

Prepared by the New Zealand Embassy in Singapore

Summary

New Zealand and Singapore signed an Arrangement on 15 July 2021 regarding cooperation on low-carbon hydrogen. The Arrangement sets out a framework for future cooperation within three main areas:

- Establishing hydrogen based carrier supply chain studies;
- Shaping international hydrogen standards, regulations and certifications, and;
- Enabling joint research, development and test-bedding to occur.

The Arrangement is focused primarily on information sharing and commits officials to engaging at least annually. Alongside government-to-government engagement, the Arrangement will support the growth of commercial opportunities for New Zealand – in the context of the role hydrogen is likely to play in decarbonising parts of Singapore’s domestic economy (mainly in the high intensity industrial processing and maritime sectors) and the city state having ambitions towards becoming a regional hydrogen trading and pricing hub. Commercial opportunities may potentially be found in the following areas:

- Hydrogen based technology and infrastructure development (including in the production, storage and transport services)
- Sustainable finance/investment
- Data services

The arrangement

Stemming from analysis on hydrogen opportunities and a productive meeting between the respective Prime Ministers during the Singapore-New Zealand Virtual Summit in May 2020, it was agreed among other things, to *“enhance cooperation on low-carbon technologies and solutions, including low-carbon hydrogen...”*

Following several rounds of negotiations, it was agreed that a non-binding arrangement, somewhat similar to the 2018 New Zealand-Japan arrangement would be most appropriate. Therefore, on 15 July 2021, Minister of Energy and Resources Megan Woods and Singapore’s Second Minister for Trade and Industry Dr Tan See Leng, virtually signed an Arrangement regarding cooperation on low-carbon hydrogen. The Arrangement consist of the three main focus areas, these being:

- Establishing hydrogen based carrier supply chain studies;
- Shaping international hydrogen standards, regulations and certifications, and;
- Enabling joint research, development and test-bedding to occur.

Along with enabling a framework for future cooperation, the Arrangement also sets out a basis for annual officials-level meetings. There is no set funding allocation committed under the arrangement and each party will be responsible for their respective expenses.

Singapore’s hydrogen future

While Singapore is still finalising its hydrogen strategy it has strongly signalled that hydrogen will have a future role to play

in its economy. Singapore is considering low-carbon hydrogen as a means to decarbonise parts of its own economy, but also as a means to become a *'regional hydrogen trading and pricing hub'* – similar to its status in petroleum and maritime shipping based services.

A hydrogen and carbon capture-based [study](#) commissioned by the Government in 2019, and publically released last month, is the catalyst and base for Singapore's developing actions/strategy. The extensive consultation in the development of this report included input from the New Zealand Hydrogen Association. The report, while providing detailed insights into areas such as cost-competitiveness, overcoming technical challenges, addressing regulatory issues and tipping-point scenarios, reached the following clear conclusion;

As one of the first countries in the Asia-Pacific (APAC) region to study the potential of hydrogen deployment, Singapore can partner with regional importing nations, such as Japan and South Korea, and exporting nations such as Australia, New Zealand and Malaysia to accelerate the adoption of a regional hydrogen economy. Through the development of a domestic hydrogen economy, Singapore could play an important role as a hydrogen hub within the APAC region and export knowledge and technologies developed to neighbouring countries.

Singapore's recent funding allocations confirm it is ramping up government-led investment. Though a figure was not publically released, Singapore's Research, Innovation and Enterprise 2025 Plan (RIE 2025) allocated millions towards low-carbon energy studies (for which hydrogen is a focus), while in October 2020 it was announced at Singapore International Energy Week that a S\$49 million Low-Carbon Energy Research Funding Initiative, with a focus on hydrogen and carbon-capture technology, had also been developed.

The private sector in Singapore is also ramping up hydrogen investment. Keppel Industries has signed a number of agreements to enable its Singapore data centres to eventually be powered by hydrogen, while Temasek Holdings partnered this month with Nanofilm in a S\$140 million venture to develop hydrogen utilisation technologies. In 2020 it was also [announced](#) that five companies from Singapore and two from Japan entered into a MoU to collaborate on research and development of technologies related to the importation, transportation and storage of hydrogen.

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