Energy Partnership Workshop #4

Date & Time:	Tuesday, May 2, 2017, 8:00am – 10:00am
Location:	Nova Scotia Community College (NSCC) Lunenburg Campus, 75 High Street, Bridgewater. Room C112.

Agenda	Item	Facilitator
8:00 AM	1. Welcome to Members & Topic Introduction *Presentation*	Brooke Nodding, Bluenose Coastal Action Foundation
8:10AM	**2. Smarter Ways to Heat, Cool, and Insulate** ***Keynote Presentation / Workshop***	Natasha Pearce, Efficiency Nova Scotia
8:40AM	3. Q&A and Discussion	Brooke Nodding
9:00AM	4. Networking break *Light refreshments served*	
9:20AM	5. Energy Solutions for Bridgewater & Area *Presentation & discussion*	Leon de Vreede, Town of Bridgewater
9:50AM	6. Creative Financing Models for Energy Solutions *Presentation*	Leon de Vreede
10:00AM	7. Wrap-up and Next Steps	Cameron Cochrane, Bridgewater Pharmasave

Notes / Reminders:

- The workshop is open to any Bridgewater and area business, organization, or community group to attend.
- Each participating organization may send up to 3 people to attend.
- Registration before the workshop is appreciated, but not mandatory – please come even if you have not yet registered.
- Light refreshments will be served.

Energy Partnership Workbook 4

Tuesday May 2, 2017 @ 8AM

PART I: WORKSHOP NOTES

TOPIC_____ **SPEAKER**_____

Key Words and Definitions

Concepts & Principles

Benefits & Costs

Benefits	Costs

Questions and Answers

Next Steps and Resources

- **Natasha Pearce**, Manager, Energy Solution Advisors. Email: npearce@efficiencyns.ca / Tel: 902 470 3601

Bridgewater Community Energy Investment Plan – Draft Energy Scenarios

May 2, 2017 – Bridgewater Energy Partnership Workshop

#	Low Carbon Scenario	Draft Targets	Rationale	GHG Impact
BUILDINGS				
New buildings - buildings codes & standards				
1	Residential - New residential housing development targets net zero	Scales up to 100% of new homes by 2030	Canadian Home Building Association has a net zero program that is gaining traction; this reduces/eliminates the impact of new construction on energy and emissions.	Low
2	Multi-res & Commercial - Passivehouse standard applied to multi-unit residential and commercial buildings	Scales up to 100% of new multi res & commercial by 2030: Space Heat Demand <15 kWh/m2/yr Primary energy demand < 120 kWh/m2/yr	Passivehouse is gaining increasing traction across Canada as a performance-based standard in contrast to LEED which is not performance based.	Low
Existing buildings - retrofitting				
3	Retrofit homes prior to 1980	Achieve thermal savings of 40%; electrical savings of 30%: scale up rate of retrofits exponentially beginning in 2020 so that all building stock pre 2016 is retrofit by 2050	These reduction targets are middle of the road ambitious. 50% or more would be very ambitious, what we would call a deep retrofit, but 40% is relatively achievable with low cost measures. Electricity reduction is lower because there is a longer pre-existing history of retrofits targeting electricity savings.	High
4	Retrofit homes after 1980	Achieve thermal savings of 40%; electrical savings of 30%: scale up rate of retrofits exponentially beginning in 2020 so that all building stock pre 2016 is retrofit by 2050	See above	Medium
5	Retrofits of commercial and industrial	Achieve thermal savings of 40%; electrical savings of 30%: scale up rate of retrofits exponentially beginning in 2020 so that all building stock pre 2016 is retrofit by 2050	See above	High
Renewable energy generation (on-site, building scale)				
6	Installation of heat pumps air and ground source residential	Residential: Air source: scale up to 30% of the residential building stock by 2050: Ground source: scale up to 20% of the residential building stock by 2050:	Many houses are already installing air source heat pumps- this builds on that momentum. Ground source heat pumps require more space and more capital but are more efficient so a lower target is appropriate.	High
7	Installation of heat pumps air and ground source commercial	Commercial: Air source scale up to 40% of the building stock by 2050; Ground source: scale up to 25% of the building stock by 2050	See above; businesses are more capable of making the investment in ground source heat pumps so higher penetration	High
8	Solar PV- net metering all existing buildings	30% of consumption for building electrical load for less than 5 storeys; 10% for multi-unit and commercial, adoption rate- scale up to 75% of buildings by 2050.	See above	High
9	Solar heating/hot water	Residential: scale up to 40% of the building stock by 2050: Commercial: scale up to 50% of the building stock by 2050	Solar hot water is universally applicable but not all locations are appropriate so a 40% target was used and slightly higher for buildings.	Medium

#	Low Carbon Scenario	Draft Targets	Rationale	GHG Impact
ENERGY GENERATION				
Low or zero carbon energy generation (community scale)				
10	Solar PV - ground mount	Install 100 kW per year between 2018 and 2050.	100 kW per year is a modest target- 1-2 projects per year.	Low
11	Develop a district energy system in the downtown	Use 50% sustainable biomass and 50% geothermal/river water heat pump.	District heating is an energy efficient way to heat large sections of the community (requires sufficient density / heat load).	High
12	Energy storage	Install 5 kw battery banks incrementally until 50% of dwellings have them by 2050.	Storage increases the capacity of the grid to absorb renewables. Tesla has developed a household plug and play storage option that is cost effective.	High
13	Biogas	Develop a biogas operation to fuel the municipal fleet.	Biogas is the low carbon solution for large diesel vehicles; the municipality already collects biogas at the waste water treatment plant.	???
TRANSPORT				
Transit				
14	Regional transit	Target 2% of inbound and outbound external trips for transit service by 2020, scaling to 10% by 2050.	Most trips are external so a transit system that services them is important.	Low
15	Electrify transit system	Replace diesel bus with an electric bus	Electric buses are being piloted across Canada	None
Active				
16	Increase/improve cycling & walking infrastructure	Mode shift to 50% of the walking and cycling potential away from vehicles and driving. Use 2km for walking and 5km for cycling.	Identifies trips that are walkable and cyclable by distance and 50% of these trips is a moderate target (a much smaller % of overall trips)	Low
17	Car free zone	Create a car free area in the downtown core.	Car free downtown can be stimulus for walking/cycling (i.e. Burlington, Vermont)	Low
Private/personal use				
18	Electrify municipal fleet	Fleet is 100% electric by 2030; starting in 2020 and exponentially increasing the number of vehicles to 2030	Municipal fleet electrification is starting to take place across Canada. New vehicle classes are becoming electric soon (e.g. light trucks).	Low
19	Electrify personal vehicles	Only EVs sold after 2030.	This target is in line with some of the more aggressive jurisdictions on EV sales such as Norway	Medium
20	Electrify commercial vehicles	Projection for low carbon vehicles and for trucks: same as Toronto	Commercial vehicles are already being electrified	Low
21	Autonomous vehicles	Household vehicle ownership rate declines by 50% by 2050	Autonomous vehicles are coming and could be very disruptive; this analysis begins to explore their implications.	Negative
LAND USE				
Transport Oriented Development				
23	Land-use change	Target future development (commercial and residential) downtown.	Land-use can be used to increase density for district energy or transit .	???

Energy Partnership – Important Information and Reminders

WORKSHOP SCHEDULE

The Energy Partnership holds regular workshops for its members during the work day. Workshops last about two hours. The following workshop schedule has been developed for the Partners:

Workshop 1 Tuesday September 27, 2016 @ 8AM - orientation
Workshop 2 Tuesday November 22, 2016 @ 8AM - solar energy
Workshop 3 Tuesday March 7, 2017 @ 8AM - energy poverty
Workshop 4 Tuesday May 2, 2017 @ 8AM - heating, cooling & insulation
Workshop 5 Tuesday May 30, 2017 @ 8AM - energy economics part 1
Workshop 6 Tuesday July 25, 2017 @ 8AM - energy economics part 2
Workshop 7 Tuesday September 26, 2017 @ 8AM – TBD
Community Energy Fair October 27-28, 2017
Workshop 8 Tuesday November 28, 2017 @ 8AM – TBD

REMINDER – WORKSHOP TASKS

- Partners are warmly invited to attend 2 interactive workshops to help design the Community Energy Investment Plan, on April 26th and May 25th at 6:30PM in the LCLC.

GENERAL INFORMATION

Information about the Energy Partnership, including the current list of member organizations, as well as notes and documents from the workshops, can be found at: www.EnergizeBridgewater.ca/Partnership

Any other feedback and enquiries concerning the Partnership can be sent to Leon de Vreede:
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