

Naujaat Solar and Energy Storage Project

June 2022

Kivalliq Alternative Energy Ltd.

A partnership between

Sakku Investments Corporation

Northern Energy Capital

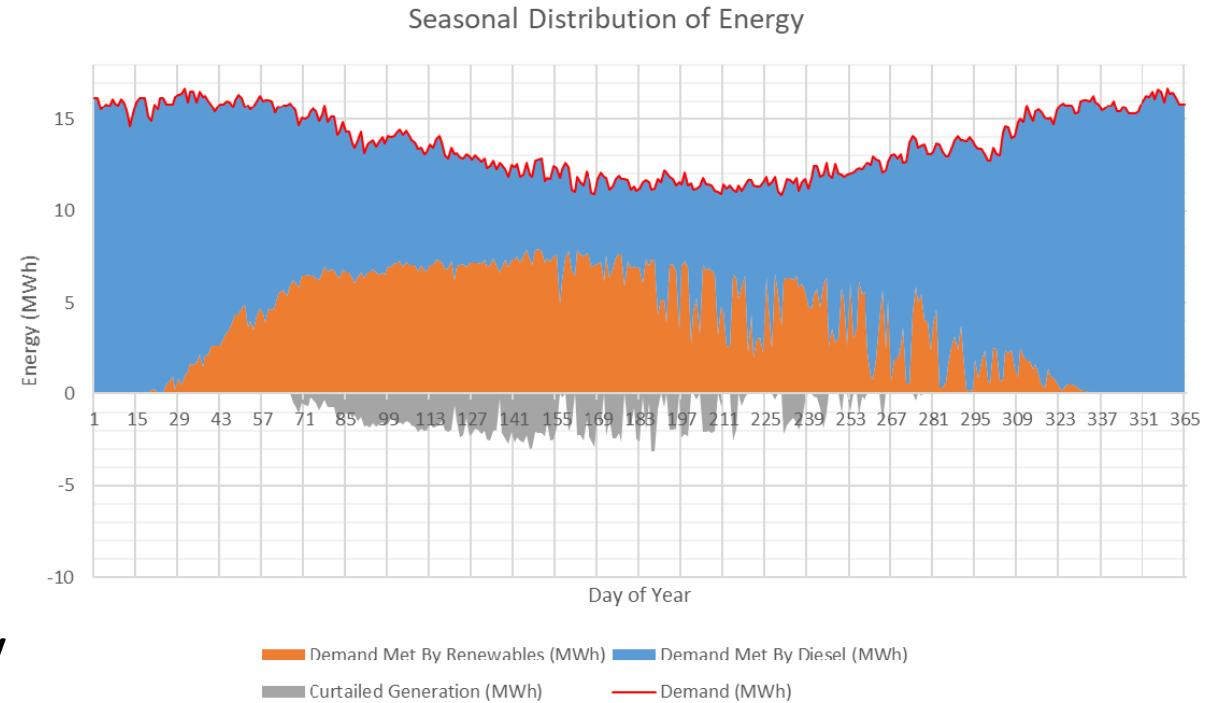
Naujaat Project Overview

- 1 MW solar energy with 1MWh battery storage
- Project specifications:
 - 3.1 ha (7.7 acre) project area
 - Fixed tilt, south facing, bifacial arrays
 - 2000+ modules, 13 rows, 4 inverters
 - 70m of new road
- Estimated construction start: 2024
- Estimated start of operations: 2025
- Project lifetime: 30 years or more



Energy Production

- 1866 MWh/year of electricity produced
 - 30% of Naujaat's total annual electricity demand
 - Equivalent of about 180 homes/year
- Peak production: March – August
- Lowest production: November – January
- 390,000 L of diesel displacement annually
- Over Project lifetime:
 - 11.7 Million L of diesel displacement
 - Over 30,000 tones of CO₂eq!



Above:
Estimated proportion
of local electricity
demand that could be
met by a solar energy
project annually
(orange area)

Environmental Considerations

Pros

- Once built, solar energy has zero carbon emissions and creates no pollution
- Solar panels are low maintenance and have long lifespans
- Reduced fuel requirements locally will reduce the risk of fuel spills during transport and storage

Cons

- Solar energy requires a lot of space
- Land is disturbed temporarily during construction (excavation, foundation install, road building)
- Some fuel is used during construction

Project Work Completed to Date

- Community Energy Plan, desktop review, feasibility studies, energy modelling
- Early stage budgeting and cost estimates
 - Estimated cost, \$12 million, 75% grant funded
- Grant writing and research for project funding
- Consultation with stakeholders
- Conformity Determination with Nunavut Planning Commission
- Site visit with technical and engineering team

Alternative Site

1. East of airport

- Level terrain
- Close to powerstation
- Less land use impact
- Near to airport



Project Schedule and Planned Activities

5. Site Finalization and Land Lease

- Obtain lease and land use permits

6. Environmental Assessment & Permitting

- Positive conformity determination received through NPC
- Environmental screening underway with NIRB

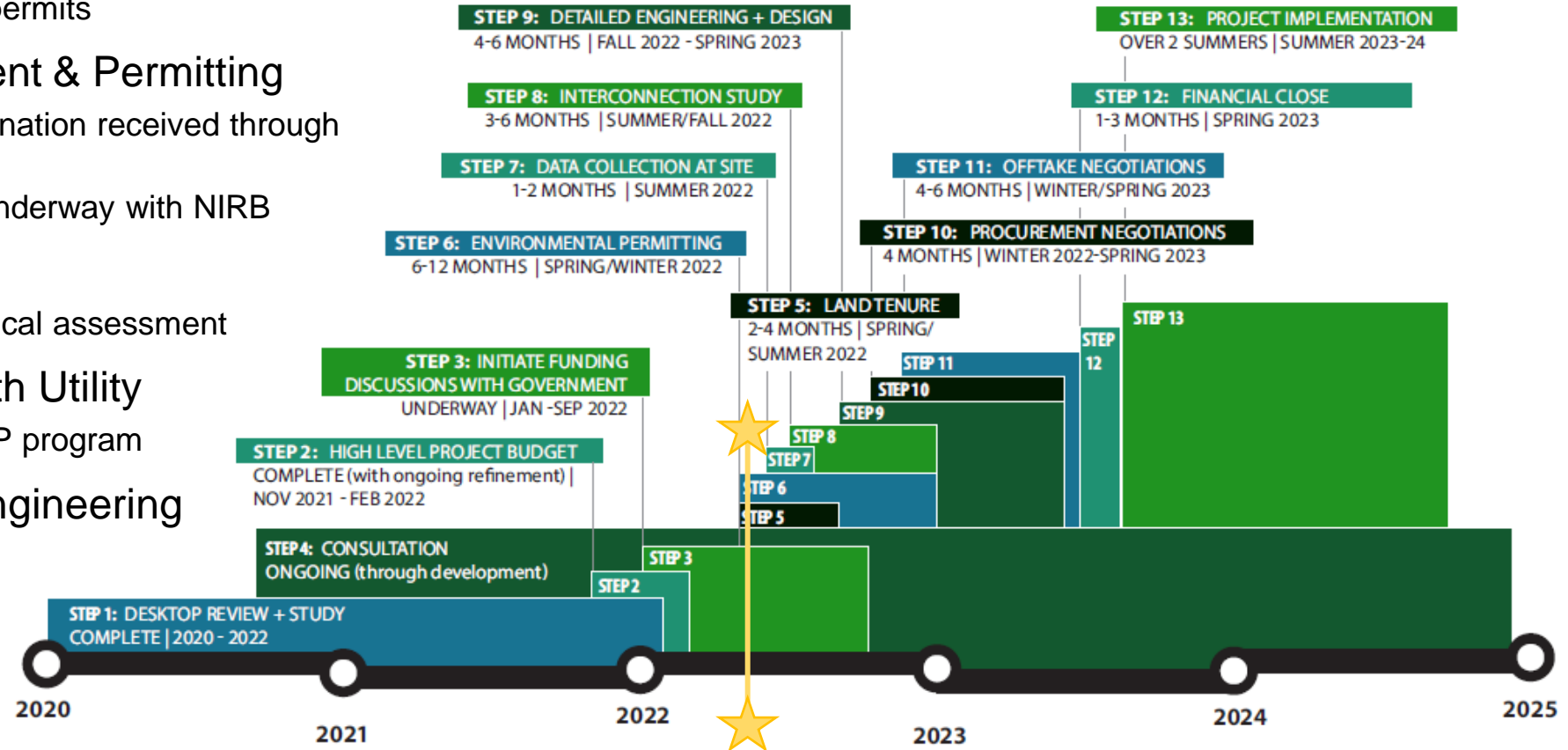
7. Data Collection at Site

- Ground survey & geotechnical assessment

8. Interconnection Study with Utility

- Pending release of their IPP program

9. Advanced Design and Engineering



Project Schedule and Planned Activities

10. Procurement Negotiations

- Solar Supply and Install
- Local Contractors

11. Offtake Negotiations and Financial Close

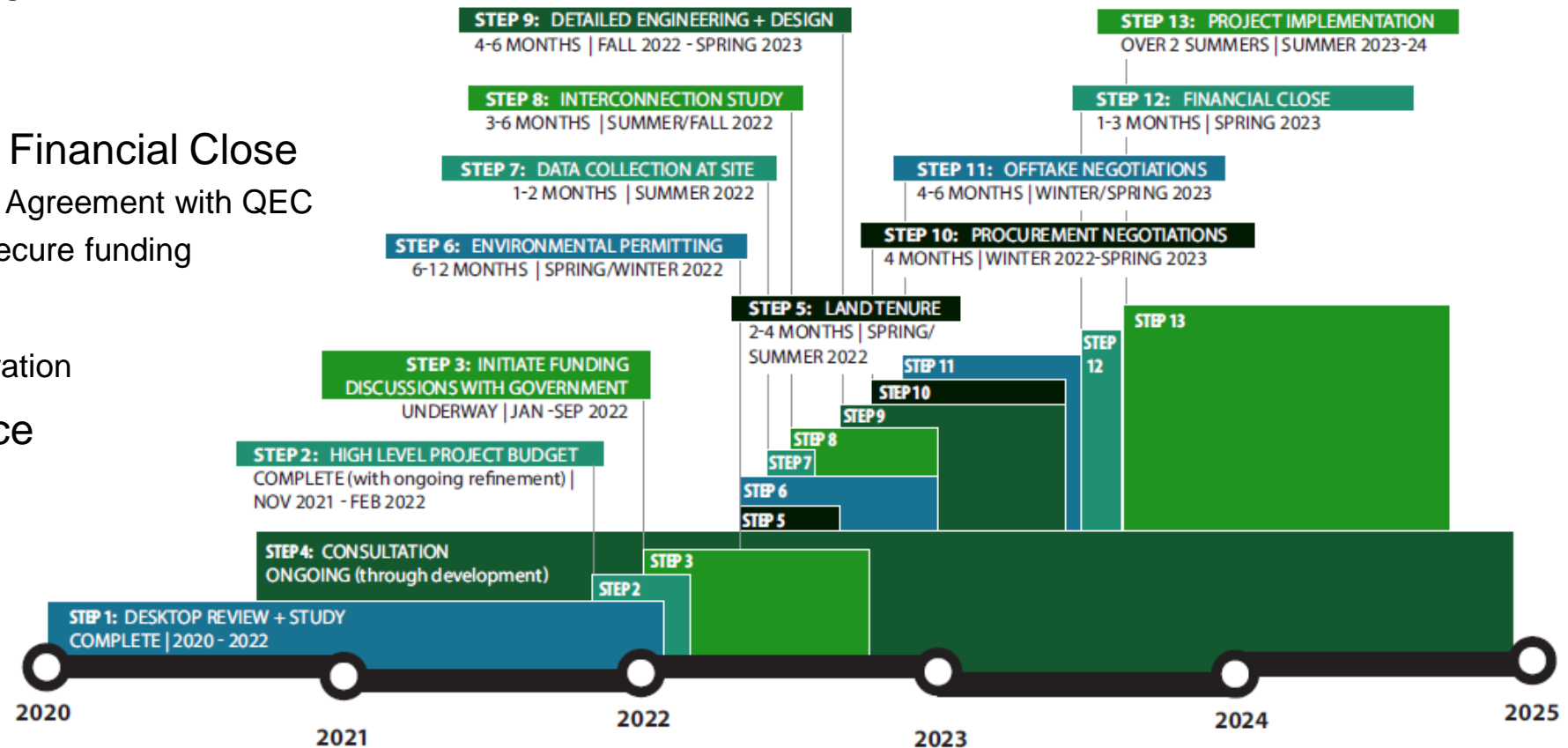
- Negotiate Power Purchase Agreement with QEC
- Finalize all contracts and secure funding

12. Construction

- Approximately 1-2 year duration

13. Operations & Maintenance

- Beginning 2025
- Training of local personnel



A photograph of a building with a sign that reads "HAMLET OF NAUJAAT" and "On The Arctic Circle". The sign also features Inuktitut text and a logo of a person in a kayak. The building has orange and grey corrugated metal siding.