

Peel Renewable Natural Gas Centre – Decision Making History

Anaerobic Digestion Facility

Regional Council June 24, 2021

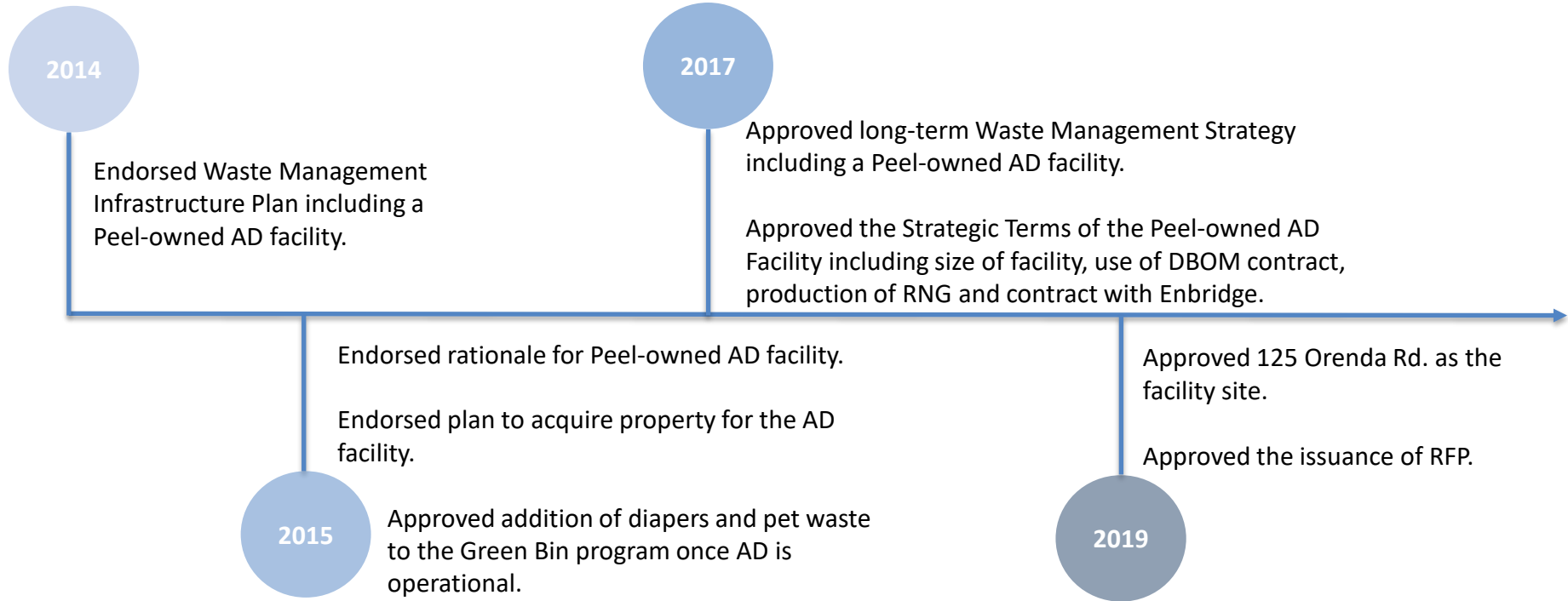
Norman Lee,
Director Waste Management
Region of Peel



Peel Organics Processing: Current Status

- Peel currently processes half of its Green Bin material in-house and uses private processors for 1/2 of its Green Bin material through a number of small tonnage short-term contracts.
- Peel's organics processing needs have outgrown our existing composting system.
- Peel's system is aging and requires significant maintenance.
- Peel's system does not separate contamination effectively.
- A new process or approach is required to manage Peel's current and future Green Bin organics processing needs.
- Previous decisions of Council were driven by this need.

Regional Council Decision History



Basis for Decision: Technology

Composting

- Requires significant separation distance from residents and other uses to prevent odour impacts
- Requires larger footprint
- Retains materials on-site for longer periods
- Cannot process an expanded list of organic materials

Anaerobic Digestion (AD)

- Better odour control
- Smaller footprint allowing it to be sited in an urban area close to the source of the Green Bin organics
- Better ability to separate contaminant materials, which allows new materials to be added to the Green Bin, increasing diversion
- Produces RNG, which reduces GHG emissions
- Council selected AD as preferred option

Basis for Decision - Ownership

Private Ownership Multiple Contracts	Private Ownership Single Dedicated Facility	Peel-Owned Facility
<ul style="list-style-type: none"> • Lowest cost, highest risk • Short-term contracts • Access to capacity ends at end of term • Risk inability to secure capacity, at least locally or at the same price • Risk increases with quantity of processing needed • Excess capacity is not expected in the province • No control over the design or operation of the facility • Acquire no environmental attributes 	<ul style="list-style-type: none"> • Cost dependent on term and requirements (i.e. odour control, processing efficiency, environmental performance) • Facility owner retains environmental attributes • Facility ownership provides leverage in disputes • History of shutdowns due to odours, control orders, improper/incomplete maintenance • Loss of access to capacity in the event of business failure • Access to capacity ends at end of term <p>10.1-15</p>	<ul style="list-style-type: none"> • Highest cost, lowest risk • Guarantees reliable long-term processing capacity • Access to capacity extends beyond the original contract term • Peel owns the environmental attributes • Council selected Peel-owned facility as preferred option

Achieving Peel's Climate Change Goals

- A key environmental attribute is the production of renewable natural gas (RNG).
- This facility will produce 600,000 m³ of RNG per year which contains 215,000 gigajoules of energy.
 - This could be sold to generate an estimated \$4.3M per year, which would reduce net operating costs by \$48 per tonne.
 - Alternatively, it could be used by Peel to offset a third of its natural gas needs, which would result in \$2M per year in savings from reduced natural gas purchases.
 - If used by Peel it would reduce Peel's GHG emissions by 12,500 tonnes per year, which would bring Peel halfway to its 2030 target.

Role of Mixed Waste Processing

- Key risks still exist with MWP.
- MWP complements and supplements AD and the Green Bin program.
- In the EU, MWP was initially supported by policy and economic drivers to reduce the impact of landfills.
- In the EU, source separation is still the predominant way of recovering organics for use as a fertilizer, as confirmed by more recent regulatory changes that limit the use of organics derived from MWP.
- MWP is not recommended as a sole method for processing organics

AD Team



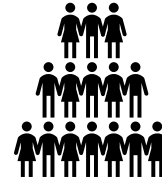
Steering Committee

- Director of Waste Management
- Director of Business and Financial Planning and Deputy Treasurer
- Manager, Procurement



Procurement Team

- Procurement Advisor
- Project Manager, New Infrastructure
- Senior Legal Counsel, Business Law Practice Group



Project Team & Supports

- Manager, Infrastructure
- Program Manager, New Infrastructure
- Manager, Waste Planning
- Advisor, Waste Reduction Policy
- Supervisor, Budget Support
- Senior Treasury Portfolio Manager
- Procurement Advisor
- Advisor, Office of Climate Change and Energy Management



Consultants

- Aird & Berlis
- GHD
- Ernst and Young

Conclusion and Next Steps

- Previous decisions to proceed with Anaerobic Digestion are just as appropriate today.
- Lower cost alternatives come with risks.
- A report for the AD project will be brought to RC July 8.
- A report on a potential MWP pilot will be brought to a future Committee meeting.

Thank you

Contact info:
Region of Peel
Norman Lee
Director, Waste Management
10 Peel Centre Drive
Brampton, Ontario L6T 4B9

905-791-7800 ext. 4703
norman.lee@peelregion.ca

