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A lorry delivers rubbish to a Waste Management landfill in Pompano, Florida. Daniel Acker / Bloomberg News

Rubbish becomes a burning issue in global push for green energy

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Waste is often recycled, placed in a landfill or burned. But in several parts of the world, rubbish is literally keeping the lights on after being converted to electricity.

In the United States alone, 390 million tonnes of rubbish is generated per year, or 7 pounds per person per day, according to a joint study conducted by the Earth Engineering Center of Columbia University and *BioCycle*, a magazine covering composting and [renewable energy](#). Of that rubbish, about 69 per cent is landfilled and 24 per cent is recycled and composted. The remaining 7 per cent is combusted via waste-to-energy.

With more waste management firms putting a clean-energy spin on the burning of rubbish by converting waste to electricity, "waste gasification" technologies are poised to surge.

"This is a new technological evolution of a pre-existing process: gasification," says Andy Harris, the vice president of Waste to Energy Canada (WTEC), an integrated clean and smart waste management firm based in Vancouver, British Columbia. "Waste is oxidized at a very high temperature, during a process that provides optimum conditions for clean conversion of rubbish into renewable energy."

In the US, there are currently 86 waste-to-energy facilities operating in 24 states, processing more than 97,000 tonnes of waste per day, according to the US energy recovery council (ERC). The plants provide 2,700 megawatts of clean electricity on an annual basis. That is enough electricity to power about two million homes, says the ERC.

"A lot of people are determining there's some value in their garbage and it's better to extract that value than simply burying it in a landfill," says Joey Neuhoff, the vice president of business development for Covanta, the largest provider of waste-to-energy services in North America.

The New England region has the highest number of waste-to-energy plants in the US, with 37 operating plants total. Connecticut has the highest percentage of waste being converted into energy at the rate of about 70 per cent of its non-recyclable rubbish.

"Recently, there has been an extraordinary amount of interest in waste-to-energy out of Alaska, in New York and in Santa Barbara, California," Mr Harris says.

Canada has also seen a recent push for energy from waste. "Five or six years ago, there were only four waste-to-energy plants in Canada, but now there are seven more in the developmental stages," says John Foden, the executive director of the Canadian Energy-From-Waste Coalition.

"That's 200 per cent growth in five or six years."

There has also been recent interest from island nations such as St Maarten and other parts of the Caribbean "that don't have the landfill capacity and need the electricity", Mr Neuhoff says.

More countries are turning to the practices of northern Europe, which has been a leader in the field for years. Oslo in Norway, for example, has been so successful in its endeavors it recently experienced a shortage of garbage to convert to electricity.

In Europe, there are more than 400 facilities that generate energy from waste, with northern Europe having the largest share of waste-to-energy plants, according to the ERC. For the first time, waste to energy is now powering up in another part of the region countries of central and eastern Europe that have joined the European Union and are now facing strict waste directives issued by the European Commission.

Although these waste directives have been laid out since 2008, Poland, along with some other countries in the EU, has been slow to adapt. The fact that some of these countries have inherited a past of environmental neglect from the former Soviet Union has not helped matters.

But that will change next month, when Polish municipalities will no longer own their waste management facilities, putting a halt to traditional landfill dumping. This change follows a new act on waste utilisation that has been applicable in Poland since last year.

WTEC, with its local partner Rank Progress, is beginning the construction of an energy-generating incineration plant in Dlugoszyn in southern Poland, this year. The plant is expected to be fully functional by early 2015. It is the first of three planned Polish plants

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