

New \$800M Decarbonisation RIE Grand Challenge launched to support research and innovation in low-carbon technologies

Minister-in-charge of Energy and Science & Technology in the Ministry of Trade and Industry, Dr Tan See Leng, announced the new Decarbonisation Research, Innovation and Enterprise (RIE) Grand Challenge (DGC) at the MTI Committee of Supply (COS) Debate 2026. Under the DGC, the Government will invest \$800 million over the next five years to support research, innovation and translation efforts for low-carbon energy generation and industrial process decarbonisation technologies for the industry and power sectors.

The DGC is one of two “Grand Challenges”¹ under the national RIE2030 plan. These RIE Grand Challenges are large-scale research and translation programmes that advance national strategic priorities. Decarbonisation has been identified as one of these national priorities, given Singapore’s commitment to reduce our greenhouse gas emissions to between 45 to 50 megatonnes of carbon dioxide equivalent (MtCO₂e) by 2035 and to reach net zero by 2050.

The \$800 million investment under the DGC will catalyse advancements in low-carbon technologies that can be deployed in Singapore in order to meet these climate commitments. As industrial processes and power generation account for more than 80% of Singapore’s greenhouse gas emissions, the DGC’s focus will be on technologies that have the potential to decarbonise the industry and power sectors at scale. Examples of these technologies include solar power, hydrogen and its derivatives, energy efficiency, energy storage, carbon capture and utilisation, and grid modernisation.

The DGC will support both laboratory-based research to advance the scientific development of emerging low-carbon technologies, as well as the test-bedding and piloting of more mature solutions.

To further innovate and develop promising solutions into commercially-deployable solutions that serve our climate goals, a new Singapore Pilots for Energy and Enterprise Decarbonisation (SPEED) programme will be hosted by A*STAR under the DGC. SPEED will gather stakeholders from across Singapore’s climate tech ecosystem, including facility owners, investors, solution providers and relevant government agencies to pilot and support the further development of such promising innovations. More details of SPEED will be released soon.

¹ The first RIE Grand Challenge in Maximising Healthy and Successful Longevity was announced on 5 December 2025

The DGC builds on Singapore's existing efforts in decarbonisation research and innovation. Past investments in RIE supported the development of promising technologies by local researchers, which have been commercialised. For example, NTU's past research efforts into next-generation solid-state electrical transformers had been spun off as Amperesand, a start-up that successfully raised \$80 million in Series A funding in 2025.

The Government will work closely with researchers, start-ups and the industry to implement the DGC. More information on specific initiatives under the DGC will be released by A*STAR in the coming months.

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