



Phoenix awards contract to Renewlogy for chemical recycling project



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Dive Brief:

- The Phoenix Public Works Department has chosen Renew Phoenix for a new 10-year contract to turn recovered mixed plastics into fuel. Renew Phoenix is a joint venture between local company Generated Materials Recovery and Utah-based Renewlogy.
- The project will focus on using a chemical recycling process to reverse #3-7 plastics back to their basic molecular structures, making them fit for conversion to fuels. Once it reaches full production, the facility is expected to process 10 tons of mixed plastics per day, amounting to about 60 barrels of liquid fuel.
- Renew Phoenix is investing an estimated \$5.5 million in the 30,000-square-foot facility, which will be part of the city's Resource Innovation Campus through a municipal lease. Once operational in 2020, the project is expected to bring up to 15 full-time jobs to the area and serve the broader Valley region.

Dive Insight:

The need for domestic #3-#7 plastics processing and end markets has intensified since China stopped accepting the materials as part of its 2018 National Sword policy. These plastics are often considered difficult to recycle or low value compared with the commonly-recycled #1 and #2 plastics — including PET and HDPE bottles, jugs, tubs, containers and lids.

Phoenix put out a request for proposals for the project last summer. A panel unanimously recommended the Renew Phoenix bid earlier this year before it was recently approved by the Phoenix City Council.

"I believe in taking bold chances to make big change. The idea of making fuel with the plastics we are throwing away is certainly an 'out of the box' idea that I am thrilled to say will also bring jobs and revenue to our city," said Phoenix Mayor Kate Gallego in a press release. "During a time when cities are giving up on recycling, Phoenix is again leading the way in setting the gold standard for innovation and creativity."

Chemical recycling is gaining steam in the United States as a way to recycle and reuse "difficult" plastics. Last year, Oregon-based Agilyx began processing polystyrene (PS) materials — most notably, foam — into monomer oil that can be made into new PS-based products. And this week, Tennessee-based Eastman announced a process to depolymerize mixed plastics, such as flexible packaging and film. Some believe these types of chemical recycling processes hold promise for creating better markets to recycle single-use plastics and keep more of them out of the environment.

Renewlogy, one of the businesses key to the new Phoenix processing facility, has had success with depolymerization in other areas — it accepts mixed plastics and packaging materials in specialty recycling bags from customers in Salt Lake City, Utah and is also expanding into Canada. The feedstocks are converted to fuel via thermal depolymerization.

The new plastics-to-fuel program is part of Reimagine Phoenix, which includes a goal of 40% waste diversion rate by 2020 and "zero waste" by 2050. Phoenix is currently seeking markets for its #5 plastics, but this initiative will open up new opportunities for other materials that would otherwise be headed to the area landfill. The city estimates that Renew Phoenix will help divert 3,000-4,000 tons of material per year in its first phase, including material from the broader region, and could eventually triple its capacity in future expansions.