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**Comments in Support of Proposed Rulemaking IURC RM #11-05**

**Indiana Utility Regulatory Commission Public Hearing**

**May 17, 2012**

Covanta Energy respectfully submits the following comments in support of the IURC's proposed rulemaking which would allow a clean energy resource that provides thermal energy to use a default formula or to request approval of an alternative equation to determine the number of clean energy credits (CECs) earned for useful thermal energy produced under **170 IAC 17.1-3-5**.

The proposed new rule would allow the Indianapolis Resource Recovery Facility ("Covanta Indianapolis") to participate in the State's new voluntary clean energy portfolio standard (CHOICE) through the establishment of a steam conversion factor. Covanta's Indianapolis Energy-from-Waste (EfW) facility processes over 2,100 tons-per-day of solid municipal waste and produces steam that is used in lieu of electricity to power nearly all downtown Indianapolis businesses, including major institutions such as the IUPUI and Eli Lilly campuses. Accordingly, the energy provided by Covanta's Indianapolis facility in the form of steam is an energy source used to conserve electricity as contemplated by I.C. 8-1-37-4.

The thermal energy conversion formula allows clean thermal energy providers to participate in Indiana's CHOICE program and encourages the use of thermal energy to conserve electricity. Both European and U.S. research data demonstrate that Energy-from-Waste (EfW) facilities offer a safe, technologically advanced means of solid waste disposal while also generating clean, renewable energy. Many forward-thinking European countries have chosen to create energy from municipal solid waste that is left over after recycling efforts. This movement toward the recovery of clean, sustainable energy-from-waste is recognized by respected U.S. academic research institutions, including the Richard G. Lugar Center for Renewable Energy at Indiana University-Purdue University Indianapolis (IUPUI) and the Earth Engineering Center at Columbia University (attached).

Covanta Energy is also pleased to have recently been named among the top 11 U.S. companies in the Maplecroft Climate Innovation Indexes (CIIs), the single most exhaustive study of how U.S.-based multinational corporations manage and adapt to climate change, with a special focus on innovation. This year, 360 of the largest U.S. companies were rated on CIIs, and Covanta was ranked number one for "energy, alternate sources" and 11th overall.

Covanta appreciates the IURC staff's objective consideration of the data presented with respect to the conversion of thermal energy to an equivalent British Thermal Units (BTUs) of electricity, and respectfully urges the Commission to give final approval to the proposed rule to allow for the participation of thermal energy/steam heat as an equally viable source of renewable, clean energy under the Indiana CHOICE program.

For more information about Covanta Energy, its Indianapolis facility, or Energy-from-Waste, please contact Bonny Betancourt at [BBetancourt@CovantaEnergy.com](mailto:BBetancourt@CovantaEnergy.com) or visit [www.CovantaEnergy.com](http://www.CovantaEnergy.com).

# COLUMBIA UNIVERSITY

IN THE CITY OF NEW YORK

## EARTH ENGINEERING CENTER

**Testimony to Indiana Utility Regulatory Commission  
by Prof. Nickolas J. Themelis, Stanley-Thompson Professor Emeritus, Columbia University,  
May 15, 2012**

Ladies and Gentlemen,

I am Director of the Earth Engineering Center of Columbia University, a research group that in the last twelve years has published over one hundred technical papers and theses on many aspects of sustainable energy and waste management ([www/wtert.org](http://www.wtert.org), Publications). Our studies have shown conclusively that after all possible recycling and composting, there only two alternatives for dealing with the post-recycling municipal solid wastes (MSW): Combustion with energy recovery (also called waste-to-energy) or landfilling. These studies have shown that the organic fraction of the typical U.S. MSW consists of about two thirds biomass (food and green wastes, wood, non-recyclable paper, leather, etc.) and one third non-recycled plastics. Therefore, when MSW is used as a fuel in a modern waste-to-energy (WTE) plant to generate heat or electricity, it is a source of renewable energy that also avoids the environmental impacts and land use of landfilling. WTE is recognized as a renewable source of energy by the Department of Energy and by several states.

The first figure below is based on published data and compares waste management in the U.S. with various other developed nations. It can be seen that the most environmentally minded nations in the world recycle a lot, combust a lot, and landfill very little. The U.S. average is at nearly the same level of development as the United Kingdom.

The second figure below shows how the fifty states rate with respect to sustainable waste management. Indiana, by means of its recycling and composting programs and the heat generating WTE of Indianapolis is more advanced than twenty other states. However, the State still landfills annually about eight million tons of MSW and imports nineteen million tons of coal. These numbers indicate is that if Indiana were to combust all of its post-recycling wastes, for example as is done in Denmark and several other countries, it would reduce its importation of coal by over three million tons of coal and the greenhouse gas emissions of the State by as much as eight million tons.

One of our past studies ([www.wtert.org/sofos/ulloa\\_thesis.pdf](http://www.wtert.org/sofos/ulloa_thesis.pdf)) showed that the Indianapolis WTE plant is operating at a very high thermal efficiency, by virtue of the fact that it produces heat instead of electricity. This plant generates 2.2 tons of steam per ton of MSW and serves over 800,000 citizens. Using this highly controlled energy source for district heating has avoided the use of thousands of residential and commercial boilers and contributes much to the air quality of Indianapolis.

In our presentations on sustainable waste management in the U.S., we use the Indianapolis WTE plant as a shining example of what should be emulated by other cities. In order to increase WTE capacity in Indiana, it is necessary to put in place policies that recognize the several environmental benefits of the existing facility in Indianapolis and provide incentives for the implementation of new WTE capacity, alongside other sources of renewable energy, such as solar and wind energy.

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In closing, it should be stressed that in addition to reducing the volume of municipal solid wastes by an estimated 90%, thereby conserving land that would be used for landfilling, WTE is available on a 24-hour basis and therefore provides baseload power, in contrast to solar and wind energy that are generated only part of the day.

A handwritten signature in black ink, appearing to read "N.J. Themelis". The signature is written in a cursive style with a long, sweeping underline.

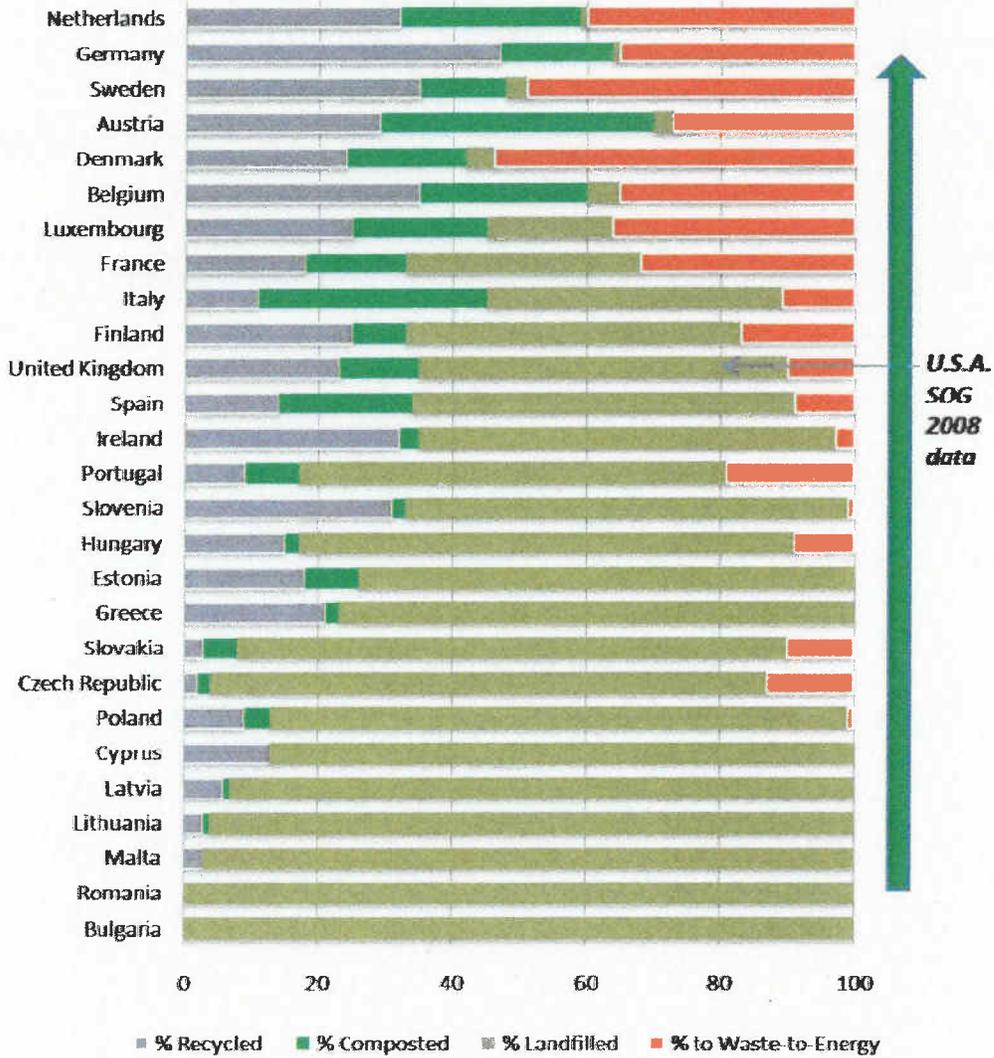
Prof. Nickolas Themelis,

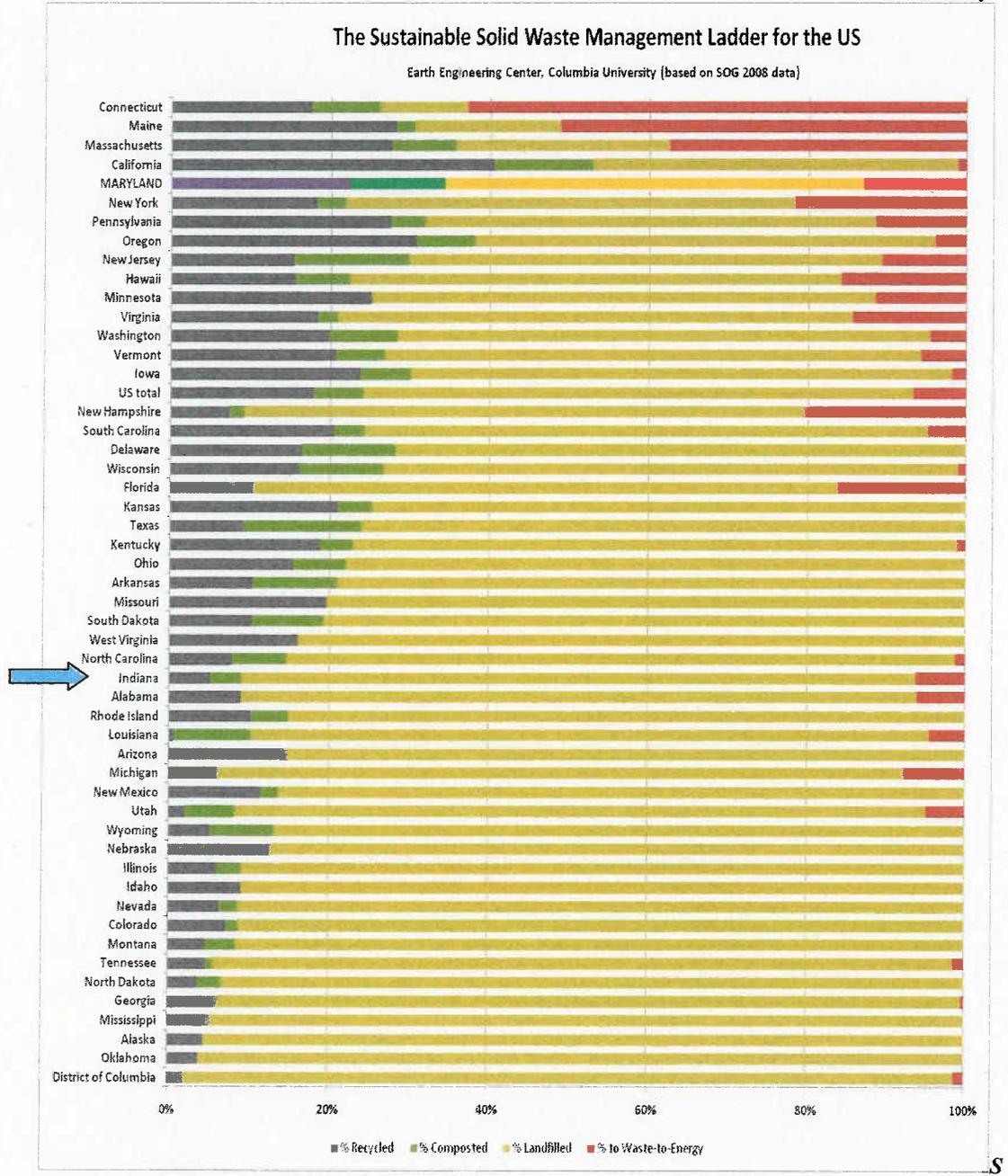
Director, Earth Engineering Center, Columbia University ([njt1@columbia.edu](mailto:njt1@columbia.edu))

Member of National Academy of Engineering

### The Sustainable Waste Management Ladder

Earth Engineering Center, Columbia University (based on Eurostat 2008 data)





Sources: U.S. data from the 2008 survey of waste management in the U.S. by Columbia University and BioCycle (BioCycle journal, October 2010). E.U. data from: [http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-CD-07-001/EN/KS-CD-07-001-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-CD-07-001/EN/KS-CD-07-001-EN.PDF); 2008 State of Garbage in America, BioCycle, Oct. 2010