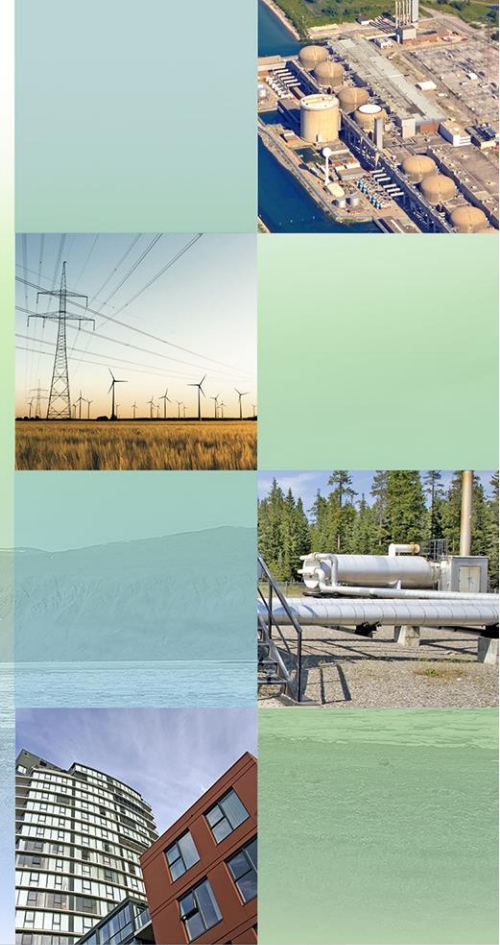




# Setting the table: Problems and Needs Co-creating evidence for a Clean Electric Future

Brad Little, Renewable & Electrical Energy Division  
Workshop on the Development of an Open Modelling Platform for  
Electrification and Deep Decarbonisation Studies  
February 21, 2019



# Overview

1. Electricity is a shared space
2. A Clean Electric Future: a new shared space
3. Lessons from a shared space: RECSI



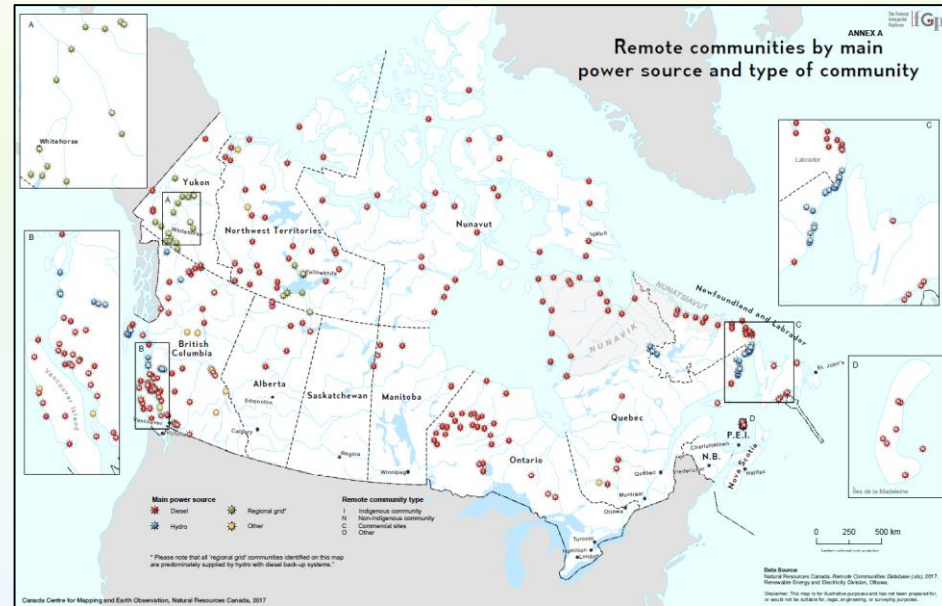
# National policy goals are shared

- Paris Agreement – 30% emissions reduction by 2030
  - Pan-Canadian Framework on Clean Growth and Climate Change
    - Pillar 1 – Pricing carbon pollution
    - Pillar 2 – **Complementary climate actions to reduce emissions**
    - Pillar 3 – Climate change adaptation and resilience
    - Pillar 4 – Actions to accelerate innovation and support clean technology
- Provincial policy goals



# Shared space: remote communities

- ~200 remote communities in Canada rely heavily on diesel fuel to produce electricity and heat
- Communities have traditionally relied on diesel fuel because it is a stable and reliable source of power, the cost of which is usually subsidized
- Advances in renewable and energy efficiency technologies increasingly make it economically and technically possible to transition away from diesel-only systems
- Communities are geographically dispersed with varying needs and resources, no one size fits all solution
- NRCan developed and recently updated its *Remote Community Energy Database*, which provides detailed information on each community



# Shared space: national programs

- National programs require projects to include evidence of expected public benefits.
- National programs can evolve.

## Smart Grid Program



## Emerging Renewable Power Program



## Reducing diesel energy in rural and remote communities



## Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative

Through the Electric Vehicle and Alternative Fuel Infrastructure Initiative, the Government of Canada is investing \$96.4M to support the establishment of a coast-to-coast charging network for electric vehicles, natural gas stations along key freight corridors and stations for hydrogen fuel cell electric vehicles in metropolitan centres, \$76.1M to support the demonstration of next-generation charging technologies as well as \$10M for the development of binational (Canada and the United States) codes and standards for low-carbon vehicles and infrastructure.



# Shared space: infrastructure

## Investing in Canada Plan - \$180B (~\$93B new) and the Canada Infrastructure Bank (CIB)

- Different “streams” of funds made available to provinces that must meet policy outcomes, e.g. GHG reductions
- Funding applications must have evidence using acceptable methods
- CIB intended to mobilize private sector funds that meet policy outcomes and a revenue stream



# New shared space: Clean Electric Future

First Ministers collectively recognize the potential, and challenges, of a clean electric future to promote clean growth.

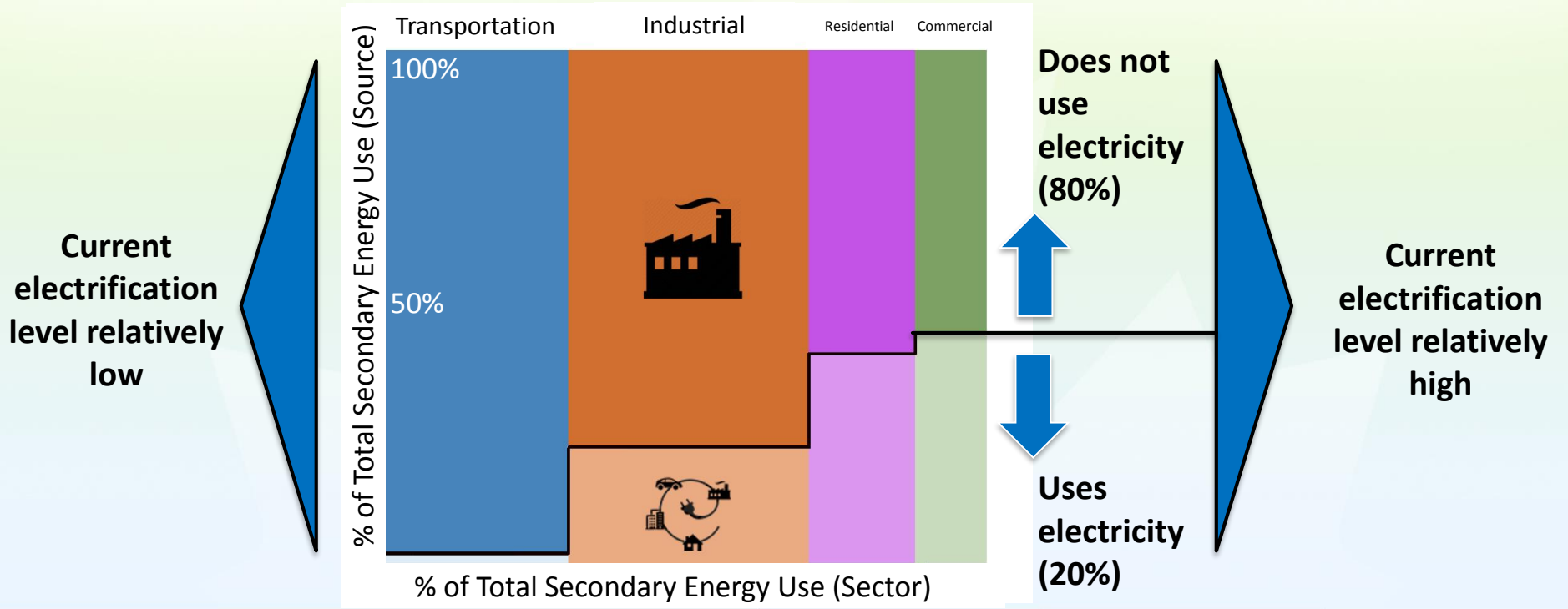
## First Ministers' Meeting Communique - December 7, 2018

“As First Ministers, we have agreed to collaborate on ways to promote clean growth while growing the economy. As a next step, First Ministers agreed to lead a discussion on the development of a **framework for a clean electric future**, including hydroelectricity, aimed at using clean, reliable and affordable electricity and to promote access to domestic and international markets. First Ministers also agreed on the necessity to ensure all projects have social responsibility and are supported by a science-based process. First Ministers also agreed on the importance of getting remote communities off diesel. First Ministers agreed that interested jurisdictions could explore opportunities for utility corridors in Canada.”



# New shared space: Clean Electric Future

Canada's Secondary Energy Use by Sector (2015)





# Lessons from a shared space: RECSI

- Federally convened regional dialogues and studies to identify the most promising electricity infrastructure projects with the potential to significantly reduce greenhouse gas emissions.
- The studies used simulation models to assess promising projects.
- Results included estimated projects costs, operational savings and GHG reductions.



# Lessons from a shared space: RECSI

- **Co-creation** of evidence can lead to collective action
- **Industry confidence** in results
  - Suitable for Canadian energy mix - hydro
  - Address sectoral electrification
- **Policy flexibility** – e.g. carbon pricing and/or output based regulations
- **Meaningful results** for different audiences - technical and various levels of policy makers
- **Timely results** – policy windows can close

