Crow is also the only community in the territory located north of the Arctic Circle.

Sree Vyah marks important progress in Canada's transition away from fossil fuels to clean, renewable energy. It demonstrates the viability of solar generation in the Arctic and proves that high solar penetration on remote, diesel micro-grids is possible.

Located on Vuntut Gwitchin First Nation Settlement Land, 2,160 single sided mono-crystalline panels are configured in an east-west orientation to maximize solar generation during the long daylight hours and the wide arc of the Arctic summer sun. The solar array works alongside a 616 kW battery energy storage system and micro-grid controller, curtailing the use of the diesel generators by 2,000 hours or 189,000 litres of diesel fuel annually.

Sree Vyah is a community-led initiative that signals the emergence of new relationships for Indigenous Nations within the energy sector. Under a 25-year Electricity Purchase Agreement with ATCO Electric Yukon, electricity generated by the solar array, which is owned by the Vuntut Gwitchin First Nation, will be purchased by ATCO at a rate approximately equal to the cost of diesel generation. This relationship, made possible under the Yukon's Independent Power Production Policy, will generate stable, long-term income for the Vuntut Gwitchin First Nation over the life of the project. This will keep more money in Old Crow and contribute significantly to local economic vitality and community sustainability.

"Our team came together under the canopy of the *Yeendoo Diinehdoo Ji'heezrit Nits'oo Ts'o' Nan He'aa Declaration* (2019) and the vision of the Gwich'in Nation expressed through the *Ni'inlii Declaration* (2016) to make this momentous point in our First Nations' upward trajectory toward carbon neutrality possible. It is exhilarating, to say the least," said Vuntut Gwitchin Government Chief Dana Tizya-Tramm. "Sree Vyah is an example of the leadership shown by Indigenous communities in preventing the rise of global temperatures. This is particularly important for us given that Indigenous communities in the North are experiencing the effects of climate change more rapidly and more acutely than anywhere else in Canada," said Tizya-Tramm.

Sree Vyah, the Old Crow Solar Project, is a key element of the Vuntut Gwitchin Government's larger vision of reaching net zero carbon emissions by 2030. The project will reduce greenhouse gases by 680 Tonne CO₂e per year and significantly decrease the amount of diesel fuel flown in to Old Crow. With solar power now providing 24% of the annual electricity used in the community, the First Nation is assessing the local wind resource as a means of displacing diesel generation through the winter months.

“Sree Vyah is what self-determination and sustainability look like. Our dedicated and skilled team has successfully delivered on the kind of legacy our Nation wants to leave for future generations, just like the caribou fences left by our ancestors,” said Erika Tizya, Vuntut Gwitchin Government’s Natural Resource Director. “This project shows that traditional values are an important part of the solution to modern challenges facing isolated, off-grid communities. A heartfelt Mahsi’ to the team and all Vuntut Gwitchin,” said Erika Tizya.



A sunny day in Old Crow with some of Sree Vyah’s solar panels in the foreground. *Photo by Caleb Charlie*

Funding provided by the federal government and Yukon territorial government in support of climate targets, Indigenous participation in the energy sector and economic development in the North played an important role in the development of Sree Vyah. The continuation of this partnership is crucial as remote Indigenous communities in Canada transition to clean, renewable energy.

The Vuntut Gwitchin First Nation declared a Climate Change Emergency in 2019 with the *Yeendoo Diinehdoo Ji’heezrit Nits’oo Ts’o’ Nan He’aa Declaration* to protect VGFN lands, waters, animals and peoples from the effects of climate change today and for future generations.

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An aerial view of Sree Vyah showing the mono-crystalline panels positioned in an east-west orientation to maximize solar generation during the long daylight hours of the Arctic summer. *Photo by Caleb Charlie*

Quick Facts

- Construction of the solar array was completed in the spring of 2021, at which time a limited amount of electricity began flowing to the local power grid. The project was fully commissioned in August 2021 with the completion of the battery energy storage system and microgrid controller.
- The solar array (940kW DC/480kW AC) and battery energy storage system are sized to meet the entire electrical load of the community, allowing the diesel generators to shut down completely on sunny days.
- Development of Sree Vyah (the Old Crow Solar Project) began in 2016 following completion of a feasibility study that showed a large-scale solar project was, “a challenging but feasible opportunity” for the Vuntut Gwitchin First Nation.
- The technical challenges of introducing high penetration renewables to a remote diesel microgrid were addressed in a 2018 grid impact study completed by Northern Energy Innovation, a program directed by Dr. Michael Ross, NSERC Industrial Research Chair of Northern Energy Innovation and the four territorial electrical power utilities.
- Under the 2018 Electricity Purchase Agreement, the Vuntut Gwitchin First Nation owns the solar generation assets and ATCO Electric Yukon owns the battery energy storage system and microgrid controller. An Operating Committee, comprised equally of Vuntut Gwitchin First Nation and ATCO representation, was established to ensure solar generation is optimized without compromising power quality or safety.
- Peak solar generation is expected during the spring and summer months. Solar generation will not contribute to the winter load (November through February).
- The Canadian Consulting Engineering Award of Excellence was awarded to BBA and 3EYOND Consulting Group in 2019 for technical/engineering support of the Old Crow Solar Project.