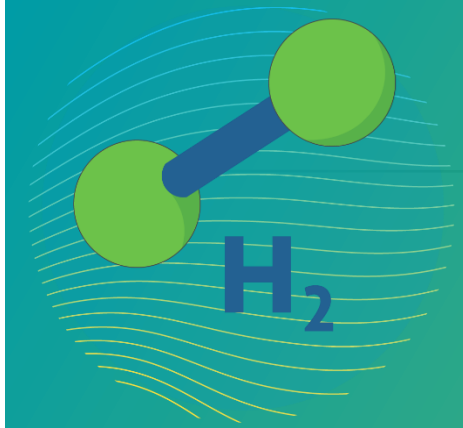


CLEAN HYDROGEN MISSION

CLEAN HYDROGEN MISSION

Update to IPHE Steering Committee Meeting
November 16, 2021

Presented by: Dr. Sunita Satyapal, Hydrogen and Fuel Cell Technologies Office Director and Hydrogen Program Coordinator, U.S. DOE

MISSION INNOVATION

Clean Hydrogen Mission

CLEAN HYDROGEN MISSION

Launched June 2021

- **The Challenge:** Clean hydrogen has the potential to decarbonise hard to abate sectors, such as industry and heat, which are responsible for two thirds of global emissions and help unlock the full potential of renewable energy. However, today it is up to three times more expensive than hydrogen produced directly from fossil fuels.

- **The Goal:** To increase the cost-competitiveness of clean hydrogen by reducing end-to-end costs to USD 2 per kilogram by 2030.

- **The Mission:** We will catalyse cost reductions by increasing research and development in hydrogen technologies and industrial processes and delivering at least 100 hydrogen valleys covering production, storage and end-use worldwide by 2030, to unleash a global clean hydrogen economy.

More than 17 Member countries

Leads:
UK, EC, Australia, Chile, Saudi Arabia, US

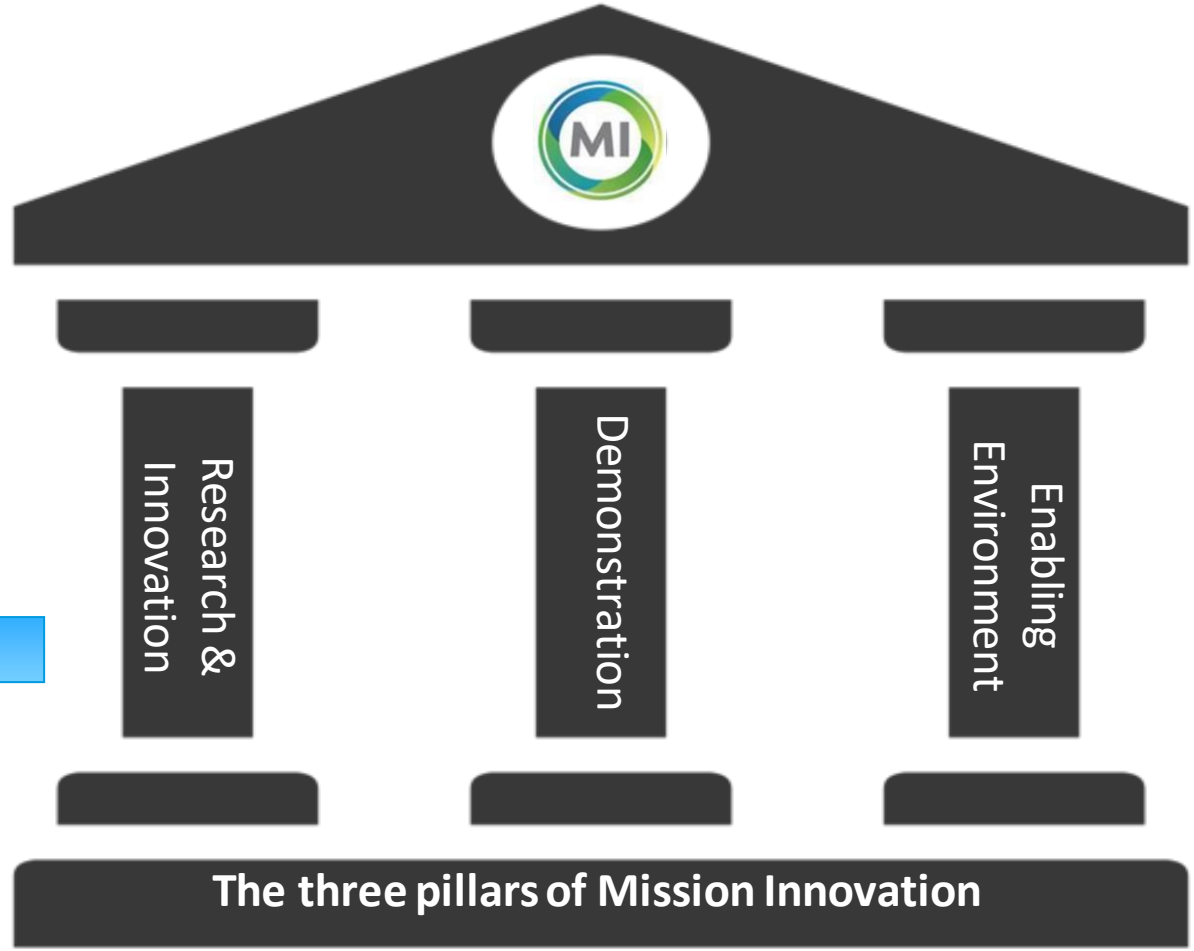
MI Clean Hydrogen Mission Background

MISSION INNOVATION
accelerating the clean energy revolution

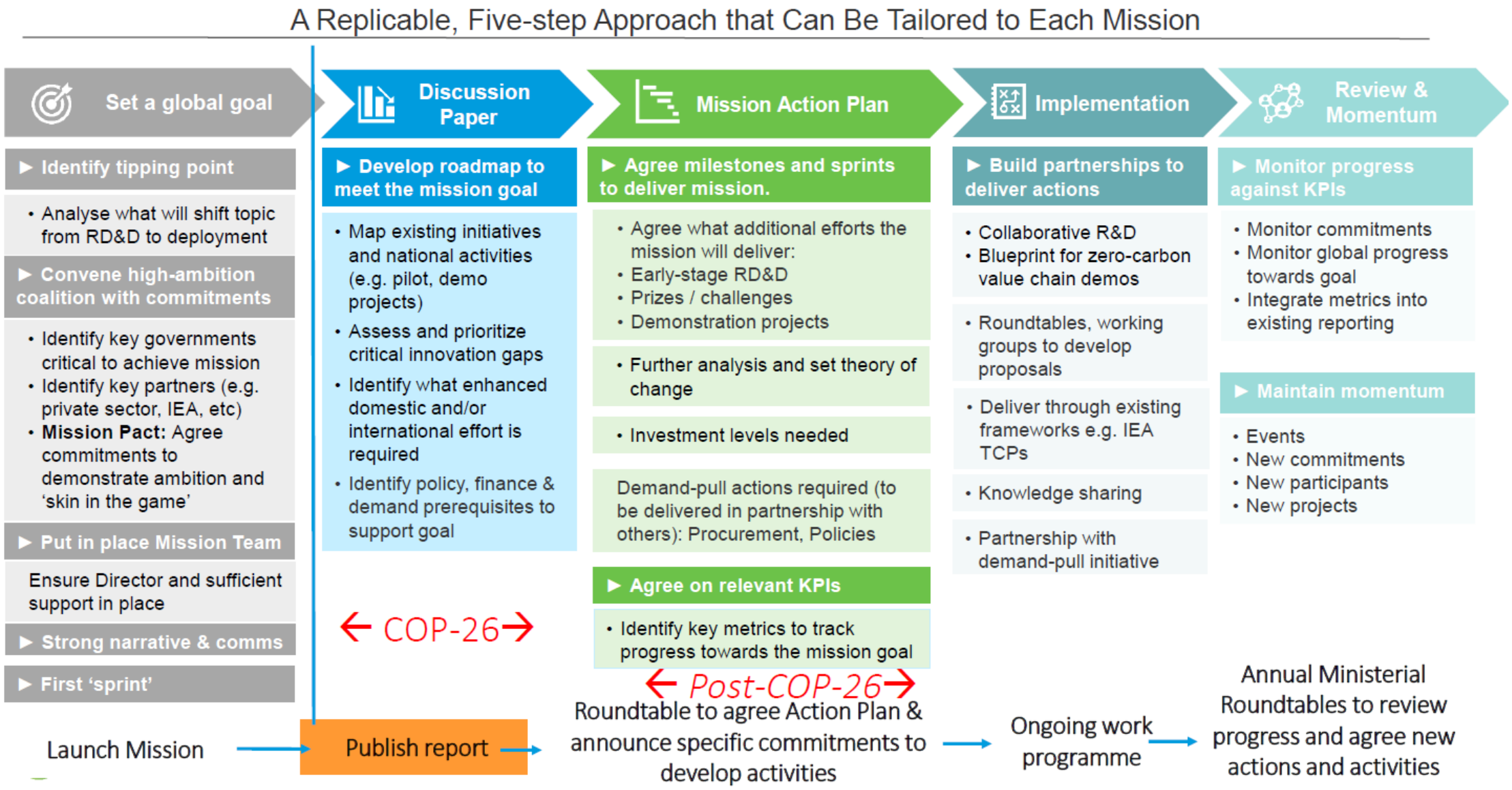
CLEAN HYDROGEN MISSION

3 Working Groups:

- **Production**
- **Distribution & Storage**
- **End Use**



Mission Blueprint



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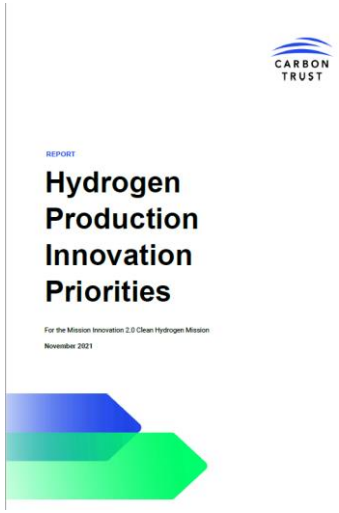
Examples of Recent Accomplishments

- Released Discussion Paper at COP 26
- CSIRO released Report
- Carbon Trust published report on innovation
- Stakeholder engagement on partnerships
- End Use Working Group workshop on mining/off-road vehicles



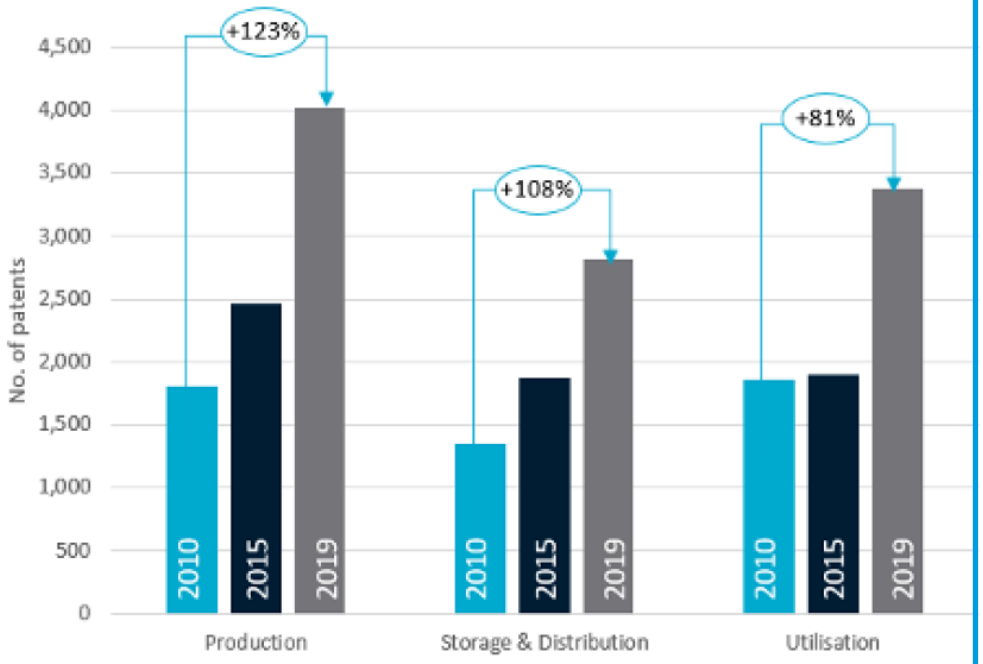


Figure 6: Global hydrogen technology patent filing over time[xv]

Study of patents and publications under Mission Innovation Clean Hydrogen Mission shows increase in innovation and R&D on hydrogen

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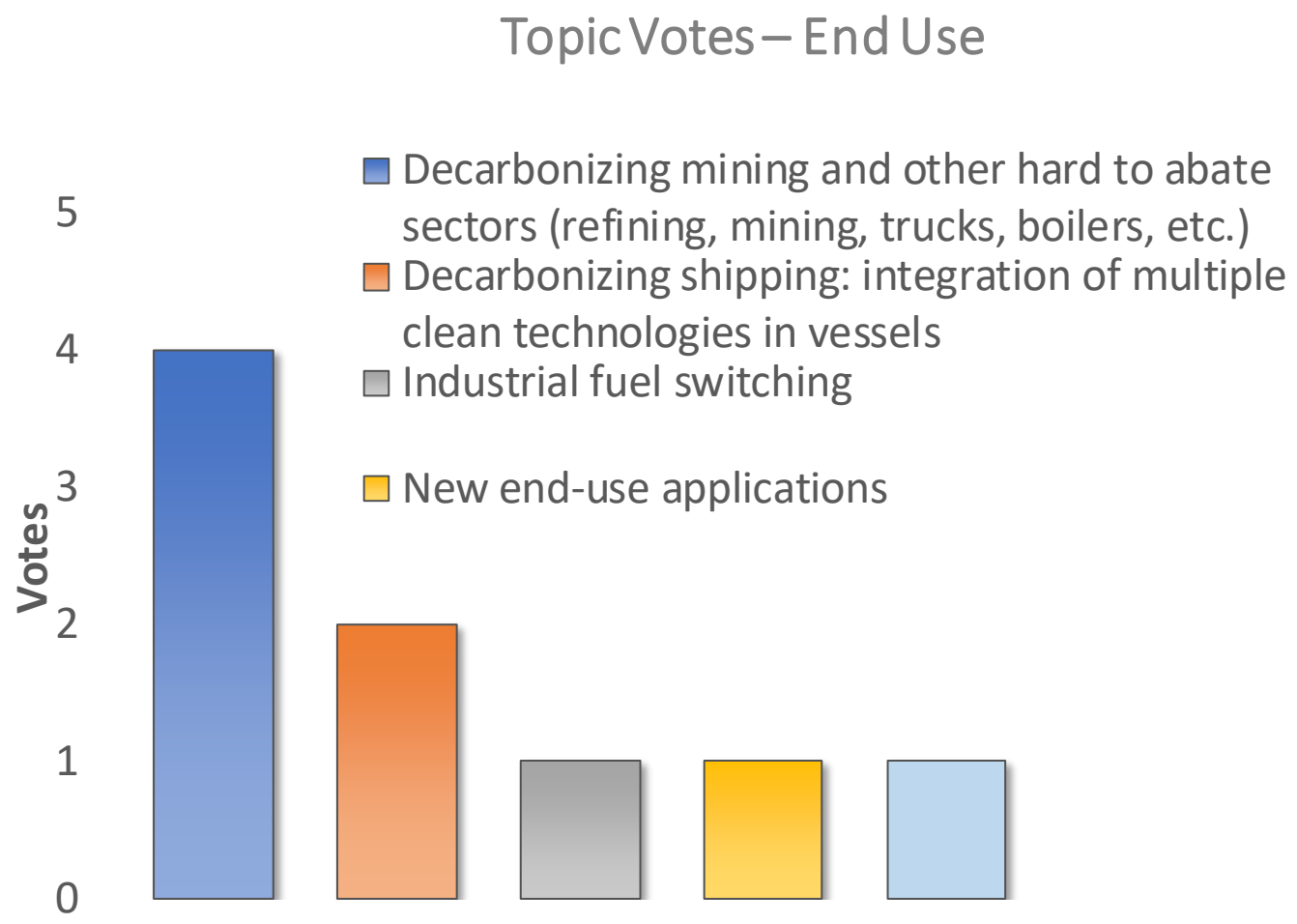
Key contributors inlcude: Australia, UK, EC, Germany, Chile, Saudi Arabia, US

Example: Basis for Workshop – Mining, construction, agricultural equipment

17 Member Countries provided feedback on high priority areas of RD&D



First MI End Use WG Workshop focused on topic voted highest priority

Overarching goal
Enable $2/kg clean H2 from production to end use. Includes scaling up.

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Thank you

Dr. Sunita Satyapal
Director, Hydrogen and Fuel Cell Technologies Office
Coordinator, DOE Hydrogen Program
On behalf of Mission Innovation Clean Hydrogen Mission

www.energy.gov/fuelcells
www.hydrogen.energy.gov

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