

AUSTRALIA

Australia-Singapore
Green Economy Agreement

Go-Green Co-Innovation Program (Round 2)

In a joint push toward supporting their respective transitions to net zero, the Prime Ministers of Australia and Singapore launched in March 2024 the *Go-Green Co-Innovation Program (GGCIP)*, a flagship initiative under the Green Economy Agreement. This grant scheme is designed to support bilateral partnerships between companies working to co-develop technologies, products, and services that drive trade and commerce in green sectors. Projects funded under the program's second round (2025/26) are beginning to deliver promising results as showcased below.

Powering the Next Generation of Solar: Made for Scale



This Australia–Singapore project is helping to bring a new generation of solar panels closer to commercial use. Halocell Energy is developing a faster, lower-cost way to manufacture large solar panels using a continuous production process, making it easier to move from small laboratory samples to commercial-scale production. Working with Nanofilm Technologies International, the project is also developing a protective coating to help the panels withstand moisture, oxygen, and other harsh conditions that can reduce their performance over time. The partners are formulating and testing various coating structure and architectures to assess their durability and reliability in realistic conditions. By combining potentially lower-cost manufacturing with improved protection and longer operating life, the project could help make solar technology more affordable and reliable, while creating new opportunities for clean-energy manufacturing and trade between Australia and Singapore.

Australian Company: **Halocell Energy Ltd**
Singapore Company: **Nanofilm Technologies International Ltd**

Developing Smart Bins to Transform Commercial Waste Management



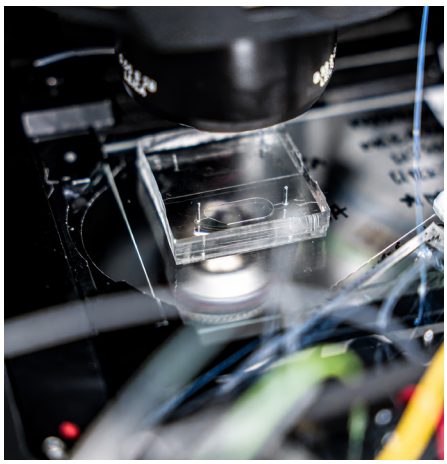
This project is developing a first-of-its-kind smart bin system designed to change how commercial buildings measure and manage waste. The Calibre smart bin has built-in precision scales, access controls, and connected software. It records accurate, verified data as waste enters the bin, replacing estimates with measurements of how much waste buildings generate and how much is collected. Developed through a partnership between Gurru Solutions in Australia and OTTO in Singapore, the technology gives buildings the data to better understand their waste, improve servicing and reduce unnecessary collections. Over the past year, Calibre has progressed strongly, with initial units deployed in Australia and commercial testing completed in Singapore. Further deployments will refine the system ahead of wider commercial rollout across both markets.

Australian Company: **Gurru Solutions**
Singapore Company: **OTTO**



GEA

Making Greener Lubricant Additives for Commercial Production



Lubricants and lubricant additives are essential to modern manufacturing, but their production remains heavily reliant on petrochemical feedstocks. This project is developing a more sustainable and commercially viable alternative by combining Allozymes' rapid biocatalyst development and optimisation capabilities in Singapore with The Harrison Group's lubricant manufacturing expertise in Australia. Building on earlier proof-of-concept work, the partners have developed and improved a biocatalyst that can replace more than 90% of the petrochemical raw materials used in a novel lubricant additive system. The technology is now moving to pilot-scale trials, an important step towards commercial deployment. If successful, it could reduce reliance on fossil based inputs, lower the environmental footprint of lubricant production and create opportunities for Australian and Singaporean companies to commercialise and export more sustainable lubricant products and technologies.

Australian Company: **Clareville Pty Ltd (trading as The Harrison Group)**

Singapore Company: **Allozymes Pte Ltd**

Transforming Cold Chain Packaging for Hot and Humid Climates



This Australian innovation is advancing sustainable cold chain packaging designed to protect temperature sensitive products in the hot and humid conditions experienced across Singapore and South East Asian. Planet Protector Group (PPG) and Greenpac Singapore are using Australian innovation in wool to create sustainable thermal insulation. With Singaporean packaging expertise and regional supply chain knowledge they are developing a high performance alternative to conventional fossil fuel derived insulation like expanded polystyrene. PPG and Greenpac have progressed from product prototyping at Woolpack Australia's Altona facility to product testing in Australia and Singapore. The work focuses on temperature stability, product protection and practical commercial use in demanding regional conditions, aiming to reduce reliance on conventional single use petrochemical-based insulation while helping businesses transport food, pharmaceutical and other temperature sensitive products more sustainably. The collaboration is also building a pathway for wider commercial adoption in Singapore and other hot and humid markets.

Australian company: **Woolpack Australia Pty Ltd (Planet Protector Group)**

Singapore company: **Greenpac (S) Pte Ltd**



GEA

Producing Onsite Hydrogen Solution to Power Manufacturing



This project is demonstrating to businesses that they can make their own green hydrogen, use it alongside natural gas in equipment they already have, and cut emissions without having to completely change their industrial operations. The approach could become a commercially scalable way for SMEs across Australia and Asia to commence their decarbonisation journey. In partnership with Deakin University's Hycel Technology Hub and Swinburne University, the project will install a 5kW solar-powered electrolyser at Austeng's Geelong facility to produce hydrogen onsite and blend it with natural gas to demonstrate its use in an industrial process. Producing hydrogen on site avoids the costs and complexity of compression, high-pressure storage and transport. Trials will test hydrogen blends of up to 50% and assess the potential to reduce industrial CO_2 emissions by up to 25%.

Australian Company: **Australian Engineering Solutions Pty Ltd**

Singapore Company: **SungreenH2 Pte Ltd**

Reducing Risks, Costs and Emissions in Refrigerated Supply Chain



This project is developing practical services and digital tools to help businesses better manage refrigerants across the cold chain, from refrigerated facilities and equipment to transport fleets. The solution will help businesses track refrigerant use and equipment, identify risks and costs, improve emissions reporting and make better-informed investment decisions. The collaboration combines Australian expertise in refrigerant management, inventory practices and software requirements with Singapore-based software development, market research and customer engagement. By providing a clearer picture of refrigerant use, risks and costs, the project will help businesses respond to phase-down requirements, supply and cost pressures, reporting obligations and emerging environmental risks associated with some synthetic refrigerants. Selected asset owners will participate in early pilots to test the technology in real-world settings, with potential to reduce operating costs, strengthen risk management and support the transition to lower-impact alternatives while maintaining the competitiveness of refrigerated goods trade. Many organisations consulted were unaware of refrigerants' significant contribution to annual GHG emissions, underscoring the tool's relevance as Singapore and Australia step up efforts to manage emissions.

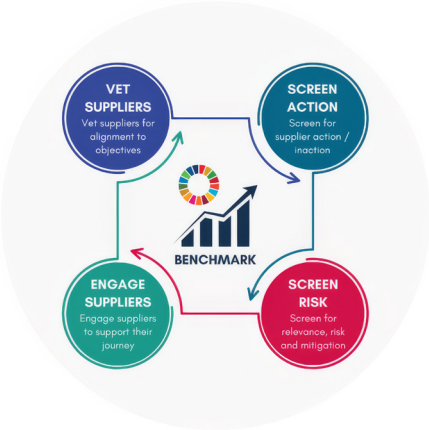
Australian Company: **Mansfield Advisory Pty Ltd**

Consortia partner: **Veridien Refrigerant Management**

Singapore Company: **Padang Ecosystem Pte Ltd**



Making Responsible Sourcing Simpler for Business



This Australia–Singapore project is making it easier for businesses to choose suppliers that meet sustainability standards. Australian company givvable provides reliable information on suppliers' environmental and sustainability performance, helping businesses identify potential risks across their supply chains. Working with Singapore's SESAMi, a leading online procurement platform, givvable is integrating this information directly into the systems businesses already use to purchase goods and services. This means buyers can consider sustainability alongside price, quality and other factors when choosing suppliers, rather than searching for this information separately. The partnership also creates opportunities to expand the technology across Singapore and Malaysia and into wider Asian markets. Growing demand from major businesses, including Philippine property developer Ayala Land, demonstrates the commercial potential for better supplier information and more sustainable purchasing decisions across the region.

Australian Company: **givvable Pty Ltd**

Singapore Company: **SESAMi (Singapore) Pte Ltd**

Delivering Renewable Biomass Energy for Remote Communities



This Australia–Singapore project is advancing a compact biomass-fuelled system that produces both renewable electricity and useful heat for remote communities, agricultural operations and disaster resilience. Developed by Australian company Uniflow Power with a Singaporean partner, the Cobber converts locally available biomass into around 5 kW of electricity and 20 kW of thermal energy. By using locally sourced fuel, it can reduce reliance on imported diesel while providing a reliable energy source for communities and businesses. Australia contributes the core biomass steam-generation technology, while Singapore provides expertise in engineering, systems integration, automation and commercialisation. The partnership is helping turn the technology into a practical, scalable solution for the Indo-Pacific. The project is now progressing through final certification, engineering optimisation and commercial readiness, with the next stage focused on manufacturing, systems integration and regional deployment.

Australian Company: **Uniflow Power Pty Ltd**

Singapore Company: **Enginuity Pte. Ltd., Phi Earth Technologies Pte. Ltd.**



Keeping Passengers Cool: Cutting Energy Use

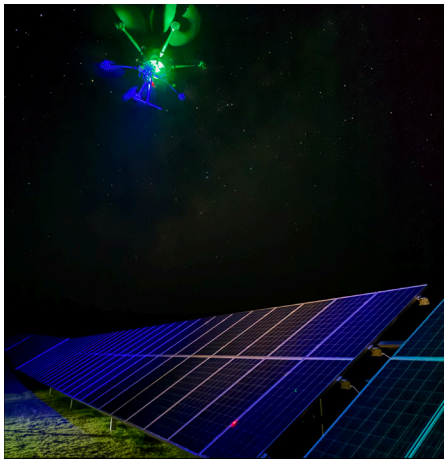


This project is testing how Retragreen's CoolGuard AI can reduce air-conditioning energy use on a Singaporean bus without compromising passenger comfort. By analysing cooling performance under different operating conditions, the technology identifies ways to improve energy efficiency, targeting energy savings while keeping passengers comfortable. The technology could help public transport operators lower fuel and electricity costs, reduce emissions and improve the overall efficiency of bus operations. The project combines Retragreen's AI capability with MTS's local transport expertise, supporting practical testing in real-world Singapore conditions. A bus and route have been confirmed, with operating data to be collected during the monitoring period. The results will be validated and used to assess the potential for wider deployment across Singapore's bus network, providing a practical pathway to more energy-efficient and lower-emissions public transport.

Australian Company: **Retragreen Pty Ltd**

Singapore Partner: **MTS Systems Engineering Pte Ltd**

X-Raying Solar Panels for Better Performance



This project builds on an existing Australia–Singapore partnership to improve four quality assurance techniques for utility-scale solar farms, helping operators identify faults earlier, reduce downtime and maintain energy output. The project is adopting advanced drone-based electroluminescence (EL), which can be likened to an X-ray of a solar panel. Drones capture detailed images of individual panels, revealing defects and performance issues that may not be visible through conventional inspections. Unlike methods that assess groups of around 30 panels at a time, EL examines every panel, providing a more detailed picture of a solar farm's condition and helping operators target maintenance where it is most needed. Recent demonstrations in NSW and Queensland have shown the technique's practical value and generated strong industry interest. The next stage will further develop the EL with the aim of developing its wider commercial use.

Australian Company: **PV Lab Australia Pty Ltd**

Singapore Company: **Quantified Energy Labs PTE LTD**



Reducing Organic Waste from Crop Production in Hot Climate



This project combines Australian crop-production technology with Singaporean biofertilisers to turn organic waste into a useful material for growing crops. Early trials at Republic Polytechnic found that Orlar substrate enriched with organic biofertilisers supported the germination and early growth of temperate crops at temperatures of up to 40 degrees Celsius. The approach is suited to Singapore's space-efficient urban farming systems, including vertical farming and hydroponics, which enable crops to be grown in stacked layers or without soil. The next stage will test and scale this approach with Singaporean farmers. By reusing organic waste and reducing reliance on conventional agricultural inputs, the project supports the transition to net zero by helping to cut waste-related and agricultural emissions.

Australian Company: **Orlar International Pty Ltd**

Singapore Company: **ecoWise**