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SOUTH AUSTRALIA TAKES ANOTHER STEP TOWARDS UPCYCLING WASTE TO MANUFACTURE CLEAN HYDROGEN

Waste to Hydrogen project partners City of West Torrens, Solo Resource Recovery (Solo), Greenhill Energy and Peats Soil and Garden Supplies (Peats), in collaboration with the University of Adelaide, will embark on the next phase of their journey to divert waste from going to landfill in South Australia, and have agreed to work together to establish a demonstration pilot program.

The pilot scale demonstration project includes pre-processing of Municipal Solid Waste (MSW) at the Adelaide Waste & Recycling Centre (AWRC) located at North Plympton, followed by the processing of material to produce syngas using the University of Adelaide's existing gasification facilities, located at its Thebarton campus.

Greenhill Energy Executive Managing Director Nicholas Mumford said this demonstration pilot program is the next logical step in the partnership formed in 2021 to investigate the technical, commercial and economic potential of manufacturing clean hydrogen from household waste which would otherwise be destined for landfill.

"This partnership was formed with a broader vision to build an industrial scale facility to convert landfill waste into high value products, such as clean hydrogen. This process will effectively mature Australia's circular economy and contribute to considerable emission reductions in Australia's waste sector. We're excited to take another leap forward with this demonstration pilot program that will help inform the large scale upcycling of waste into low-cost clean hydrogen and high-value industrial products," said Nicholas.

Solo's SA State Manager Adrian Rose said the pilot program will provide the company with an opportunity to trial the MSW sorting process and help determine the appropriate final specification to meet regulatory approvals and supply to Greenhill Energy.

"This exercise will give us the opportunity to walk through the process of sorting, sizing and drying, and ultimately give us the confidence to scale up. It will also help determine how we design a cost effective automated process," said Adrian.

"We'll be looking to sort batches of approximately 100 kilos of MSW at a time as part of the demonstration pilot program. The material will then be dried and reduced in size appropriate to feed through the University of Adelaide's gasifier at Thebarton for conversion into a syngas," added Adrian.

The City of West Torrens Mayor Michael Coxon said the program complements the Council's Community Plan 2030, which supports opportunities that provide the community with a healthier and more sustainable environment to live in.

"Subject to the outcomes of the pilot program, our aim is to support this on a large scale, diverting waste collected at North Plympton to Greenhill Energy's Riverbend Energy Hub site near Taillem Bend," said Michael.

"We can then potentially use the hydrogen for our own purposes, such as replacing our diesel-powered vehicles with some hydrogen trucks. Ultimately, we want to convert our waste into energy and not continue to put it in the ground.

"We're excited to be a partner with this project as we are committed to investigating and resourcing ways we can create a more sustainable environment and help create a circular economy."

Peats Soil and Garden Supplies Managing Director Peter Wadewitz said this is another exciting step to achieving our circular economy solutions.

“We look forward to supplying our waste biomass as part of this circular pilot program, to demonstrate that valuable products such as hydrogen derived fertilizer products can be produced for Australian farmers using local manufacturing processes as an alternative to relying on international imports,” said Peter.

The University of Adelaide’s Woei Saw, Senior Lecturer from the School of Chemical Engineering, said the gasifier based at the University’s Thebarton research facility will provide beneficial data to the project partners.

“As the university with the most hydrogen focused program in the country the University of Adelaide is proud to support the development of the emerging hydrogen industry in Australia,” said Saw.

“We are excited to collaborate with the project partners on this next step which will be a further opportunity to use our world-renowned facilities to provide valuable insights on their waste-to-hydrogen journey.”

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Further media comment:

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