

Why hasn't the USA moved into WTE technology?

Luis M. Enchautegui
Environmental Economics
ECON 2505
Prof. Sean P. MacDonald
Date:5/17/17

Waste to Energy Technology

Why hasn't the USA move into this technology?



Background

1885: The first garbage incinerator in the US is built by the Navy on Governor's Island.

1905: New York City begins using a garbage incinerator to generate electricity to light the Williamsburg Bridge.

1930's: The US is running about 700 incinerators, which declines to 265 by 1966 due to emissions and other problems of the unrefined technology.

1948: Robert Moses opens the Fresh Kills dump in Staten Island. It is initially supposed to be open for three years, but operates for over 50 years.

1960's: The city is burning almost a third of its trash in its 22 municipal incinerators and 2,500 incinerators in apartment buildings.

1970: President Nixon established the Environmental Protection Agency to protect human health and to safe guard natural environment.

1995: Environmental Protection Agency established higher standard for pollution control.

2017: West Palm Beach –Solid Waste Authority (SWA) open new art facitlity

Factors

Environment

- ▶ Sustainable renewal energy
- ▶ Potential Damage to environment
- ▶ Health
- ▶ Environmentalist opposition
- ▶ Green house gases

Government

- ▶ Government Climate Change
- ▶ Regulations-Environmental Protection Agency (EPA)
- ▶ Constituent (elector-votes)
- ▶ Climate control
- ▶ Capital Investment
- ▶ Taxes

Economic

- ▶ Cost benefit for government
- ▶ Coal sector
- ▶ Demand for Power Energy
- ▶ Companies to Supply Demand
- ▶ Landfill lower cost of operation
- ▶ Income

Discussion

Why has the United States of America been a laggard relative to Europe in the installation and operation of facilities known as “WTE” Waste to Energy? Why hasn't the USA move to WTE Technology?

This process in the past was known as “Incineration” plant or facilities. With new changes in technologies this concept offer better alternatives for the environment. Diversity of groups lead the opposition for any potential plan developed or in design phase. Factors that neutralize the government and agencies in their final phase for approval is the health follow by the climate control measurement. Excess amount of CO₂ produced and ash disposition are others. EPA new standards in 2000 states the control of the air pollution control. Since the 90's different states requested proposals for the construction of new WTE facilities, only 44 facilities were build. New York City been submitting proposal since 1985 for the Brooklyn Navy Yard, Newton Creek Industrial Park and the Red Hook Industrial Park. All those facility share characteristic in common surrounded (partial) by water main source need it for this type of facilities to cool it down.

In 2017 West Palm Beach the Solid Waste Authority (SWA) just opened the new art facility. Further construction can be done up to the result (output) of this new plant operation. Landfill are in critical condition during operation and after closed due to the emission of methane (CH₄). This Renewal Energy to produce power and steam will minimize the use of coil for that need. Other improvement are in the recycling process to help the need of raw material. If this new facilities complies with all EPA standard USA shall move into soon.

Geography Comparison



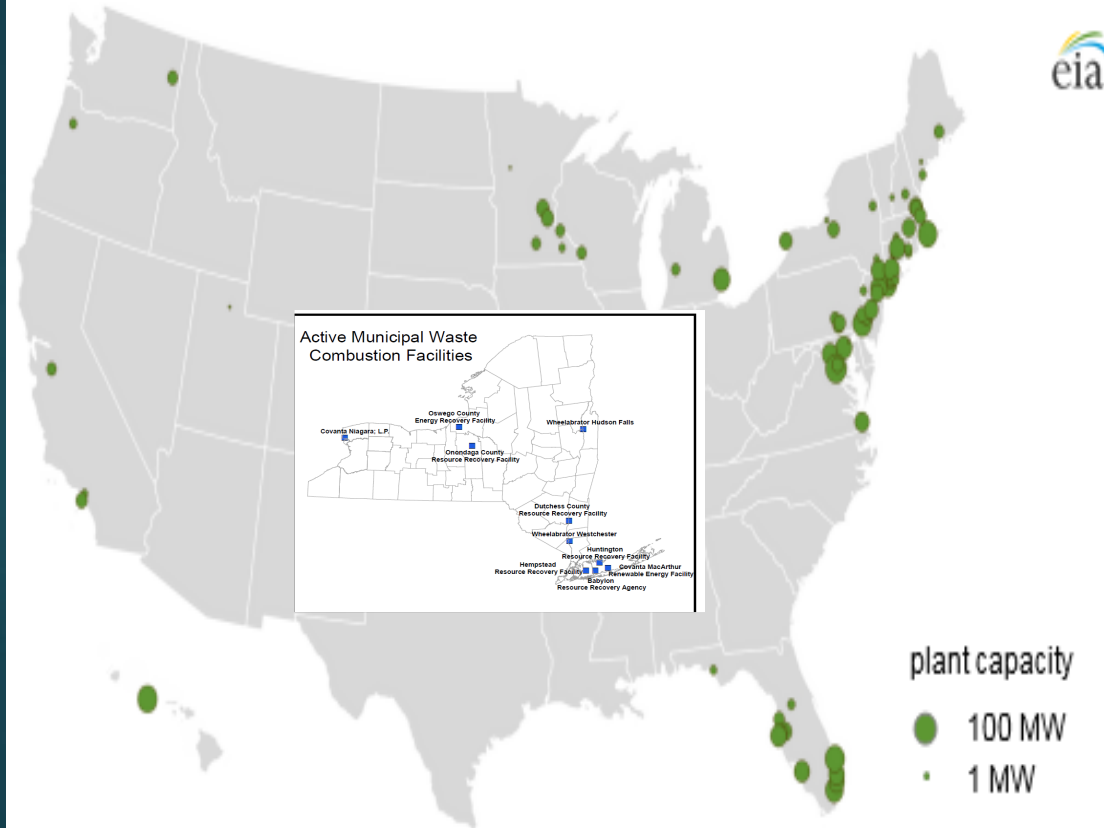
Europe
vs
USA

Rate 1:5

Comparison

USA

Municipal solid waste-to-energy plants with electricity generation capacity (2015)



EUROPE

Waste-to-Energy in Europe in 2013

- Waste-to-Energy Plants operating in Europe (not including hazardous waste incineration plants)
- Waste thermally treated in Waste-to-Energy plants in million tonnes

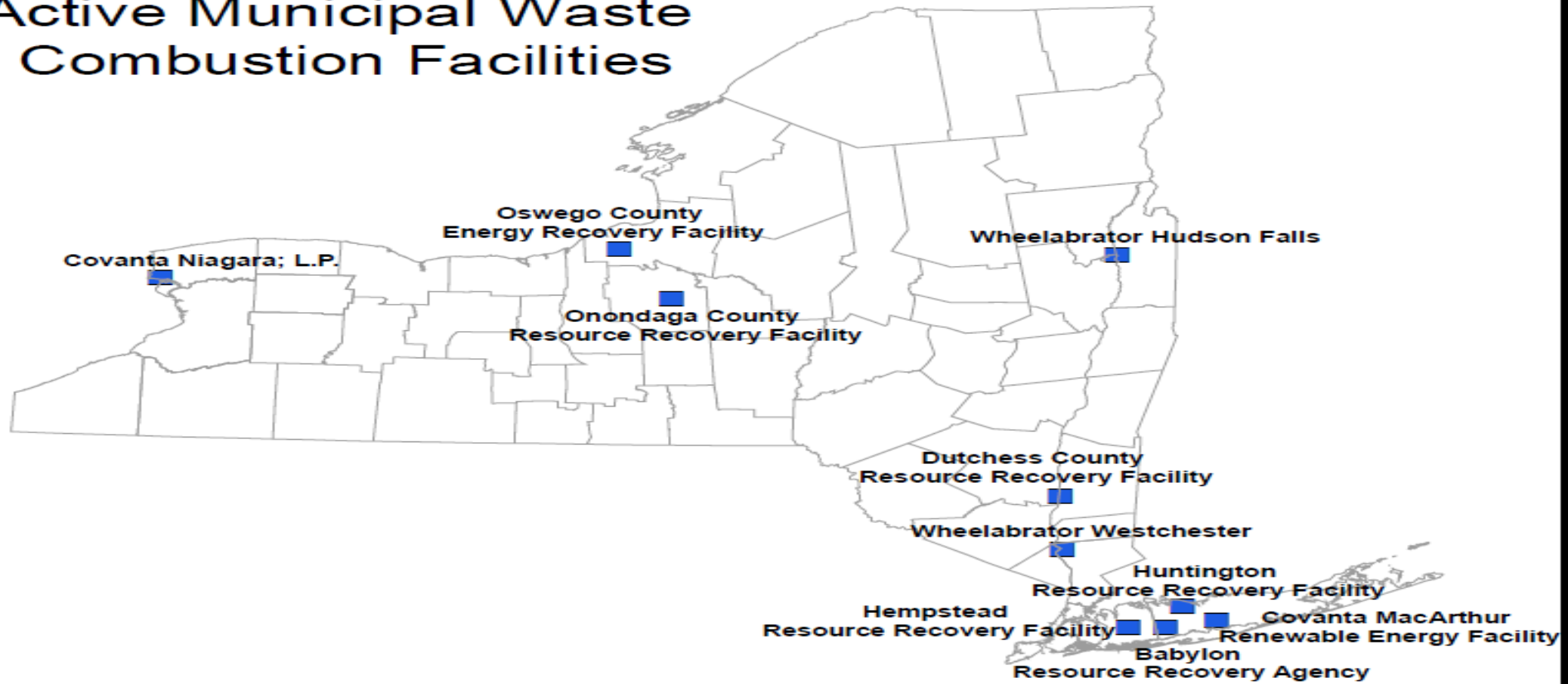
Data supplied by CEWEP members unless specified otherwise
 * From EUROSTAT
 ** Includes plant in Andorra



info@cewep.eu | www.cewep.eu



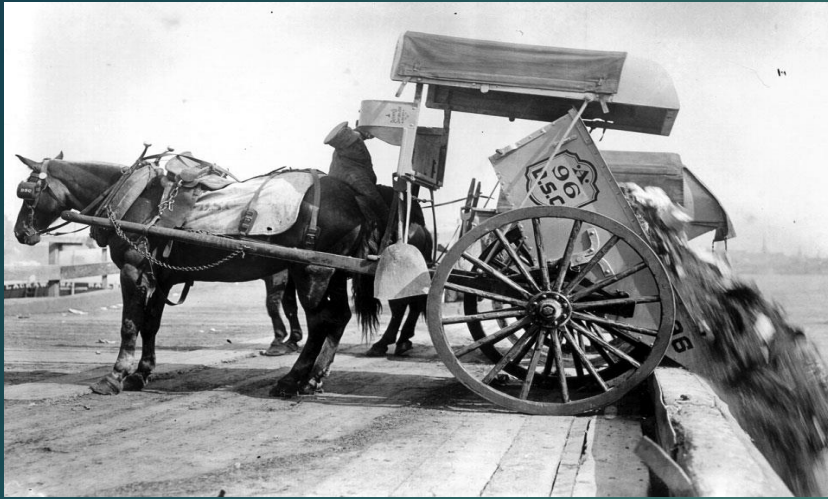
Active Municipal Waste Combustion Facilities



Definition

- ▶ *Combustion* means the thermal treatment of solid waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the waste.
- ▶ *Mixed solid waste* means combinations of putrescible and nonputrescible waste materials.
- ▶ *Municipal solid waste (MSW)* means combined household, commercial and institutional waste materials generated in a given area.
- ▶ *Incinerator* means an enclosed device using controlled flame combustion to thermally break down solid waste, including refuse-derived fuel, to an ash residue that contains little or no combustible materials.
- ▶ WTE: Waste to Energy
- ▶ EPA: Environmental Protection Agency
- ▶ MTS: Marine Transfer Station

NYC Waste Disposal Chronology



NYC 1938 TO PRESENT





Visual Conclusion

Make your own conclusion

<http://aqicn.org/city/sweden/malmo-radhuset/>

<http://aqicn.org/city/usa/newyork/ps-19/>



Works Cited

Gross, D. (2014, July 21). The Sensible Swedes Burn a lot of their Garbage. Why cant we?

Retrieved from:

http://www.slate.com/articles/business/the_juice/2014/07/wte_in_sweden_weirdly_enough_burning_garbage_makes_environmental_sense.html

Balwin, P. (2010, February 1). Europe Vs. America: Some Inconvenient Environmental Truths

Retrieved from: <https://www.theglobalist.com/europe-vs-america-some-inconvenient-environmental-truths/>

Chilton, M. (2008, January 1). WTE Worldwide, A look at WTE practices on a global scale.

Retrieved: <https://waste-management-world.com/a/wte-worldwide>

Gold, J. (2012, November 29). Waste to Energy: Europe and united States

Retrieved from: <http://large.stanford.edu/courses/2012/ph240/gold1/>

Rosenthal, E. (April 13, 2010). Europe Find Clean Fuel in Trash; US Sites back
New York Times

CHPC NYC, Citizen Housing Planning Council (2014). Waste Management Siting at the Brooklyn Navy Yard.

Retrieved from: <http://www.chpcny.org/2014/02/waste-management-siting-at-the-brooklyn-navy-yard/>

Greenwalt, Megan (2015, Jul 21). The Story Behind the Nation's First New WTE Facility in 20 years

Retrieved from: <http://www.waste360.com/new-projects/story-behind-nation-s-first-new-wte-facility-20-years>