



Leading developer and producer
of advanced fuels and green chemicals
from waste

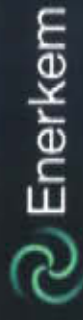
ENERKEM URBAN BIOMASS-TO-ETHANOL PLANTS

22 September 2009

www.enerkem.com



Leading developer and producer
of advanced fuels and green chemicals
from waste



Company Background

- Developer, owner, and operator of waste-to-fuels facilities
- Founded in 2000
- Experienced management team with track record of success in gasification, catalysis, and industrial project development
- Pilot and demo/commercial plants in operation in Canada. Other projects under development in US and Canada
- Privately owned by Canadian and US investors
- Headquartered in Montreal, Canada; US subsidiary in Delaware
- 59 employees

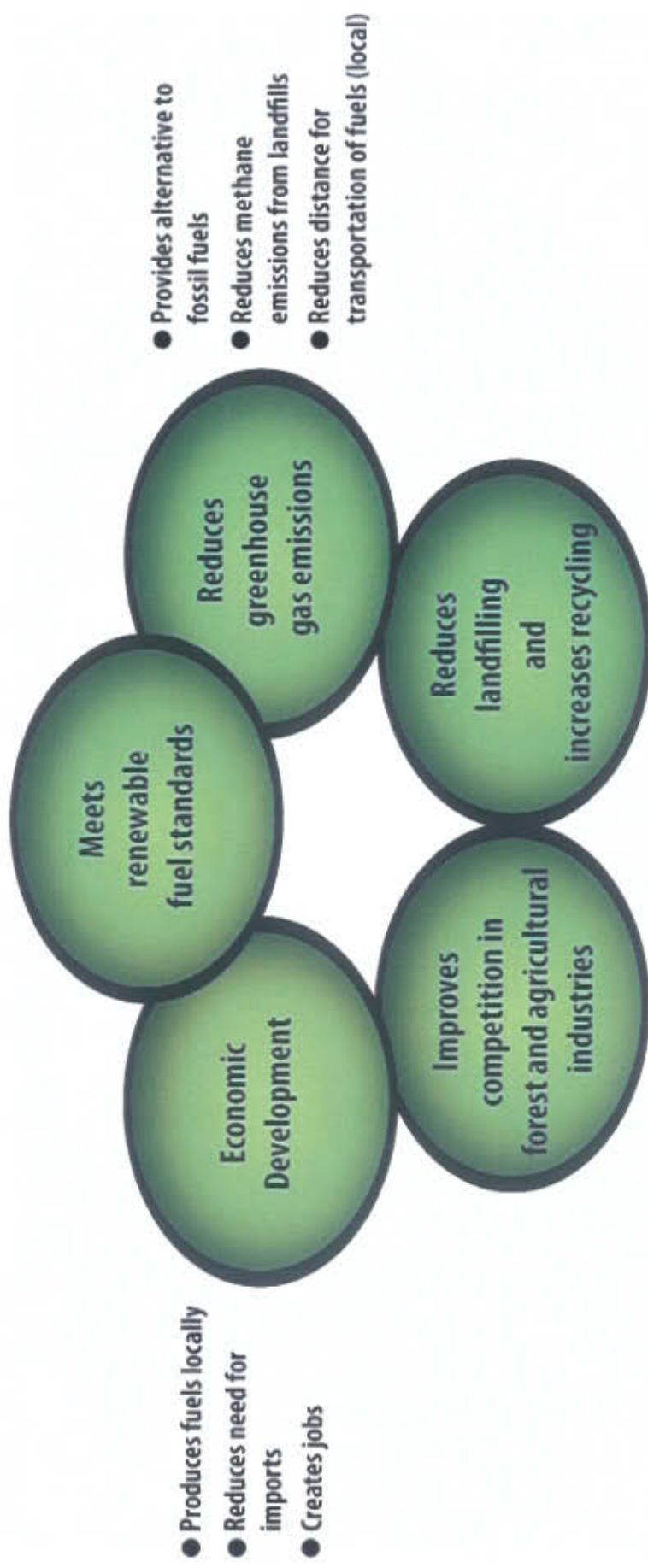




Leading developer and producer
of advanced fuels and green chemicals
from waste



Addressing US Energy, Economic and Environmental Challenges through Ethanol Production





Leading developer and producer
of advanced fuels and green chemicals
from waste



Rigorous Path to Commercialization

Commercial Waste-to-Ethanol Plant
(2011) Pontotoc, Mississippi



Feedstock: sorted municipal solid waste and wood residues
Capacity: 20 millions gallons / yr

Commercial MSW-to-Ethanol Plant
(2010) Edmonton



Feedstock: sorted municipal solid waste
Capacity: 10 millions gallons / yr

Commercial Demonstration Plant
(2009) Westbury



Feedstock: used electricity poles
Capacity: 1.3 millions gallons / yr

Pilot Plant
(2003)
Sherbrooke



R&D Center
(1999)
Sherbrooke





Leading developer and producer
of advanced fuels and green chemicals
from waste



Enerkem's Multi-Feedstock Thermo-Chemical Technology Platform

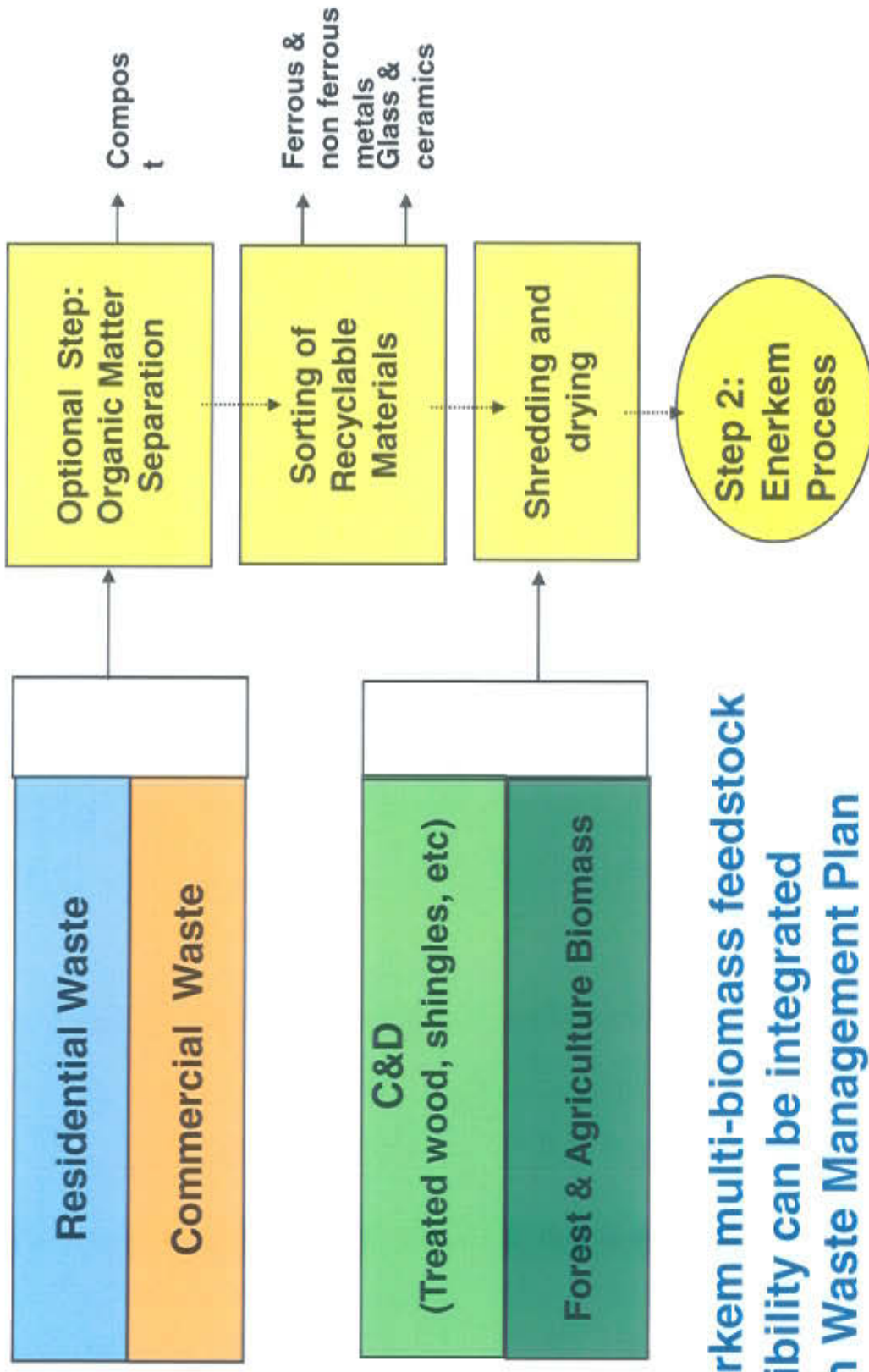




Leading developer and producer
of advanced fuels and green chemicals
from waste



Step 1: Feedstock Pre-Treatment



**Enerkem multi-biomass feedstock
flexibility can be integrated
With Waste Management Plan**

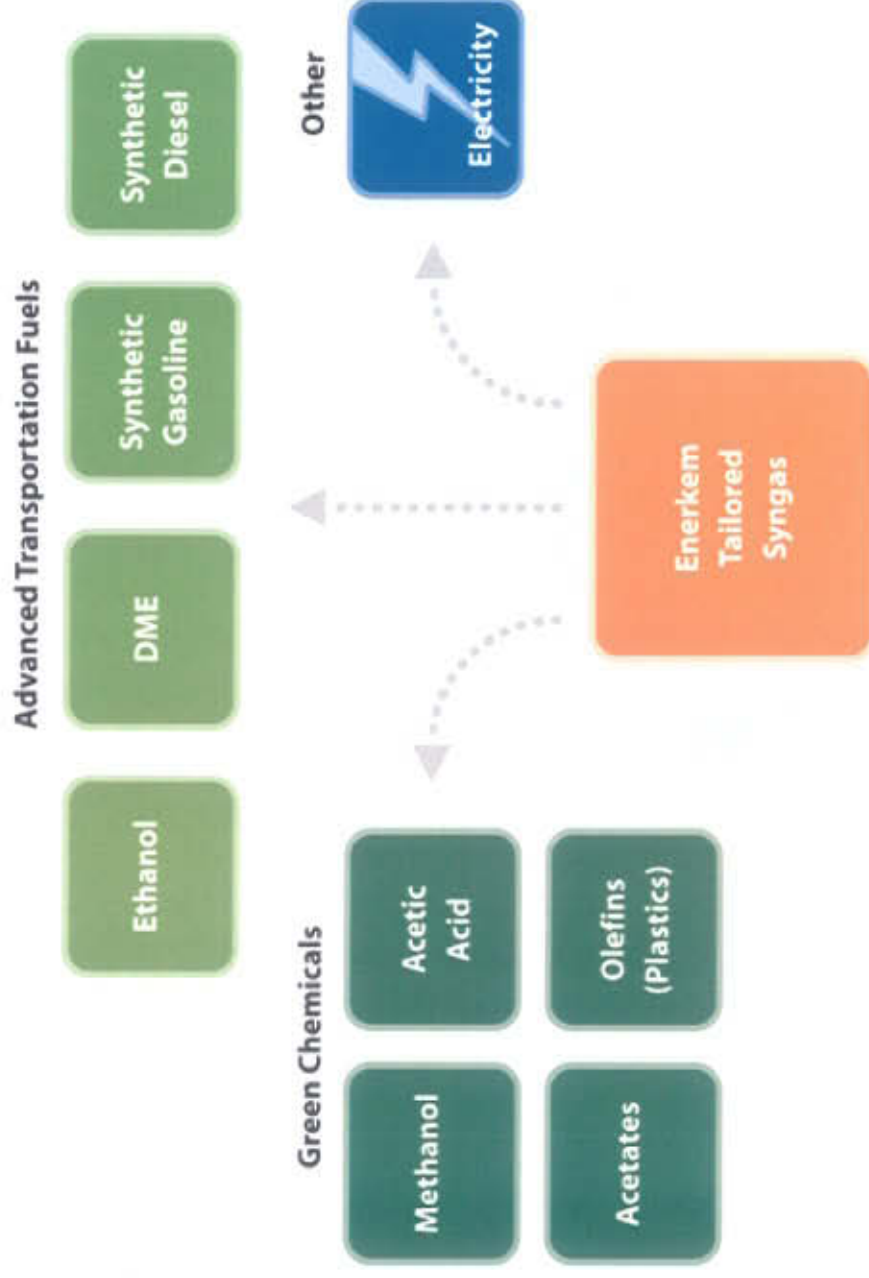




Leading developer and producer
of advanced fuels and green chemicals
from waste



Technology Platform- Converting Multiple Feedstocks into Diverse High-Value Products





Leading developer and producer
of advanced fuels and green chemicals
from waste



Sherbrooke Pilot Plant



Feeding System



Gasifier



Cleaning &
Conditioning
Systems



Catalysis conversion





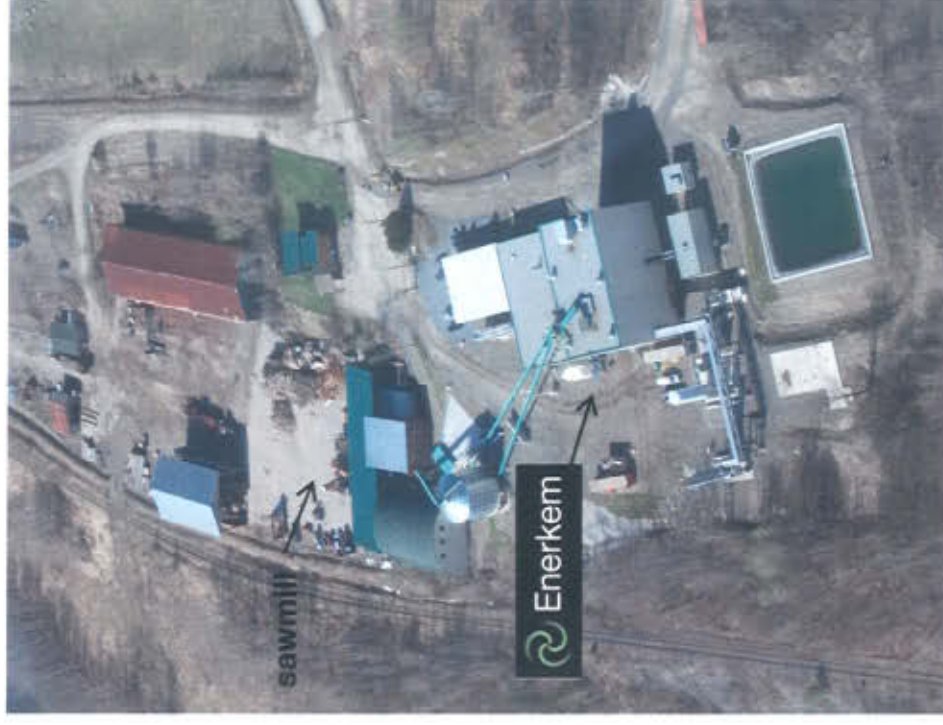
Leading developer and producer
of advanced fuels and green chemicals
from waste



Westbury Plant (2009) - Canada

Among World's First Second-Generation Ethanol Plant

- Will produce 1.3 million gallons of ethanol per year from treated wood (used electricity poles).
- First plant in the world to use negative-value materials to produce ethanol.
- Entered start-up phase in January. Producing conditioned syngas.
 - Ethanol production to follow with hook-up of sequential catalytic conversion islands for methanol and ethanol over the next months.





Leading developer and producer
of advanced fuels and green chemicals
from waste



Edmonton Plant (2010) - Canada

A Model for Urban Centers

- 25-year contract between City of Edmonton and Enerkem/GreenField Ethanol
- 100,000 tons/yr of sorted municipal solid waste will be diverted from landfill. Edmonton will achieve 90% waste diversion rate (today they are achieving 60%, one the highest rates in North America).
- Enerkem and GreenField Ethanol will build, own and operate the plant
- Will initially produce 10 million gallons of ethanol per year
- Granted environmental permit. Construction starting Q4 2009. Operations start-up expected Q1 of 2011.





Leading developer and producer
of advanced fuels and green chemicals
from waste



Edmonton Commercial Plant



Edmonton Waste Management
Centre of Excellence



Enerkem's feedstock



Confidential © Enerkem 2009. All rights reserved.



Leading developer and producer
of advanced fuels and green chemicals
from waste



Mississippi Advanced Biofuels Facility

- Capacity : 20 million gallons of ethanol
- Feedstock: Mix of wood residues and municipal solid waste. LOI signed with Three Rivers Planning and Development District for feedstock MSW supply agreement and site.
- Location: Three Rivers landfill site (Pontotoc, Mississippi)
- Total investment of \$250 million for the biofuels facility and the recycling and pre-treatment center.
- Plant can also produce an array of valuable transport fuels and green chemicals: methanol, acetic acid and acetates. Targeted product is ethanol.



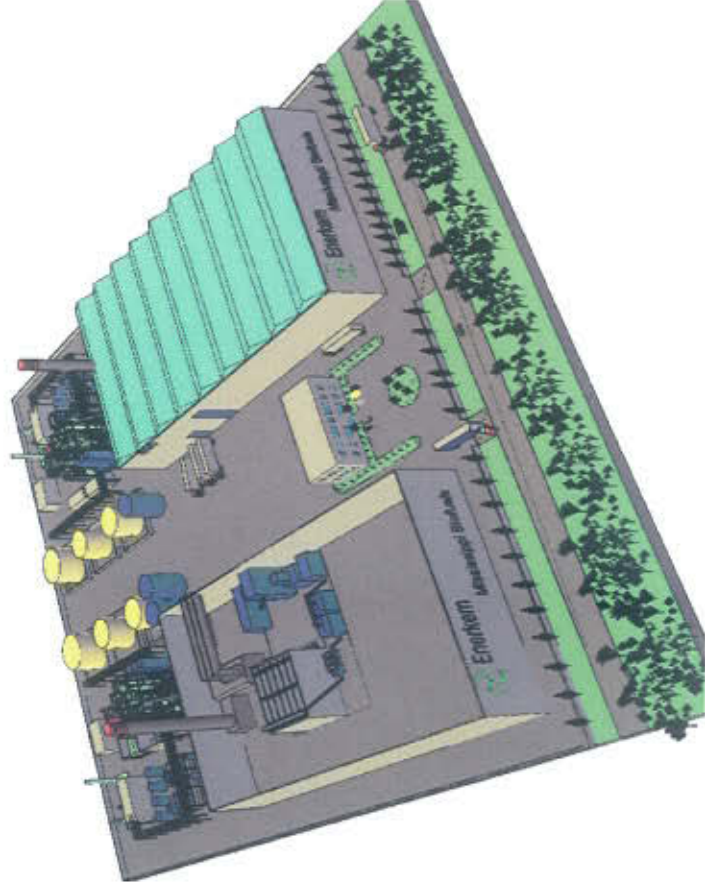


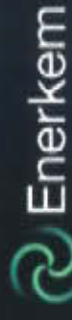
Leading developer and producer
of advanced fuels and green chemicals
from waste



Benefits of the Mississippi Advanced Biofuels Facility

- Expected to create about 60 direct and 90 indirect jobs (plus 300 engineering and construction jobs)
- Reduces greenhouse gas emissions (GHG's) by:
 - Substituting an advanced cellulosic-based biofuel for fossil fuel
 - Using a portion of its MSW feedstock that would otherwise be land-filled
- Will allow the recycling and conversion of 60% of Three Rivers Region waste material





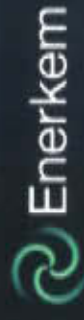
Why the Capital Region?

- Area needs a long-term MSW solution that maximizes social benefits and minimizes costs.
- Capital Region is a cross-roads for feedstock flows
- Hudson River and the Port facilitate bringing in feedstock
- Capital Region lies within an adequate wood basket
- Area is an ethanol distribution hub
- Area has adequate tipping fees
- Municipalities are working together to find MSW solution





Leading developer and producer
of advanced fuels and green chemicals
from waste



Traits of a Highly Desirable Project

- Long-term agreement (20 years) with municipality or authority for provision of feedstock
- Municipality/authority operates under flow control
- Workable tipping fee
- Viable alternate sources of feedstock





Conclusion

- Enerkem is interested in establishing a biorefinery in the Capital Region.
- Enerkem sees significant potential for cooperation, but is cautious in regard to delays stemming from disagreement between municipalities, etc.
- Enerkem needs to have feedstock assured, and therefore prefers to work with an Authority that has flow control.
- Enerkem is keenly interested in participating in any Capital Region RFP process where feedstock is assured and will evaluate RFP opportunities where feedstock is not assured





Leading developer and producer
of advanced fuels and green chemicals
from waste



Questions?

