The Future of Solid Waste Management

Where to Start...

Richard Coupland
VP, Municipal Services
Future of Solid Waste Management

• Durable and Sustainable Programs:
  – Recognize the evolving ton consists of multiple discrete material streams
  – Have mature and durable capabilities in the local market to handle each material stream
  – Consider what is best for the planet when making decisions on what materials are in each program

Moving toward “Zero Waste” as a municipality requires a deep understanding of all waste and recycling streams, an established eco-system of partners and infrastructure to manage and process each stream, and economic balance.
A Comprehensive Plan

Each of These Streams...

- Single Stream Recycling
- Organics / Food
- Electronics
- HHW
- Universal Waste
- Medical Sharps
- All Other Waste

... Needs These Considerations

- How much is each material stream being addressed by Municipality?
- Is there a willingness to pay, or government funding for the unique stream(s)?
- Are there Public Private Partnerships and infrastructure in the market to handle/process each material stream?
- Are there viable end markets for the commodities generated?
- What is the state of public education in the Municipality to achieve, and maintain results?
- Do appropriate metrics exist to measure success over time?
- Does the Municipality assess lessons learned and optimize each stream / initiative?

Recognize that the path to “Zero Waste” is a journey, with measurable progress along the way... but all streams must be addressed fully to achieve success!
Every Stream Has a Hierarchy

EXAMPLE – Food Waste

“Maturity” of a Food Waste program depends on how many of the hierarchy levels have established partnerships, infrastructure in place, and are working well.

- **Source Reduction** – Work with businesses and public to buy/make what is needed
- **Feed Hungry People** – Establish partnerships to collect, transport and serve food to hungry
- **Feed Animals** – Establish partnerships to feed animals where possible
- **Industrial Uses** – Establish partnerships to convert waste to energy, or process for Anaerobic Digestion
- **Composting** – Establish partnerships to create compost, and then distribute back to users in the community
- **Landfill / Incineration** – Process remaining material not diverted in other levels of the program

The absence (or failure) of *any* level results in the material falling to the next level of the hierarchy... Total absence of all levels would require disposal in a landfill/incineration.
Consider a Municipal Maturity Index (MMI)

- **Level 5** - True optimization requires existence of a working solution for ALL levels of all material streams.

- **Levels 1-4** - Existence of increasing aspects of a complete solution for each of the material streams.

- **Level 0** – Absence of capabilities, infrastructure or programs to process the material streams, resulting in MSW being disposed in landfill or incinerator.

A MMI recognizes the difference between an initial implementation of a program, and a fully mature program that accounts for all potential processing of the material streams.
Take Aways

• Understand the material streams in your community
• Ensure / Attract an ecosystem of partners to address each stream, before you add to a program
• Economics must work for investment to occur
  – You can only create sustainable supply when there is durable demand
  – Sustainability can not exist without Profitability
• Establish simple, accurate and clear metrics
• Play the long game
Richard Coupland  
VP, Municipal Services  
e: rcoupland@republicservices.com  
o: 480-718-0384  c: 480-225-0481