

**Getting To Zero – Approaches and Learnings
Government of Canada – Greening Government
Services & Corporate Energy Managers 2021 To
Do List**

We will get started at 1 pm.



Clean Air Partnership



Webinar Logistics

- The webinar is being recorded and the recording and the pre-mutation will be shared post webinar.
- Nick Xenos is the Executive Director of the Centre for Greening Government within the Treasury Board Secretariat of the Government of Canada. The Centre is working with departments and agencies to drive towards low-carbon, sustainable and climate-resilient government operations with a goal of reducing emissions by 40% from government operations, by 2030. Before this position, Mr. Xenos worked at Natural Resources Canada on climate change impacts and adaptation, at Indigenous and Northern Affairs Canada leading the building of the Canadian High Arctic Research Station, and at Infrastructure Canada.

Where we are now

- Many municipalities have corporate energy plans that identify targets for energy reduction but many of them are not in line with climate emergency declarations and targets. Many of these Plans were approved prior to climate emergency declarations
- Many BC municipalities have made zero carbon commitments – offsets are used (which is fine don't get me wrong, but doesn't necessarily change the systems we need to change to get us on our net zero trajectory)
- How do municipal buildings get to zero emissions?

Where we are now – common actions

Common Actions in 2019 Plans	Description of Actions
Energy Management	Building Automation Systems, Energy budgeting, Energy sub-metering, Energy monitoring and tracking systems (either real-time or
Lighting	Switching to LED lighting
Commissioning and RE-Commissioning	Making sure building elements such as heating, cooling, air handling, water and refrigeration systems work as they should. Commissioning also works towards improved energy usage and reduced operation and maintenance costs.
Mechanical system upgrades	Increasing the energy efficiency performance of mechanical systems upon replacement (water heaters/HVAC chillers/fans/etc.), pneumatic upgrades, moving to heat pumps, Heat recovery systems,

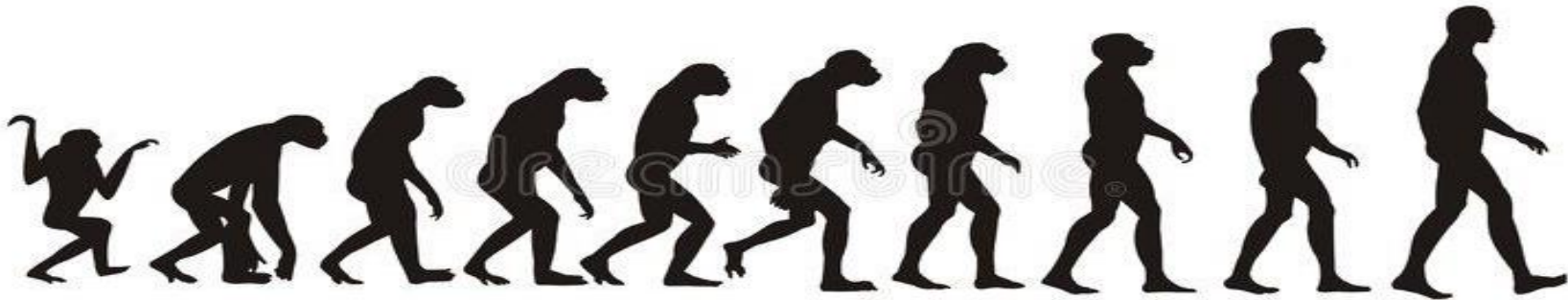
Where we need to go....

Actions Requiring Acceleration	Description of Actions
Building Envelope (Structural)	Exterior cladding, insulation, roof replacements, window and door replacement, foundation repairs, etc.
Fuel-Switching	Moving from fossil fuel such as natural gas to electricity through such measures such as geo-exchange which uses heat pump technology to take advantage of the temperature differential between outside air, the ground or water and the inside of the building to provide thermal heat and water heating. Air source heat pumps and biogas or renewable natural gas can also be used to replace fossil fuels.
Renewable Energy	Solar PV, Solar thermal, Solar walls, solar carports for EV charging, building integrated systems where solar panels are integrated into the building envelope such as windows and roofs
Energy Storage	Battery back – up which can be combined with Solar PV to provide electricity during energy disruptions, replace natural gas and diesel generators.
Financial Policies	Moving from pay-back to lifecycle costing, bringing in scope 2 emissions for natural gas, bringing in carbon pricing and budgeting approaches.

Pathway to get there

Process Flow





**Alignment
between Energy
Plans and
Climate
Emergency
Declarations**



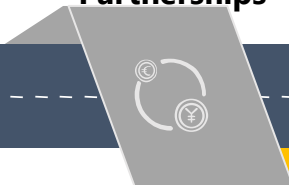
**Energy
Plans to
Emissions
Plans**

**Asset
Management
Zero Over Time
Integration**



**Update to Municipal
Corporate Green
Development
Standards/Carbon
Budgeting**

**Lifecycle Costing,
Internal Carbon Price,
Discount Rate,
Revolving Fund,
Recoverable Debt &
Public/Private
Partnerships**



**Financial
Policies**

**Monitoring to
Verify Savings
and Operational
Performance**



**Measurement
and Progress
Reporting**

**Moving from
Silos to Teams
and Building
Science
Expertise**



**Integrated
Design**

Pathway

- **Total Cost of Ownership – bring together up-front costs and operational costs. This is critical!!!**
- **Make sure Plans consider emissions as a primary goal of Plan, not just short-term payback – 8 year pay backs won't get you where you need to go.**
- **Corporate Green Standards be adopted or updated to be net zero emission standard.**



2021 Webinars & Workshop

- **Corporate Green Standards**
- **Toronto/Hamilton Community Housing Approach**
- **Integrated Design**
- **Net Zero RFPs**
- **Asset Management Alignment Shadow Carbon Price**
- **Energy Storage**
- **Public Private Partnerships**
- **Net Zero Case Studies**
- **Net Zero Costing and Business Planning**
- **Meetings once a month presentation and roundtables**
- **Need to hear back from network on what is working, what can be improved. Please, please, pretty please, fill out evaluations and provide suggestions for improvements**

- [Link to Corporate Energy Plan Guide:
https://www.cleanairpartnership.org/wp-content/uploads/2021/01/CASC-CDM-Guide.pdf](https://www.cleanairpartnership.org/wp-content/uploads/2021/01/CASC-CDM-Guide.pdf)
- [Link to Corporate Energy Managers COP Hub:
https://guides.co/g/corporate-energy-managers-community-of-practice/190352](https://guides.co/g/corporate-energy-managers-community-of-practice/190352)

Thank You to Our Presenter
Thanks for joining and engaging with us
during this webinar