



Buying renewable electricity from Atlin

Yukon Energy and THELP Electricity Purchase Agreement

Yukon Utilities Board Public Information Workshop

February 11, 2022

Acknowledgement

Yukon Energy recognizes that we
live and work on the Traditional
Territories of Yukon First Nations

Agenda

Section 1: Providing context

- Yukon's electricity landscape
- Atlin project highlights

Section 2: Electricity Purchase Agreement

- Terms and Pricing

Section 3: Summary and Next Steps

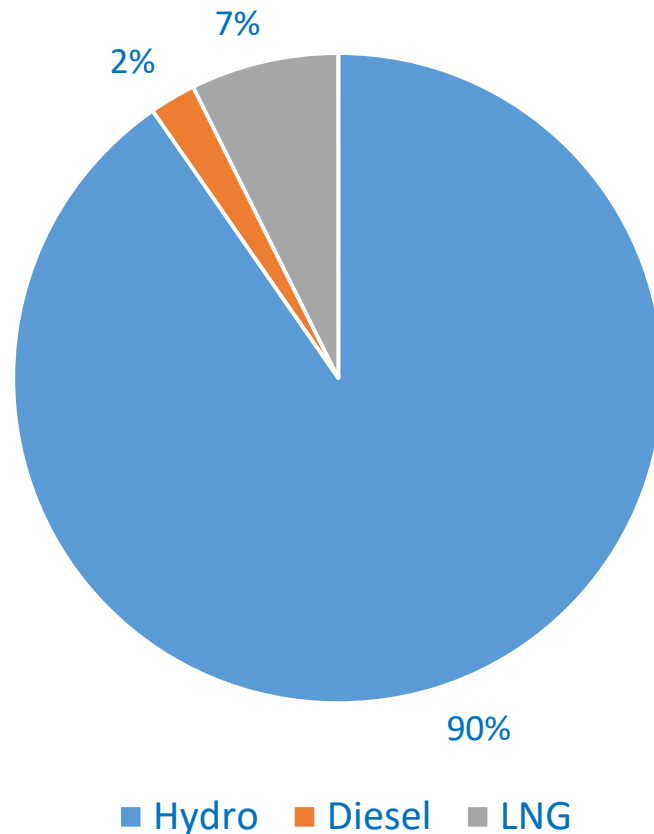
- Yukon Utilities Board process
- Rate impact

Yukon's electricity landscape

Renewable and reliable

Our electricity mix

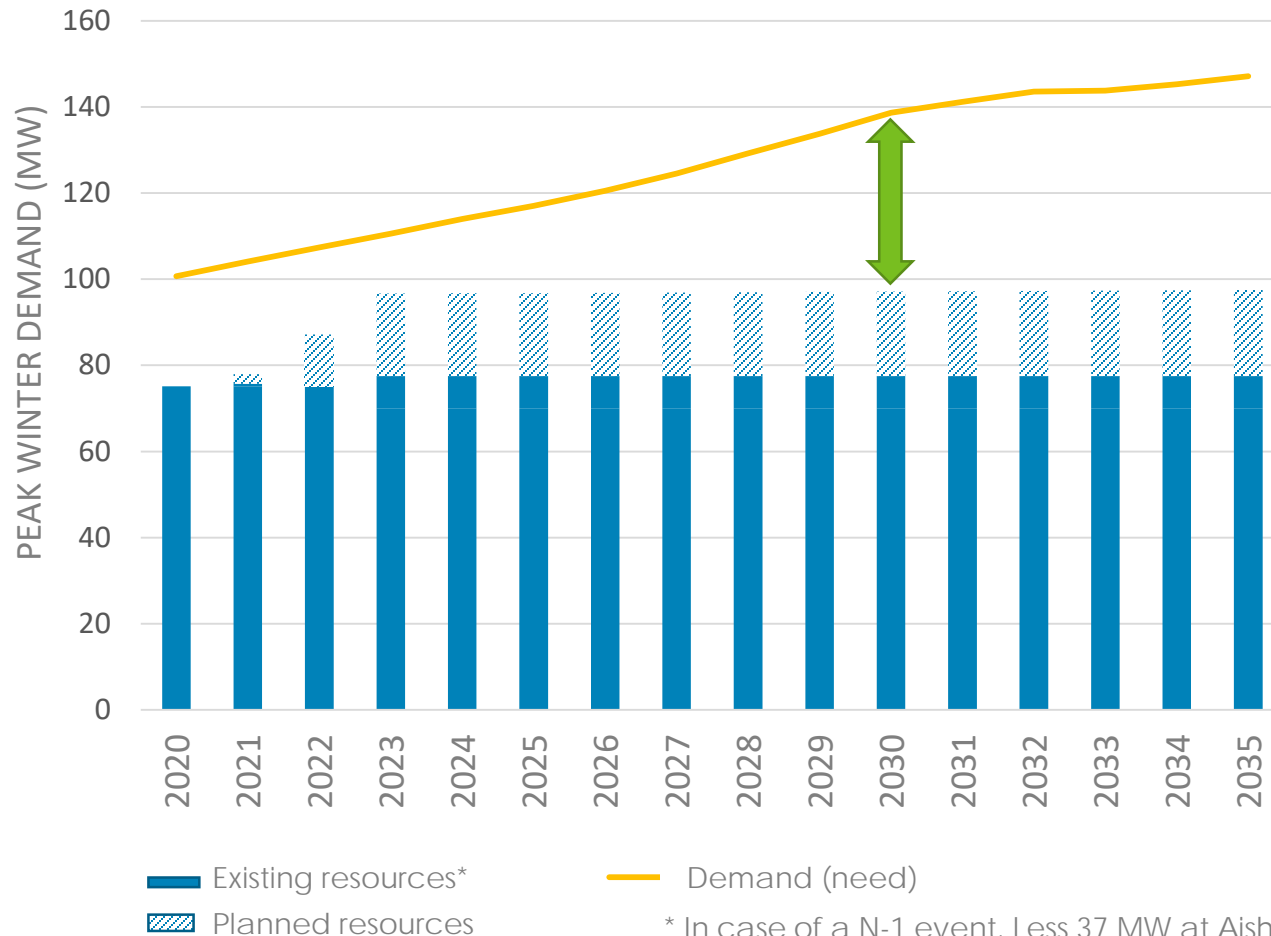
Generation Sources, 2017-2021 average



Yukon's electricity system is one of the greenest in Canada, using mostly hydro.

We're an isolated grid, not connected to any other province or territory. We need to be self-sufficient.

Meeting growing demand with clean energy



We forecast a **40% increase in the demand** for electricity by 2030 due to electrification & climate policies.

We need **more renewable electricity** to meet Yukon's growth and decarbonize transportation & heating.

* In case of a N-1 event. Less 37 MW at Aishihik

Key Projects to Address Climate Change



ENHANCED
STORAGE



BATTERY
STORAGE



MICRO-
GENERATION



WIND &
SOLAR



ENERGY
CONSERVATION



THERMAL
REPLACEMENT



Atlin Hydro
Expansion &
Connection to Yukon



Moon Lake
Pumped Storage



Southern Lakes
Transmission
Network Expansion

Atlin Hydro Expansion Project:

Renewable, dependable, and available when it's needed the most.

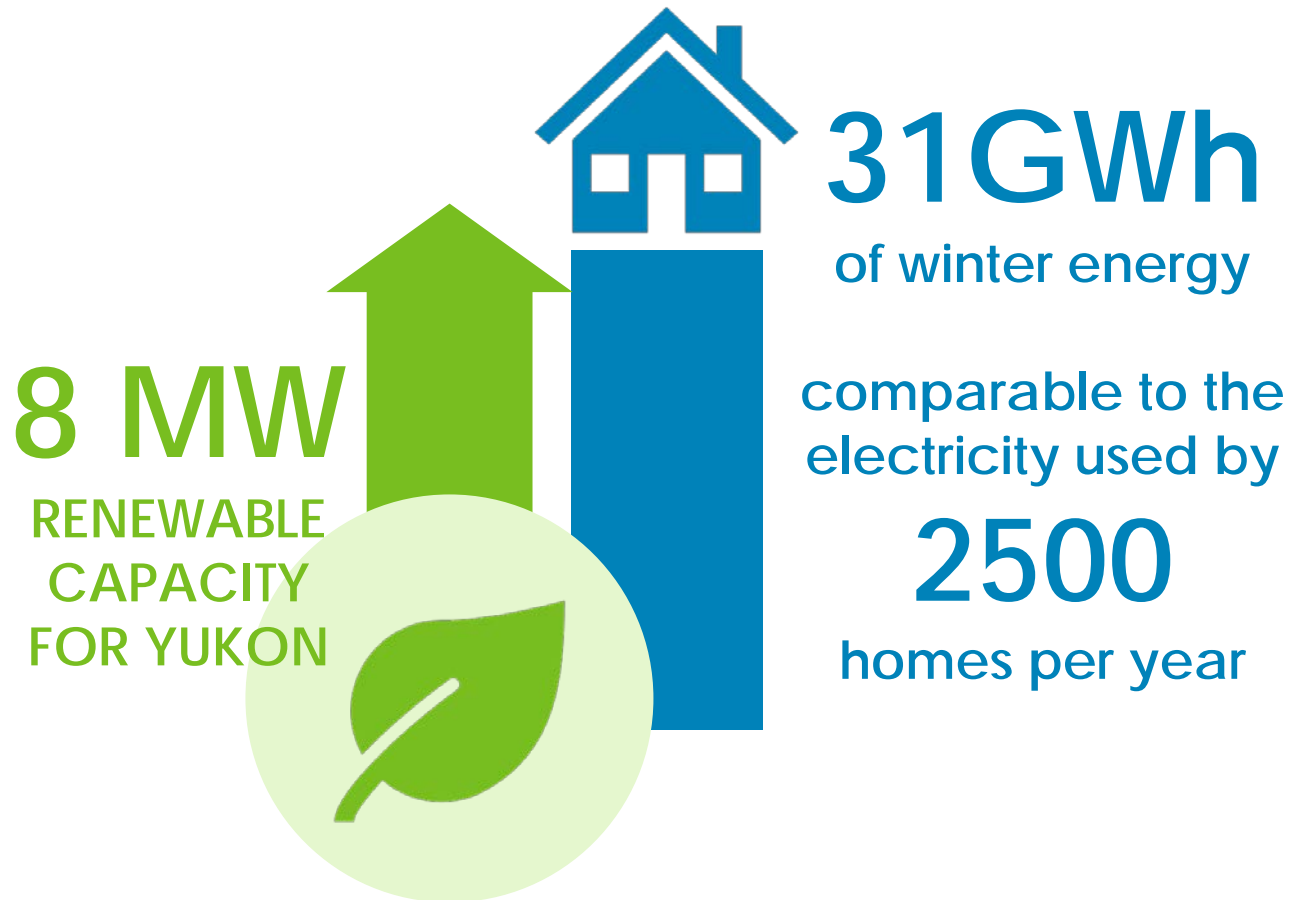
Tlingit Homeland Energy Limited Partnership



A company 100% owned by
Taku River Tlingit First Nation (TRTFN)
citizens.

Owner & operator of the
Atlin Hydro Expansion project

The Atlin Hydro Expansion project



Connecting to the Yukon





Discussion Period 1



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Atlin Electricity Purchase Agreement

A 40-year deal.

Intended to be cheaper than or equal to thermal.

Conditions of the Agreement

Milestones that must be met in the next six months:

- Yukon Utilities Board (YUB) review;
- Ongoing consultation with First Nations in the project area;
- Government approvals (TRTFN and YG);
- Grant funding and project permits being obtained by THELP.

Construction and Operating Costs

THELP

- Design, build, own, operate and maintain the hydro expansion and the new transmission line between Atlin and Jakes Corner.
- All project costs (including upgrades to Yukon's existing transmission line).

Yukon Energy

- Upgrade Yukon Energy's electricity system; add protection and controls.

ATCO Electric Yukon

- Design, permit and construct upgrades to the existing transmission line in Yukon (between Jakes Corner and Whitehorse).
- Continue to own, operate and maintain the existing transmission line.

Commercial Term Principles

1. Payment for energy and dependable capacity
2. Payment for energy that displaces forecast thermal generation
3. Delivery of all energy available
4. Thermal benchmark pricing
5. Payment for capacity committed each season
6. Reliance of forecasts & forecast risk
7. Sharing the benefit of upside opportunities

Energy Pricing

| PRICING | 2024-2034 | 2035 and beyond |
|--|-------------------------------------|-------------------------------------|
| Blended Thermal Generation reference prices | \$0.19/kWh in 2024 plus ½ CPI after | \$0.19/kWh in 2024 plus ½ CPI after |
| Firm Winter Energy Price (first 25.2 GWh delivered) | \$0.132/kWh | \$0.107/kWh |
| Non-Firm Winter Energy Price (all energy delivered after the first 25.2 GWh) | \$0.072/kWh | \$0.027/kWh |

Energy Pricing

| PRICING | Full EPA Term |
|--|---|
| Summer Energy Price (upon YEC request) | 50% of the YUB approved price of thermal |
| Carbon Charge Saving Payment | Up to 50% of carbon tax costs / kWh of estimated thermal displacement |
| Additional Payment on Winter Energy (if after 2034 the YIS generation load >388 GWh) | (11.7% of Added Load x YUB Price) divided by 30,800 MWh |

Capacity Pricing

- Based on levelized cost of capacity for greenfield thermal generation.
- Indexed annually at the full CPI rate.
- Payment based on annual capacity test.
- Mechanism to recoup any overpayment.

\$200

per kilowatt year

December 2023 base price

Other Key Terms

Term

- 40-year deal; negotiations about possible extension start in Year 30

Environmental Attributes

- Transferred to Yukon Energy

Operating Rules

- Coordinated by THELP, Yukon Energy and ATCO Electric Yukon

Others included typical of contracts



Discussion Period 2



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Yukon Utilities Board review

Reviewing the agreement to determine whether it's in the best interest of Yukon ratepayers.

- Public need
- Effect on customer rates and reliability of service
- Risks and prudence

Will provide a report and recommendations to Yukon government's Minister of Justice on or before July 19, 2022.

Rate Impact

Buying electricity from Atlin is not expected to increase Yukon Energy electricity rates compared to thermal options.

How?

- THELP is responsible for all capital costs.
- Yukon Energy only pays for energy that displaces forecast thermal generation.
- The price Yukon Energy intends to pay is cheaper than or equal to thermal.

Schedule

| ACTION | DATE (2022) |
|--|-------------|
| Intervenors register with the YUB | Feb 14 |
| Information requests (IR) to Yukon Energy | Feb 24 |
| IR responses from Yukon Energy | March 9 |
| Intervenor evidence (if required) | March 22 |
| IRs to intervenors (if required) | March 29 |
| IR responses from intervenors (if required) | April 5 |
| Public notify YUB of oral or written submissions | April 8 |
| Yukon Energy rebuttal evidence (if required) | April 12 |
| Public hearing | April 20-22 |
| Written final argument | April 28 |
| Written reply argument | May 5 |

Contact the YUB
to get involved.
yub@utilitiesboard.yk.ca



yukon
energy