CT DEEP Solid Waste Management Advisory Committee
Introduction to Turning Earth
We convert organic waste we are paid to manage into a number of valuable resources.

Taking every penny off the organic waste while at the same time creating revenue diversification.

The Triple Play™ is truly closing the loop in a cradle to cradle manner.

...the expansion of the biogas industry... hinges on innovative applications and business models rather than breakthrough technologies.

"Worldwide Power Generation Capacity from Biogas Will Double by 2022." Pike Research 5 November 2012

Organic “waste” in... food and compost out... and renewable energy in between!

**Organic Waste**
Food waste, yard waste, industrial organic waste streams and agricultural waste are diverted from landfills and incinerators and brought to our facilities.

**Renewable Energy**
Using a biological process called anaerobic digestion, we produce biogas which can be converted into many energy end products, including electricity, vehicular fuels and pipeline quality natural gas.

**Food**
Utilizing heat produced from our biogas conversion activities, we create ideal conditions for the production of sustainably and locally grown foods.

**Compost**
Following the biogas extraction process, the material is converted into compost and further refined into a variety of engineered soil products with a myriad of industrial, residential and agricultural uses and environmental benefits.
Proven Integrated Organics Recycling Technology
Aikan: Unique 3-Step Integrated Process

Turning Earth holds the exclusive license to the Aikan Technology in North America.

**U.S. patents:**

**International patent strategy:**
- Secure option to pursue international patents


- Unique 3-step integrated high-solid anaerobic digestion (“HSAD” and in-vessel composting process
- Organic waste is introduced into the process modules
- 3 weeks of biogas production during HSAD phase
- 2 weeks of intensive in-vessel composting during composting phase
- Both the HSAD and composting phase take place in the same process module providing significant odor and environmental control
No technology risk – Aikan is proven having operated very successfully for the past decade in Denmark

**Straight-forward Process:**
Organic waste is loaded into a sealed process module

Liquid percolate containing methane-producing microbes is continuously recirculated through the organic waste and into the percolate tank for biogas generation

After the conclusion of the methane production process, the organic waste is composted within the same module

The Aikan advantage:
Integrated anaerobic digestion and in-vessel composting

Organic waste is never exposed to the environment
Covanta Partnership

ORGANICS RECYCLING & RESOURCE RECOVERY
The partnership announced between Covanta and TE has two key components:
- 10 year agreement for TE Central CT project
- Collaboration on other similar projects in CT / MA

CT DEEP highly supportive of TE Central CT Project

**Bristol, CT, October 28, 2013** – Covanta Energy Corporation (NYSE: CVA), a world leader in sustainable waste management and renewable energy, and Turning Earth, LLC an integrated organics recycling company, today announced a new partnership to provide organics recycling to Connecticut municipalities and businesses. The 10-year agreement calls for Turning Earth to build, own and operate an integrated organics recycling facility in central Connecticut to which Covanta will divert organic waste for beneficial reuse in partnership with municipalities and commercial customers. Covanta and Turning Earth will explore future opportunities in the Connecticut and Massachusetts region.

**DEEP Comment on Announcement from Covanta Energy and Turning Earth on Plans for an Organics Recycling Facility**

*Deputy Commissioner Macky McCleary of Connecticut’s Department of Energy and Environmental Protection today issued the following comment on news of plans from Covanta Energy and Turning Earth to build and operate an organics recycling facility:*

“The Connecticut Department of Energy and Environmental Protection has been actively encouraging projects aimed at diverting food wastes and other organic material from the waste stream,” said Deputy Commissioner Macky McCleary. “This is exactly the approach needed to drive down solid waste disposal costs and make more appropriate use of resources. It is also an approach supported by the state’s Solid Waste Management Plan and the Governor’s Modernizing Recycling Working Group.”
Covanta Bundled Services

Comprehensive set of recycling and waste management services

- Organics Recycling
- Single Stream Recycling
- E-waste
- Secure Medication
- Bulky Waste
- MSW

Provides Customers:

- One-stop shop
- Reduced costs
- Streamlined vendor management
- High quality service offering

Organics are a critical component given the large % of MSW stream
Our Strategic Partner - Covanta Energy Corporation

- Largest waste to energy ("WtE") infrastructure company in the world
  - $2.3BN Equity Market Cap
  - $480-495MM EBITDA

- 46 WtE facilities in North America

- Manages over 20 million tons of MSW

- Produces 8% of renewable energy in the U.S.

Note: (1) Q3 CVA management financial guidance aside from market cap.
Facility Design & Construction

ORGANICS RECYCLING & RESOURCE RECOVERY
Facility Design & Construction

Turning Earth has partnered with Tetra Tech, one of the largest engineering and construction companies, to construct the Central CT Project.

In addition to a strong balance sheet, Tetra Tech has designed and/or constructed over 100 similar anaerobic digestion facilities.

The Central CT Project design is shown here.