Mayor's Task Force on Clean Technology

Interim Report, 30 January 2025

Presentation to Council, 29 April 2025

MANDATE

The Task Force will examine the status of Clean Tech and Clean Technologies in Canada, and identify opportunities for North Grenville to pursue and potentially adopt strategies and opportunities to expand access to these technologies.

Any recommendations made to Council by the Taskforce should include:
- Proposed actions that may be taken by the Municipality to investigate and/or increase Clean Technologies, Green Technologies, create potential Clean Tech job opportunities and foster a thriving Clean Tech industry in North Grenville.

Recommendations will consider the needs of a broad range of residents and businesses, and could include the possibility of applying for grant opportunities as well as forging partnerships within the community to leverage existing assets to investigate approaches and practices that advance Clean Tech, Clean Technologies, and Nature-Based Solutions.

SCOPE OF WORK

- *Identify and map* current Clean Tech/Clean Technologies by sector already in use in North Grenville
- *Explore potential partners and partnership* strategies with the private, non-profit, and government sectors to assist in pursuing Clean Tech, Clean Technologies, and Nature-Based solutions
- *Identify opportunities to create the conditions for conversion to clean technologies* for residents and businesses in the municipality, including external government grants and other sources of funding
- *Identify opportunities to pursue external funding for new initiatives* related to Clean Tech, Clean Technologies, and Nature-Based Solutions
- *Assess and analyze current and projected needs* for Clean Tech and Clean Technologies within the Municipality
- *Identify enablers and inhibitors* in the current municipal by-laws, policies, procedures, and those at the provincial and federal levels related to increasing Clean Tech, Clean Technologies, and Nature-Based solutions
- *Leverage preexisting forums* to share best practices that promote Clean Tech, Clean Technologies, and Nature-Based solutions in other Municipalities.

SCOPE OF WORK

- ***Identify and map*** current Clean Tech/Clean Technologies by sector already in use in North Grenville
- ***Explore potential partners and partnership*** strategies with the private, non-profit, and government sectors to assist in pursuing Clean Tech, Clean Technologies, and Nature-Based solutions
- ***Identify opportunities to create the conditions for conversion to clean technologies*** for residents and businesses in the municipality, including external government grants and other sources of funding
- ***Identify opportunities to pursue external funding for new initiatives*** related to Clean Tech, Clean Technologies, and Nature-Based Solutions
- ***Assess and analyze current and projected needs*** for Clean Tech and Clean Technologies within the Municipality
- ***Identify enablers and inhibitors*** in the current municipal by-laws, policies, procedures, and those at the provincial and federal levels related to increasing Clean Tech, Clean Technologies, and Nature-Based solutions
- ***Leverage preexisting forums*** to share best practices that promote Clean Tech, Clean Technologies, and Nature-Based solutions in other Municipalities.

DEFINITIONS - Green Tech, Green Technology, Nature-Based Solutions

OpenAI (2024). *ChatGPT* (3.5) [Large language model]. https://chat.openai.com

» Green Tech:

» Green tech, also known as green technology, refers to technologies and innovations developed with the *primary aim of minimizing environmental impact or promoting sustainability.* These technologies encompass a wide range of fields, including *renewable energy, energy efficiency, sustainable transportation, waste management, and water conservation.* Examples of green tech include:

» **Solar** panels and solar photovoltaic systems for generating electricity from sunlight.

» **Wind** turbines that harness wind energy to produce electricity.

» **Electric** vehicles (EVs) and hybrid vehicles that reduce dependence on fossil fuels and mitigate air pollution.

» **Energy-efficient** appliances and building materials designed to minimize energy consumption in homes and commercial buildings.

» **Water-saving** technologies such as low-flow faucets, greywater recycling systems, and drip irrigation for agriculture.

» Green Technology:

» Green technology, synonymous with environmental technology or clean technology, refers to the *development and application of innovative solutions that mitigate environmental degradation and promote sustainable living practices.* Examples of green technology include:

» **Biofuels** derived from renewable biomass sources like algae, corn, or sugarcane as alternatives to fossil fuels.

» **Advanced recycling** technologies for processing and repurposing waste materials into new products or energy sources.

» **Green building techniques and materials**, such as eco-friendly insulation, passive solar design, and sustainable construction practices.

» **Carbon capture and storage (CCS) technologies** that capture carbon dioxide emissions from industrial processes and store them underground to prevent their release into the atmosphere.

» **Smart grid systems** that optimize energy distribution and consumption, integrating renewable energy sources and improving overall grid efficiency.

» Nature-Based Solutions:

» Nature-based solutions (NBS) *involve utilizing the inherent qualities of natural ecosystems to address environmental challenges and promote sustainability.* Examples of nature-based solutions include:

» **Reforestation and afforestation** projects to restore degraded forests and sequester carbon dioxide from the atmosphere.

» **Green infrastructure** initiatives such as constructed wetlands, vegetated swales, and permeable pavements to manage stormwater runoff and reduce urban flooding.

» **Coastal restoration** efforts like mangrove reforestation and oyster reef restoration to protect shorelines from erosion and storm damage while providing habitat for marine species.

» **Sustainable agriculture** practices such as agroforestry, cover cropping, and rotational grazing that enhance soil health, biodiversity, and carbon sequestration.

» **Urban green spaces and biodiversity corridors** that improve air quality, regulate temperatures, and provide habitat for wildlife while enhancing community well-being.

FORWARD PLANNING:
Research, Analysis, Rationale, and Strategies

1. **The acceptance and publication of canonical definitions that reflect accepted government and industry standards and reference the baseline standards for each.**

2. **Canonical definitions should be drawn from Federal and Provincial Terminology: climate science, technology, and ecosystems terminology, etc.**

3. **Open Repository for resources, maps, explainer sheets, hyperlinks to relevant online documentation, etc.**

4. The Open Repository will provide residents, businesses, and prospective partners **a barometer of North Grenville's readiness for new business ventures in Clean Tech, Green Tech, and Nature-Based Solutions**.

5. **Collaborative Design:** The Task Force with Municipal Staff shall prepare the **parameters of surveys, data analyses, analytical studies of community resources, and projected community economic development potential**

6. **Remediation of issues that hamper North Grenville's progress and viability** as a premium locale for commerce and academia (MOUs, research agreements)

7. **North Grenville should adopt a strategic approach to foster academic research partnerships with regional institutions of higher learning**

Rationale, Strategies, and Partnership Benefits

- **Leverage Geographic Location**
  Enhance the Innovation Ecosystem
  Talent Attraction and Retention
  Economic Diversification

- **1. Identify Niche Strengths**
  - Conduct a local asset inventory to identify unique resources or challenges that align with academic research interests.
  - Focus on areas where North Grenville can offer distinctive research opportunities, such as rural sustainability or Agri-tech.

- **2. Establish a Research Liaison Office**
  - Create a dedicated office to coordinate with academic institutions and local stakeholders.
  - Develop a database of local resources, facilities, and research opportunities to share with potential academic partners.

- **3. Create Collaborative Research Programs**
  - Develop joint research initiatives that address local challenges while aligning with academic interests.
  - Offer funding or in-kind support for research projects that benefit the municipality.
  - Apply for Federal and Provincial Funding

- **4. Provide Real-World Testing Grounds**
  - Offer North Grenville a "living lab" to test new technologies or social innovations.
  - Facilitate access to local infrastructure, data, or communities for research

- **5. Host Academic Events and Conferences**
  - Organize symposiums or workshops that bring together researchers, local businesses, and community stakeholders.
  - Showcase local research opportunities and success stories to attract further academic interest.

- **6. Develop Student Engagement Programs**
  - Create internship or co-op opportunities for students to work on local projects.
  - Establish a mentorship program connecting students with local professionals.

- **7. Facilitate Knowledge Transfer**
  - Create platforms for sharing research findings with the local community and businesses.
  - Host regular "innovation showcases" to highlight ongoing research projects and their potential local applications.

- **8. Build Multi-Institutional Partnerships**
  - Foster collaborations that involve multiple academic institutions, leveraging the diverse expertise available in the region.
  - Create a regional research network focused on rural innovation and sustainability.

Research Partnership Benefits

» Access to Expertise and Resources

» Enhanced Innovation and Problem-Solving

» Economic Development

» Improved Policy Decision-Making

» Talent Attraction and Retention

» Funding Opportunities

» Community Engagements

By leveraging these benefits, North Grenville can position itself as a hub for innovation, attract investment, and develop evidence-based solutions to local challenges, ultimately improving outcomes for its residents.

DEPUTATIONS and DELEGATIONS

July 15, 2024

Supporting Municipalities: Green Municipal Fund
Carly Steben & Jill Sturdy, FMC

September 16, 2024

Clean Air Partnership
Gaby Kalapos, Executive Director

October 21, 2024

Federation of Canadian Municipalities (FCM) Opportunities
Susan Smith, Municipality of North Grenville - Funding and Grants Research Analyst

Community Futures Grenville is seeking the Task Force's advice on business needs in the Clean Technology sector.
Katie Nolan, Community Futures Grenville - Executive Director

Compostable Yard Waste Program
Mike Finley, Municipality of North Grenville - Director of Public Works

November 25, 2024,

Town of Caledon, Resilient Caledon Community Climate Action Plan
Alexandra (Allie) Service
https://www.caledon.ca/en/news/resources/Community-Climate-Change- Action-Plan_2021.pdf

December 16, 2024

Creating Resiliency, Lowering Emissions, etc.
Janice Ashworth

Climate Action Plan
Hillary Geneau, Director of Corporate Services

MAYOR'S TASK FORCE ON CLEAN TECH

Task Force Members:

Cholly Boland
Wayne Brown
Shawn Carnegie
Nadia Diakun-Thibault
Greg Lane
James McNeil
Kevin Willey

Council Members:

Mayor Nancy Peckford
Councillor Deb Wilson

Mayor's Task Force on Clean Technology

Interim Report, 30 January 2025

Presentation to Council, 29 April 2025