

## Prepared by the New Zealand Embassy in Berlin

### Summary

- In June 2020, Germany presented its National Hydrogen Strategy, which identifies hydrogen as a central piece for driving transformation towards a low-carbon economy, backed with €9 billion in new investments. The aims of the strategy are two-fold: firstly, to establish Germany as a world leader in hydrogen technology and to build up a domestic market/infrastructure, and secondly to actively land international partnerships that secure supply as well as demand for German technology exports, creating therein a global market.
- In light of Germany's focus on imports of "green" hydrogen (from renewable energy), international partnerships, and promotion of German hydrogen technology abroad, New Zealand is well-positioned to actively consider the opportunities for potential cooperation in the areas of joint research and domestic production with a view to future export industries.

### Report

On 10 June the German Federal Government adopted its much-anticipated [National Hydrogen Strategy](#). It is an interagency project of four Federal Ministries which is intended to pave the way for Germany to become the world leader in the field of hydrogen technologies and to give Germany a dual boost - for the climate and for a sustainable economic recovery after the COVID-19 crisis.

#### **Focus on "green" hydrogen**

Germany has long been committed to the "energy transition", implementing in recent decades major energy sector reforms. The National Hydrogen Strategy is the next step in this "Energiewende", and emphasises the key role of hydrogen in enhancing and completing the transition in Germany (and Europe) by reducing fossil fuels and cutting carbon emissions, thereby helping Germany achieve its climate targets and GHG neutrality by 2050.

Against this backdrop, the Strategy explicitly states that the Federal Government considers only hydrogen that has been produced using renewable energy (green hydrogen) to be sustainable in the long term. As such, the Government's goal is to use green hydrogen to support a rapid market ramp-up, and establish corresponding value chains. Grey hydrogen, already used in chemical and industrial processes, and which is produced via the steam reforming of natural gas (fossil hydrocarbons), is to be gradually substituted by green hydrogen. Other forms of carbon-free hydrogen that will be traded internationally – for example blue (carbon capture and storage) or turquoise (thermal splitting of methane) - will also be relevant for Germany, but only on a temporary basis.

#### **Key areas of potential use for hydrogen**

As regards the potential areas of use for green hydrogen, the Strategy emphasises consideration of the entire value chain so that hydrogen can be a central component and enabler for decarbonisation and the energy transition. This would see hydrogen used as an energy source (e.g. fuel cells for transportation or to produce synthetic fuels), energy storage (i.e. supply-based and flexible), sector coupling (Power-to-X or "PtX") in areas where renewable electricity is not sufficient, and decarbonisation of industrial production processes for which no decarbonisation technologies are currently available (e.g. primary steel, chemicals, cement) – this could have applications for New Zealand.

### **Phase one: domestic market**

The Strategy sets out two phases, starting with “ramp-up” from 2020-2023, which focuses primarily on developing technologies, infrastructure, and the use of green hydrogen on the domestic market. Public research and private investment in new production processes and technologies are envisaged for making hydrogen a more viable and sustainable solution for GHG emission-heavy sectors and helping it become competitive. The Strategy prioritises the short- and medium-term roll-out of hydrogen technologies in economic areas that are “close to economic viability”, have “no major path dependency”, or where there are “no alternative option for decarbonisation”. For now the priority is on industry, followed by public transport – with private passenger transport and heating being longer-term objectives (these sectors already have road maps, e.g. e-vehicles and electric heating).

### **Phase two: international – exporting technology in return for green hydrogen**

A second phase starting in 2024 sets out to stabilise the emerging domestic market while “moulding the European and international dimension of hydrogen” through partnerships, international frameworks, technology transfer and supply and development agreements. The Strategy underscores Germany’s ambition of becoming a leader in hydrogen technology, but also its need to prepare for the future supply of hydrogen and its downstream products. Germany not only wants to “assume global responsibility”, but also play a key role in international competition for the development and export of hydrogen technologies, e.g. by trialling novel technologies through new and existing energy partnerships.

Germany will need to import substantial quantities of hydrogen in the medium to long term and therefore has a strong interest in the “swiftest possible establishment of a global hydrogen market”. Germany sees an opportunity to “tap new potential for the large-scale generation and transport of green hydrogen” in the long-distance trading of PtX products such as hydrogen. Under the motto “Shipping the Sunshine”, the strategy lists potential research areas to reuse existing transport capacities and infrastructures (e.g. pipelines or methanol and ammonium tankers), while making sure that GHG emissions in connection with transport of green hydrogen are avoided.

### **The European level**

Germany had been advocating for the European Hydrogen Strategy ([released in July](#)) and wants to intensify European R&D investment in hydrogen by creating a new “Important Project of Common European Interest” in that field. In addition, Germany envisages European and international regulatory frameworks setting out sustainability standards and ensuring interoperability, as well as a European certification scheme for proof of origin for electricity from renewable energy that is used to produce green hydrogen.

### **Intersection with New Zealand’s interests**

With the establishment of its National Hydrogen Strategy and massive mobilisation of funding, Germany is taking significant steps to achieve the transition towards a sustainable, low-emission economy based on hydrogen. There are clear alignments in objectives, interests and values between New Zealand and Germany in the hydrogen sphere. There is significant financial backing from the German Government for boosting the country’s role in this space, which presents opportunities for New Zealand both on the research and commercialisation sides, particularly with regard to joint projects.

---

---

## More reports

View full list of market reports from MFAT at <https://www.mfat.govt.nz/en/trade/mfat-market-reports>

If you would like to request a topic for reporting please email [exports@mfat.net](mailto:exports@mfat.net)

## To contact the Export Helpdesk

Email [exports@mfat.net](mailto:exports@mfat.net)

Call 0800 824 605

Visit [Tradebarriers.govt.nz](http://Tradebarriers.govt.nz)

## Disclaimer

This information released in this report aligns with the provisions of the Official Information Act 1982. The opinions and analysis expressed in this report are the author's own and do not necessarily reflect the views or official policy position of the New Zealand Government. The Ministry of Foreign Affairs and Trade and the New Zealand Government take no responsibility for the accuracy of this report.

