Community Energy & Emissions Plan (CEEP) 2050 Workshop

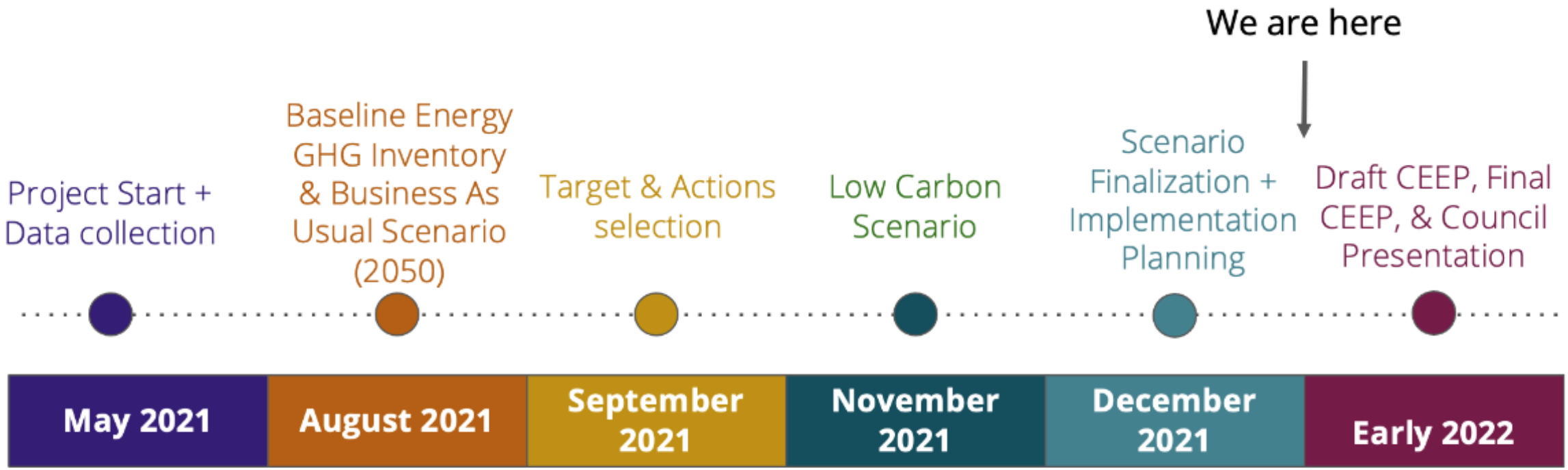
Wednesday January 19th 2021

NEW WESTMINSTER

Objectives

- CEEP Updates
- Low Carbon Pathway
- Action Mapping Exercise
- Next Steps

Project Timeline



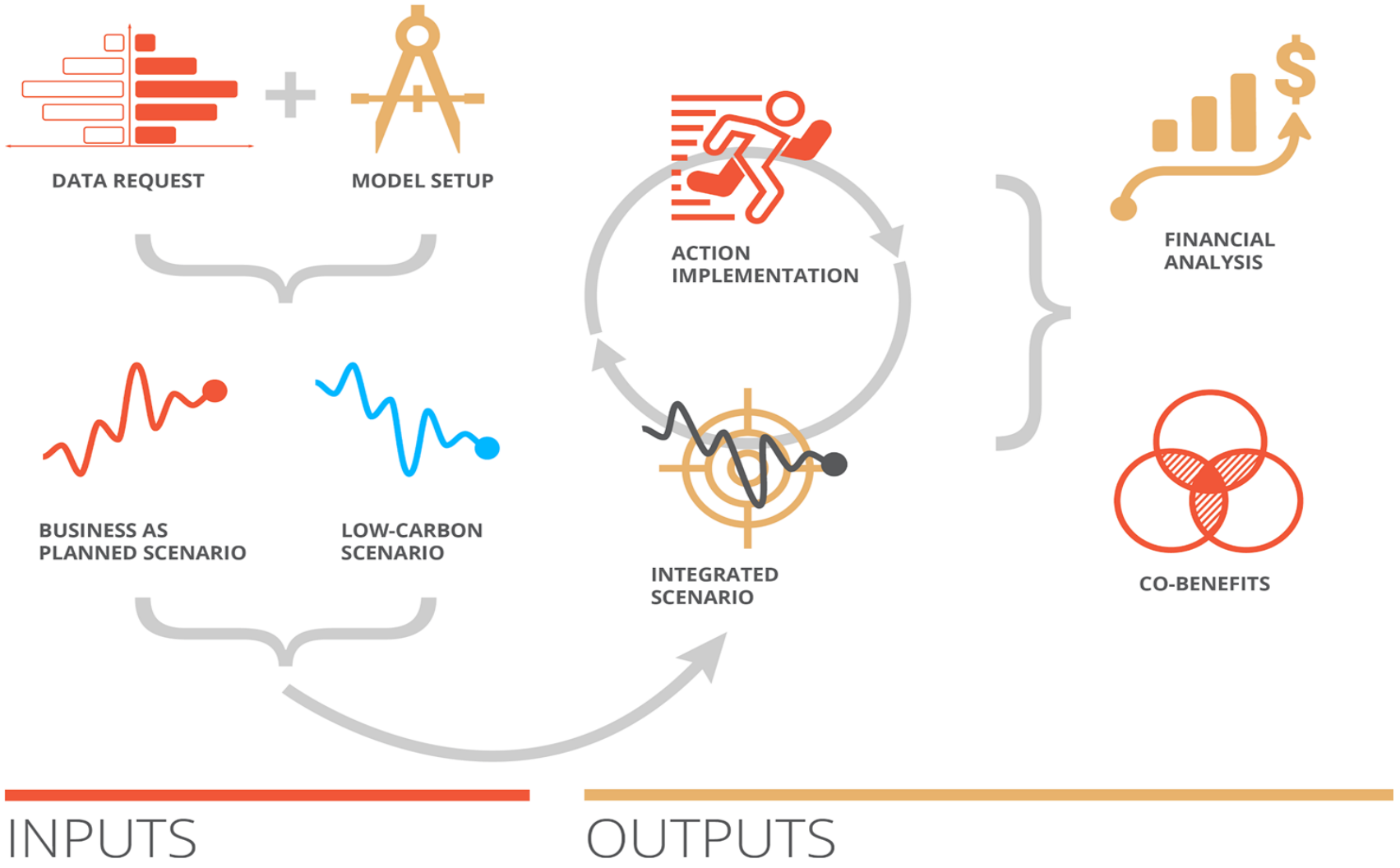
What is the Low-Carbon Scenario?

A purposeful scenario exploration that combines best available technical knowledge, community expression, and staff and stakeholder expertise in determining potential actions and measures that will achieve meaningful emissions reductions, reaching a set emissions reduction target.

Developing the Low Carbon Scenario – Methodology Overview

CityInSight

OVERVIEW

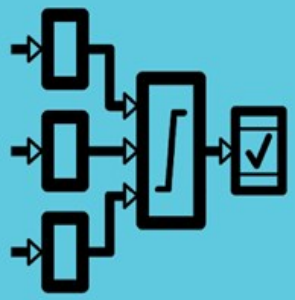


Reduce-Improve-Switch Paradigm

1. Reduce

Reduce or avoide energy consumption in the first place.

2. Improve



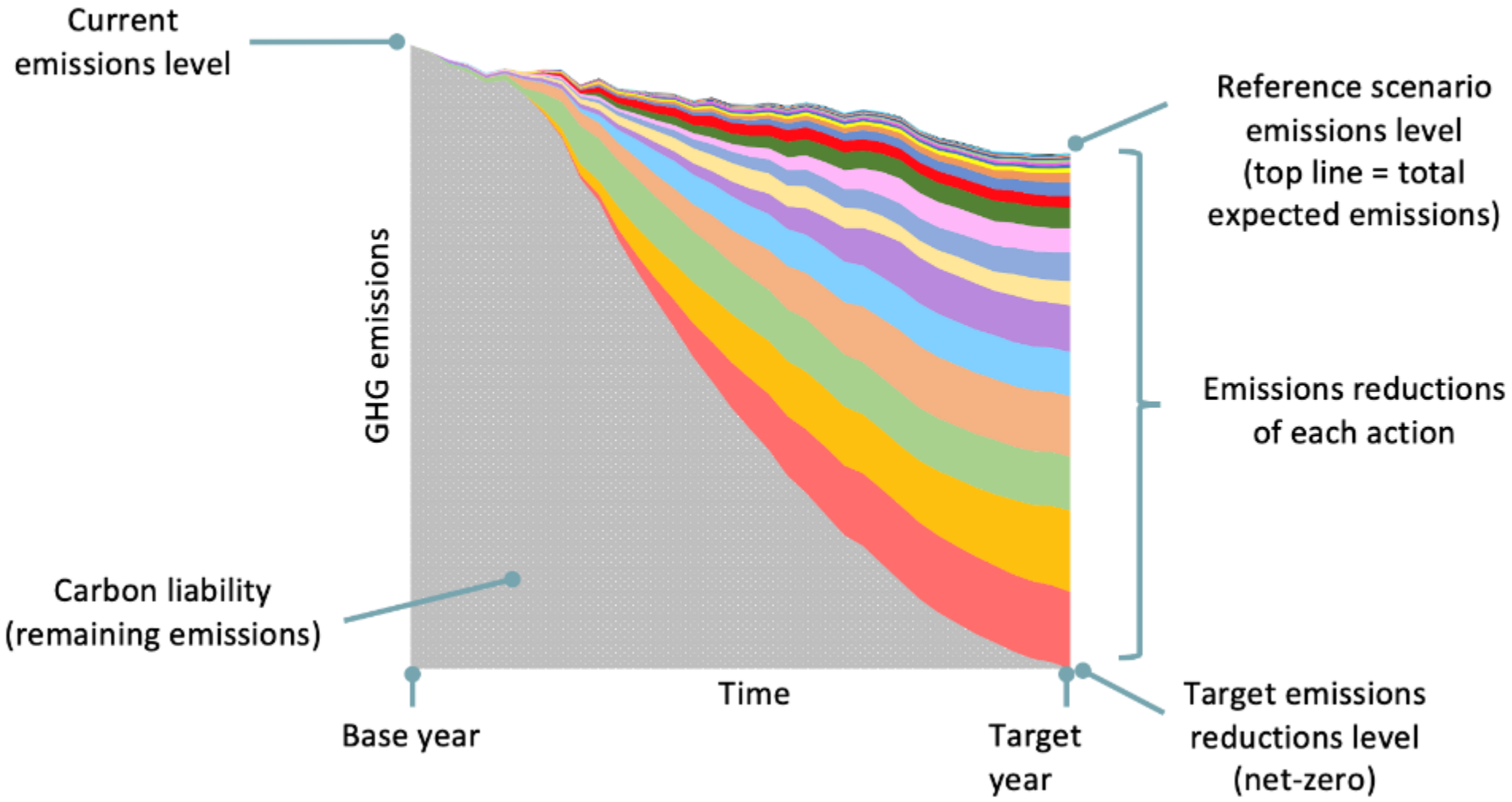
Improve the efficiency of the energy system (supply and demand).

3. Switch

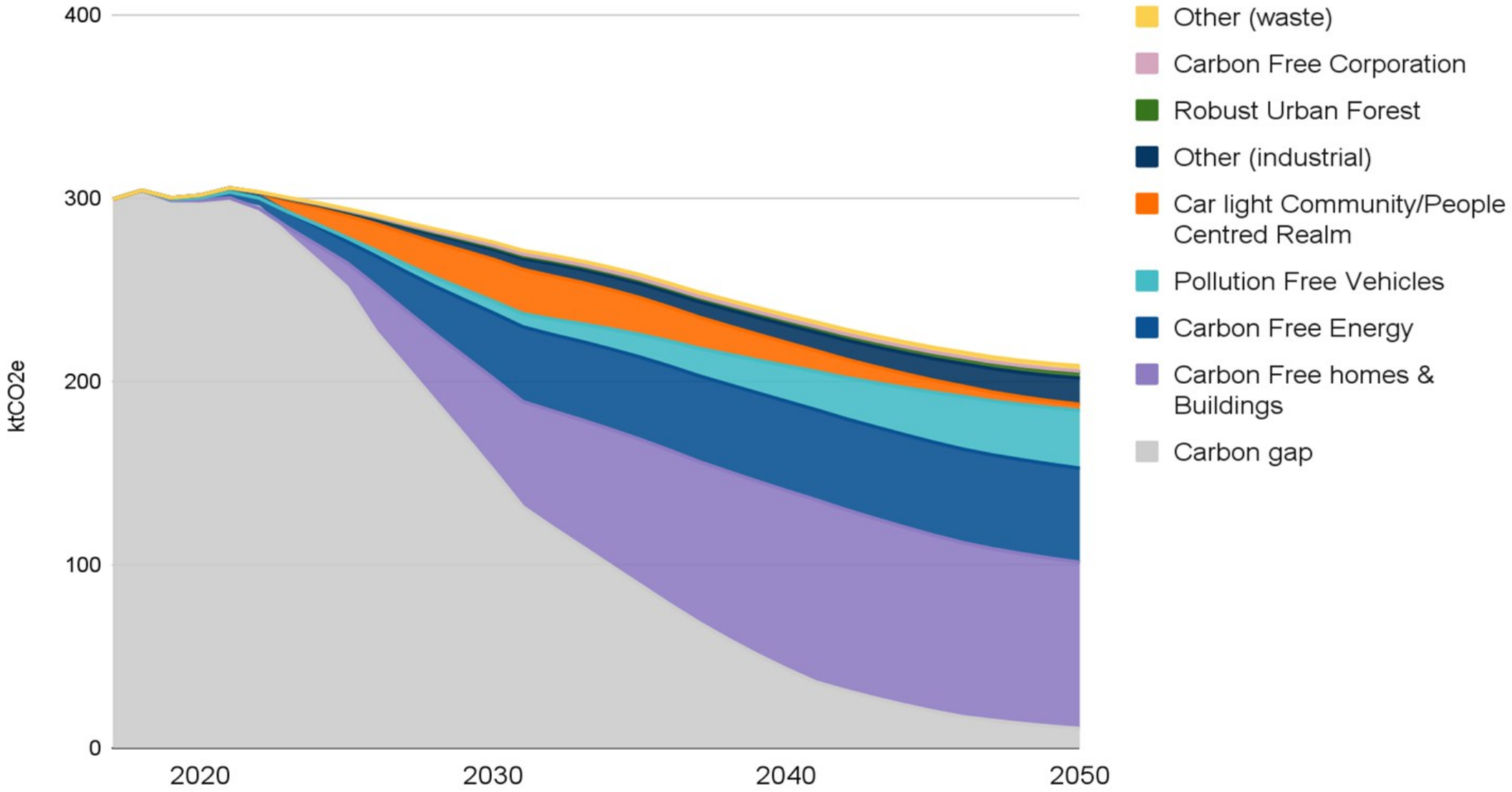
Fuel switch to low-carbon or zero-carbon renewable sources.

Low Carbon Trajectory – Draft Results

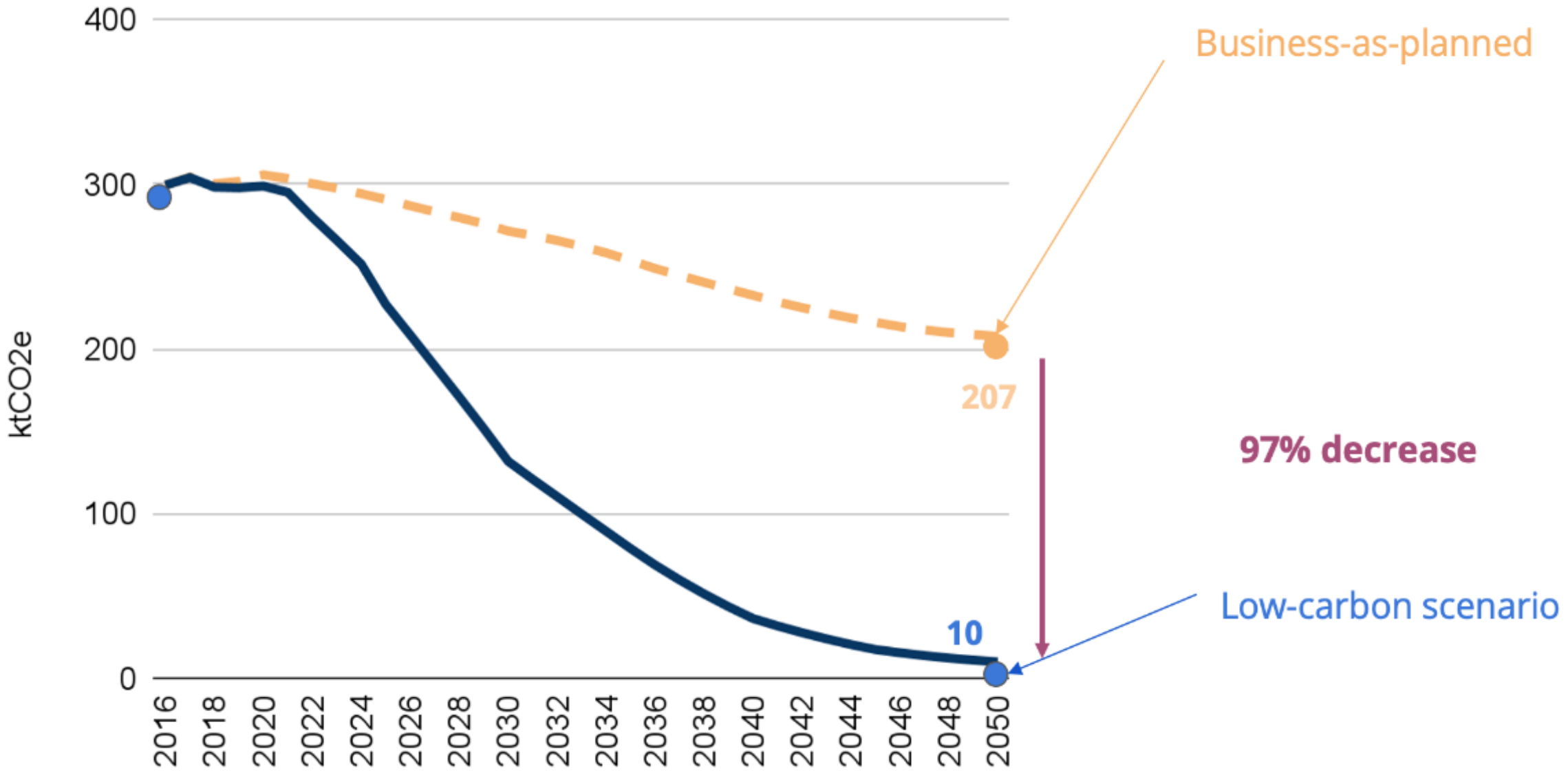
Anatomy of a Low-Carbon Trajectory

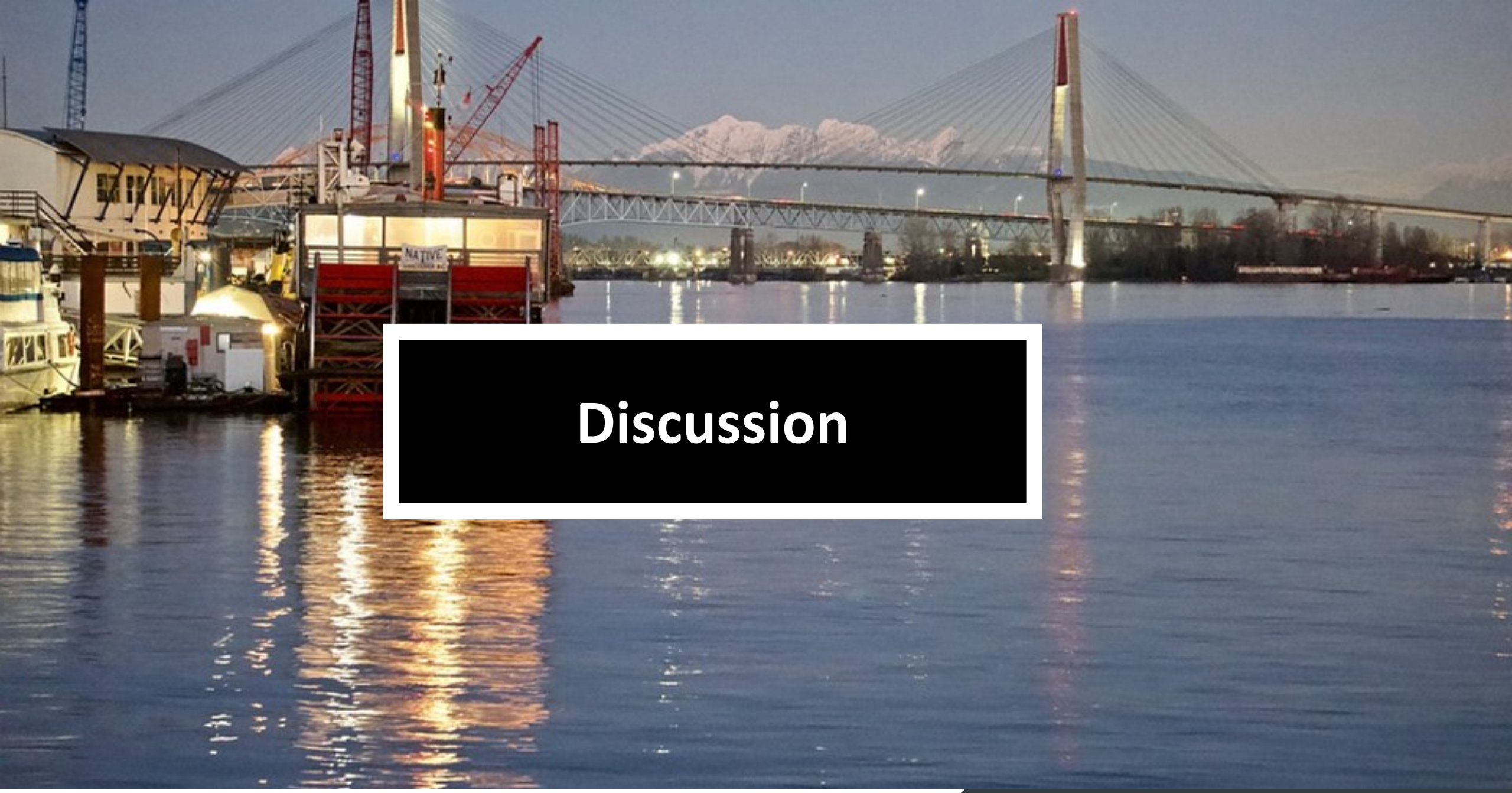


Wedges – Seven Bold Steps



Results – Emissions Profile of Low Carbon Scenario





Discussion

Action Mapping Exercise

Purpose:

- **Examine the impacts and ambitions of achieving our low-carbon targets**
  - Based on baseline & Business-As-Planned analysis
  - Review of global best practice
  - Work with dozens of other municipalities

- Your input will help prioritize the low carbon actions included in the CEEP.

CEEP Actions: Transportation

Transportation

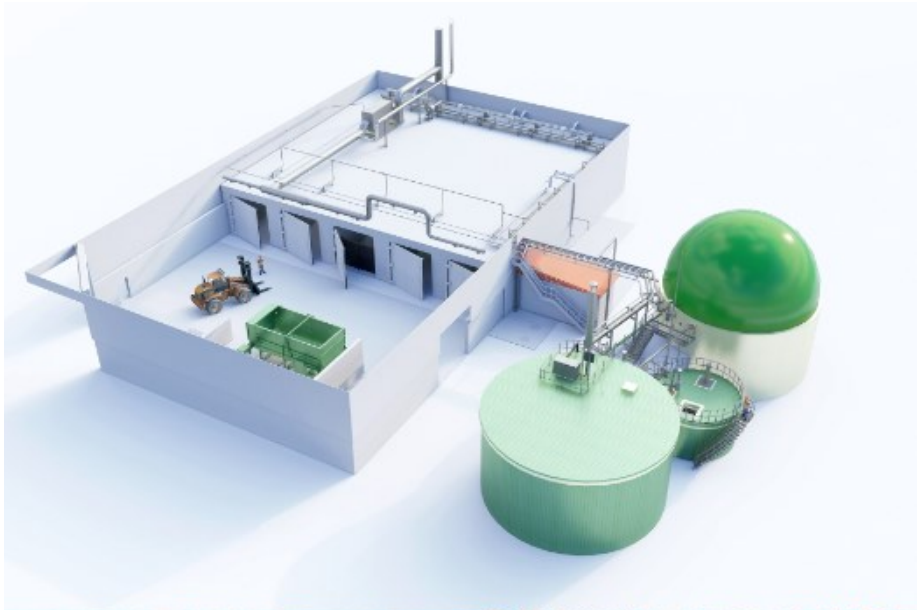
- 100% of new vehicles are electric by 2030
- 100% of new commercial vehicles (heavy-duty) are electric or hydrogen based by 2045

Transit / Active Transportation

- Expand transit and car-share use between “nodes”
- Transit is 100% electric by 2038
- Walking/biking/transit trips are 60% of modal split for internal trips
- Shared e-bikes within some zones
- 10% of road space is pedestrianized

CEEP Actions: Waste, District Energy, Electrification, etc.

- Further electrify pulp and paper industry and switch remaining fuel to renewables (Renewable Natural Gas /Hydrogen)
- Improve efficiency of water/ wastewater pumps by 10% by 2030
- Divert solid organic waste to an anaerobic digester
- Install a District Energy System at Braid and maximize the use of Sapperton/ Royal Colombia Hospital
- Q2Q is electric



CEEP Actions: Buildings

New Buildings

- All new buildings are net-zero before 2030
  - Step-code aligned
  - Low-carbon heating
- Green roofs on all multi-family and non-residential by 2030

Existing Buildings

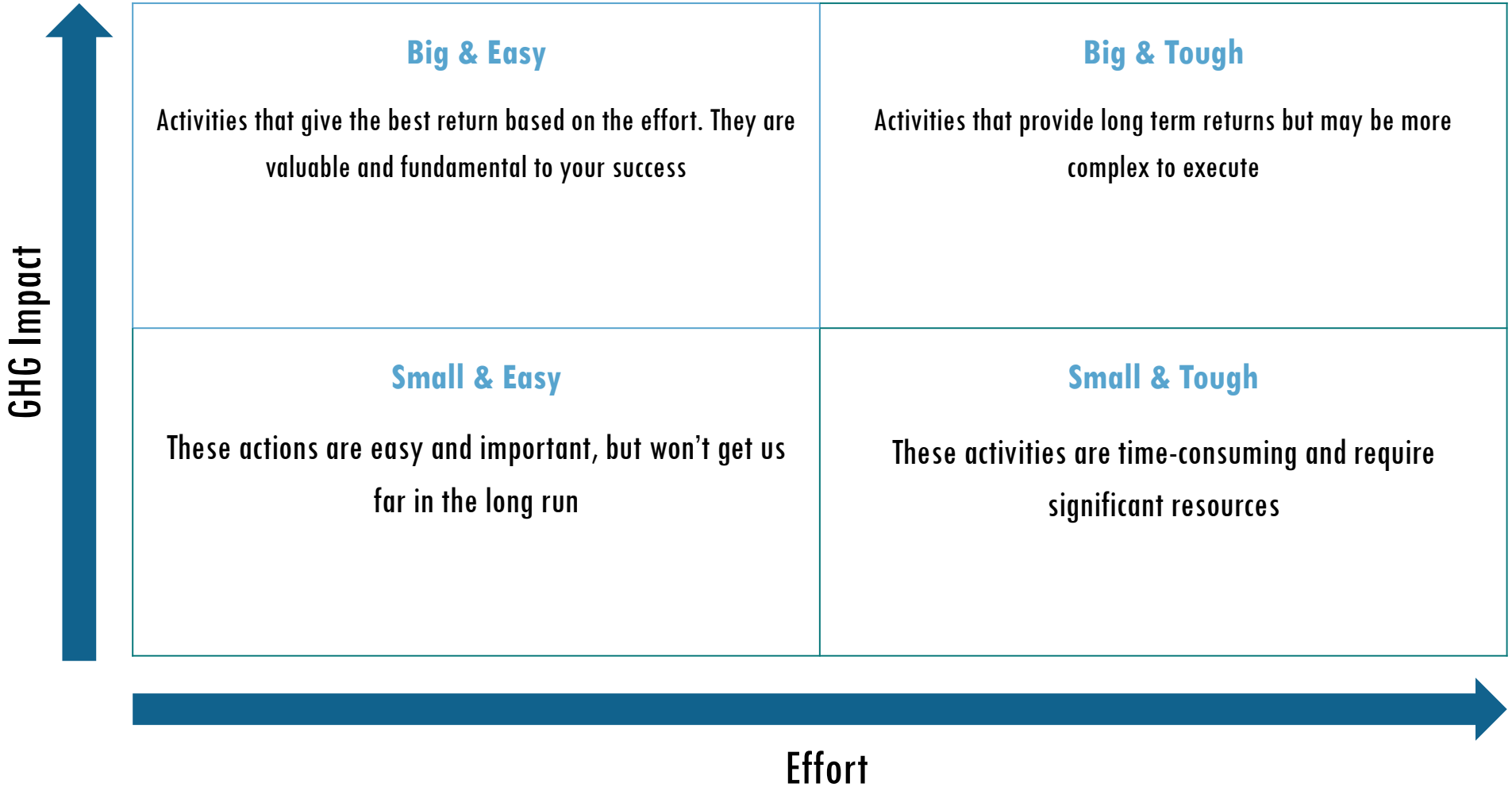
- 95% of buildings have deep retrofits by 2050
- Municipal buildings are decarbonized by 2030 (CEERS)
- Incentivize builders/ developers to electrify heating/cooling systems (heat pumps and water heating)

Action-Mapping Exercise Instructions

Objective:

Place the low-carbon actions on the "Impact vs. Effort" matrix.

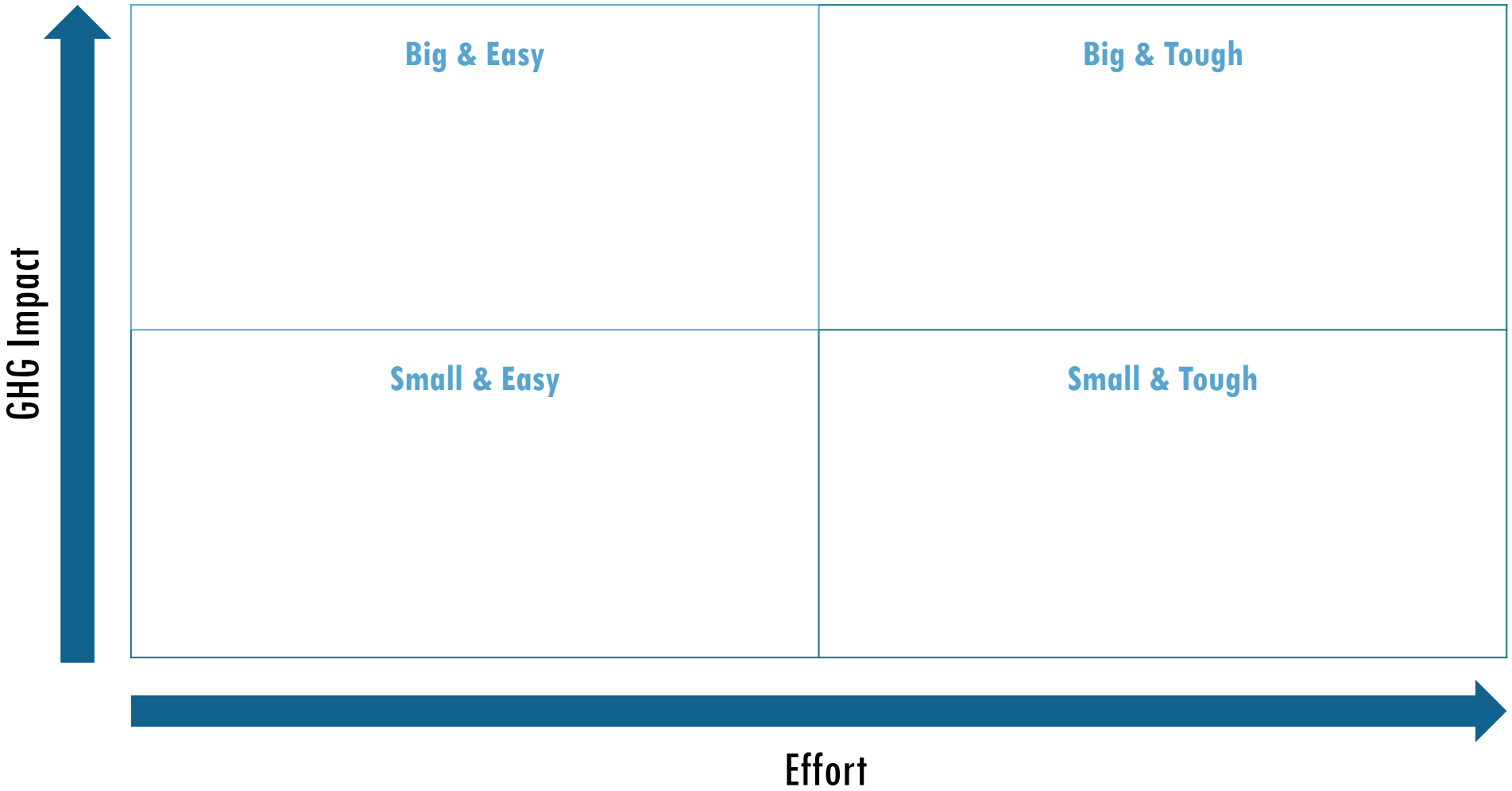
Discuss why you placed them there, and note any major concerns



Action-Mapping – BUILDINGS

Action Bank:

- New Residential Buildings meets Step 5 (Net Zero) of Energy Step Code before 2030
- New Non-res. Buildings meets step 4 of BC Energy Step Code before 2030
- Retrofit 50% of homes by 2030, 95% by 2050, fuel switch to electric
- Retrofit 50% of non-res buildings by 2030, 95% by 2050, fuel switch to electric
- Green roofs on all multi-family and non-residential by 2030



CEEP Actions: Renewable Energy

- All municipal buildings have solar PV installed on rooftops by 2050. (Community Solar Gardens)
- 100% of new construction has Solar PV by 2030
- Up to 30% of retrofitted buildings have solar PV, prioritize older buildings and social housing.
    - Providing 50% of demand

Action-Mapping – RENEWABLE ENERGY

Action Bank:

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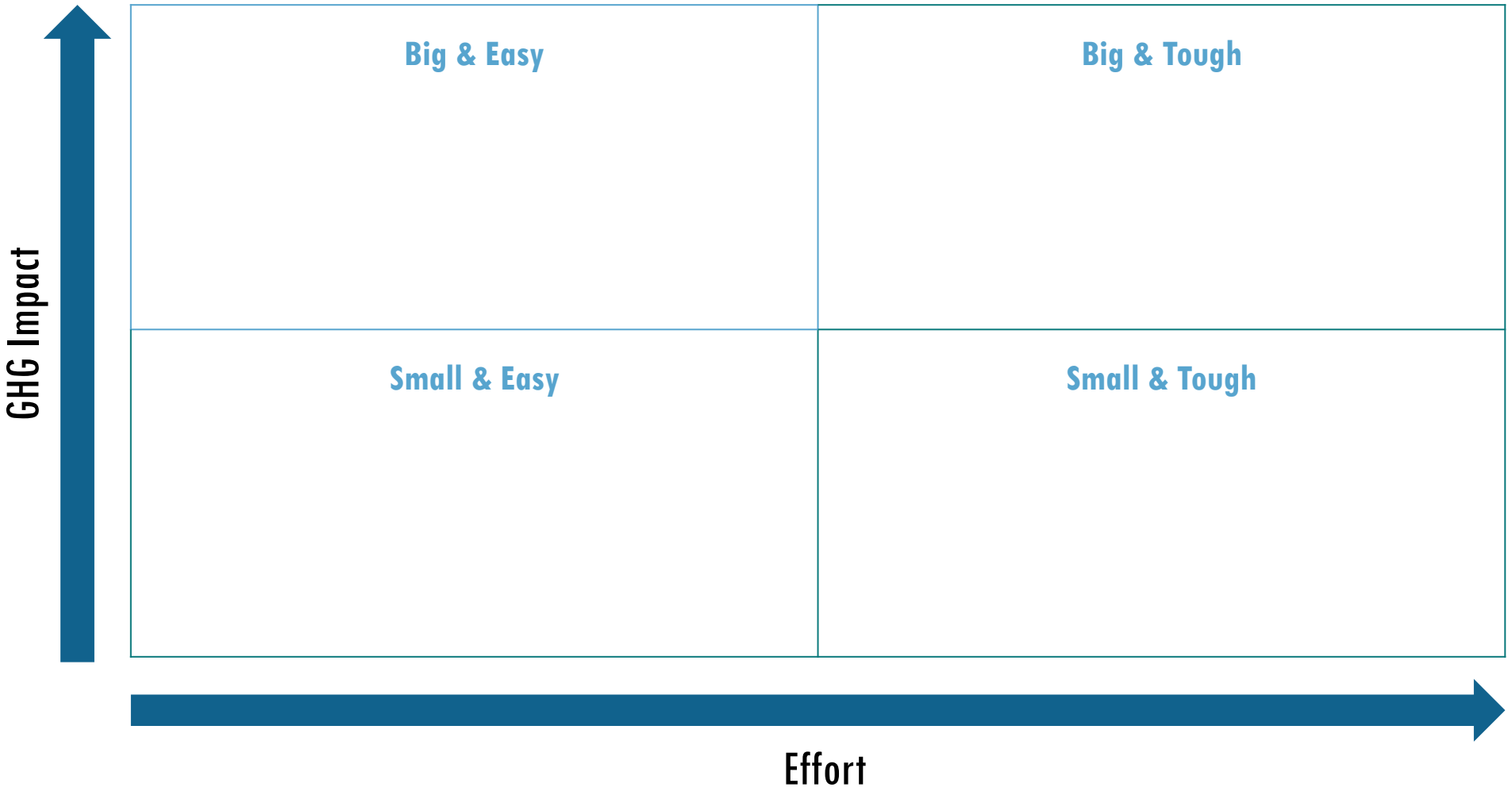

Next steps

Thank You!

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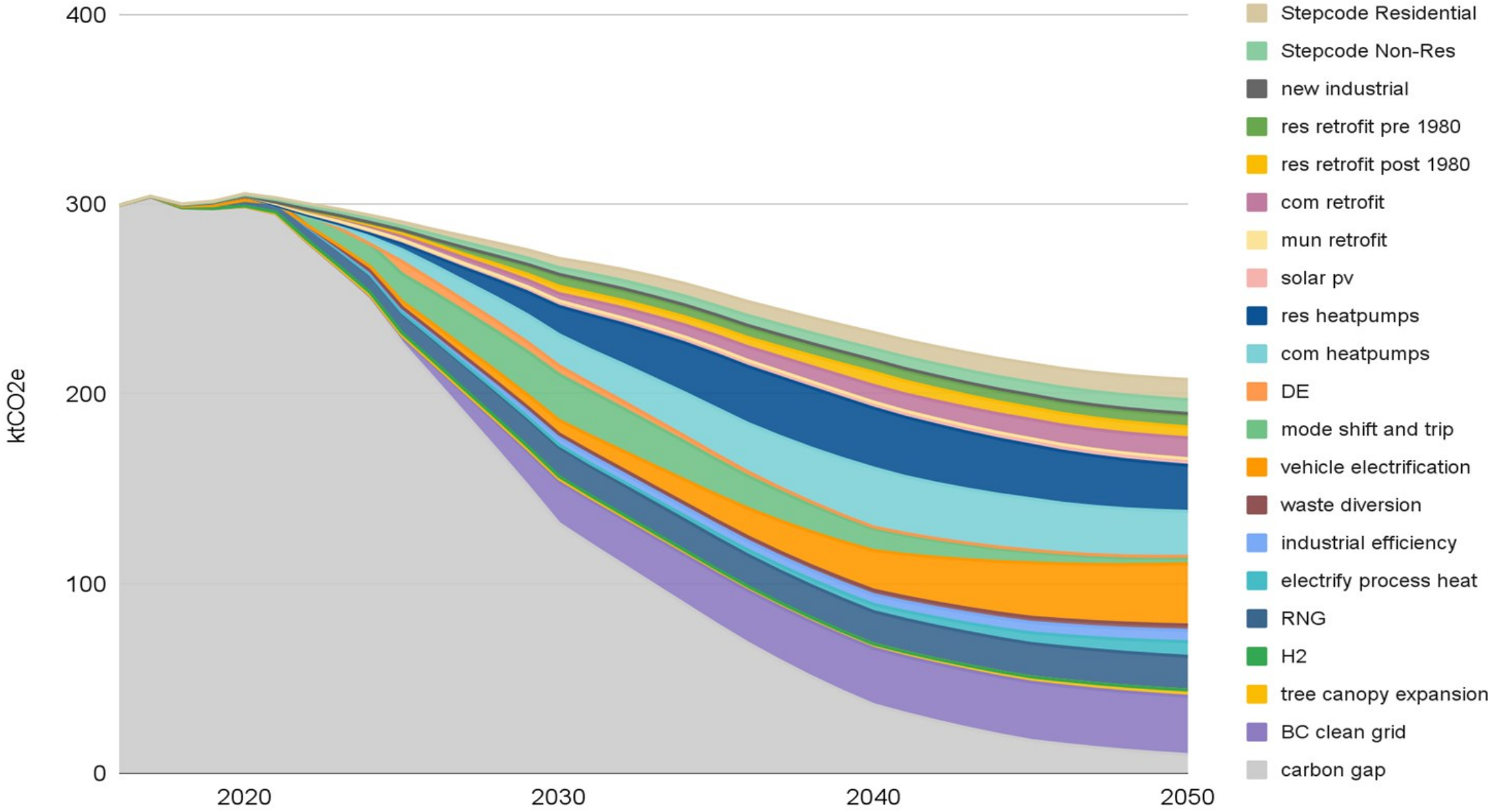
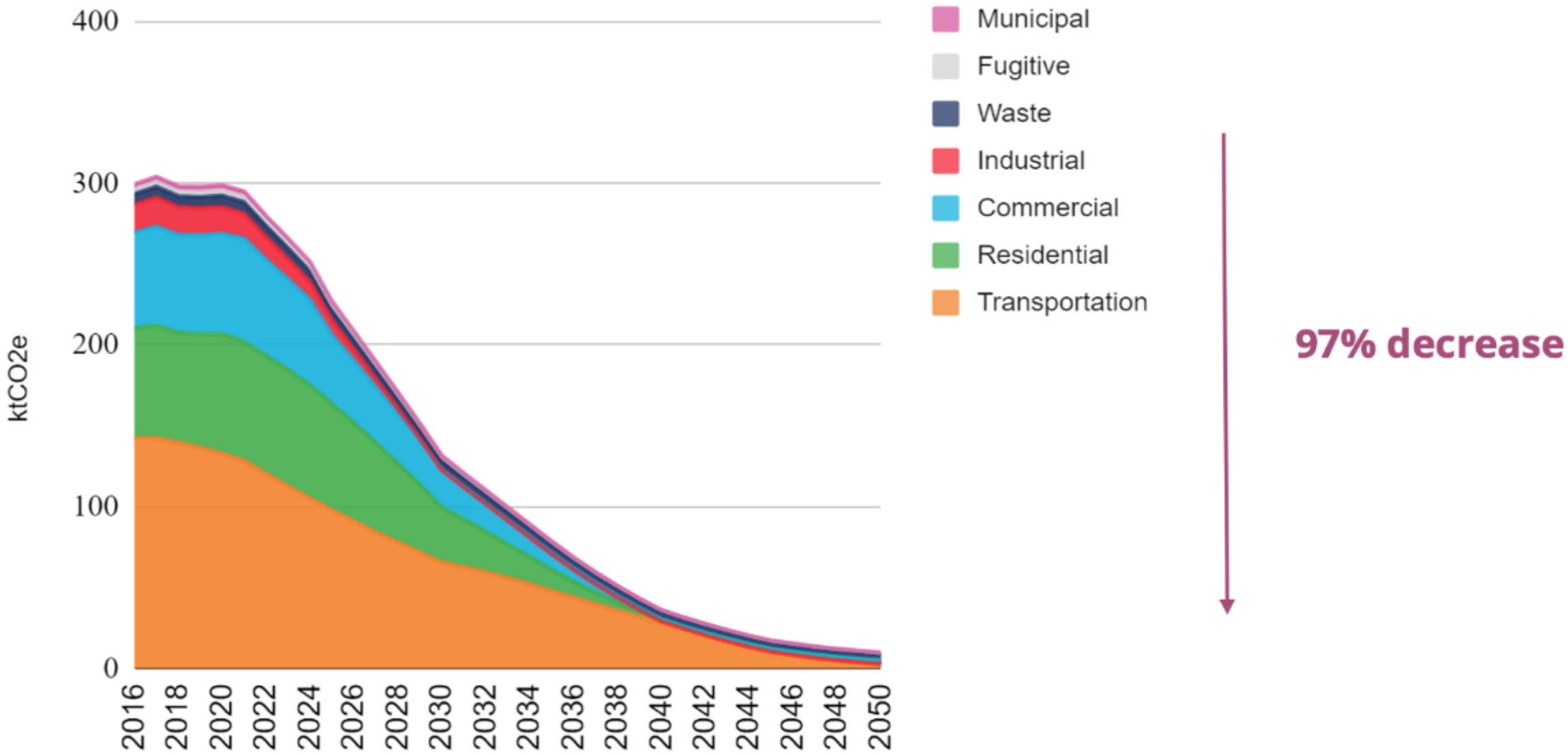
Extra Slides

Low Carbon Wedges



Net-Zero Scenario – GHG Emissions by Sector



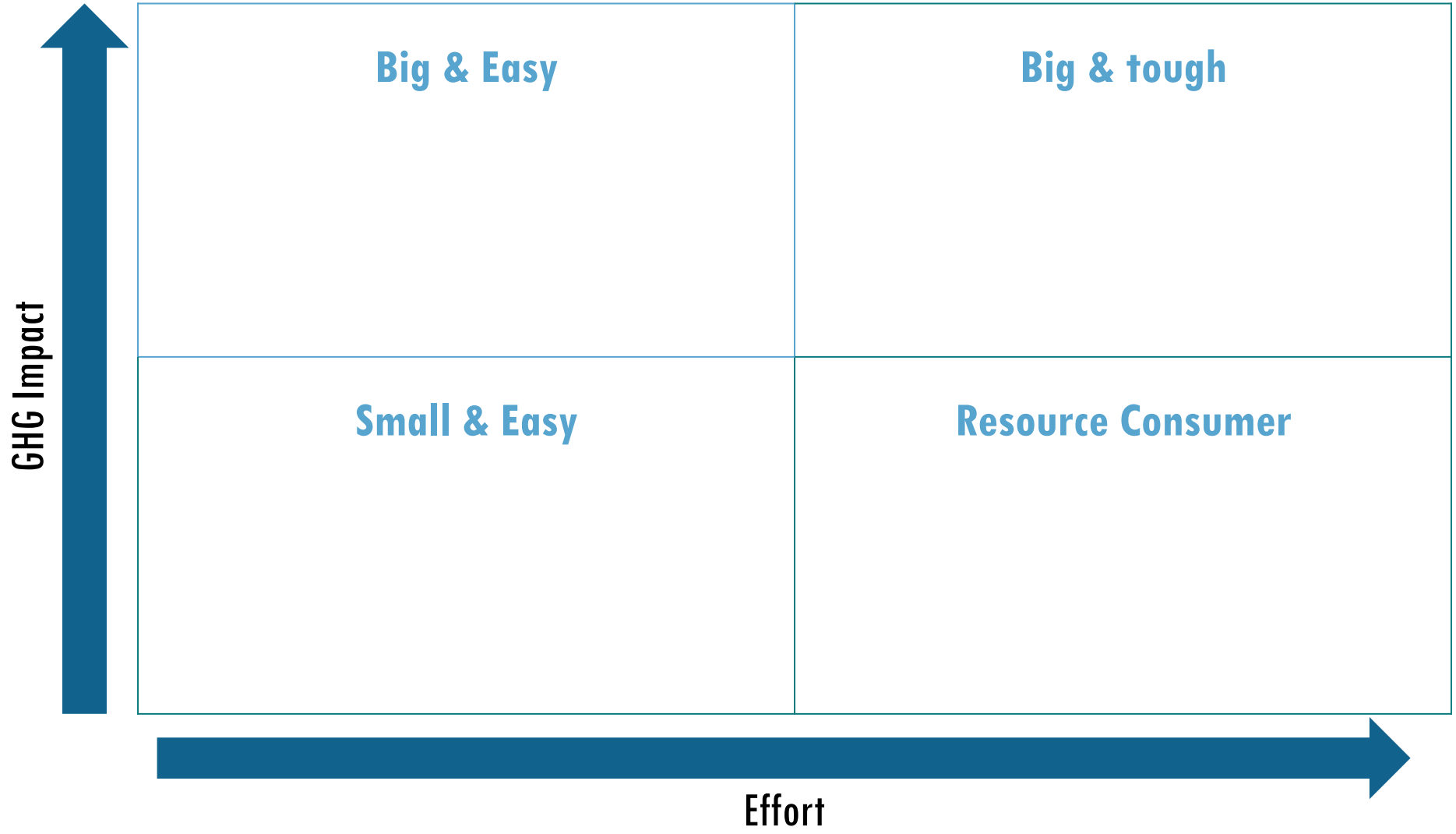
CEEP Action Bank: Transportation

100% of new vehicles sales are electric by 2030

100% of commercial vehicles are electric or hydrogen-powered

Teleworking reduces home to work trips by 7.5% by 2030, 15% by 2050. (Prioritize non-active modes)

60% of trips are non-vehicle based for trips commencing in NW



CEEP Action Bank: Waste, District Energy, Electrification, etc.

- Increase pumping efficiency of wastewater systems by 10% by 2030, 20% by 2050
- Divert 95% of organic waste to anaerobic digester by 2030
- Reduce household water consumption by 7.5% by 2030, 12.5% by 2050 through greywater re-use and education programs
- Reduce household waste by 2% by 2030, 5% by 2050 through zero-waste programming (over diversion rate)