

RENEWABLE Energy
FROM WASTE
CONFERENCE

Kent County, Michigan Resource Recovery Park

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Kent County Waste Management System

- Kent County is the home of Grand Rapids Michigan
- Population of 600,000
- Department of Public Works operates an integrated waste manage system:
 - 170 TPD Material Recovery Facility
 - North Kent Transfer Station / Convivence Center
 - 600 TPD Waste to Energy facility
 - 1,000 TPD Landfill (MSW and ash)

WTE become operational in 1990



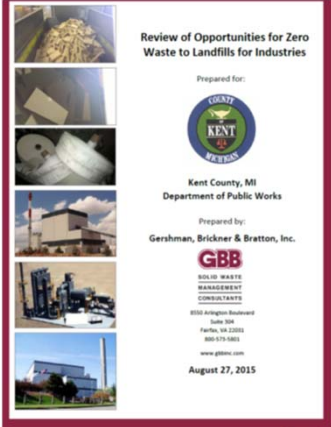
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Kent County System Review


- 2015 GBB engaged to review County waste management system and to make recommendations for change
- Surveyed existing infrastructure
- Conducted stakeholder meetings with local industry
- **Found strong support for zero waste to landfill initiative**



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May-Sept. 2015: GBB Conducted Efficiency Review

May 2016: Launch of "Imagine Trash" Vision

September 2017: Launch of Resource Park Project

2020
REDUCE LANDFILL WASTE
20% by 2020 | 90% by 2030
2030

Key Component of Strategy: Establishment of Resource Park.

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Fitting Resource Park into the County's Solid Waste Business Plan

- Expand capacity for processing of source-separated recyclables and mixed waste
- Increase opportunities for residents and businesses to divert waste from disposal
- New initiatives to help manufacturing industries achieve zero waste to landfill
- Emphasize local markets for both feedstocks and products

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Project Planning Parameters

- Use co-located or networked-sites
- Inter-agency project: Involve leaders with expertise and experience
- Create circular economies, not retail fronts or business incubators

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Role of Local Government

Mostly to do with “getting” the site

- Site selection and preparation; purchase or eminent domain
- Support and guidance through SW planning
- Regulatory support and oversight
- Set up an authority or agency to run the project

Some operations “outside the fence”

- Operating scales
- Maintaining easements
- Outreach and Education

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Two concepts for a Park

Resource Recovery Park

- Takes waste directly
- Processes mixed trash, recyclables, organics, and construction debris
- Usually includes a disposal facility
- Some direct sale, but most outputs are raw materials, fuels, or energy

Eco-Industrial Park

- Is not a solid waste management facility
- Takes in materials to re-manufacture or further refine them
- Co-locates and connect circular economies
- Some direct sale, but mostly to wholesale or distributors

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Resource Recovery Park: Maximizing Diversion

An RRP is often co-located at a landfill or an energy-from-waste facility. Wastes come in and various processes retrieve as much recoverable material as possible.



Inputs

- Recyclables, yard waste, food scraps, construction waste, trash, industrial manufacturing by-products

Processes

- Mixed waste processing, recycling processing, baling and distribution, digestion and composting, and refining





Outputs

- Commodities, soil amendments, refuse-derived fuel, biofuel, energy-from-waste, few finished products like mulch or gravel

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Resource Recovery Park

(Moving from Waste Management to Resource Management)



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Source: Rochester Greenovation

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Eco-Industrial Park: Supporting businesses

The primary role of government in developing an EIP is to get the site .
 Instead of one, perfect site, a network of sites can be used.

Minimum

- Roads and ports; Suitable buildings to use or rehab; Loading docks, heavy duty pavement, etc.

Basic

- Buildings, utilities, parking; Interior spaces for admin, production, labs, and storage; Exterior spaces for staging and loading

Ideal

- Wastewater treatment and digesters; Access to steam, gas, sufficient power; Tanks, drains, and sewers; Fiber-optic and other networks

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Kent County Resource Park Site

With property adjacent to the Kent County landfill, the facility could contain elements of both a Resource Recovery Park (RRP) and an Eco-Industrial Park (EIP).

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Thank you!

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