

Michael Marr and Steve Kratz Encino Development Group; Pennsylvania Chemical Industry Council Published October, 2023

The Pennsylvania Chemical Industry Council and Encina at the Keystone SWANA recently presented Pennsylvania Waste Industries Annual Fall Conference on opportunities surrounding advanced recycling. Enacted in November 2020 and championed by PCIC, advanced legislation leading recycling is to clean economy investments from innovators like Encina. So what is advanced recycling? Let's start at the beginning with chemistry.

Chemistry is critical for manufacturing everyday products that are essential to life, including health care products, food packaging, electronics, personal care products and more. Modern society needs continued chemical and plastic production and as a result, demand will increase. However, how we manage waste is not sustainable.

The path forward is bringing industry, legislators and regulators together to create an environment that encourages innovation and technological advancement. One example is The Solid Waste Management Act - Act 127 of 2020 which paved the way for the deployment of advanced recycling technologies in Pennsylvania.



At a basic level, advanced recycling utilizes post-use plastics, which may otherwise be landfilled, as feedstocks to create new products. Mechanical recycling is effective for some plastic and involves soaking and shredding plastic material. Advanced recycling focuses on hard-torecycle materials such as candy wrappers, yogurt cups, and other packaging, and typically bags, uses а technology process to convert plastic materials back into their basic chemical form. When used in collaboration, both mechanical and advanced recycling technologies are effective solutions to help address the global plastic waste challenge.

What are the benefits of advanced recycling? The economic and environmental outcomes have the potential to be transformational. For instance, <u>Encina's Point</u> <u>Township Circular Manufacturing Facility</u> is a \$1.1 billion investment that will transform hard-to-recycle plastic waste into the building blocks that can be used to manufacture new consumer products.

Encina will partner with Municipal Recovery Facilities (MRFs) to divert up to 450,000 tons of materials from landfills, incinerators, and other endpoints to its facility. Encina's technology involves the use of heat, in the absence of oxygen, to melt plastics and separate out components using a proprietary selective catalyst. What sets Encina's process apart from others in the field is its combination of aspects of both mechanical and molecular recycling to produce a product that is of such high purity levels that it can be dropped directly into existing manufacturing processes.

From an economic standpoint, Encina's facility will inject \$1.1 billion into the local economy while supporting 600-900 jobs during construction and 300 well-paying operations jobs. On the environmental front, the facility reduces the need to produce new plastic from oil and gas resources, provides sustainable solutions to manufacturers committed to reducing their impact on the environment, and catalyzes the transition to a circular economy where resources are used, recycled, and reused over and over.

Pennsylvania has the opportunity to be a leader amongst states in driving economic growth and environmental progress through the expansion of advanced recycling opportunities. PCIC and innovators like Encina are leading the way to bring real economic and environmental progress to the Commonwealth.

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