CITY OF NEW WESTMINSTER:

Fall 2021 Virtual Builder & Designer Breakfast

Prepared by:
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Prepared for:
Builder & Designer Breakfast

November 25th, 2021

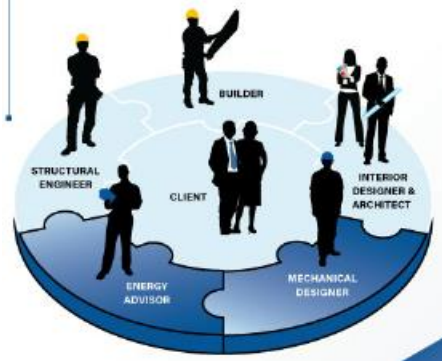
AGENDA

1. Welcome
2. Integrated / Coordinated Design for Part 9 Buildings
   - Special Guest – Cindy Gareau, CACEA
3. Municipality Updates & Discussion
   - Community Energy & Emissions Plan (CEEP)
   - Current Energy and Emissions Profile
   - Builder / Designer Discussion
4. Close
   - 2021 Program Highlights with Project Examples
   - ESNW Plans for 2022

TODAY'S KEYNOTE

Design Team

Energy Advisor and Mechanical Designer seamlessly integrate with design teams to provide coordinated interaction and cohesion with specific focus on energy and mechanical HVAC decisions of the home.



Integrated/Coordinated Process

Mechanical experience and energy expertise combined with a coordinated process yields confident decisions and clear, workable mechanical HVAC solutions for the home.

Outcome

More certainty with mechanical HVAC systems achieving design intent along with satisfied design teams and happy homeowners.

Project Considerations

Design teams are faced with a myriad of strategic decisions and mechanical considerations including the following:

- Planning
- Budgets
- Expectations
- Quality
- Environment
- Value
- Aesthetics
- Forced Air
- Radiant
- Hybrid
- Renewables
- Geothermal
- Heat Pumps
- Ventilation

TODAY'S KEYNOTE SPEAKER

Cindy Gareau

- Executive Director, Canadian Association of Consulting Energy Advisors (CACEA)
- Over 25 years of experience as an accomplished director and association professional.
- CACEA is the national association that represents Canadian energy advisors and is focused on ensuring a sustainable and credible professon.

CACEA

Community Energy & Emissions Plan (CEEP) 2050

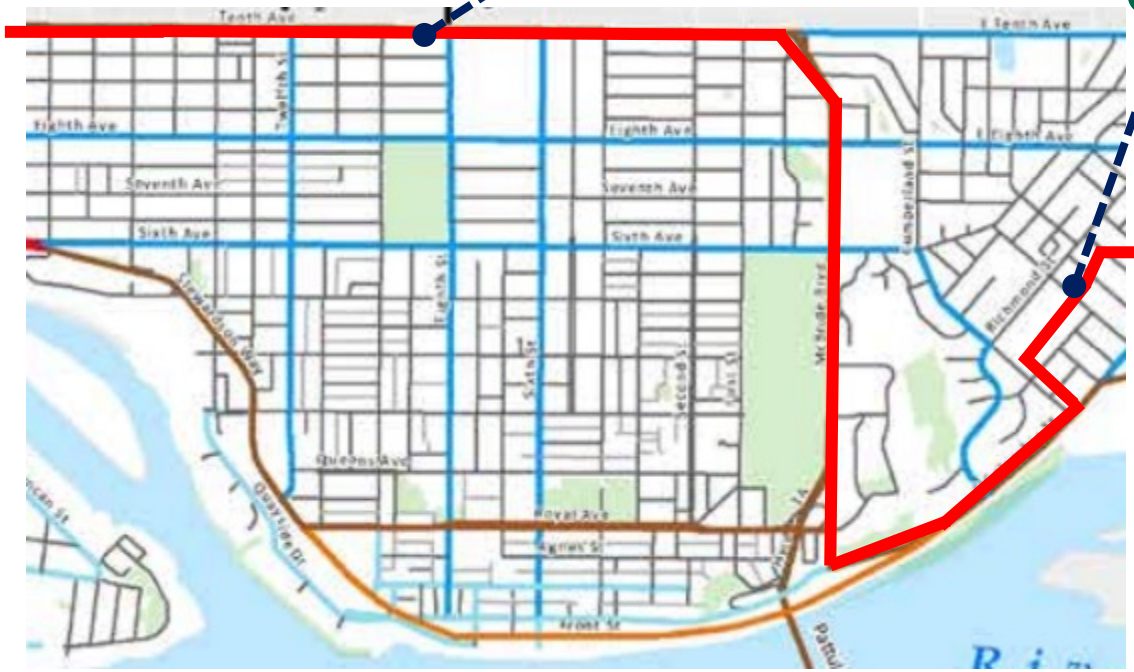
NEW WESTMINSTER

Background: Seven Bold Steps & CEEP

Climate Emergency Declaration – March, 2019

- Climate Action Budgeting Framework
- Seven Bold Steps

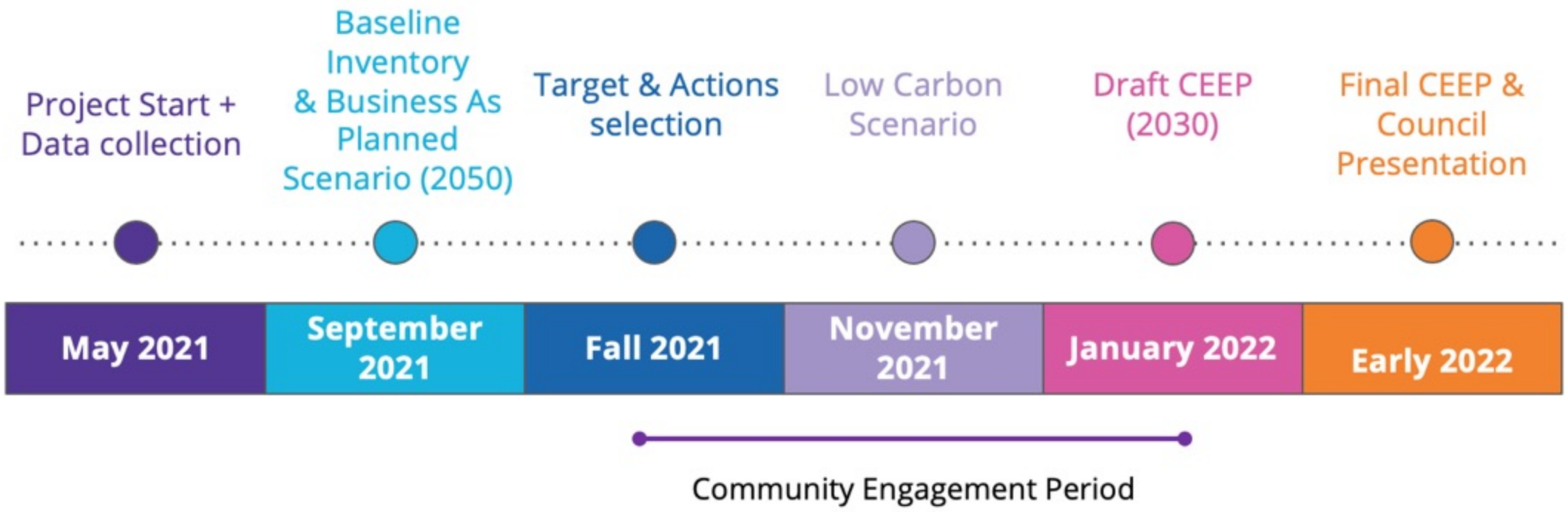
Seven Bold Steps = highways / major arterial roads



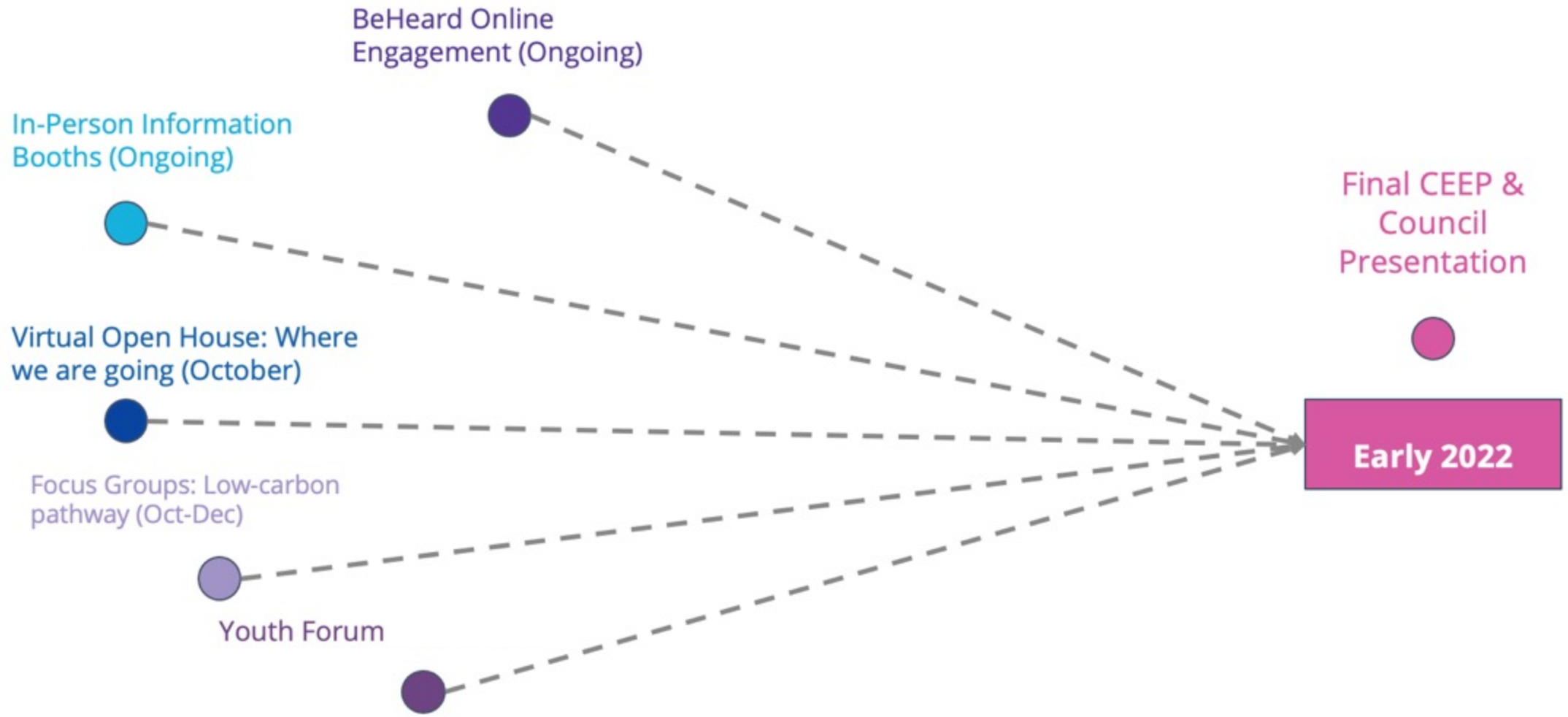
CEEP Actions & Strategies = local roads/ streets

Climate Targets

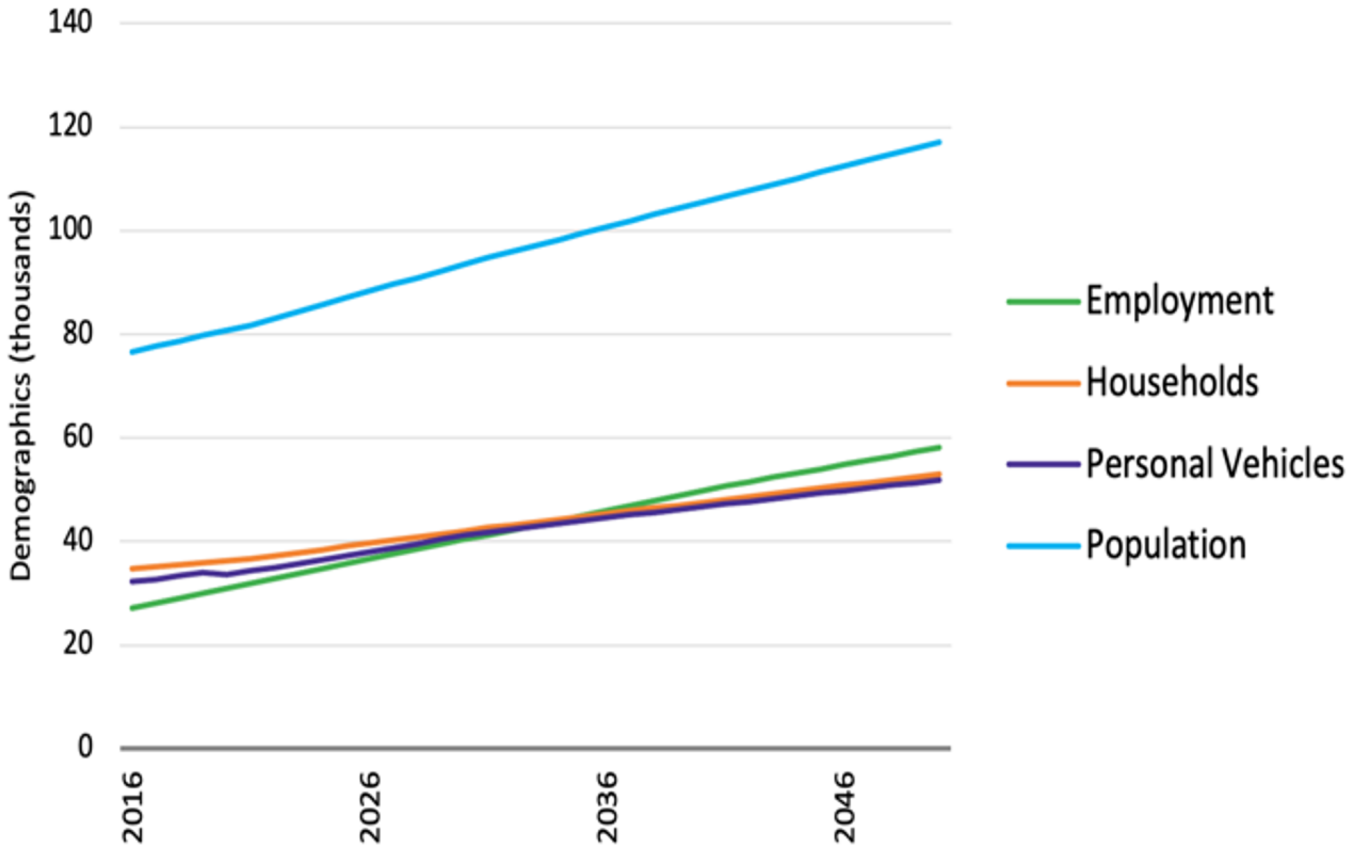
Project Timeline



Community Engagement Period



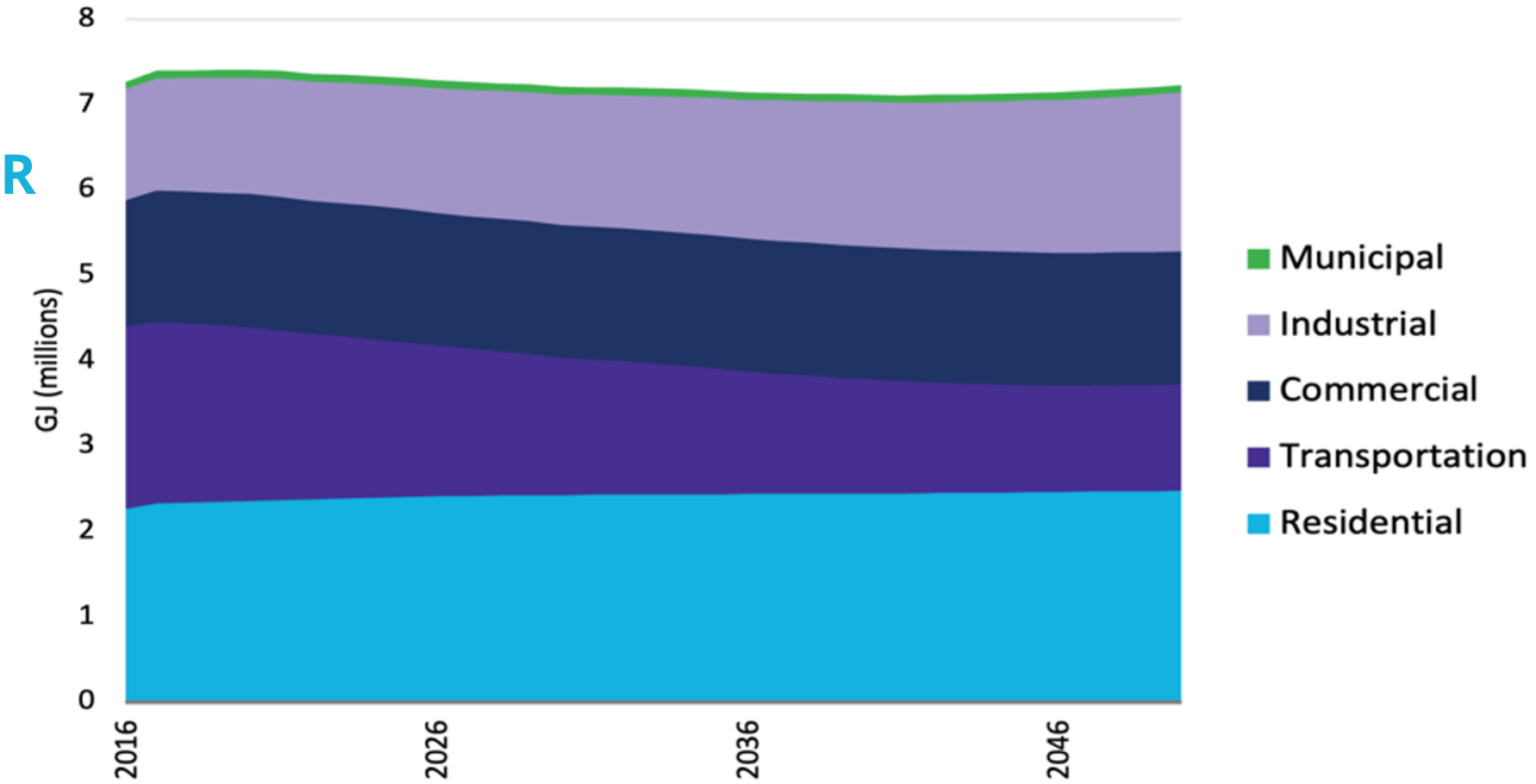
Key Demographics – Business-as-Planned (BAP)



Demographics are an important driver of energy consumption and GHG emissions towards 2050.

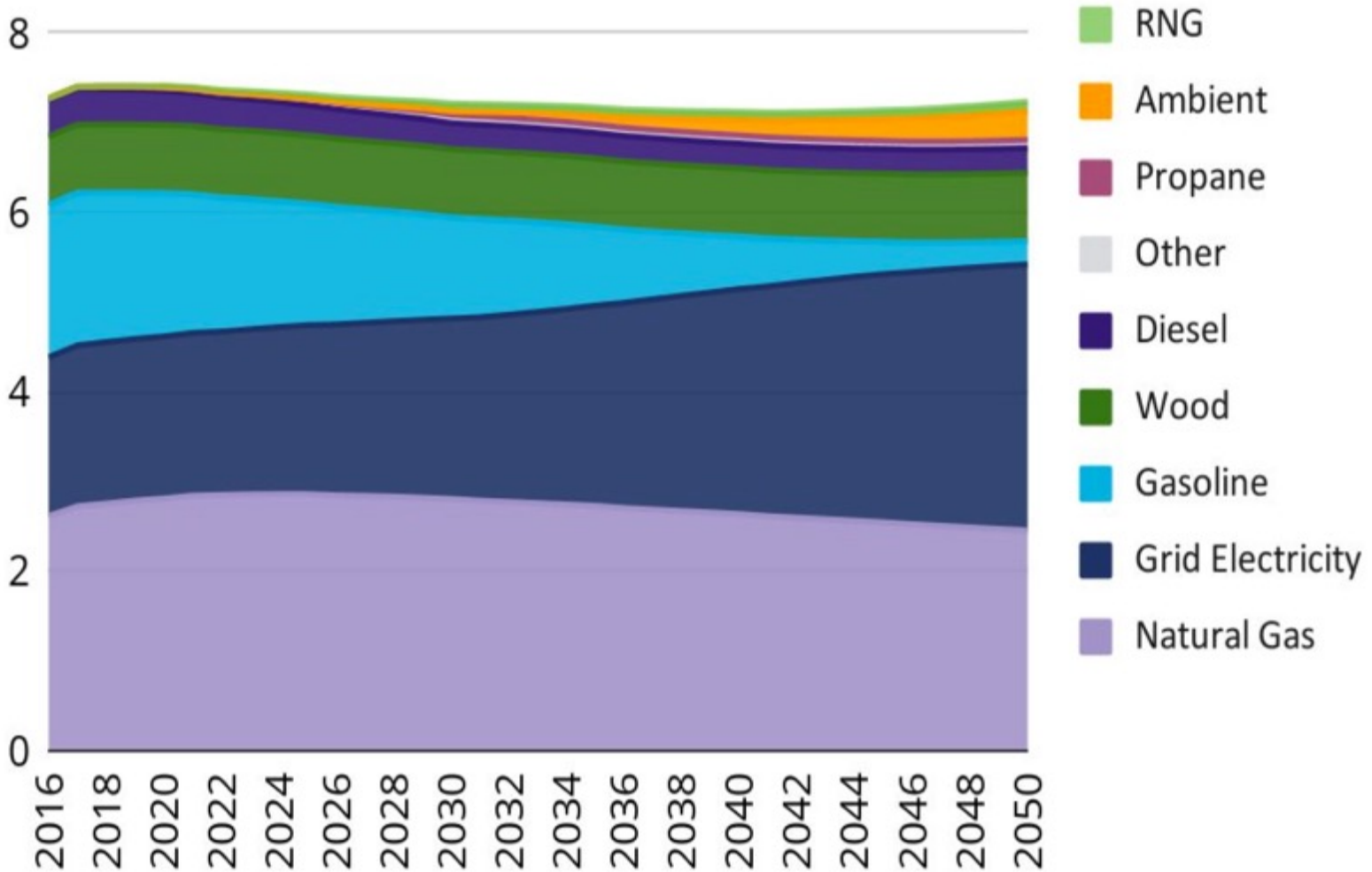
Energy Use: Business-As-Planned, 2016 - 2050

ENERGY BY SECTOR



Energy Use – BAP, 2016 - 2050

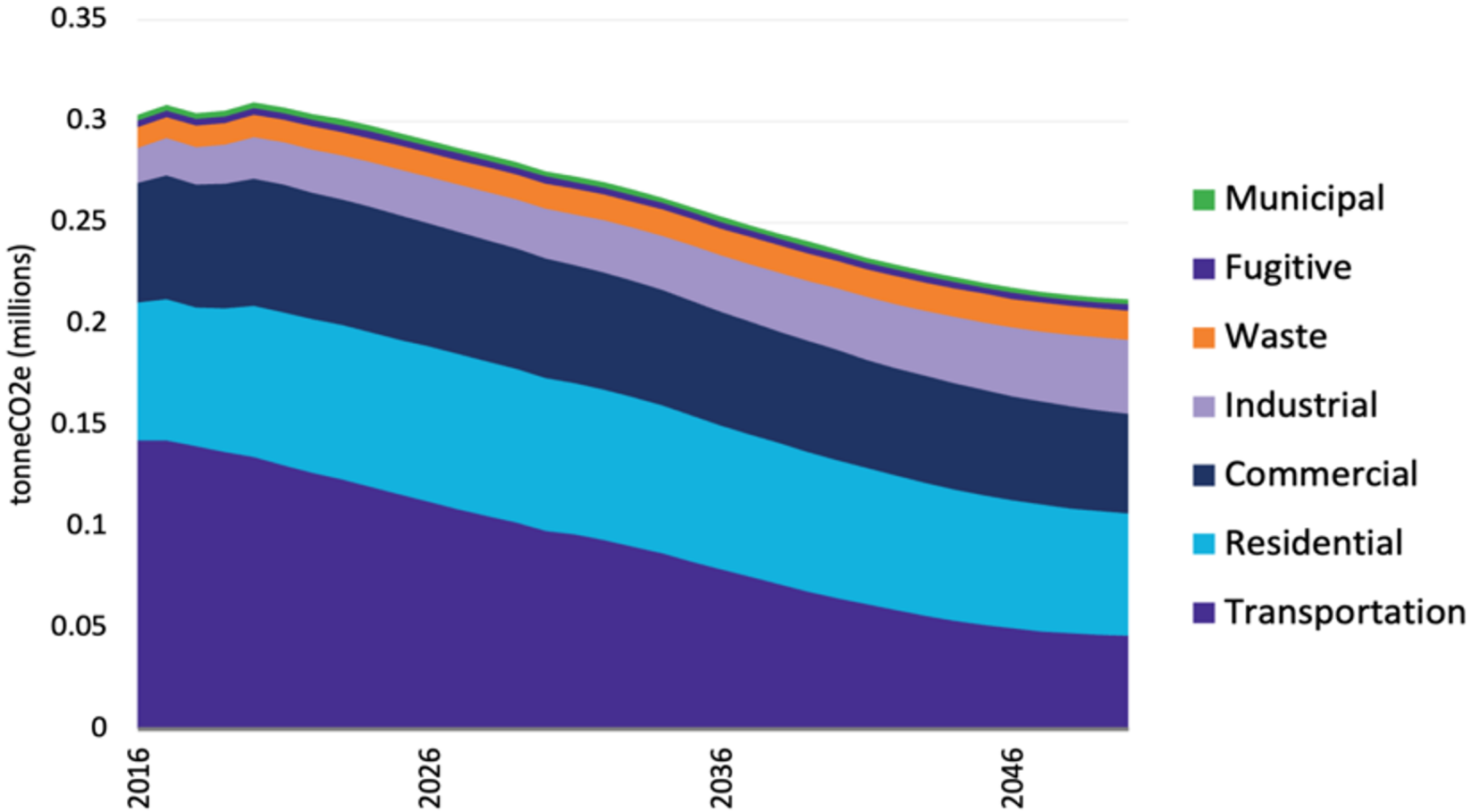
ENERGY BY FUEL TYPE



GHG Emissions - BAP

GHG EMISSIONS BY SECTOR

Projected to decline by 30% by 2050



Mentimeter Activity

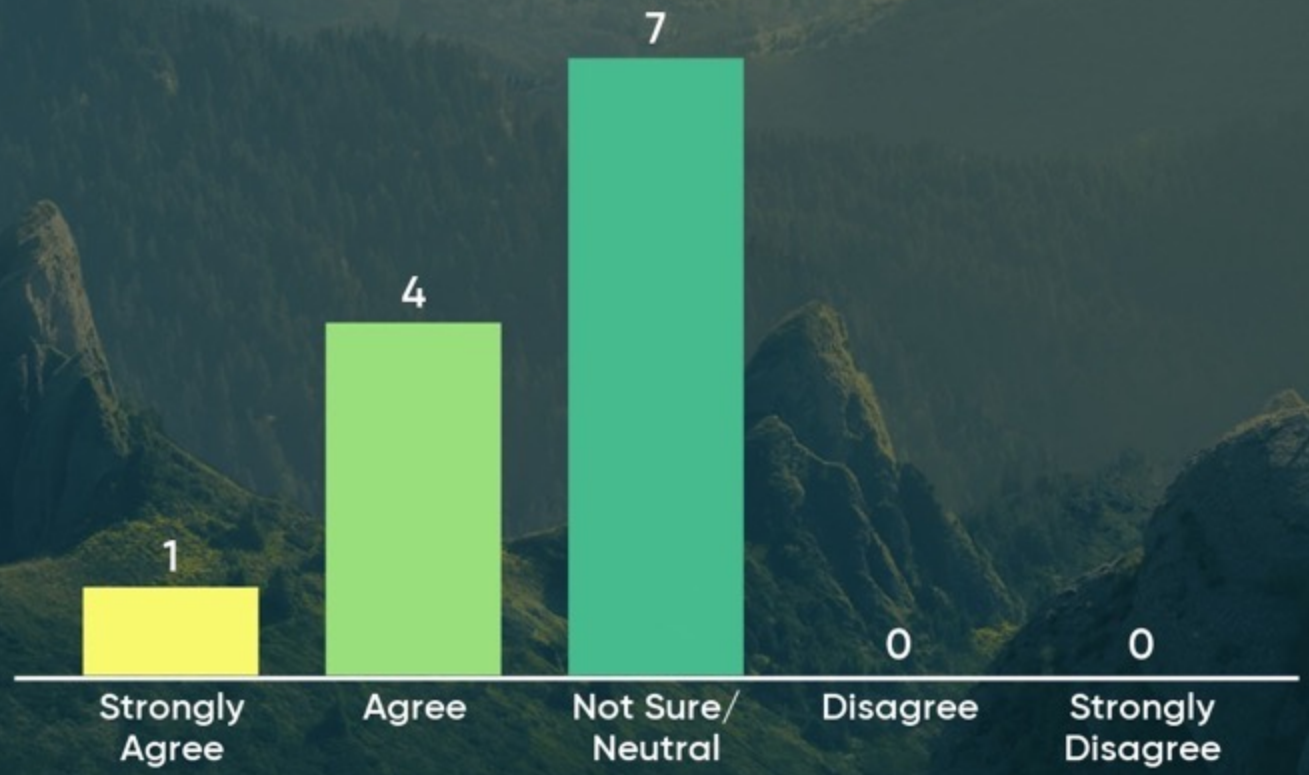
- Please enter the following URL in your browser: www.menti.com & enter this code: XXXXXX

1) Do you think that the following low carbon retrofit targets are achievable? (multiple choice):

    a. All new & replacement heating systems are zero emissions **by 2030** (residential)
    b. Retrofit 50% of all existing dwellings > Achieve thermal savings of 50%; electrical savings of 50%: **by 2030** (for residential buildings built pre-1980s)

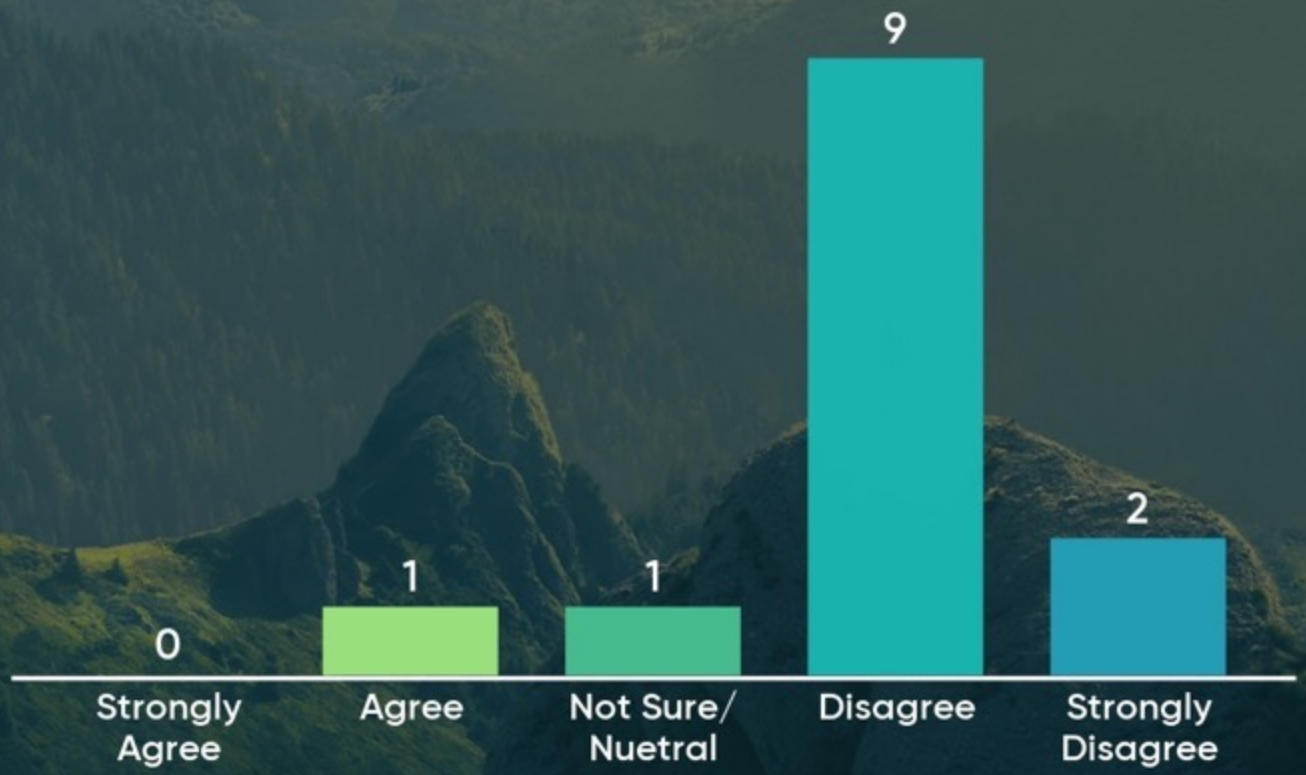
Do you think this target is achievable by 2030? – All new & replacement heating systems are zero emissions (residential buildings)

Mentimeter



Is this target achievable by 2030? - Retrofit 50% of all existing dwellings > Achieve thermal savings of 50%; electrical savings (pre-1980 res)

Mentimeter



Mentimeter Activity

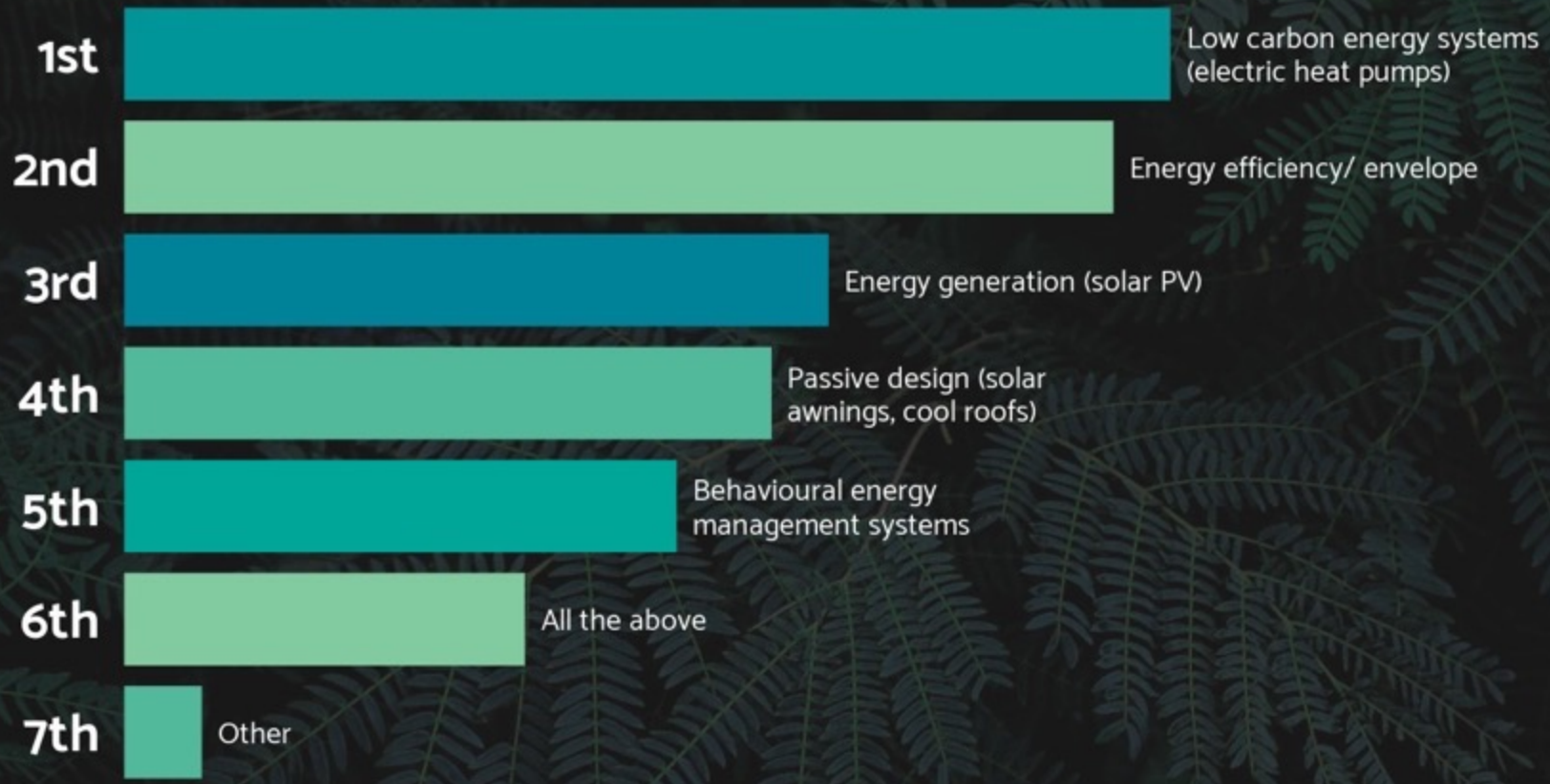
- Please enter the following URL in your browser: www.menti.com & enter this code: XXXXXX

2) What retrofit measures should be prioritized/ pursued for residential and commercial buildings? (Rank)

a) Energy efficiency, envelope
b) Passive design
c) Behavioural energy management
d) Low carbon mechanical systems (heat pumps)
e) Energy generation (solar PV)
f) All of the above
g) Other

What retrofit measures should be prioritized/ pursued for residential and commercial buildings?

Mentimeter



Mentimeter Activity

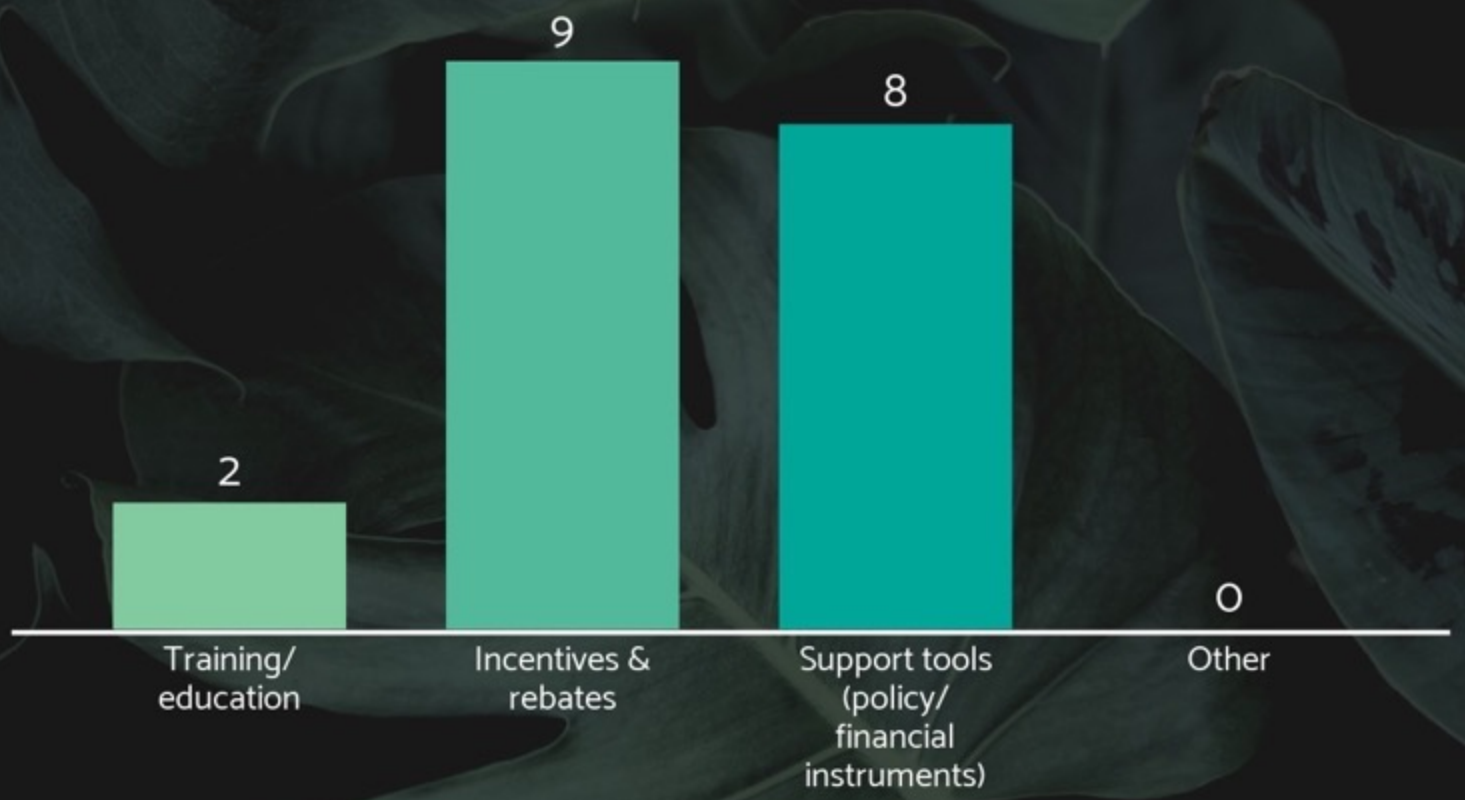
- Please enter the following URL in your browser: www.menti.com & enter this code: XXXXXX

3) What support do builders need to implement deeper retrofit measures/ leverage opportunities? (Multiple Choice)

a) Training/ education
b) Incentives & rebates
c) Support tools (policy/ financial instruments)
d) Other

What support do builders need to implement deep retrofit measures/ leverage opportunities?

Mentimeter



Next Steps

- Community / Stakeholder Consultations
- Low Carbon Scenario Development – Identifying Actions
- Draft CEEP – early 2022

Thank You!

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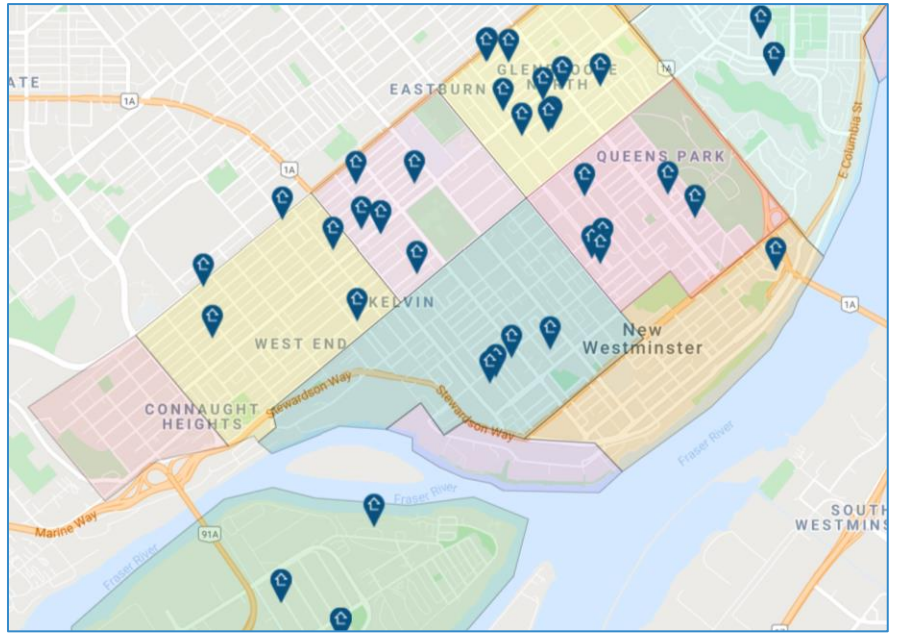
2021 HIGHLIGHTS - HIGH PERFORMANCE NEW HOMES

High Performance Home Projects:

- No. of Projects to Date – 66 New Construction
- Energy Performance – 18% Better than Code-Built Homes
- Air Tightness – 2.34 ACH @ 50 Pa
- GHG Emissions – 1.5 tonnes per year



PROJECT EXAMPLES (Completed in 2021)

706 First Street (Single-Family Detached)

- **Energy Step Code –** Level 4
- **Energy Performance –** 22% Better Than Code / EnerGuide Rating 63 GJs
- **Air Tightness –** 0.80 ACH @ 50 Pa
- **Notes** – Participant in Mechanical HVAC Design Offer and NRCan Video

442 Garrett Street (Single-Family Detached)

- **Energy Step Code –** Level 5
- **Energy Performance –** 44% Better Than Code / EnerGuide Rating 44 GJs
- **Air Tightness –** 0.61 ACH @ 50 Pa
- **Notes** – Second project to achieve Energy Step Code Level 5

PROJECT EXAMPLES (Completed in 2021)

2120 London Street (Single-Family Detached)

- **Energy Step Code –** Level 3
- **Energy Performance –** 44% Better Than Code / EnerGuide Rating 62 GJs
- **Air Tightness –** 1.43 ACH @ 50 Pa
- **Notes** – First combination project including main home and laneway.

2120 London Street (Laneway)

- **Energy Step Code –** Level 3
- **Energy Performance –** 10% Better Than Code / EnerGuide Rating 45 GJs
- **Air Tightness –** 2.50 ACH @ 50 Pa

PROJECT EXAMPLES (Completed in 2021)

552 Amess Street (Laneway Home)

- **Energy Step Code –** Level 3
- **Energy Performance –** 32% Better Than Code / EnerGuide Rating 34 GJs
- **Air Tightness –** 2.21 ACH @ 50 Pa
- **Notes** – First laneway home. Enhanced air tightness support from City.

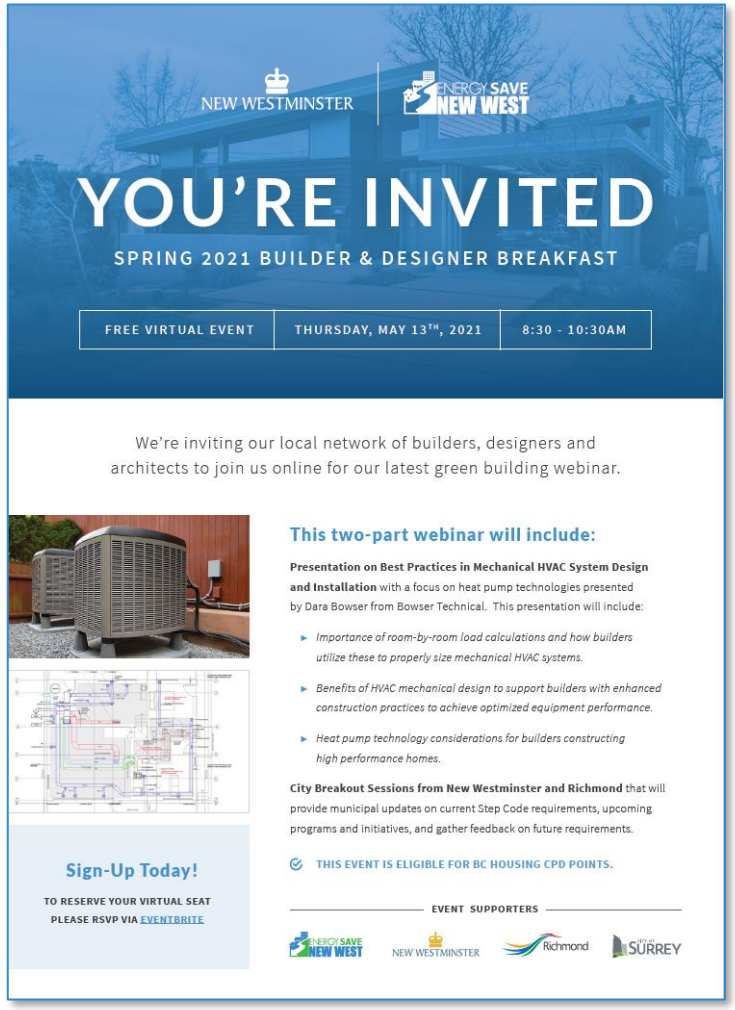
2217 Dublin Street (Laneway Home)

- **Energy Step Code –** Level 3
- **Energy Performance –** 7% Better Than Code / EnerGuide Rating 38 GJs
- **Air Tightness –** 2.4 ACH @ 50 Pa
- **Notes** – Second laneway home. Exceeded City minimum requirements.

2021 HIGHLIGHTS – INDUSTRY TRAINING

Builder & Designer Breakfast Event Series:

- Hosted three (3) Builder and Designer Breakfast events with over 200 attendees.
- Expanded the series to support regional collaboration with City of Richmond and City of Surrey.



2021 HIGHLIGHTS – MECHANICAL HVAC DESIGN PILOT

Mechanical System Design Offer:

- Incorporated mechanical HVAC design offer from BC Hydro and FortisBC for electric and gas heated homes participating in ESNW.
- Case Studies and New Info Sheet to come in 2022.

PROGRAM PLANS FOR 2022

New Initiatives:

Subsidies for BCIT High Performance Building Courses - 50% of the Cost, Up to $550 per Course:

- CESA 1505 Zero Energy Building All-In-1
- CESA 1001 Zero Energy Building Fundamentals
- CESA 1140 HRVs, CESA 1501 Passive House,
- CESA 1110 Air Tightness & CESA 1120 Assembly Details

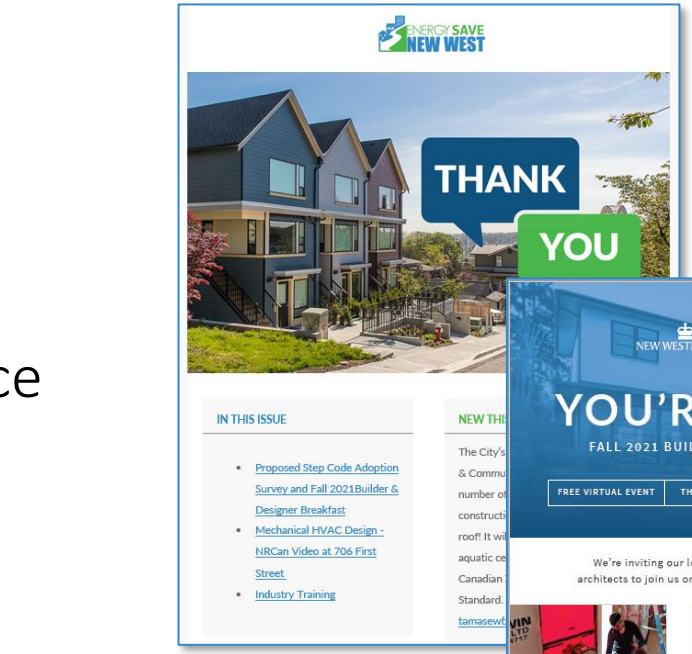
Info Sheets & Technical Bulletins:

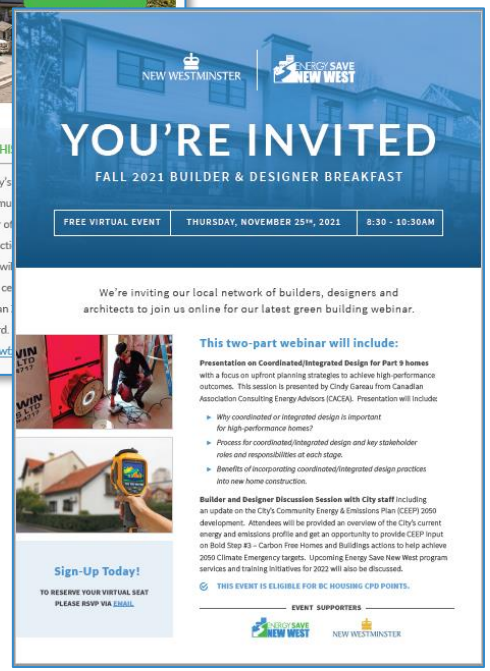
- Integrated/Mechanical HVAC Design on Part 9 New Construction Projects.
- Heat Pump Guide for Homeowners
- Low Carbon Energy System Relaxation for Part 9 Homes

PROGRAM PLANS FOR 2022

Continuing Programs:

- Subsidies for Pre- and Post-Construction Energy Evaluations, and Mid-Stage Blower Door Testing.
- Stepwin Energy Modelling / Properate Service
- Industry Training - 3 to 4 Builder & Designer Breakfast Events / Workshops
- Monthly e-Newsletters
- Website Enhancements
  - New Homes Case Studies
  - Resources Section Updates





Properate Studio

THANK YOU

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