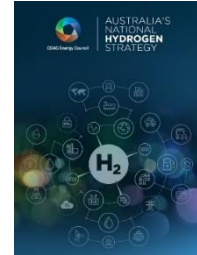


2020 Biannual IPHE Newsletter

What's New in IPHE Countries?

Australia

- In September 2020, the Australian Government has announced a \$1.9 billion investment package in future technologies to lower emissions, including, \$1.62 billion for the Australian Renewable Energy Agency (ARENA) to invest in new technologies that will cut emissions in agriculture, manufacturing, industry and transport. This is in addition to the previous \$194.7 million which was allocated 1) to boost Australia's hydrogen industry 2) to support a Future Fuels Package and 3) for the creation of a carbon capture and storage hub.
- Also, Australia and Germany have announced a new agreement in September 2020 for a joint feasibility study to investigate the supply chain between the two countries on hydrogen produced from renewable energy. The agreement between the two nations recognizes the valued cooperation in energy research over many years, now expanded to include hydrogen as a critical technology to lower emissions.
- *Picture caption: Australia's Resources Minister Keith Pitt (left) and Trade Minister Simon Birmingham (right) signed the agreement with Germany, witnessed by the German Ambassador to Australia, Dr. Thomas Fitschen.*



Brazil

- In February 2020, the University Center of FEI (Educational Foundation of Ignatius) won the Chem-E-Car competition at the 2020 Brazil Student Regional Conference, organized by AIChE and Cimatec, with an open cathode fuel cell car.
- *Picture caption: FEI Student Team*



Costa Rica

- The Costa Rica Hydrogen Ecosystem pilot project, led by Ad Astra Rocket Company, is adding an H70 dispenser module and related hardware (the first one in Latin America). Commissioning will take place during the 2nd semester of 2020. The country is also working to adopt its own technical standards related to hydrogen technologies, issue tax incentives for the import of green hydrogen equipment and propose a hydrogen roadmap.
- *Picture Caption: An H70 dispenser module will be added to the Costa Rican Hydrogen Ecosystem pilot project, the first one in Latin America*

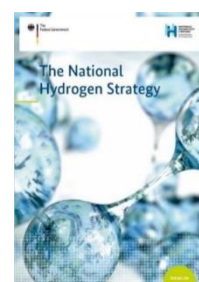


European Commission

- On July 8 the [EU Hydrogen Strategy](#) was adopted. In an integrated energy system, hydrogen can support the decarbonization of industry, transport, power generation and buildings across Europe. The EU Hydrogen Strategy will explore solutions to transform this potential into reality, through investments, regulation, market creation and research and innovation.
- The European Clean Hydrogen Alliance was launched on the same day – July 8, as an instrument to facilitate and implement the actions of the new European Hydrogen Strategy. The Alliance will establish an investment agenda, thus supporting the development of a clean and globally competitive hydrogen industry in Europe and will play a key role in helping the EU to transition to a carbon-neutral economy.

Germany

- Germany released its [National Hydrogen Strategy](#) in June 2020, seeking to make green hydrogen competitive and to secure the energy supply through international activities. The action plan consists of 38 measures over the complete hydrogen chain and all relevant sectors and is supported by €7B with an additional €2B for international projects.



Iceland

- Iceland has successfully launched its "[2030 Hydrogen Vision](#)" in June 2020. The release's main emphasis is on understanding the future role of hydrogen in the transport sector, which constitutes a significant portion of the nation's GHG output. Given such grounds, E-fuel and direct use of hydrogen are acknowledged as methods that will open pathways to become 100% sustainable in fuel consumption. The document will incorporate future technological developments and act as a building ground for Iceland's full-scale hydrogen roadmap.



- *Picture caption: Iceland's first multifuel station opened in May 2019, offering electric charging, hydrogen and methane under the same canopy.*

India

- India releases plans to procure hydrogen FC buses in Leh and New Delhi. In April 2020, state-run power corporation NTPC, in collaboration with the Ministry of New and Renewable energy (MNRE), announced an invite for expressions of interest (EOI) for 10 FC buses and the same number of FC electric cars, which will be deployed in Leh and New Delhi. The vehicles will be a first of its kind in India and the initiative is in part of a movement to decarbonize the mobility sector.

Japan

- "[Suiso Frontier](#)," the world's first liquefied hydrogen carrier, was launched in December 2019 and will be used for technology demonstration testing in FY 2020 aimed at the establishment of an international hydrogen energy supply chain. In addition, the opening ceremony of the Fukushima Hydrogen Energy Research Field (FH2R) was held in March 2020, with the demonstration project seeking to produce hydrogen via electrolyzer with the largest capacity in the world.
- *Picture caption: Launching "SUIISO FRONTIER" in Kobe (up), Toshiba Energy Systems & Solutions Corporation*



Republic of Korea

- Korea's public and private collaboration is paving the way towards the deployment of 30,000 fuel cell trucks by 2040. In support of this commitment, the Ministry of Trade, Industry and Energy (MOTIE) announced two MOUs (Memorandum of Understanding) in May 2020. The first MOU is with Hyundai Motor and other private industry stakeholders, and the second one is with H2Korea and the city of Chang-won. Both MOUs will accelerate the deployment of hydrogen fuel cell trucks in Korea.
- *Picture caption: Minister Sung, Yun-mo of MOTIE (left) and mayor of Chang-won (right) before the first fuel cell truck on the road in Korea*



Netherlands

- The Netherlands released its [National Hydrogen Strategy](#) in March 2020 which outlines a goal of 3 to 4 GW of wind energy for hydrogen production by 2030. Aligned with the Dutch vision for hydrogen is the recent announcement by Shell, Gasunie and Groningen Seaports to deploy the largest wind-to-hydrogen project in the world and to connect hydrogen supply to industrial clusters within the Netherlands and in Germany.
- *Picture caption: Screenshot of the project's video showing the Netherlands, the hydrogen backbone and the wind offshore. Visit the [site](#) for the video.*



Republic of South Africa

- On February 24, 2020, Director-General Dr. Phil Mjwara of the Department of Science and Innovation unveiled five methanol-based fuel cell systems capable of producing 5kW of power. As a result of collaboration with Horizon, Element One and Bambili Investments, the fuel cell systems will be deployed to provide power-to-public infrastructure and mark a significant milestone towards local manufacturing and the commercialization of technology developed through the HySA Programme.
- *Picture caption: The Director-General of the Department of Science and Innovation, Dr Phil Mjwara, speaking at the unveiling of fuel cell systems incorporating HySA intellectual property. The ceremony was held in Pretoria on February 24, 2020.*



United Kingdom

- In February 2020, [the successful hydrogen supply and fuel switching competition projects](#) were announced. The £33M hydrogen supply competition aimed to accelerate the development of low-carbon bulk hydrogen supply solutions in the industrial, power, heating and transport sectors, while the £20M Fuel Switching competition sought to enable the switch to low-carbon fuel sources by stimulating early investment in fuel switching processes and technologies.

United States

- Up to \$64M in U.S. federal government funds will go towards [18 projects](#) that will identify new markets for large-scale hydrogen and enable the H2@Scale vision for affordable hydrogen production, storage, distribution and utilization across multiple sectors in the U.S. These projects, announced in July 2020, will demonstrate the potential of hydrogen in emerging applications including heavy-duty transportation, ports, data centers and steel manufacturing.



Mark your Calendars

34th IPHE Steering Committee Meeting: Dec. 1 – Dec. 4, 2020 | Online

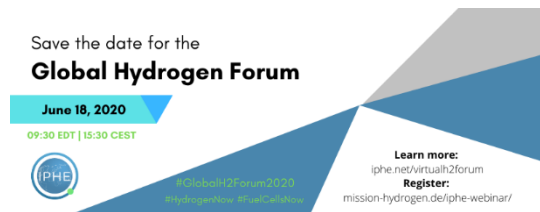
Hydrogen Valleys: Policies and Actions at a Regional Scale: Dec. 2 2020 | Online

IPHE Policy Forum: Hydrogen: The New Global Commodity?: Dec. 3, 2020, 10:00 - 12:00 (CET) | Online

Hysafe International Conference on Hydrogen Safety: Sept. 21-23, 2021 | Edinburgh, Scotland

Highlights of the June IPHE Steering Committee Events

- Nearly 2,000 people tuned in to the 2020 [IPHE Global Hydrogen Forum](#) on June 18. The webinar brought together government officials and industry leaders from around the world, representing organizations such as the International Energy Agency and the Hydrogen Council, to identify areas for collaboration and discuss the future of hydrogen and fuel cells in the economy.



- Laurent Antoni from France received an award as part of his role as lead for the IPHE H2PA Task Force to facilitate international trade of hydrogen.



- The main outcomes and decisions from the IPHE Steering Committee Meeting included commitment to work with other international fuel cell and hydrogen international initiatives in a complementary way to help facilitate deployment of hydrogen in the economy. This includes support for the Hydrogen Energy Ministerial, work on complementary information items with the Hydrogen Council, and continue emphasis on the work of the Hydrogen Production Analysis Task Force (H2PA TF) looking to trigger initial steps to develop a mutually agreed-upon methodology for determining the CO2 equivalent emissions associated with the production of hydrogen.

Updates from IPHE Working Groups

Education and Outreach Working Group (E&O WG)

- In celebration of Earth Day, the IPHE launched its first-ever [Student Infographic Challenge](#) on April 25. Secondary and post-secondary students from IPHE member countries are encouraged to apply their research and creative skills to share information on hydrogen and fuel cells for a cash prize. Entries were accepted by Hydrogen and Fuel Cell Day on October 8, 2020.
- The Early Career Chapter also was officially launched on Hydrogen and Fuel Cell Day with a successful kick-off event. The chapter consists of undergraduate and graduate students, post-docs, and early-career professionals from all IPHE member countries who are interested in hydrogen and hydrogen-related activities. The main objective of the chapter is to promote H2FC awareness, disseminate knowledge by creating a collaborative platform. To learn more visit the [site](#).



Regulations, Codes, Standards and Safety Working Group (RCSS WG)

- As part of the regulatory compendium activity, the RCSS WG has been actively compiling responses from member countries to a questionnaire template designed to identify key regulatory gaps. The RCSS WG also published [a report](#) on the state of the art for hydrogen use in tunnels as a follow-up to the workshop hosted by the WG in Fall 2018, in conjunction with the IA HySafe Research Priorities Workshop.