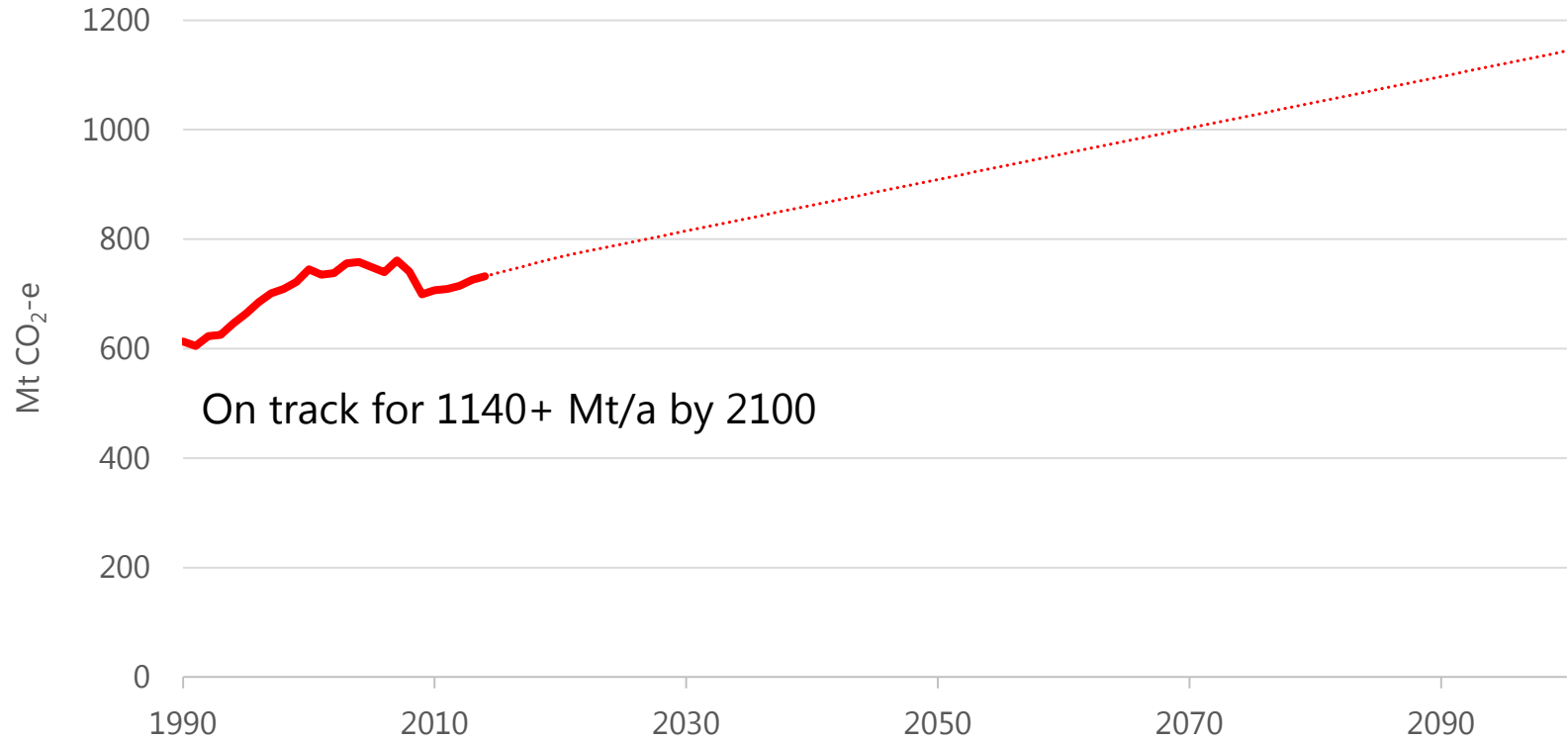# A strategy for implementing electric vehicle charging in PEI
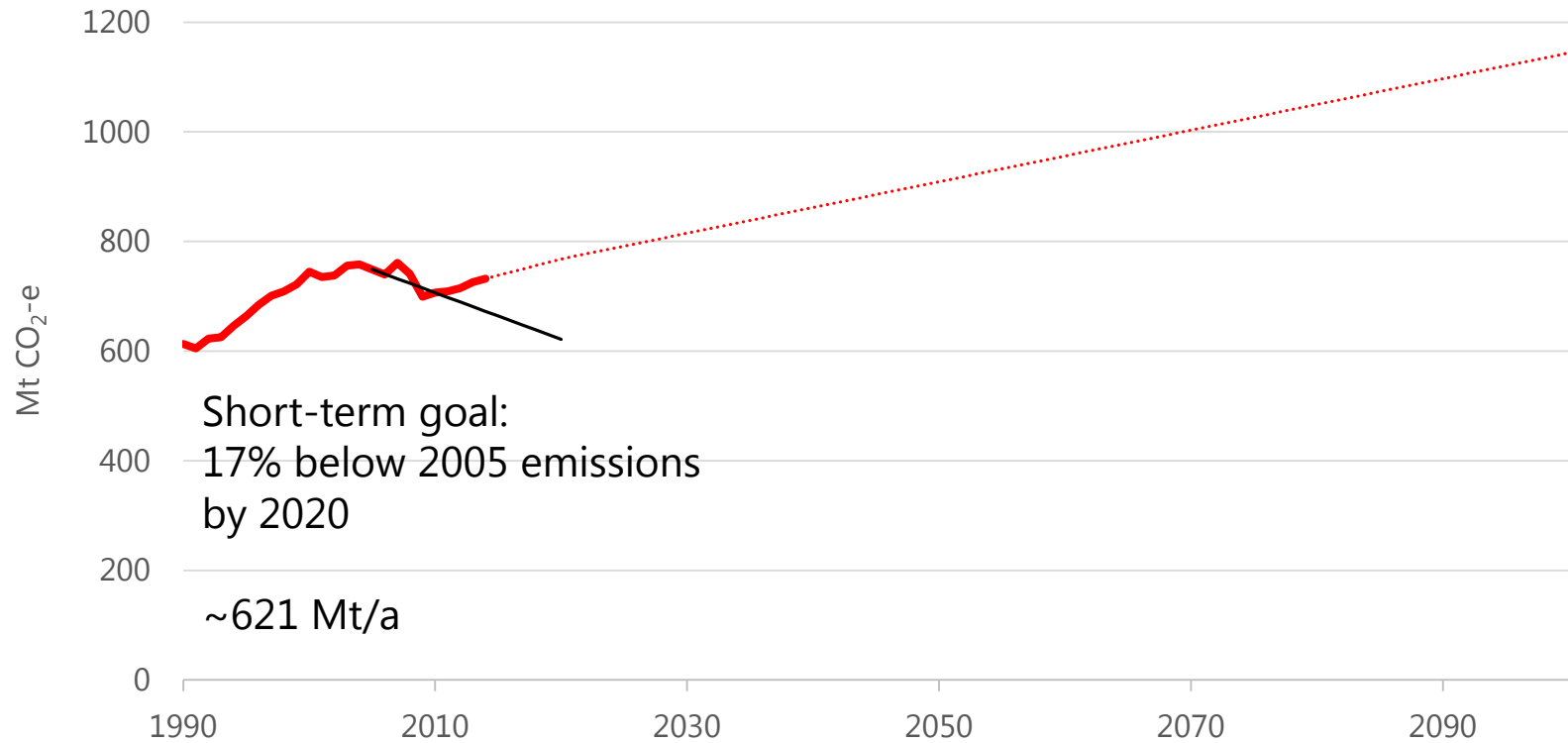
Warren Mabee

ACW – York University, Canada 11 November 2017
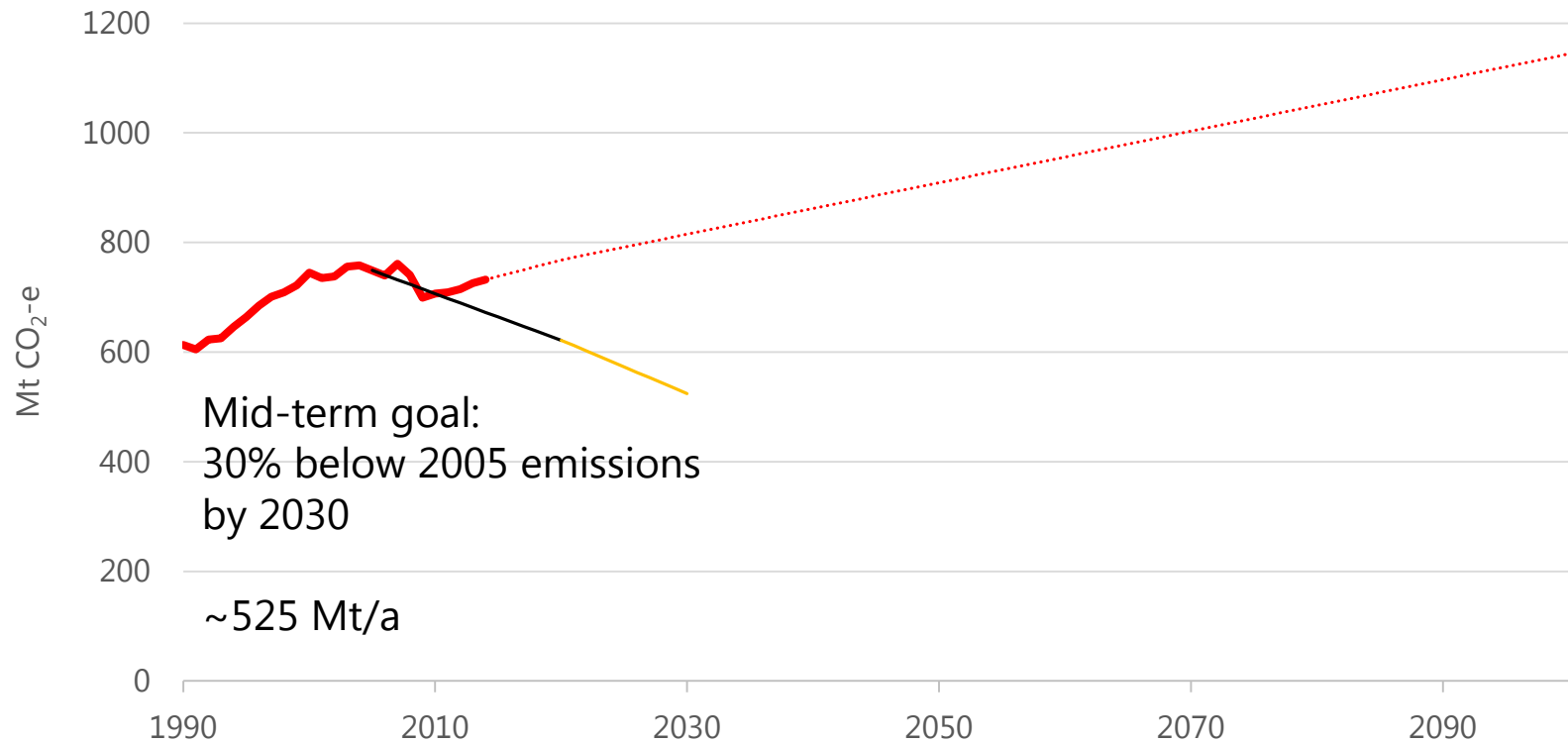
Recall

On track for 1140+ Mt/a by 2100

Recall

Short-term goal:
17% below 2005 emissions
by 2020

~621 Mt/a

Recall

Mid-term goal:
30% below 2005 emissions
by 2030

~525 Mt/a

Recall

Long-term goal:
100% below 2005 emissions
by 2100

Y-axis: Mt CO_2-e

Recall

New goal?
80% below 2005 emissions
by 2050

y-axis: Mt CO_2-e

x-axis: 1990, 2010, 2030, 2050, 2070, 2090

Recall

Kingston's GHG goals:
15% below 2011 by 2020
30% below 2011 by 2030
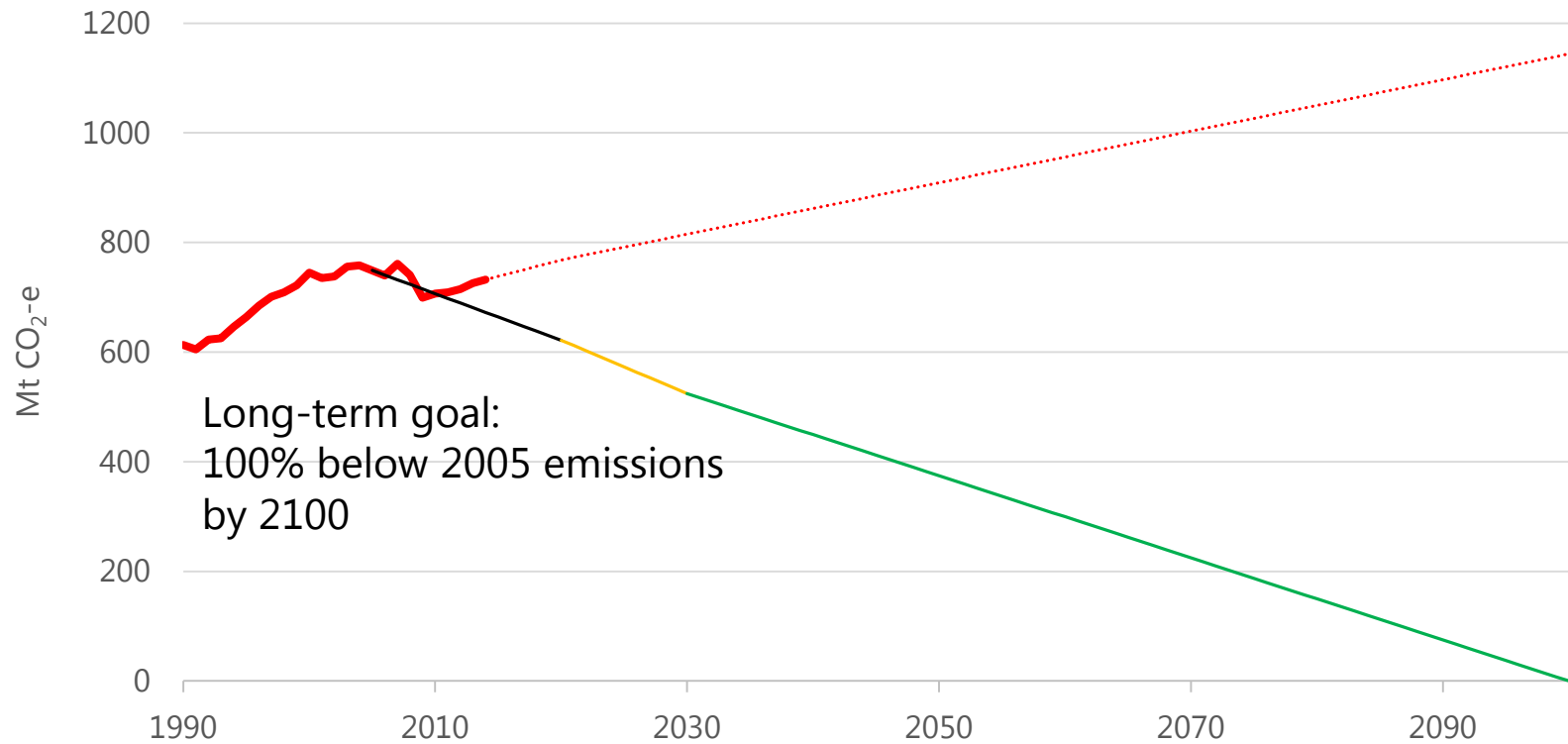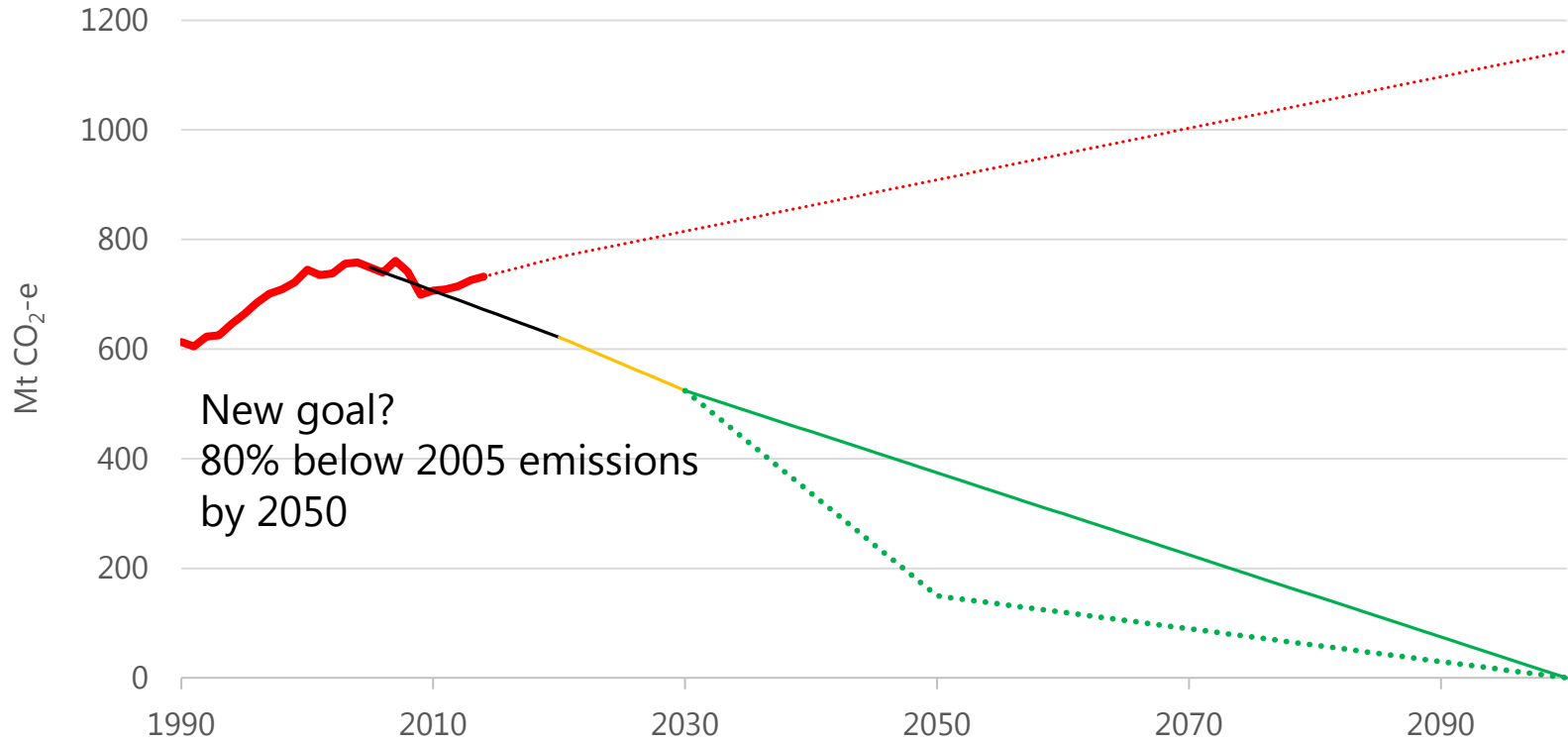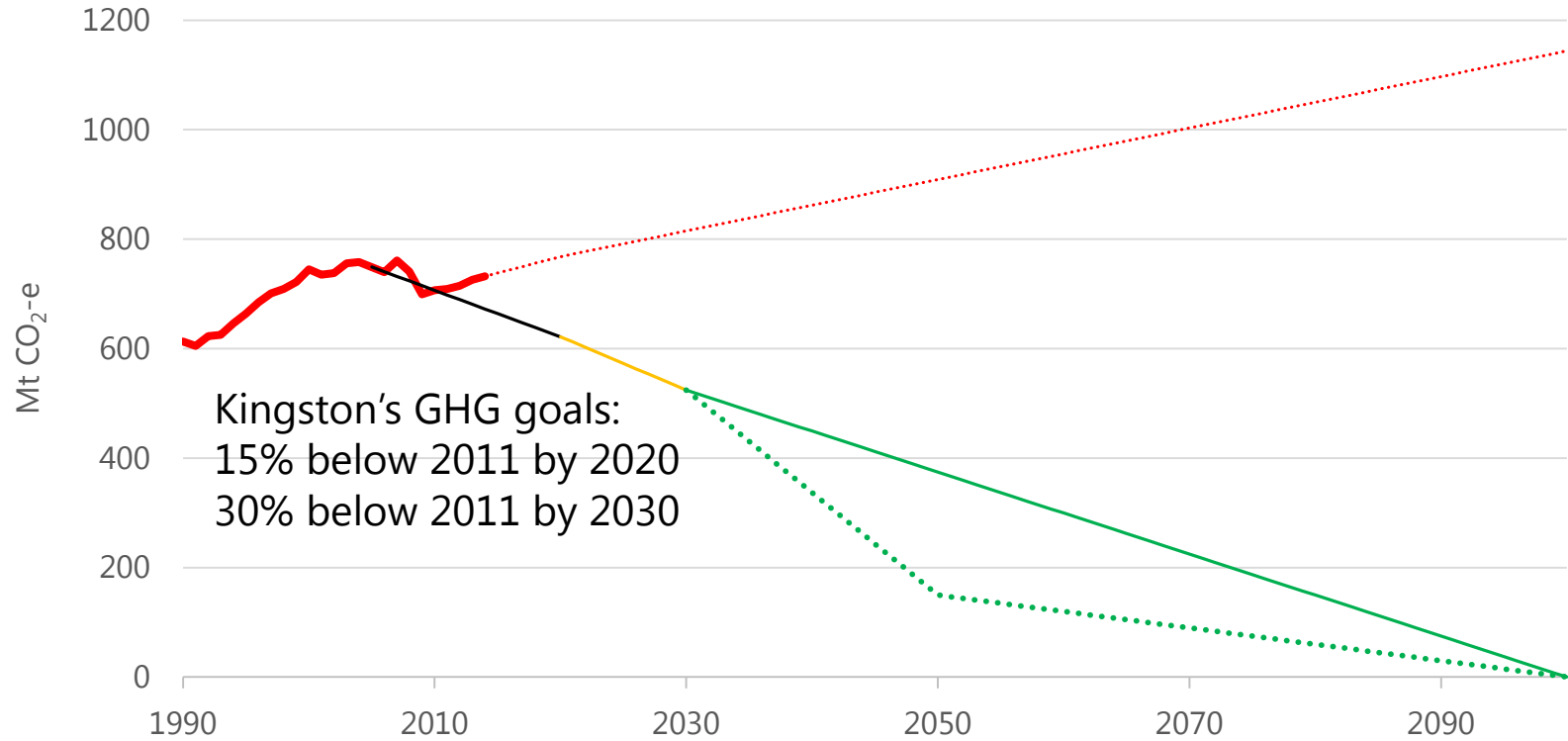
Electrifying cars to address emissions
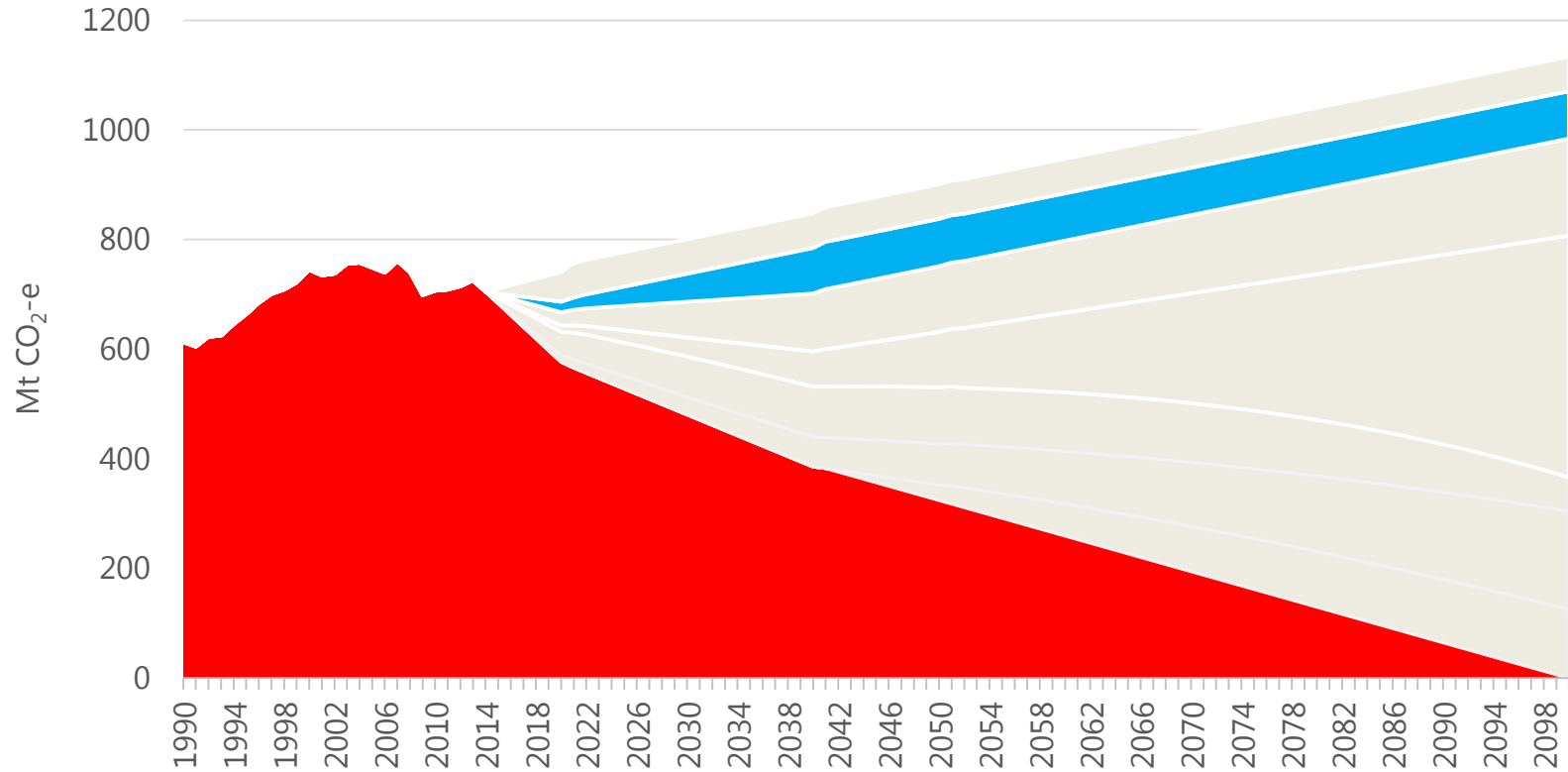
A Guide to Electric Cars   Range Anxiety   Electric Cars Available in Canada   Benefits of Driving Electric   **Incentives**

Incentives

Canadian Provinces are encouraging the adoption of electric cars with incentives!

ONTARIO

Charging stations in PEI

Legend:
- Urban Post Office
- Rural Post Office
- Level 2 Charging Stations
- Trans-Canada Highway
- Provincial Highway
- Paved Roads

Alberton, Cavendish, Summerside, Charlottetown, Montague

0 15 30 60 Kilometers
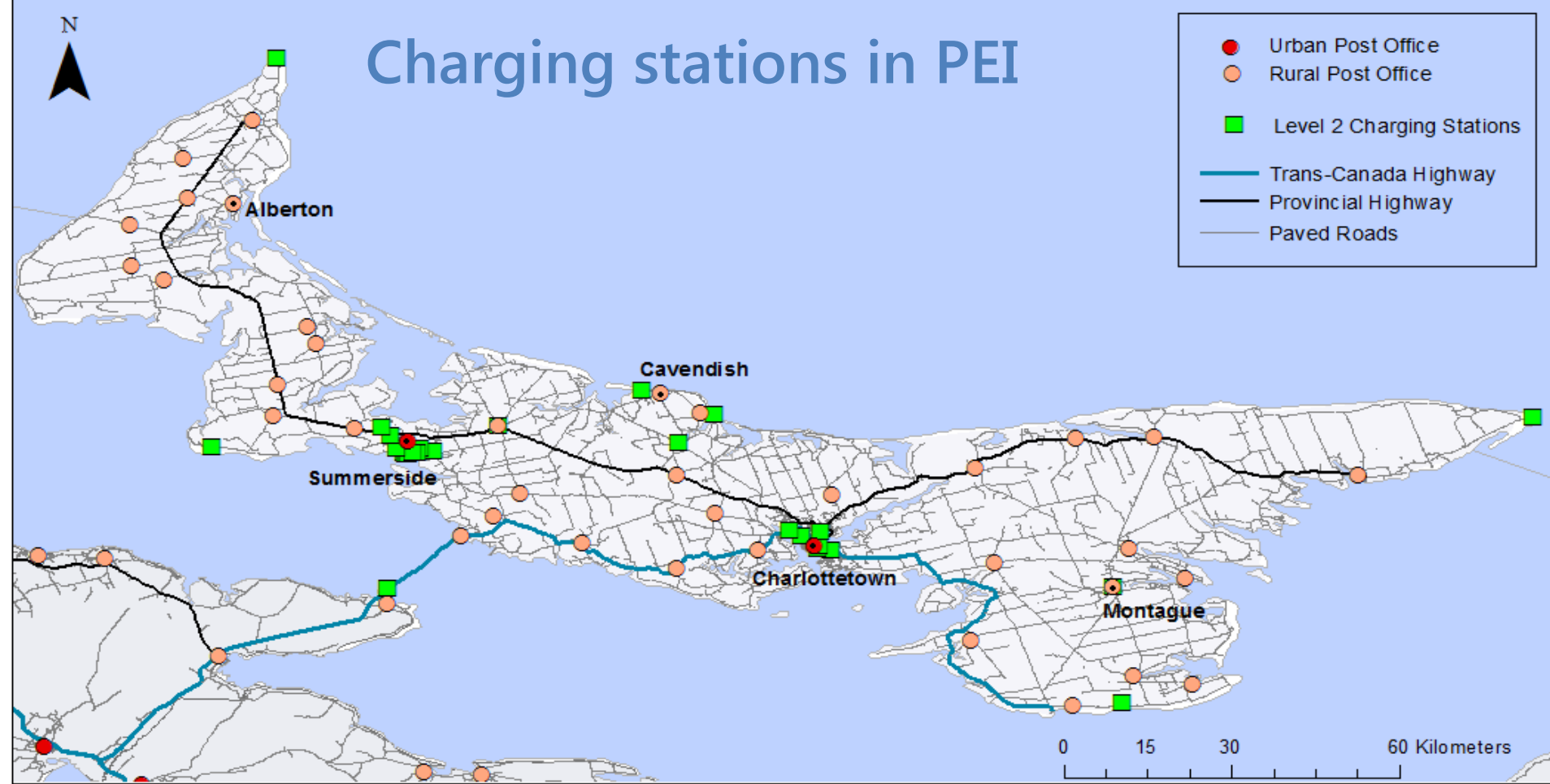
Proposed approaches

Implement rapid-charging stations (levels 2 & 3) in key locations:

1. Tourist-based approach – with charging stations on major routes
2. Urban focused approach – stations clustered around major cities
3. Fill the gaps – provide broad-based coverage across the province

Electric vehicle charging stations

Level 1: Simply requires a standard wall outlet (120 V); takes 8-16 hours to full charge

Level 2: Most public charging stations are Level 2 (240 V); takes 6-8 hours to full charge

Cost: $4-10K per station

Level 3: Rapid charging (480 V); takes 20-30 minutes to charge to 80% capacity

Cost: $50-100K per station

NB Power recently announced they will be installing 10 Level 3 fast chargers along the TransCanada Highway in New Brunswick

Electric vehicle charging stations

Tourist approach/Filling in the gaps

A. Saint Peters Bay

B. Morell

C. O'Leary

Urban approach

Charlottetown

Kensington

Questions

1. What do you think of the concept of leveraging on the PEI Post Office network to implement electric vehicle charging infrastructure, building on the 'community hub' concept?

- Positive feedback on the concept

- Timing: average visit between 5-15 minutes; maybe 20 minutes if there is something pressing this suggests that level 3 chargers make the most sense. Rural post offices have a longer visit time than city post offices

- Partners: provincial governments, power companies, municipal governments, the federal government; car rental companies

- -Landowners need to be considered.

- -Canada Post as a driver of change

Questions

2. Of the three approaches we present, do you have a preferred approach?

- Level 3 charging stations preferred
- Concentrate on both urban and rural centres – becomes a gateway for communities as well as a community hub
- Identify best hubs (e.g. Kensington, Wood island (ferry), Madeleine Islands (ferry), Caribou, Fregis, Souris, Morell (level 3), Chartlottetown (partner needed – maybe city parks? Could revitalize downtown), Summerside (RioCan is landlord), Montague (level 3)
- Tourists make sense as a target audience
- Ensure payment for charging is done inside the Post Office rather than through a phone app or something

Questions

3. Could this approach be used to attract tourists who drive electric vehicles into the Post Office?

- Services: currency exchange (tourism); information centre (tourism – link to local development agencies), line of locally-made products (tourism); send-away services and write-a-letter services; postcards; coins; postal bank and ATM; coffee & food

- Partners: Tourism PEI is cutting back on existing tourist information office hours/months of service, so Post Offices might fill the gap

- Wifi: providing wifi/computer access, online shopping

- Shuttles: providing Level 2 stations for all-day charging, and running shuttle buses to the beach for tourists

Questions

4. Do you see problems with this concept or the approaches we present?

- Engaging management: Ensure that Canada Post/government is fully engaged

- Cost-sharing: partners not identified or lined up yet

- Promotional issues: without strong support and promotion, it is not clear that this plan can go anywhere

Questions

5. Are there other concepts that we should be considering?

- Training – Postal workers will need to help with other services (providing information etc.); may need training, new manuals and procedures, etc

- Branding: Anne of Green 'BLANK'

- Other technologies: What about hydrogen?

Team and partners

DR Massimo Collotta
DR Saeed Ghafghazi
DR Jamie Stephen
DR Linghong Zhang

Jean Blair PHD
Jordan Carlson PHD
Carolyn deLoyde PHD
Sinead Earley PHD
Nathan Manion PHD
Peter Milley PHD
Ricardo Smalling PHD
Emma Webb MSC

RÉSEAU BIOFUELNET CANADA

FFABnet
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ACW | Adapting Canadian Work and Workplaces

Carbon Management Canada
CMC-NCE

NSERC CRSNG

LAFARGE
bringing materials to life

VCO Value Chain Optimization

NSERC BIOCONVERSION NETWORK

ForValueNet ForêtValeur

Queen's UNIVERSITY

REDI