



OLD CROW SOLAR PROJECT

PROJECT DESCRIPTION

Old Crow is a First Nation community of approximately 260 people located north of the Arctic Circle that relies on diesel generators for their electricity. The community has a goal to achieve net-zero carbon emissions by 2030, and the first project developed was a solar plant.

3EYOND Consulting designed and supported the procurement, construction and operation of a 940 kW solar plant with battery energy storage. 3EYOND worked closely with [BBA Engineering](#) throughout the project.

SERVICES

- Front-End Design
- Detailed Design, Construction and Commissioning Management
- Operational Maintenance and Support

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PROJECT AT A GLANCE



REGION:
OLD CROW, YUKON



CLIENT:
VUNTUT GWITCHIN
GOVERNMENT (VGG)



STATUS:
Completed Construction
Ongoing Maintenance



TYPE:
SOLAR ENERGY

KEY STATS

+20%

average diesel generation
reduction over 25 years

2,000

quiet hours per year when
diesel generators are off



2x

award winning
project



PROJECT SHEET: OLD CROW SOLAR PROJECT



CHALLENGE

- Negotiate first Electricity Purchase Agreement (EPA) in the Yukon
- Design on fragile permafrost and arctic climate
- Design and build a power generation system in a microgrid / remote community with a short construction season

SOLUTION

- Negotiate an Electricity Purchase Agreement (EPA) with ATCO Electric Yukon
- Optimize the solar plant layout with an East/West configuration to better match the community demand with solar generation
- Support the procurement, installation and commissioning of the 940 kW solar plant
- Implement an operation & maintenance program
- Implement a joint operating committee between ATCO Electric Yukon and Client

RESULTS

- Signed the first EPA in the Yukon
- Incorporated local knowledge for the design of the foundation to preserve the permafrost (to design the foundation while preserving the permafrost)
- Unique design of back to back panels to maximize solar generation in the arctic summer
- Preserve the access to the site for local berry picking
- First independent power producer (IPP) project online in the Yukon
- System is operating since April 2021
- Winner, FIDIC Project Awards 2021
- Award of Excellence, 2019 Canadian Consulting Engineering Awards