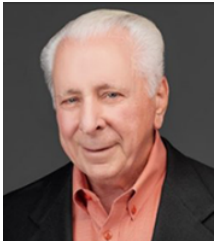


Recycling for Sustainable Electricity is the Key for Future Generations



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There is a growing need to recycle human caused waste as this Planet's resources WILL run out

Our planet has numerous resources, but they are NOT unlimited resources. What's the future of humanity 100 to 500 years from now, after humans have extracted the oil, coal, lithium, cobalt and other resources from the 4.5-billion-year-old Earth?

◆ Worldwide crude oil consumption is currently estimated at roughly 96.5 million barrels per day. According to OPEC, global demand is expected to reach 109 million barrels per day. Estimations vary slightly from other sources as well, but it is predicted that [we may run out of global oil from known reserves in about 50 years.](#)

◆ Nothing lasts forever, even the abundant coal on this planet. For coal, [we may run out of global coal from known reserves in about 130 years.](#)

As the world's population depletes the earth's natural resources over the next 50, 100, or more years, our grandchildren may be unable to enjoy the more than 6,000 [products of our materialistic society, being enjoyed by the](#)

[current residents on this planet](#). These are products that people need and use every day, without even realizing that they come from the refining process. Without oil, we are back in the stone age.

To continue the preservation of human life on earth, it's time to get serious about conservation, efficiency improvements, and recycling the waste that humans are generating.

One of the primary areas of focus is the recovery of electricity from waste streams such as tires and plastics.

- ◆ Tires: The United States generates around 280 million waste tires each year, which is roughly one tire per person. Globally, an estimated 1 billion to 1.8 billion used tires are discarded annually.

- ◆ Plastic: The world produces around 400 million tons of plastic each year, which is more than double the amount produced at the beginning of the century. Growth: Since the 1970s, plastic production has grown faster than any other material. If current trends continue, global production is projected to reach 1,100 million tons by 2050.

As billions of tires and millions of tons of plastic waste being disposed of annually, these materials represent a vast untapped source of electricity. Traditional disposal methods often lead to environmental pollution and health hazards. Waste to energy technology offers a sustainable alternative by converting these materials into clean electricity while reclaiming valuable products like recovered steel, coke, and carbon black.

There is a growing list of "waste to energy" companies vying for leadership of this revolution, developing and implementing groundbreaking solutions to convert waste into valuable electricity. By focusing on recycling and electricity generation, one of those companies is [SOBE, a public utility in Youngstown, Ohio](#) that converts waste into energy through a

process called enhanced pyrolysis that is ready to begin helping manufacturing and healthcare companies meet their environmental, social, and governance (ESG) goals while also reducing their electricity costs.

These waste to energy firms provide the recycling and handling facilities for preprocessing hydrocarbon man-made based products such as waste tires and all seven grades of plastic into feedstock used internally within the group's (WTE) waste to energy conversion technology. The feedstock is converted during the technology process inside their plants into a clean synthetic fuel gas that can be used directly for their operations, or in gas turbines or reciprocating engines for electricity generation. Providing a clean, safe and environmentally friendly solution for the repurposing of these difficult waste streams and reducing landfill usage.

This creates and establishes a true circular economy-based recycling model. Utilizing an inexhaustible stream of man-made waste converted into clean energy. The byproducts produced consisting of carbon black and steel are then repurposed for the greater good of our planet's resources and the environment.

These waste to energy innovative processes are designed to be highly efficient and environmentally friendly. By combining recycling with electricity generation, the company can minimize waste and reduce the need for additional resources. The reclaimed materials can be reintroduced into the supply chain, reducing the demand for virgin materials and the greenhouse gas emission from production facilities; further contributing to a sustainable economy.

There are several challenges with traditional electricity sources such as coal and natural gas that have long been the primary means of powering our world. However, these sources often come with a host of environmental problems, including:

- ◆ Greenhouse gas emissions: The burning of fossil fuels releases large amounts of carbon dioxide and other greenhouse gases into the atmosphere, contributing to climate change.
- ◆ Air pollution: Fossil fuel combustion also produces harmful air pollutants, such as particulate matter, nitrogen oxides, and sulfur oxides, which can have negative health effects.
- ◆ Depletion of natural resources: Coal and crude oil are finite resources on our 40-billion-year-old planet, and their continued extraction and use are depleting reserves.

Renewable electricity generating sources, such as solar and wind power, only offer an intermittent, but not sustainable alternative to the continuous electricity generation from coal, natural gas, and nuclear. Additionally, the production of solar panels and wind turbines requires significant amounts of electricity and exotic minerals and metals resources to make components of wind turbines and solar panels. They also create another problem with their waste when they are damaged, thrown away, or no longer usable.

The benefits of waste-to-electricity solutions, such as those collaboratively developed by SOBE, offer a promising alternative to traditional electricity sources.

By converting waste into electricity, these solutions can help:

- ◆ Reduce waste: Waste-to-electricity technologies can divert waste from landfills, reducing the need for new landfills and minimizing the environmental impact of waste disposal.
- ◆ Generate renewable electricity: The electricity produced from waste is considered renewable because it is derived from a constantly replenished resource.

- ◆ Reduce greenhouse gas emissions: Waste-to-electricity technologies can help to reduce greenhouse gas emissions by displacing coal and natural gas for electricity generation.
- ◆ Create jobs: The development and implementation of waste-to-electricity technologies can create jobs in the electricity sector and related industries.

The Future of Sustainable Electricity: As the world continues to grapple with the challenges of climate change and resource depletion over the next few centuries of the world's reserves of crude oil and exotic minerals and metals, there is a growing need for innovative solutions to our demands for electricity. Waste-to-electricity and new technologies, such as those like SOBE is working with, offer a promising path toward a more sustainable and prosperous future.

In addition to their work on waste-to-electricity solutions, SOBE is also collaborating with companies like Optics Consulting and other organizations to develop and commercialize other clean electricity technologies. By fostering partnerships and sharing knowledge, companies can help accelerate the transition to a sustainable electricity future.

Imagine a self-generating behind-the-meter solution that is 100% renewable clean and continuous technology that can be deployed in 4 MW units and can be expanded to the needs of the electricity customers. Technologies like these are coming very soon.

By harnessing the power of waste, or utilizing new innovative technologies, we can focus on continuous and reliable electricity through recycling tires and plastic waste to help reduce our reliance on coal and natural gas, reduce the landfill footprint, protect the environment, and create a cleaner, healthier world for generations to come.

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