



# Low Carbon Energy Planning and Business Case Development in New Developments

Project Goals and Workplan

Presenter:

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# About Clean Air Partnership



- Charitable Environmental Organization
- Works with municipal governments and partners to cut GHGs, enhance resilience to extreme weather, and advance a low-carbon economy.
- Outreach, Awareness Building & Collaboration
- Capacity Building and Implementation Support
- Transfer of Actions & Scale Up of Actions





- No low carbon energy system (LCES) in place
- Developers need a better understanding of the systems in place to select low carbon options
- If not fossil fuels, then what?
- Increased transparency on low carbon business cases for various building archetypes
- Increased transparency and literacy is needed to move developers to add non- fossil fuel options in new developments



- Increase low carbon energy planning literacy within municipal climate and planning staff and developers. What are the low carbon options available for new developments?
- Transparency on the business case of LCES in new developments. Comparison to BAU option.
- Understand the issues related to use of right-of-way (ROW) and better understand how streamlined access to ROW may be able to support low carbon business case.



# Low Carbon Energy Archetypes



- Geo-exchange (at building scale and across ROW – high rise and mid rise i.e. small scale district)
- Geo-exchange at neighborhood scale
- Waste heat district
- Geo-exchange at building scale (individual bore holes – low & mid-rise )
- High performing building envelope, electrification, renewables, storage (with renewables on building and public space)
- Other low carbon energy archetypes?





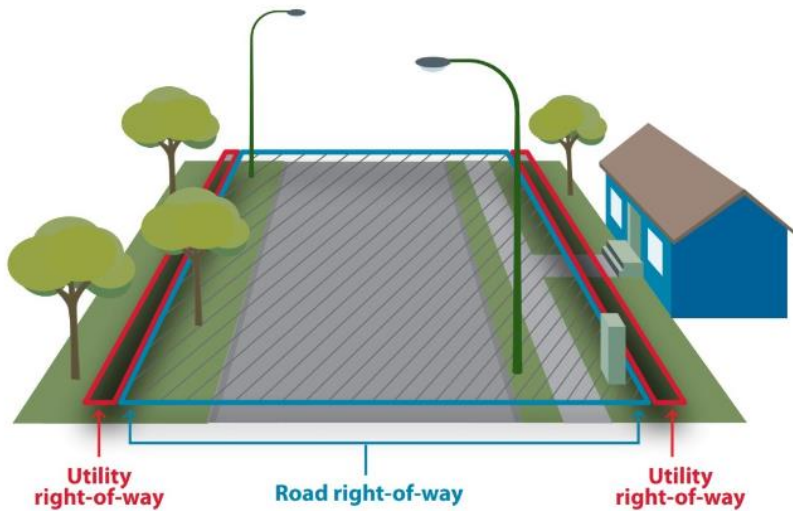
- Summary of Case Studies of Low Carbon New Developments
- Sample business cases associated with different building archetypes and energy systems (they will be archetypes, but we want them to be based on real world developments)
- Sharing of business case methodology, what are the variables that significantly affect business case across the different archetypes?
- How does a developer approach low carbon energy planning business cases?
- What difference does a streamlined access to the ROW make to the business cases? What does streamlined access to the ROW look like?
- Low Carbon Energy Planning in New Developments Toolkit and Training Program for municipal staff.

# Interviews with Low Carbon Energy Developments



- Markham Mattamy Project
- Peel Region (Lakeview, Square One)
- Blatchford in Edmonton
- Zibi and Promenade in Ottawa
- Fossil fuel bans (Vancouver, Victoria, Nanaimo, Quebec, California and NY)
- Humber Cultural Hub
- Minto's North Oak Towers
- University of Toronto geo-exchange system
- Downsview – energy planning taking place or planned thus far
- 55 Townhomes in Toronto using geo-exchange
- Windmill Development Group – Courcelette Condo (eight stories, 56 units) only at the building scale
- Daniels MPV2 – Brampton
- West 5 in London
- Passive House: - YWCA Hamilton - 50 Unit Multi Family - 6 Storeys; Windsor Essex's Community Housing - 125 Unit Multi Family - 10 Storey; Indwell Hamilton - med rise multi family
- Espace Montmorency, a Montoni development in Montreal implemented a 5th Gen loop in a multi use development. Worth having a look at!
- Other developments..... What are we missing (keep in mind ideally looking at neighbourhood scale, but also looking for midrise and lower density at the building scale).

# Questions and Goals Related to ROW Exploration



- What are the ROW rules/processes related to regulated utilities (LDCs and Enbridge)?
- What are the ROW rules/processes related to non-regulated low carbon utilities?
- How do we ensure a level playing field?
- What would be a streamlined ROW process that would open options to municipalities and low carbon utilities?
- What are the municipal issues/concerns related to non-regulated low carbon utilities?
- What difference does a level and streamlined process related to ROW access make to the business case for low carbon energy systems across different archetypes?
- Other questions?



# Developments Identified Thus Far...



- Caledon, Argo Development, lower-rise singles, stacked and town homes and mid-rise by GO station
- Brampton, Country Homes, Heritage Heights, Low rise residential and mid-rise condominium, low rise, stacked towns
- Brampton, Heritage Heights, seeking another developer to bring into the project, ideally a high and mid-rise type development
- Toronto, 1 developer, 2 buildings, ROW access, high and mid-rise
- Pickering, TACC Developments, low rise
- Hamilton, Pier 8, 2 developers, high-rise and mid-rise