

Project Brief: Green Hydrogen Technologies for Heavy-Duty Transport and Infrastructure Solutions

A COLLABORATION BETWEEN GERMANY & NEW ZEALAND

- The project aims to improve the efficiency and expansion of the green hydrogen network in New Zealand through innovative energy efficient transportation and infrastructure solutions.
- Hiringa is piloting hydrogen refuelling stations for heavy transportation in Auckland, Hamilton, and Palmerston North. However, has aims to build green hydrogen charging stations along every major highway in New Zealand.
- The project opens opportunities for German suppliers of green hydrogen/charging infrastructure to come together as a consortium to introduce a solution to the New Zealand market and collaborate with local stakeholders.

Overview

The pilot project in New Zealand: “Green hydrogen technologies for heavy-duty transport and infrastructure solutions” is being conducted by the German-New Zealand Chamber of Commerce (GNZCC), alongside our Partner Hiringa and the German Federal Ministry of Economic Affairs. They are collaborating on a Consortium that aims to address the growing need to expand the need for renewable infrastructure solutions with high-performing refuelling stations for heavy transportation.

What’s the issue?

Transport, especially freight transport, is responsible for **47%** of New Zealand’s greenhouse gas emissions. This presents a significant issue, as much of New Zealand’s cargo is managed using trucks, and a minimal amount is transported using trains, which are mainly diesel-powered.

With the heavy reliance on fossil fuels to power transport in New Zealand and a growing population,

there are concerns that the country will not achieve its ambitious emission reduction targets.

Green hydrogen has become a growing focus in New Zealand’s transition from fossil fuels. It is compatible with electric and combustion engines, making it applicable to various heavy transport, including buses and trucks. Despite the excellent potential for its implementation, the current green hydrogen-generating infrastructure, significant to refuel vehicles, remains limited in New Zealand.

The lack of such infrastructure has initiated significant investment initiatives by the Government through the ‘Green Investment Fund’ and NZD\$16 million through the ‘Covid Recovery Fund.’ These fundings enabled Hiringa to pilot a small number of green hydrogen refuelling stations in New Zealand. The infrastructure remains in its infancy, and the need for viable alternatives to fossil fuels in the New Zealand market this more important than ever. The Consortium is aimed to support that transition.

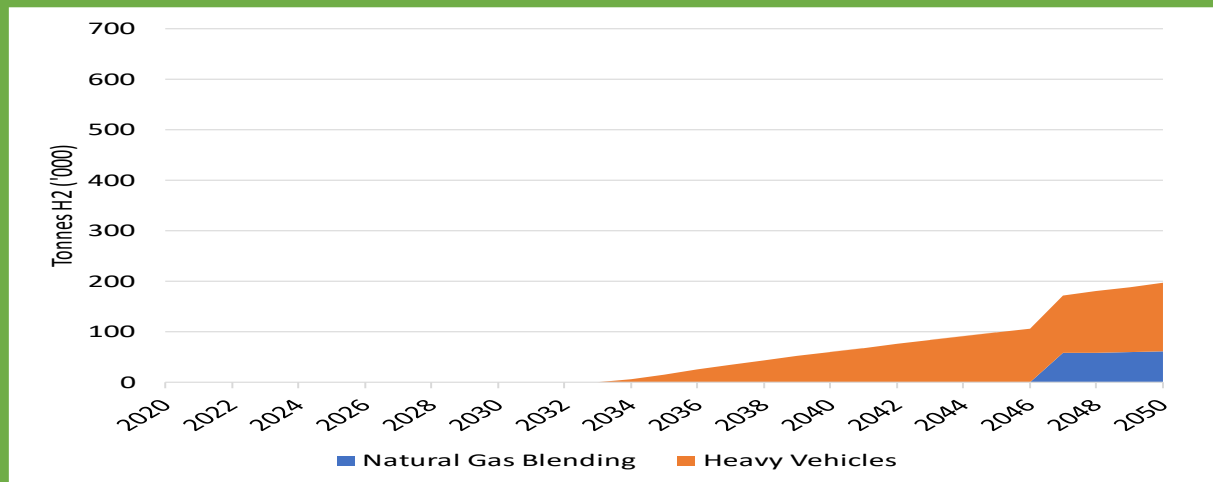
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Green Hydrogen Consumption in New Zealand



Source: MBIE, 2023

How can the project help?

New Zealand's e-mobility projects focus on light electric vehicles and private transport, with the clean car rebate policy specifically targeting these users. However, heavy transport contributes around **25% of all transport emissions and relies primarily on diesel transport on rail and truck infrastructure**. The current policy objectives are a **35% reduction in freight transport emissions by 2035**. This will require a concerted effort, including the transformation using electricity, low-emission fuels, and hydrogen. MBIE projects that in 2050, there will be 20,000 hydrogen vehicles on New Zealand roads, with a gradual increase that commenced in the 2020s. The project prepares New Zealand to uptake heavy hydrogen transport by providing

environmentally friendly yet off-grid charging infrastructure that will eliminate any carbon footprint.

Benefits

New Zealand's hydrogen refuelling infrastructure is limited to four refuelling stations. Our project alters that and benefits New Zealand by pre-emptively addressing the green hydrogen recharging infrastructure shortage before the increased rollout of hydrogen vehicles in New Zealand. This will help New Zealand's transition into a low-emissions economy and net zero emissions by 2050.

How will the project work?

The GNZCC is presently in the research phase, conducting a comprehensive target market analysis on the Green Hydrogen Infrastructure for heavy transport in New Zealand. This analysis aims to explore the various opportunities and challenges associated with the project. Subsequently, an information event will be held in Germany where the GNZCC will present the outcomes of the target market analysis and furthermore our main partner, Hiringa and other NZ industry expert speakers, will have the opportunity to address and showcase their needs to German companies during this event. This will be followed by the creation of a consortium comprising of German companies specializing in green hydrogen technology for infrastructure and heavy transport. This consortium will collaboratively work towards developing a turnkey solution. The proposed solution will be unveiled at a conference in Wellington and will be followed by B2B meetings with the German business delegation and interested New Zealand stakeholders to further strengthening the ties between the two nations.

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