



ARCTIC DEVELOPMENT EXPO 2025

YUKON'S ENERGY SECURITY IN A CHANGING ARCTIC

OUR SYSTEM

what keeps the lights on

- Owned by Yukoners
- Generation, transmission, distribution
- Winter demand 2-3 times summer load
- Aging and isolated grid
- >90% generation is renewable (25-year)



What are thermal resources?

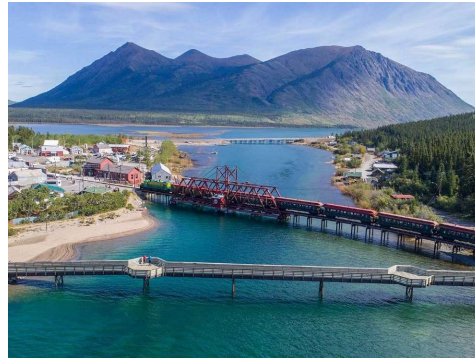
When we say thermal, we mean LNG and diesel, or fossil fuel-based electricity generation.



Energy security is about energy certainty.



**Electricity to power
today and tomorrow,
every hour of every
day, all year.**



CHANGES THREATENING ENERGY SECURITY

- Growth in Electricity Demand
- Increasing System Complexity
- Aging Infrastructure
- Changing Climate

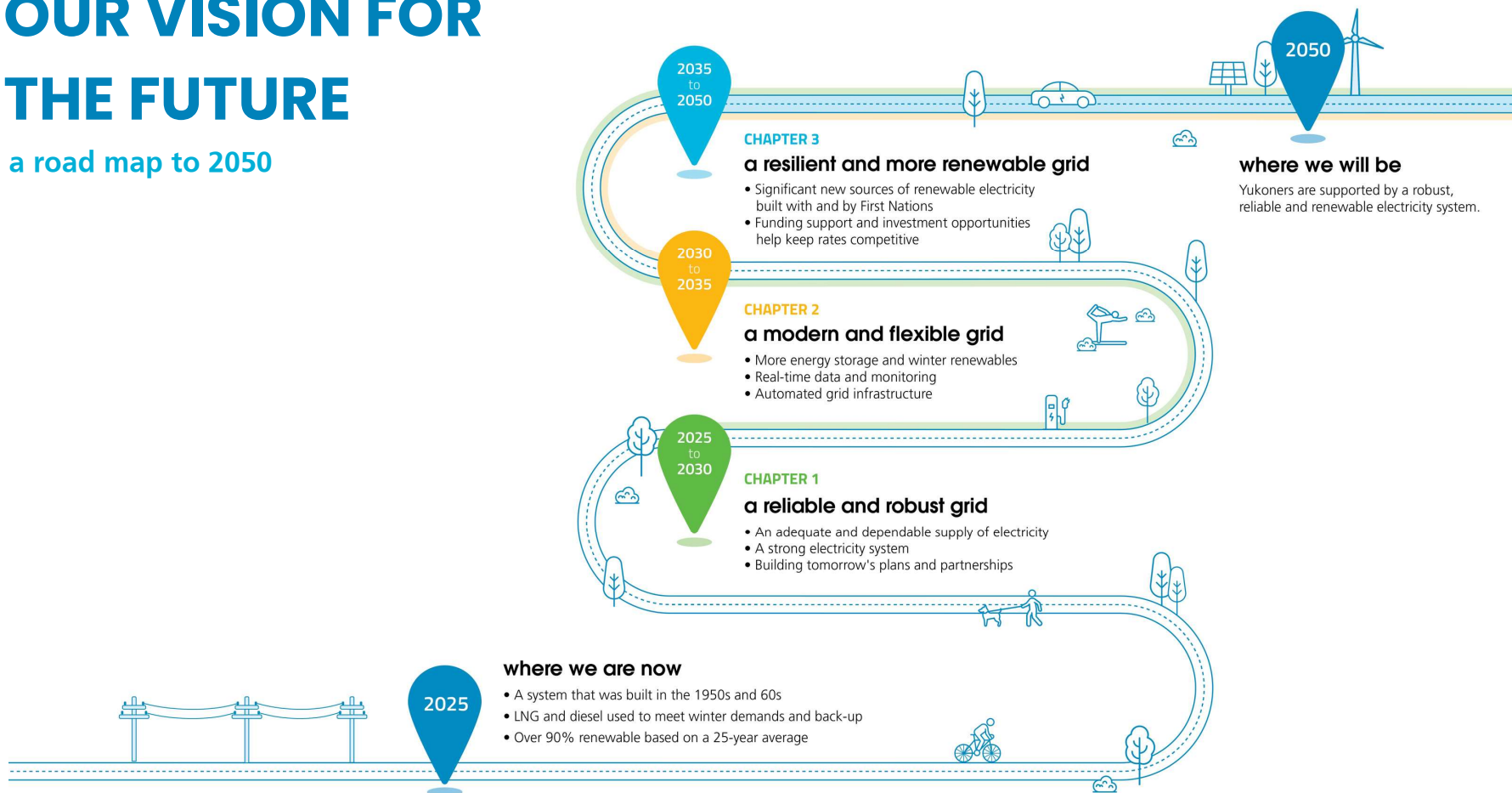




ADDRESSING CHANGES AND RISKS

OUR VISION FOR THE FUTURE

a road map to 2050



ACHIEVING ENERGY SECURITY IN THE YUKON

Reliable and robust
infrastructure



+ 40 % increase
in demand by 2030

60 + year-old
critical infrastructure

75 % winter load
centred in Whitehorse

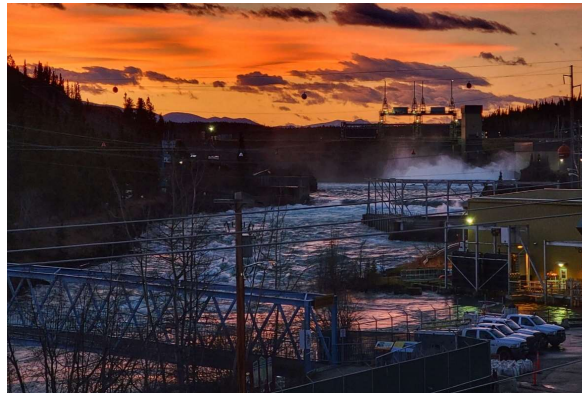


ACHIEVING ENERGY SECURITY IN THE YUKON

Efficient permitting processes



Mayo Generating Station



Whitehorse Rapids Generating Station



Aishihik Generating Station

ACHIEVING ENERGY SECURITY IN THE YUKON

Significant sources of firm renewable energy



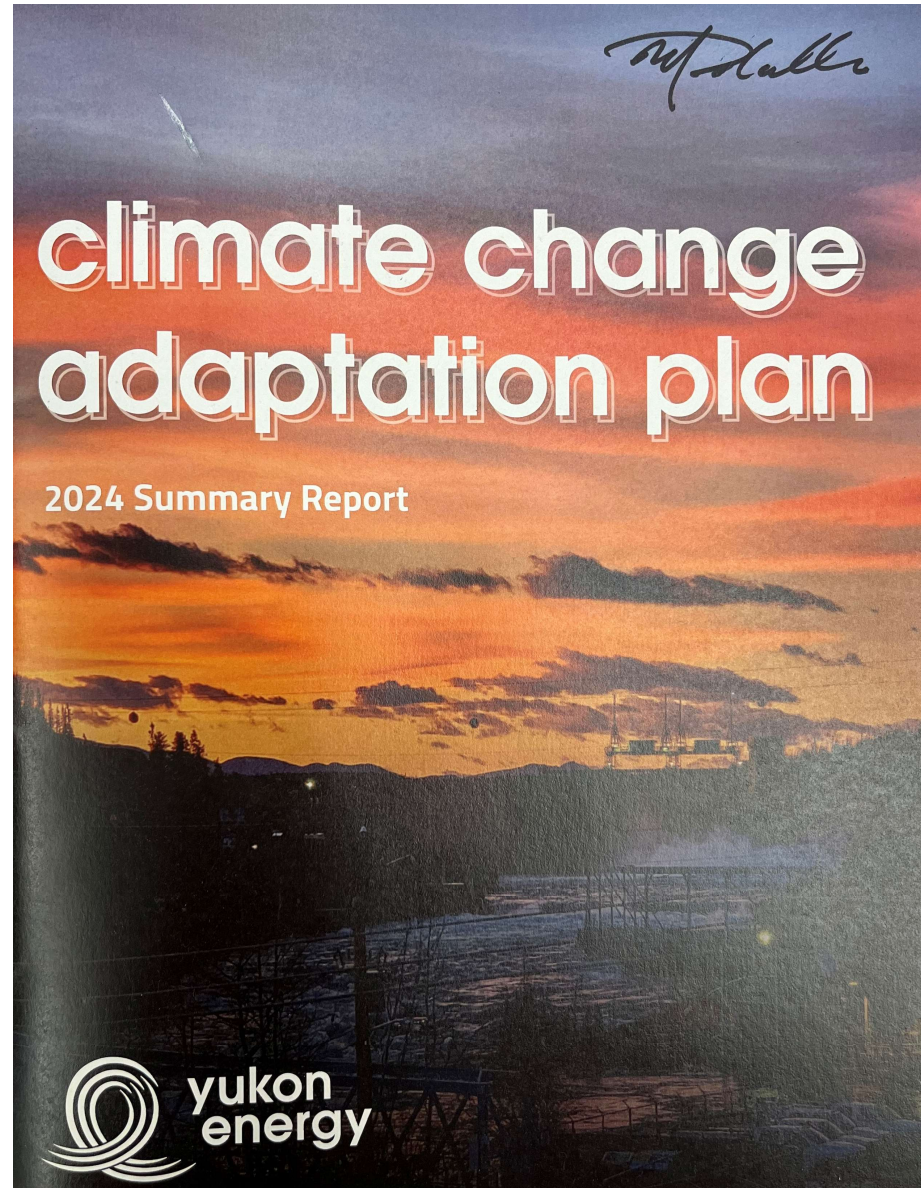
A modern grid



Partnerships with First Nations, industry and governments



CLIMATE CHANGE ADAPTATION



CLIMATE CHANGE MODELLING



temperature

▲ 0.7 to 3.7 °C
over the next 50 years



precipitation

▲ 4 to 17%
over the next 50 years

- Yukon Territory-relevant models
- Can be regional differences
- Extreme events expected to be more frequent and intense
- Includes: forest fires, flooding, extreme wind and ice storms

VULNERABLE OPERATIONS AND ASSETS



operations

- | | |
|--|--|
|  energy generation |  health and safety |
|  First Nations and stakeholder engagement |  outage response |
|  project success |  organizational reputation |
|  supply chain |  operations and maintenance |

assets

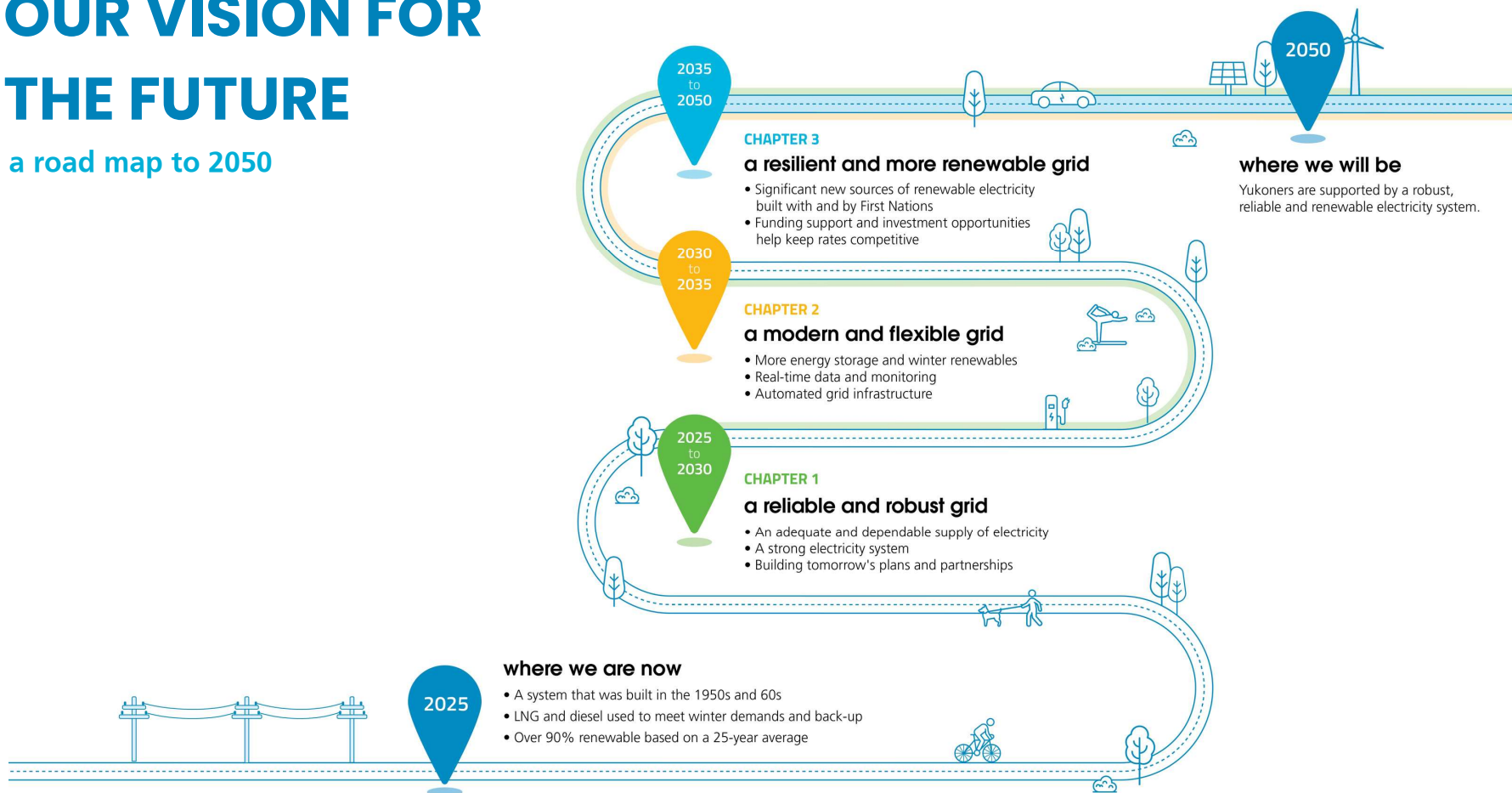
- | | |
|--|---|
|  power lines and power poles |  LNG piping |
|  roadways and right of ways |  substation assets |
|  hydro power turbines and equipment |  buildings and property |
|  dam infrastructure |  information technology hardware |

**Renewable
energy is
energy
security**



OUR VISION FOR THE FUTURE

a road map to 2050





the power of yukon