

## AUSTRALIA

### Standards Australia (SA)

### Supporting sustainable development through climate action

#### Overview

Australia has made a national commitment to have net-zero emissions by 2050. To reach its goal, the country needs clean, flexible, storable and safe fuels, and hydrogen has all of these characteristics. As a fuel, it produces no carbon emissions, only water. In 2019, the adoption of the National Hydrogen Strategy stimulated domestic and international investor interest in the use of clean hydrogen. Building on the enthusiasm, the government's Technology Investment Roadmap released by the Department of Industry, Science, Energy and Resources in 2020 seeks out ways to replace Australia's coal industry to address global climate concerns through investments in hydrogen and other low-carbon technology.

The hydrogen sector in Australia is gaining momentum rapidly and is quickly becoming a promising path to decarbonize Australian industry, improve fuel security and create new job opportunities in a prosperous green economy. As the country's economy transitions to a low-carbon future, in line with its international commitments, hydrogen is recognized as a "clean" energy source and feedstock that can support this transition.

Standards Australia (SA) recognizes the importance of standards supporting a more sustainable future. Through proactive engagement with the rapidly growing hydrogen sector, it has contributed to the development of hydrogen as a key building block in Australia's transition to carbon neutrality. SA has been working with stakeholders across government and industry, while also collaborating internationally to bring affordable clean energy and economic growth to sustainable communities in line with the United Nations Sustainable Development Goals (SDGs).

Developing standards that support the hydrogen sector is increasingly important as the world transitions to low-emission energy sources such as wind and solar. Countries without the capacity to produce enough low-carbon energy to meet their Paris commitments will likely seek to import low- or zero-emissions energy. Hydrogen, as a tradable source of low-emissions energy, could provide at least part of the growing demand for clean energy supplies.

## Outcomes and benefits

Integral to the development of Australia's hydrogen industry is Standards Australia Committee ME-093 Hydrogen Technologies. Recommended at SA's Hydrogen Standards Forum in 2018, ME-093 mirrors technical committees ISO/TC 197, *Hydrogen technologies*, and IEC/TC 105, *Fuel cell technologies*, to ensure international compatibility as the hydrogen industry grows. The committee's terms of reference cover all aspects of hydrogen across the value chain as an energy carrier. This includes the production, storage and handling, measurement, transport, transmission and distribution of hydrogen in its pure form, blended with another fuel gas or via an alternate hydrogen transport vector, as well as the use of hydrogen. Also included are end-use applications such as hydrogen refuelling infrastructure and mobility applications, domestic and industrial appliances, and power and heat generation.

In May 2020, the committee established five working groups tasked with overseeing and developing guidance across a broad range of applications for hydrogen, to ensure a comprehensive guidance framework for the emerging green industry. The different areas covered are:

- Production, handling and storage
- Pipeline and gas distribution networks
- End-use utilization
- Fuel cell applications
- Mobility applications

The industry experts contributing to the work of ME-093 are instrumental in the development and adoption of hydrogen standards, working closely with key stakeholders to move Australia towards a more sustainable future. Encompassing 14 publications, including 13 identical adoptions and 1 modified adoption, the work of ME-093 is fundamental in helping Australia's industry undertake climate action and contribute to the objectives laid out in the Paris Agreement and UN SDGs supporting the climate agenda.

Through aligned contributions to external initiatives and partnerships such as the H2<\$2 working group and the Future Fuels Cooperative Research Centre, Standards Australia is a key source of guidance for this emerging green industry and is committed to supporting the global effort in climate action through its nascent hydrogen industry.

## Partners involved

The ongoing work of ME-093 Hydrogen Technologies is upheld by a broad network of key industry stakeholders that contribute directly to standards development and engage with Standards Australia through external fora. The Australian government has also been a key partner in informing and supporting standardization work in the field of low-carbon hydrogen technologies.

## Timeline

The ME-093 technical committee was established in 2019 to ensure the safe transition to a low-carbon economy by the utilization of hydrogen. Its portfolio of hydrogen standards was delivered between 2019 and 2021.

### References

- [ME-093 Hydrogen Technologies](#)
- [National Hydrogen Strategy](#)
- [Technology Investment Roadmap](#)