



MEETING EDE 99-19-22

**STANDING COMMITTEE ON ECONOMIC DEVELOPMENT
AND ENVIRONMENT**

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**WEDNESDAY, APRIL 20, 2022
COMMITTEE ROOM A
9:00 A.M.**

AGENDA

1. Prayer
2. Review and Adoption of Agenda
3. Declarations of Conflict of Interest
4. In-Camera Matters
 - a) Internal Briefing
 - b) 9:00am - briefing with the Minister of Infrastructure, Honourable Diane Archie
5. Public Matters
 - a) 10:30am – briefing on the 2022-2025 Energy Action Plan with the Minister of Infrastructure, Honourable Diane Archie
6. In-Camera Matters
 - a) Wrap up Discussions
 - b) Confidential Correspondence
 - i. 2022-03-08 – Minister of INF
 - ii. 2022-04-11 – Minister of FIN
 - iii. 2022-04-12 – Minister of Lands
 - iv. 2022-04-19 – Minister of ITI
 - v. 2022-04-19 – Minister of Lands
7. Date and Time of Next Meeting: Wednesday, April 20 at 1:30pm

8. Adjournment



Development of the 2022-25 Energy Action Plan and 5-year Review of the 2030 Energy Strategy

Standing Committee on Economic Development & Environment

April 20, 2022



Presentation Overview

- Issue
- Background and Context
- 2030 Energy Strategy
- Emissions Trend and Target
- 2019-2022 Action Plan Results
- Funding and Resources
- What We Have Learned
- What We have Heard
- 2030 Energy Strategy Review
- Net-Zero – What does it mean for us?
- Pathway Development Work
- Energy Picture
- Process and Timelines

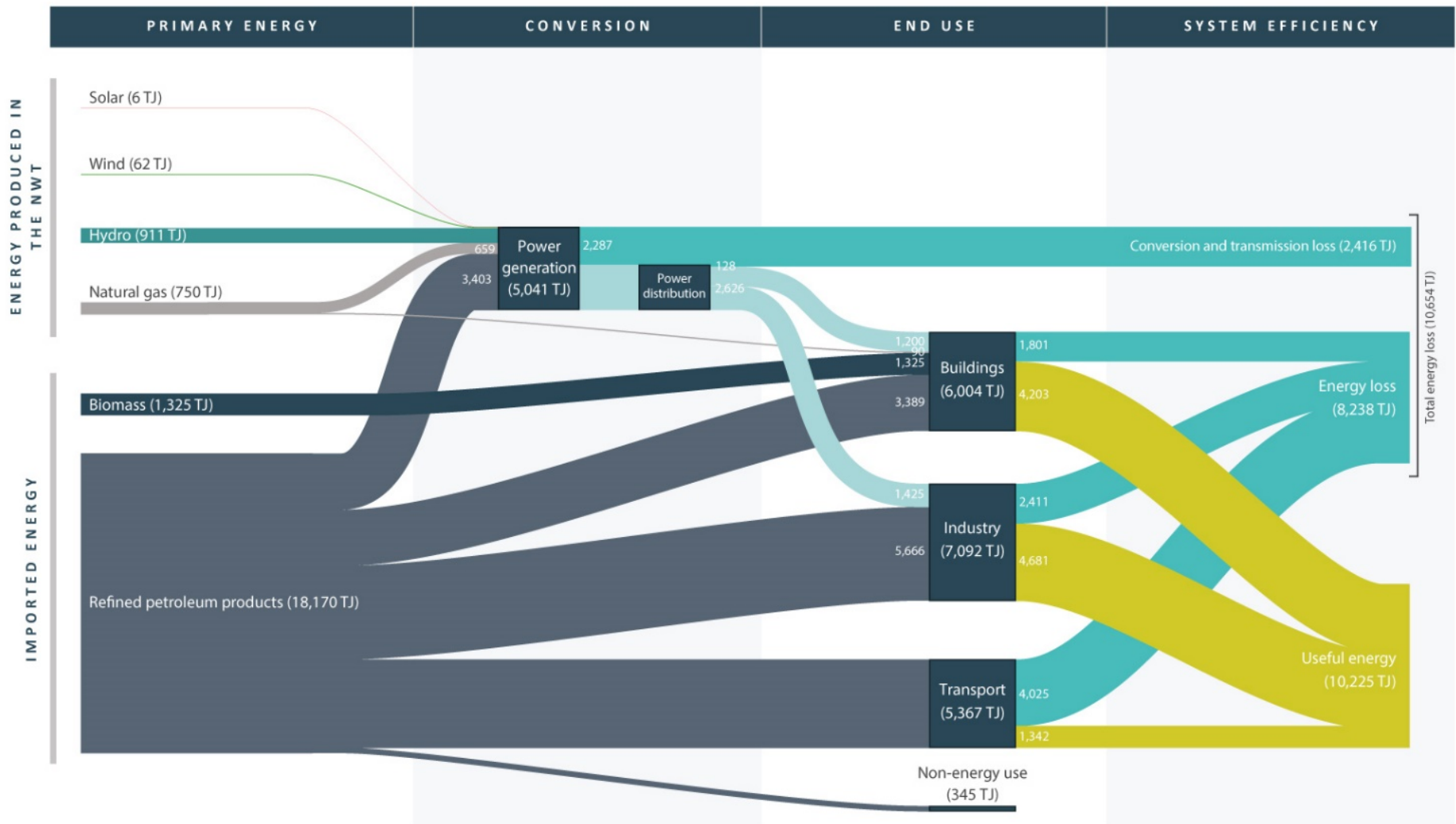
Issue

- The current 2019-22 Energy Action Plan ends March 31, 2022
- Under the 2030 Energy Strategy the GNWT committed to releasing sequential three-year action plans
- We are currently developing the 2022-2025 Energy Action Plan for release in 2022
- New funding will be required to resource the new action plan especially as existing federal funding sunsets
- We are also planning for the five-year review of the 2030 Energy Strategy in 2023, which must dovetail with the CCSF review

Background and Context

- The GNWT developed the 2030 Energy Strategy concurrent with the Climate Change Strategic Framework over 2016-2018.
- This involved extensive research, modeling and engagement.
- The GNWT set GHG reduction targets based on the federal Pan-Canadian Framework on Clean Growth and Climate Change.
- This target is 30% below 2005 levels by 2030.
- Clearly the national and international context has since changed.
- The federal government has since updated its target to be 40% and is pursuing net-zero by 2050.
- We have work to do to understand if the technology exists and the funding needed to commit to new targets.

Scale of the Issue



2030 Energy Strategy

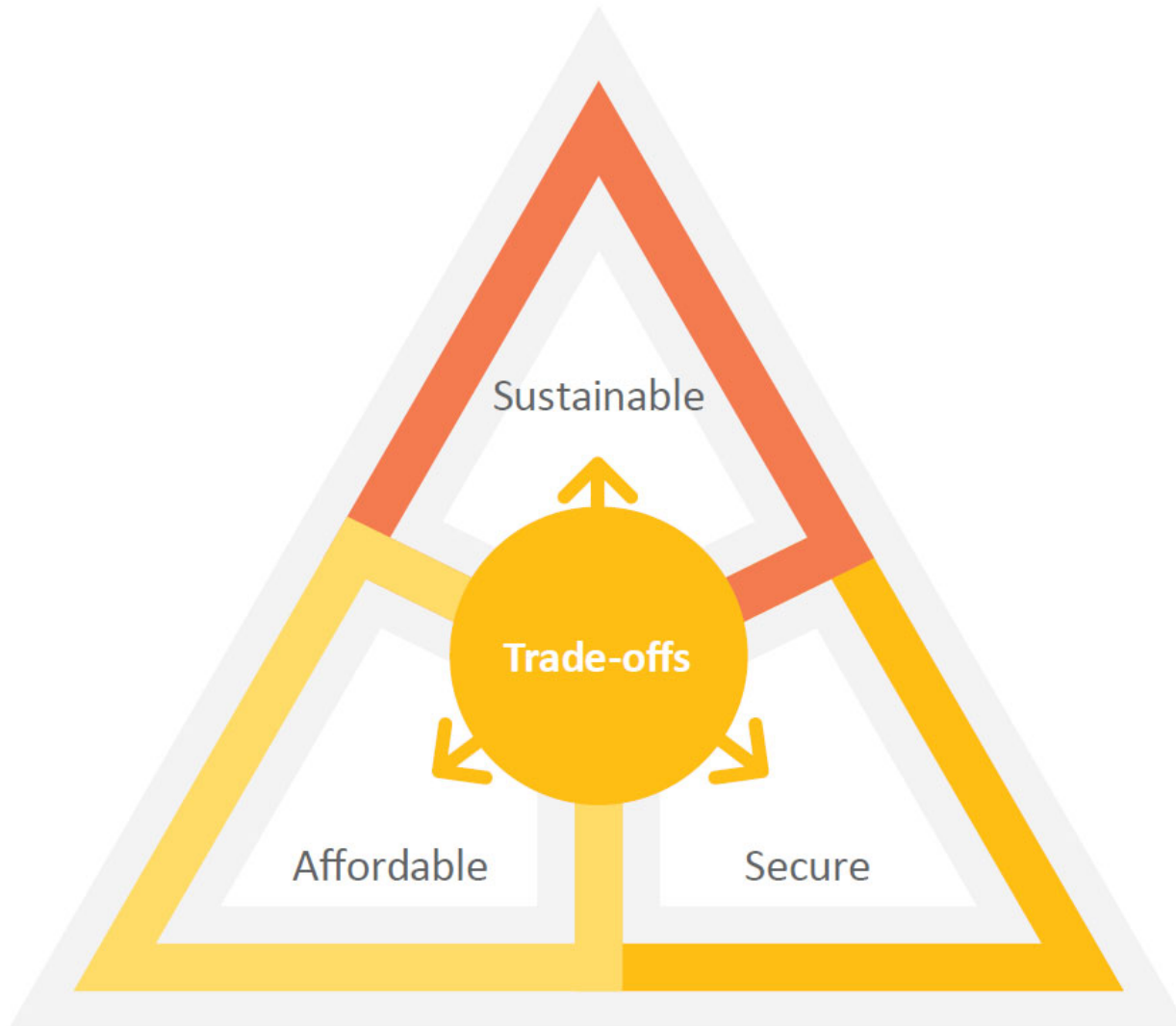
The overarching goal of the Strategy is to guide the development of affordable, secure, and sustainable energy for transportation, heat, and electricity in the NWT.

Six Strategic Objectives:

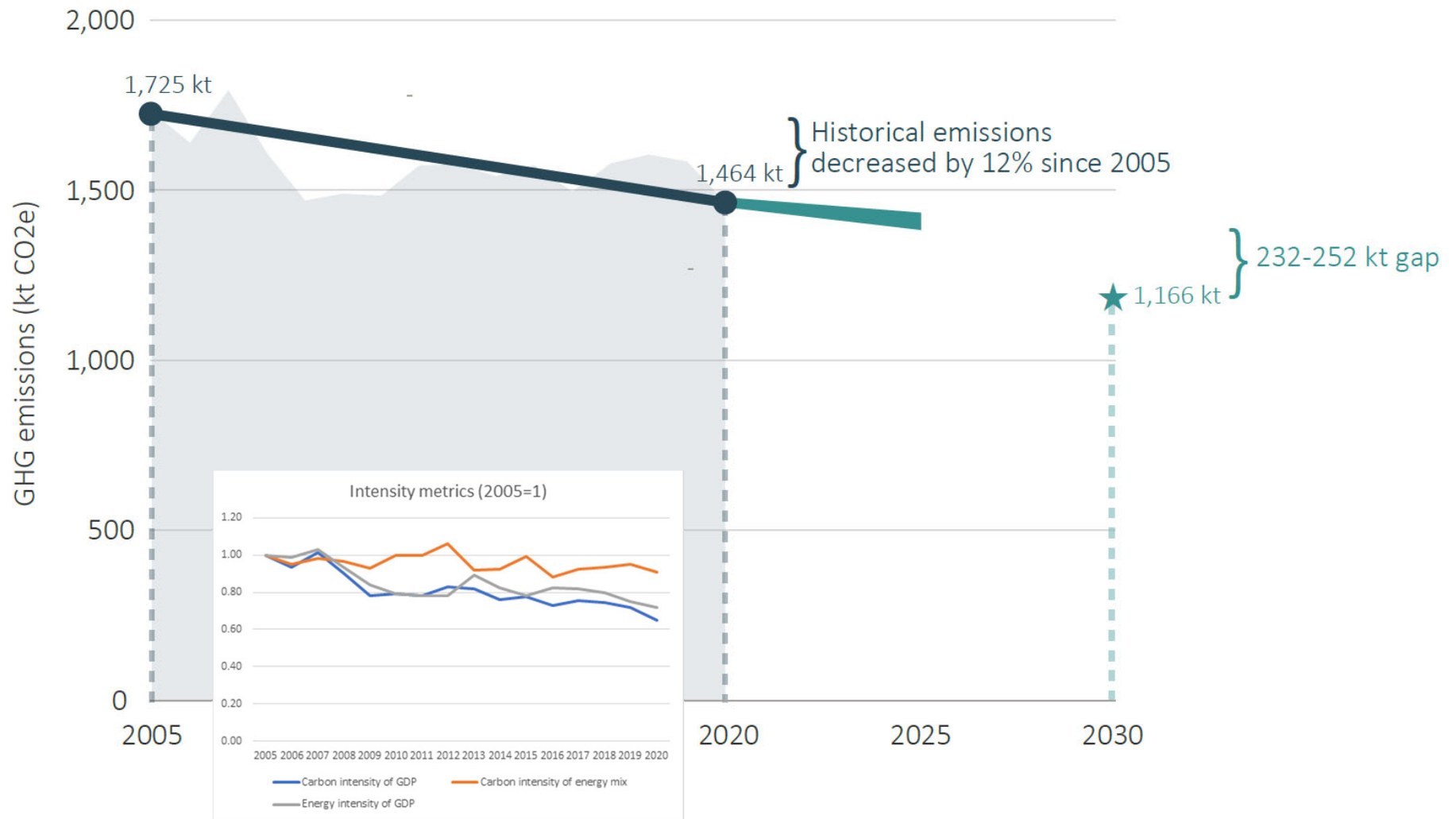
1. Work together to find solutions: community engagement, participation and empowerment.
2. Reduce GHG emissions from electricity generation in diesel powered communities by an average of 25%.
3. Reduce GHG emissions from transportation by 10% per capita.
4. Increase the share of renewable energy used for space-heating to 40%.
5. Increase residential, commercial and government building energy efficiency by 15%.
6. A longer-term vision: develop the NWT's energy potential, address industry emissions, and do our part to meet national climate change objectives.



2030 Energy Strategy: The Need For Balance



NWT Emissions Trend and Target



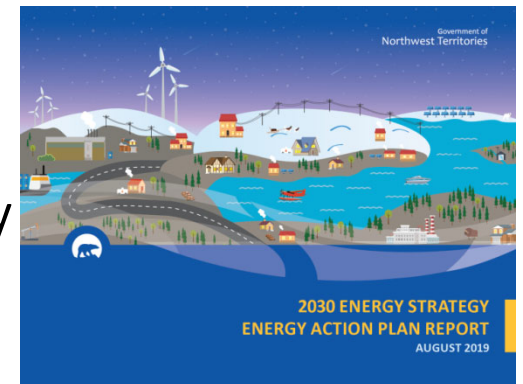
2019-22 Energy Action Plan Results

- Objective of reducing GHG emissions by 56 kilotonnes by 2023
- A plan to invest \$227M
- 63 actions and initiatives organized by 6 Strategic Objective, such as:
 - Support the development and implementation of community energy plans
 - Inuvik Wind project
 - Transmission lines
 - Conduct research on alternative and renewable energy
 - Initiate a rebate program for low- or zero-emissions vehicles
 - Enhancement of Arctic Energy Alliance's programs
 - Implement the GHG Grant Programs
- Actuals:

2018-19 - \$21M	2019-20 - \$26M	2020-21 - \$38M	2021-22 ~ \$30M
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- = \$115M

2019-22 Energy Action Plan Results

- Initiatives under the plan will directly reduce emissions by 45.6 kilotonnes by 2025.
- This puts us roughly on track given current funding levels.
- We will gain additional reduction by 2030 but we may not meet the 30% target without more federal funding.
- Modeling will give us a better understanding of the combined effects of carbon tax, federal policy and GNWT actions on GHG reductions by 2030.
- As of right now:
 - 57 (90%) of projects initiated under the current Energy Action Plan are complete or ongoing
 - 6 (10%) have not been substantially implemented



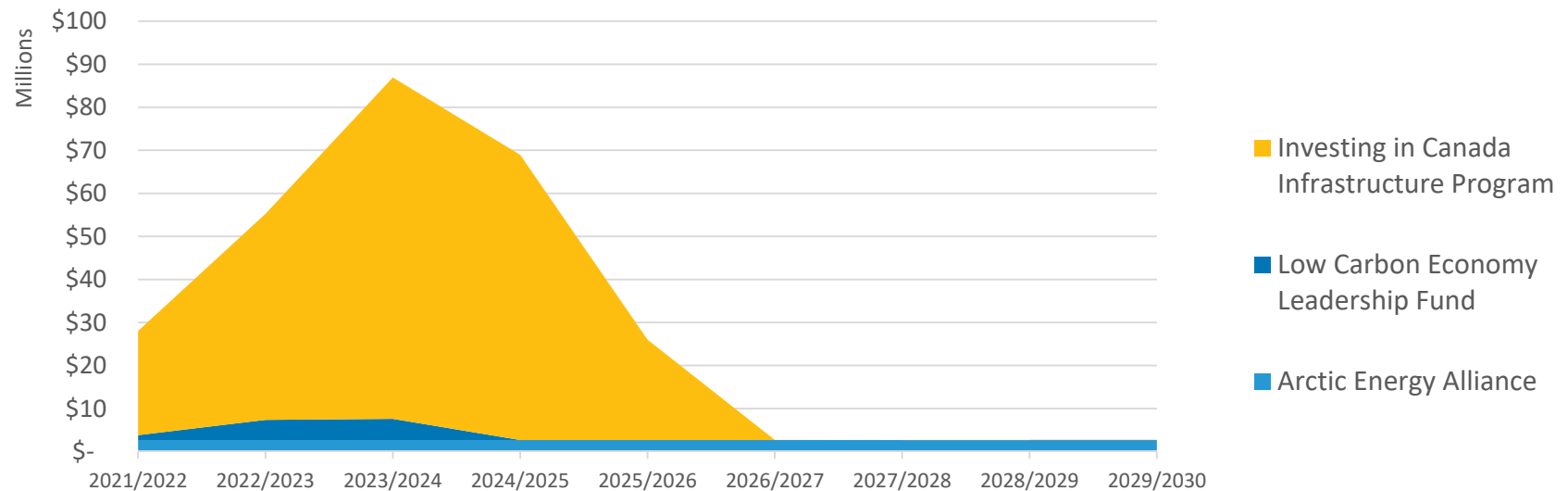
2019-22 Energy Action Plan Results

	2018 (Actual)	2019 (Actual)	2020 (Actual)	2021 (Forecast)	2022 (Forecast)	2023 (Forecast)	2024 (Forecast)	2025 (Forecast)
Emissions Reduction (kt)	3.8	7.4	11.0	16.8	21.6	33.1	41.3	45.6
Fuel Savings (M of L)	1.4	2.6	3.9	6.0	4.7	11.8	14.8	16.3
Millions Saved (@\$1.20/L)	\$1.6	\$3.2	\$4.7	\$ 7.2	\$9.3	\$14.2	\$17.7	\$19.5

- Funded initiatives under this Plan will result in about 46 kt of GHG emissions reduction by 2025
- The represents a fuel savings of 16 ML or about \$19.5M (@\$1.20/L) in 2025.
- This represents a cumulative \$77M in fuel savings for Northerners over 8 years
- This does not include the ~\$120M in electricity rates savings from ICIP contributing to NTPC capital plan over the life of the Energy Strategy.

Funding and Resources

Current funding for the 2030 Energy Strategy



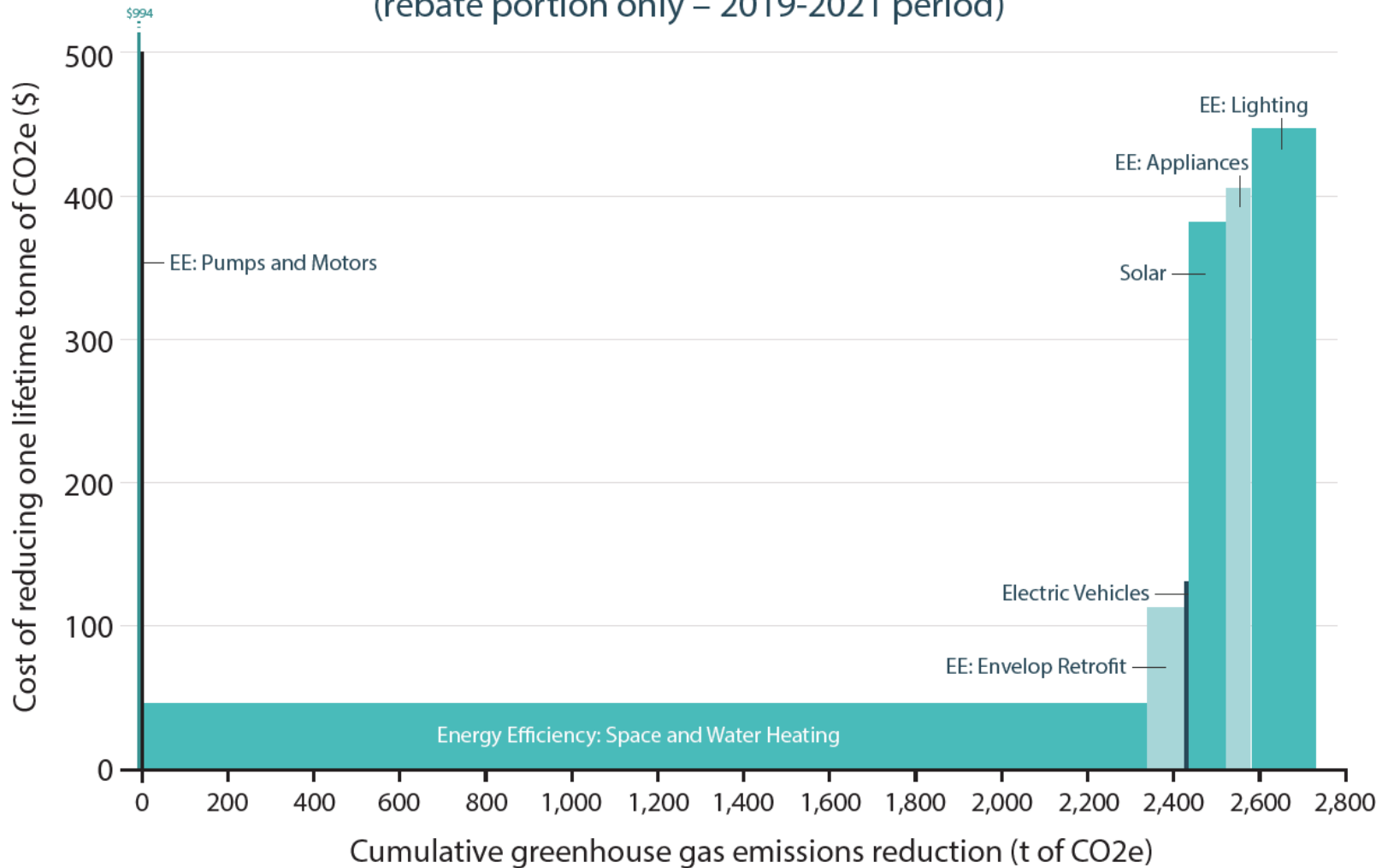
- The Strategy currently has over \$400 million committed until 2030 not including the Taltson Expansion Project
- This is mostly federal Investing in Canada Infrastructure Plan (ICIP) for electricity sector projects and Low Carbon Economy Leadership Fund (LCEL) funding for GHG reduction projects mostly for buildings

What we Have Learned so Far: Evidence

- Developed Cost Curves in \$/tonne of GHG reduced
- Internal Engagement
- External Engagement
- Hydrogen Workshop
- Jurisdictional Policy and Technology Scan
- Load Growth Study
- Community renewable cap study
- Electricity workshop with Utilities
- Review existing funding as well as potential new federal funding
- Review actions to be replicated, technologies that should be further investigated, and research that should be conducted

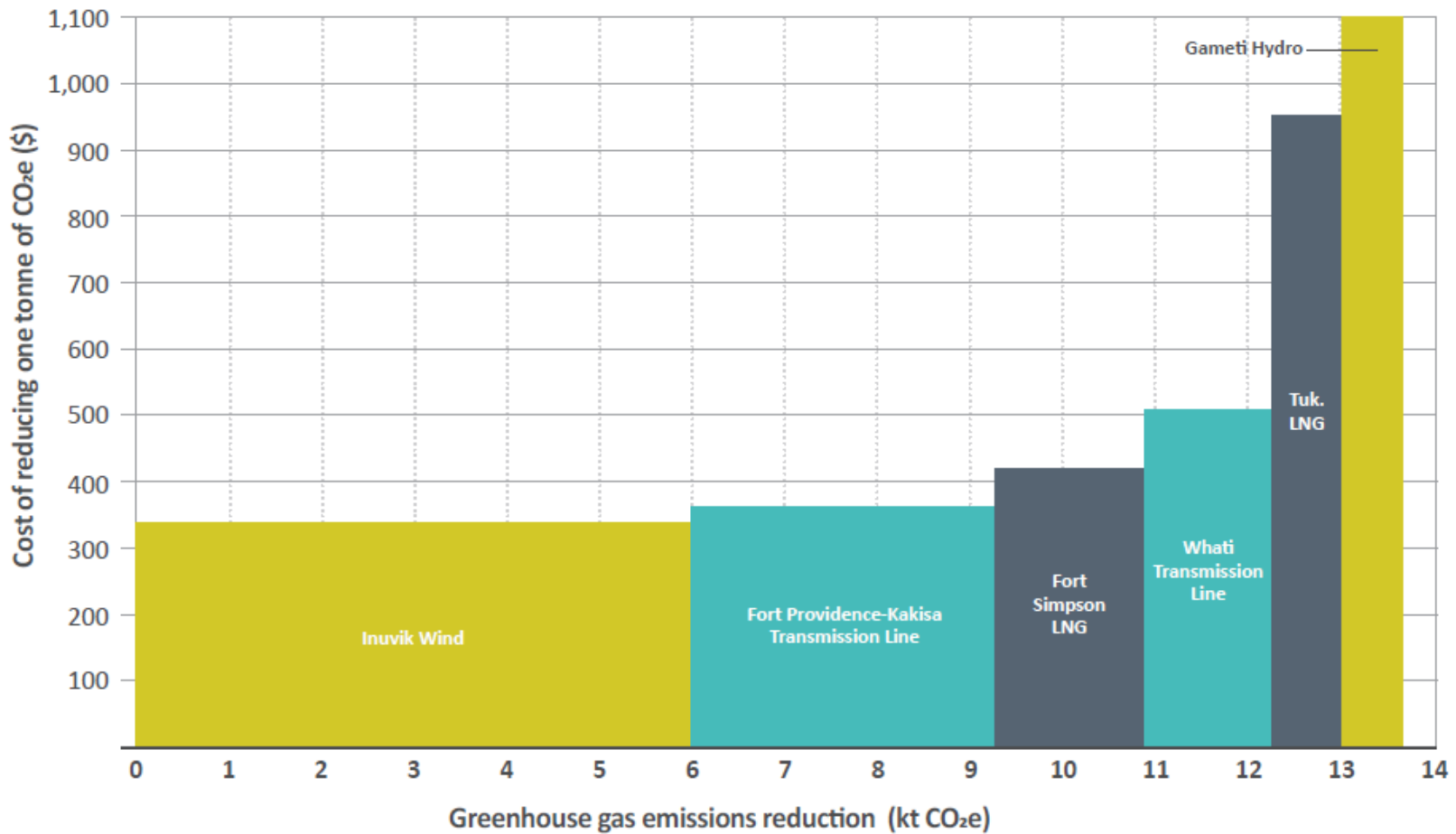
What we Have Learned so Far: Costs

Cost-curve for AEA programs in NWT (all communities)
(rebate portion only – 2019-2021 period)



What we Have Learned so Far: Costs

Figure 5. Estimated per-tonne cost of reducing emissions for upcoming projects in diesel communities



What we Have Learned so Far: Hydrogen

- Produced a hydrogen primer and hosted a workshop
- We will release a ‘what-we-heard’ document this year
- High level conclusions:
 - We need more information about the technical and economic feasibility of hydrogen in the NWT
 - Both supply and end-use need to be considered
 - We need to make hydrogen using low-carbon tech
 - We could use it for transportation, heat, energy storage, or electricity generation
 - A regional or local approach may be most suitable
 - We need a demonstration or pilot project

What we Heard so Far: Engagement

- **Tone** – ‘need to take on less in order to accomplish more,’ ‘need to do more,’ & ‘focus on the biggest bang for the buck’
- **Communities** – More support for capacity building, community energy planning, to access federal funding
- **Electricity:**
 - Continue rebuilding electricity infrastructure and ensure higher efficiency at end of life
 - Increase community caps on intermittent renewables
 - Try to integrate renewable diesel into our fuel supply

What we Heard so Far: Engagement

- **Transportation:**
 - Consistently support public uptake of electric vehicles
 - GNWT lead by example with electric vehicles
 - Develop renewable diesel
- **Industry** – Develop a plan to address emissions
- **Buildings:**
 - Continue to develop biomass (district) heating
 - More support to the Arctic Energy Alliance and GHG Grant Programs

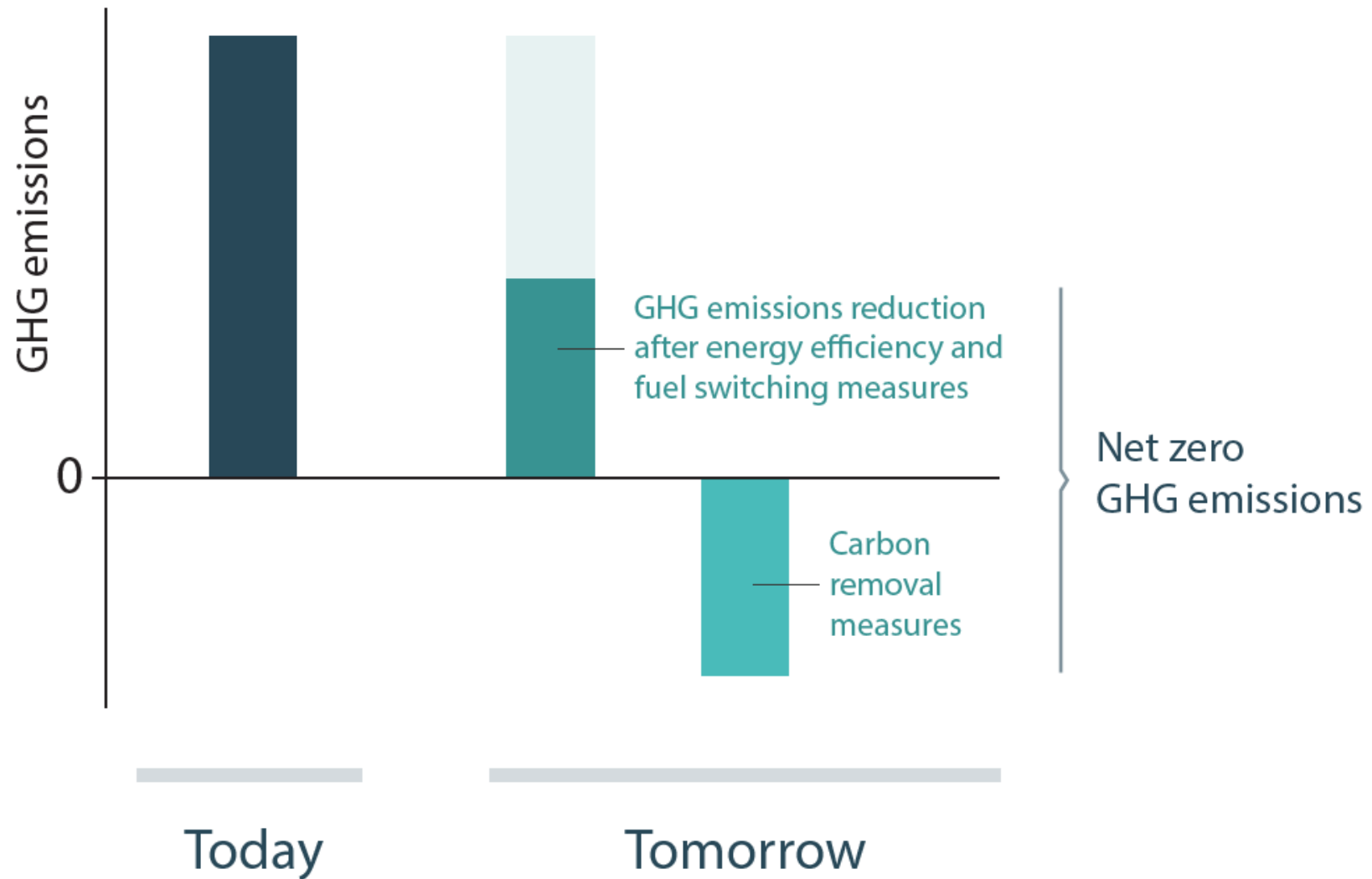
What we Heard so Far: Engagement

- **Also:**
 - Increase our level of effort and targets
 - Improve communications and awareness
 - Develop La Martre, Taltson (+ and -), transmission lines
 - Explore carbon offsets and emerging technologies such as SMRs and hydrogen

2030 Energy Strategy Review

- The new action plan will include the five-year review of the 2030 Energy Strategy in 2023.
- We anticipate this review will involve significant public engagement
- Initiated modelling work to assess the impacts of carbon tax, federal programs policy, and GNWT actions on NWT energy mix, emissions trajectory, economy
- We will use the model to validate 2030 target and explore net-zero pathways

Net-Zero Pathways - What does this mean for us?



NWT Net-Zero Pathway Work

End Use Measures

- Electrification
- Energy efficiency and conservation
- Fuel switching: biofuels, hydrogen

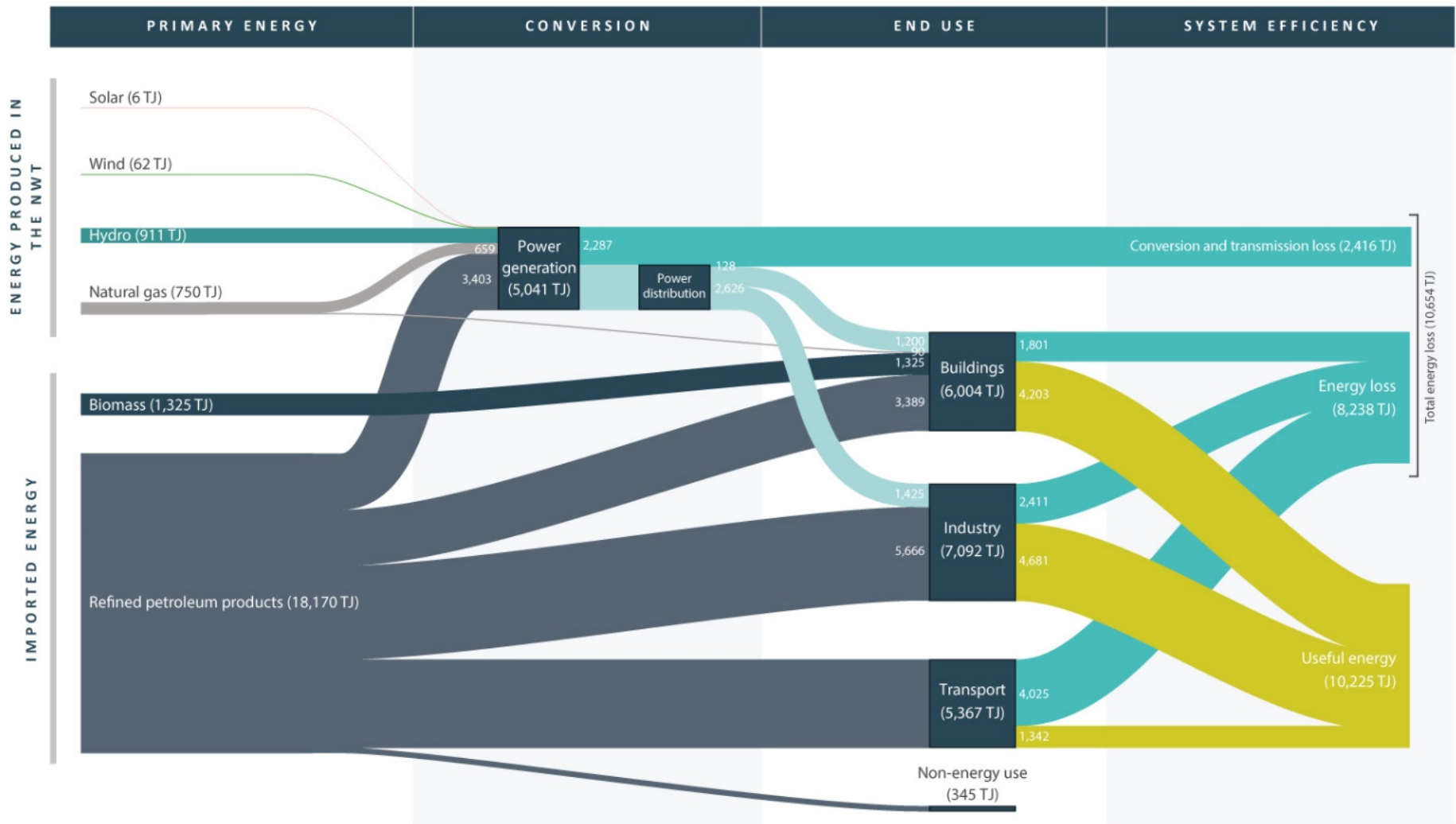
Zero Emission Electricity

- Firm renewables: hydro
- Intermittent renewable: solar, wind, batteries
- Alternative energy: nuclear, hydrogen

Carbon Removal

- Carbon capture and storage
- Direct Air Capture
- Nature based solutions
- Carbon offset produced elsewhere

SCOPE AND SCALE OF THE ISSUE



Tentative Process and Timelines

2021

- Fall: Review of 2019-2022 Action Plan and development of 2022-2025 Action Plan
- Start engagement with internal and external stakeholders
- Conduct of jurisdictional scan of climate and energy policy and initiatives
- Initiate modelling of decarbonization pathways for the NWT
- Estimate range of GHG emissions reduction target for 2025

2022

- Winter: Continuation of development of the 2022-2025 Action Plan
- Spring: Draft Energy Action Plan discussed internally
- Final engagement with stakeholders
- Fall/Winter: Release of 2022-2025 Energy Action Plan
- Results of modelling (Fall/Winter)

2023

- October: Territorial Elections
- Five-year review of the 2030 Energy Strategy and development of the 2025-2028 Energy Action Plan

2024

- Release of the revised 2030 Energy Strategy and development of the 2025-2028 Energy Action Plan



Questions?