

Appendix E Summary: New and Emerging Initiatives and Technologies in Waste Management

Purpose:

- Conduct a jurisdictional and market scan of new and emerging technologies and initiatives within the waste management industry.
- Summarize findings and identify whether the technology is ready to be implemented for York Region, or be monitored as the technology or initiative is still developing.

Key Findings:

- Applicable technologies and initiatives for York Region were based on its ability to meet one or more of the Region's five key priorities: *Reducing GHG emissions; Increasing cost savings; Increasing overall waste diversion; Decreasing contamination within waste streams; and Aligning local policies with provincial and federal policies.*
- With the proliferation of complex materials to be managed, the Region has to consider technologies and initiatives along the entire waste management supply chain.

Recommended Actions:

- **Using Data to Maximize Diversion:** Immediate focus on data collection at different waste sources to better understand the composition and capture rates; ensure producer responsible material are not inadvertently flowing through municipal waste streams.
- **Cart Based Collection:** Collaborate with local municipalities to consider assessing the impacts of switching to cart based collection; assess the impacts of the blue box transition on residual waste and green bin programs.
- **Electric Trucks:** Monitor findings from the US and other municipalities using electric trucks
- **Autonomous Collection Trucks:** Monitor technology trials and potential impacts on transfer stations.

Recommended Actions *continued:*

- **Underground/Automated Waste Collection Systems:** Consider a study to determine if this system would be appropriate for the Langstaff Development as a model for future developments in York Region.
- **Public Space Green Bin Collection:** Immediate implementation due to low cost and alignment with existing green bin program.
- Study Solar Compacting Garbage Bins and identify underserved areas for its use.
- Monitor end market developments for Construction, Renovation & Demolition Waste.
- **On-Site Organics Management:** Evaluate existing technology and potential applications to address food and organic waste at municipal sites.
- **Mixed Waste Processing:** York Region should actively participate in discussions with Durham Region, and other municipalities to support mutually beneficial investments and advancements.
- **MRF Robotic & Artificial Intelligence Technology:** Continue to monitor as this technology was designed for MRFs, but as the blue box program transitions, the need for this technology may not be relevant.

Link to Objectives:

- **Objective 2:** The Region and local municipalities leverage technology to improve data collection, analysis and information sharing from facilities and operations, in support of greater efficiency and more strategic decisions.