

**Tokyo Statement**  
**Chair's Summary of Hydrogen Energy Ministerial Meeting**  
**23 October 2018 Tokyo, Japan**

The Ministers and Delegates responsible for hydrogen energy within their respective countries met in Tokyo, Japan on 23 October 2018 to promote cooperation on research, development and deployment of hydrogen technologies within their societies. Together, they shared the view that hydrogen can be a key contributor to the energy transitions underway to a clean energy future and an important component of a broad-based, secure, sustainable and efficient energy portfolio.

Hydrogen can be produced from diverse sustainable sources including renewable energy, nuclear and fossil fuels using carbon dioxide capture, utilization and storage. In turn, numerous sectors including transportation, industrial manufacturing, heat and power generation can use hydrogen. Fuel cell technologies efficiently generate electricity and heat from hydrogen. Also, hydrogen stands out for its versatility and storage capability. It can contribute to economic growth as well as energy security while simultaneously protecting the environment by improving air quality and reducing greenhouse gas emissions.

The Ministers and Delegates confirmed the value of collaborating on the following agenda to accelerate progress in hydrogen technologies, contributing to a “Hydrogen Society”, as part of a broad energy portfolio – a clean, more prosperous and secure energy future worldwide supported by using hydrogen in society where appropriate, across the energy, transportation, and industry sectors.

1. Collaboration on Technologies and Coordination on Harmonization of Regulation, Codes and Standards

- ✓ Coordinate and collaborate on hydrogen related technologies including fuel cell electric vehicle technologies, such as hydrogen storage and other components, hydrogen infrastructure, and fueling protocols for hydrogen stations.
- ✓ Coordinate with industry to enable harmonization of relevant regulations, codes and standards such as those for refueling stations, for heavy duty transportation, for energy storage, for technologies supporting sectoral integration, for maritime and other applications, all to support a global marketplace.

## 2. Promotion of Information Sharing, International Joint Research and Development Emphasizing Hydrogen Safety and Infrastructure Supply Chain

- ✓ Collaborate on research and development and facilitate project implementation of technologies for reducing hydrogen supply chain costs and increasing the supply and usage of hydrogen.
- ✓ Further promote research and collaboration in energy storage, power and heat generation to ensure the most effective use of hydrogen in industry and transport sectors.
- ✓ Share information, lessons learned and best practices on hydrogen safety to enable safe and sustainable production, delivery, storage and infrastructure operation.
- ✓ Collaborate on research and development of risk assessment and mitigation tools and models to enable the safe and sustainable use of hydrogen technologies within society across applications.

## 3. Study and Evaluation of Hydrogen's Potential across Sectors Including Its Potential for Reducing Both CO<sub>2</sub> Emissions and Other Pollutants

- ✓ Collect, analyze and share data to evaluate the potential of hydrogen and its effect on CO<sub>2</sub> and other emissions reduction, both upstream and downstream across a variety of hydrogen production pathways.

- ✓ Share information on pathways to sustainably produce, deliver, store and use hydrogen across sectors with minimal ecological impact and at low cost to ensure both economic and environmental viability.
- ✓ Assess resource availability for hydrogen production including primary energy resources, CO<sub>2</sub> storage and water availability.
- ✓ Investigate cost structure, value chain organization and business models so as to evaluate the potential of renewable hydrogen to compete with fossil fuels at large scale.
- ✓ Further develop integrated energy systems analysis and scenarios to assess opportunities and challenges, and to evaluate potential pathways to a hydrogen-enabled clean energy future.

#### 4. Communication, Education and Outreach

- ✓ Work together to promote appropriate outreach and awareness programs and initiatives to educate a broad range of stakeholder groups about hydrogen and fuel cell technologies.
- ✓ Share information on “train the trainer” programs to increase the widespread understanding of hydrogen and to build awareness of hydrogen solutions, especially in terms of safety.

Ministers and Delegates requested the leading organizations including the International Energy Agency, the International Partnership for Hydrogen and Fuel Cells in the Economy, Clean Energy Ministerial, and Mission Innovation to take actions on these issues individually and collaboratively. Cooperation in the context of the G20 and of the United Nations Framework Convention on Climate Change is also considered important.