

Annex D – Low Carbon Technology Projects

Companies	About the Project	Link
Croda Singapore and NanoSun	Advanced Wastewater Treatment Croda Singapore and NanoSun, a spin-off from Nanyang Technological University, are partnering to build an advanced wastewater treatment facility at Croda’s Seraya manufacturing site on Jurong Island. The full-scale plant will use NanoSun’s innovative water purification technology to treat and reuse high-strength wastewater, which makes up about a quarter of Croda’s total output and currently requires external processing. The wastewater treatment plant reduces Croda’s dependence on freshwater sources and can lower carbon emissions by 25%. This collaboration follows a successful pilot under the Jurong Island Innovation Challenge (JIIC), an initiative by JTC and Enterprise Singapore, launched in August 2021, marking a significant transition from testing to full-scale implementation.	Link
IHI Corporation, Agency for Science, Technology and Research	Sustainable Aviation Fuel Production Process Technology IHI Corporation and A*STAR Institute of Sustainability for Chemicals, Energy and Environment (A*STAR ISCE²) are collaborating on a pilot-scale project that converts captured carbon dioxide and hydrogen into sustainable aviation fuel (SAF)-range hydrocarbons. The process uses a direct catalytic reaction that produces liquid hydrocarbons in a single step, offering potential efficiencies compared to conventional multi-step SAF production routes. The pilot test rig, located on Jurong Island, allows researchers to study the process under industrially relevant conditions and assess its scalability. This collaboration, formalised through a Memorandum of Understanding signed in 2024, supports the global aviation industry’s transition toward net-zero emissions by 2050.	Link

Agency for Science, Technology and Research	Low Carbon Technology Translational Testbed The Low Carbon Technology Translational Testbed (LCT³) will be established on Jurong Island to support the testing and scale-up of emerging low-carbon technologies in the areas of carbon capture and utilisation, and low-carbon hydrogen production processes. Designed as a national pilot-scale facility, LCT³ will enable companies and researchers to validate technologies under realistic industrial conditions, including high-pressure and high-temperature operations, before larger-scale deployment. It will feature modular, plug-and-play equipment that can be configured for different projects and process requirements. By bridging laboratory research and industrial implementation, LCT³ will help accelerate the translation of low-carbon innovations into deployable solutions for Singapore's energy and chemicals sector.	Link
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