



International Partnership
for Hydrogen and Fuel Cells
in the Economy

Enabling Hydrogen and Fuel Cells Progress Through Global Collaboration

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IPHE Industry Forum
Pretoria, South Africa
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IPHE – Who are we?



• International Partnership for Hydrogen and Fuel Cells in the Economy

- **18 countries** and the European Commission, formed in **2003**
- Represent **2/3 of the world's population** and **GDP**
- Nearly **\$1 billion** invested/yr in H₂ and fuel cells

• Objectives

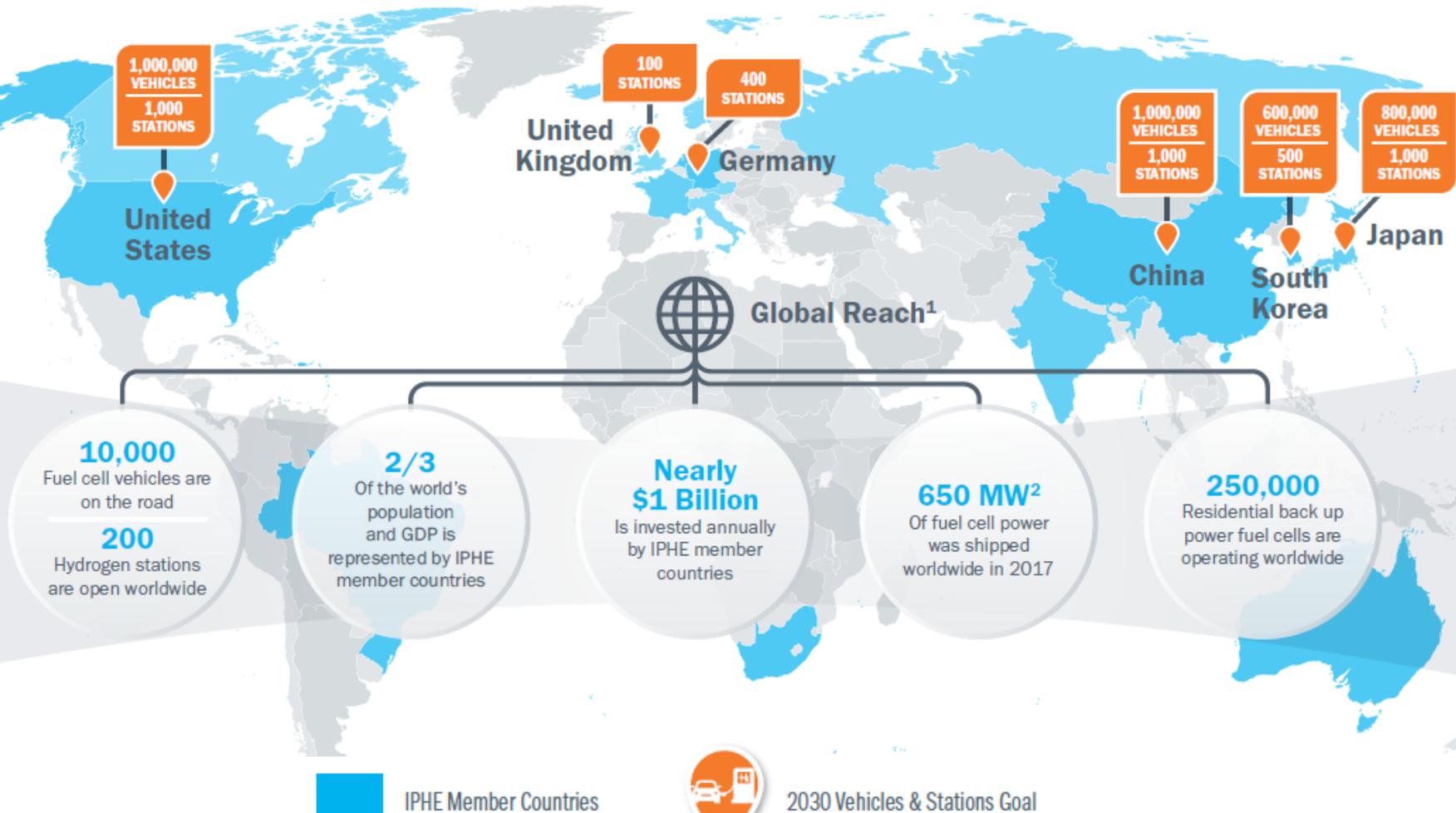
- **Increase global collaboration to accelerate progress** and enable widespread deployment of hydrogen and fuel cell technologies across sectors.



**“It always seems
impossible
until it’s done.”**

Nelson Mandela

Global Activities and Commitments are Strong – see IPHE Fact Sheet



¹ IPHE Country Updates

² U.S. Department of Energy, E4tech. 2018

³ Hydrogen Scaling Up. Hydrogen Council, 2017

“After climbing a great hill, one only finds that there are many more hills to climb.”

Nelson Mandela

Key Challenges

Cost

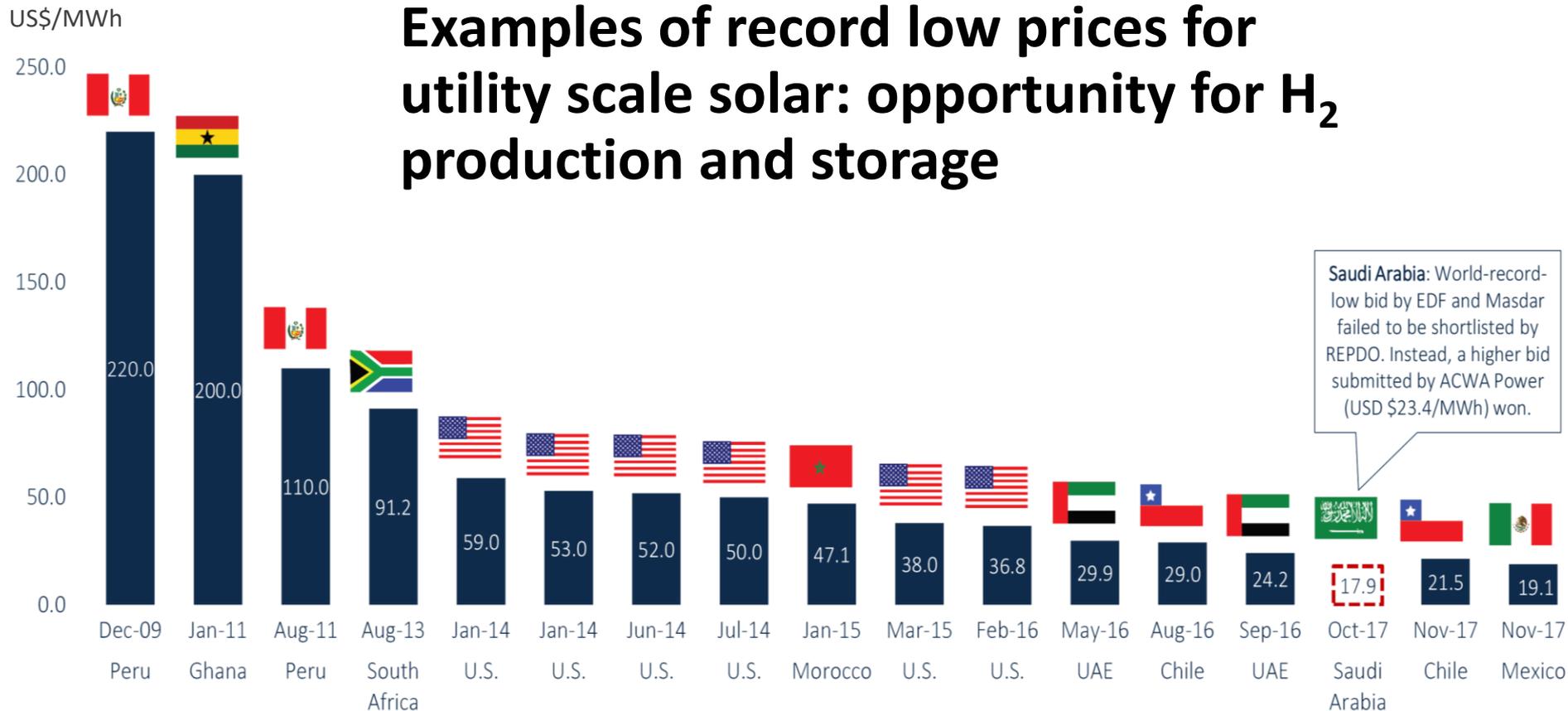
Infrastructure

H₂ Production,
Delivery, Storage

Opportunity: Sector Coupling and H₂ at Scale



Examples of record low prices for utility scale solar: opportunity for H₂ production and storage



Many Drivers



- **Energy security**
- **Resiliency**
- **Emissions Reductions (carbon and air pollutants)**
- **Economic prosperity**

IPHE Activities



- Working Groups

- Regulations, Codes and Standards (RCS)

- Foster RCS harmonization
- Share safety information, best practices, lessons learned

- Education and Outreach

- Create unbiased factual material
- Increase stakeholder engagement- workshops, policy forum events, education events, share information on status, gaps, analysis, opportunities, etc.

- Leverage partnerships to accelerate progress

- Ministerials, Industry (e.g. H2 Council), IEA, Mission Innovation; address Ministerial priorities

Examples- Country Updates

INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

IPHE Country Update [Month Year]: [Country Name]

The IPHE Secretariat requests each IPHE member submit a one-page narrative update on fuel cell and hydrogen (FCH) activities. Please only report actions and developments since the last Country Update and leave Sections blank if there have been no new developments. Please complete this form and send to secretariat@iphe.net by 8 November 2017.

Name	[Delegate Name]
Contact Information	[e-mail address, phone number]
Covered Period	[The period between SC meetings]

- 1. New Policy Initiatives on Hydrogen and Fuel Cell**
Report on the introduction of new policy initiatives on FCHs. You may also report significant policy decisions, the release of new strategic papers and/or roadmaps, hydrogen-related organizational changes in the government, etc.
- 2. Hydrogen and Fuel Cell R&D Update**
Provide R&D progress against plans since the last member update. For example, information on cost reductions and enhanced performance of FCH technologies. Please report demonstration and deployment activities separately in the following section.
- 3. Demonstration and Deployments Update**
Provide information on the progress of current demonstration projects and any newly introduced demonstration projects since the last country update. Also, please highlight any deployment decisions made by stakeholders.
- 4. Events and Solicitations**
Provide information on upcoming hydrogen-related events that will include international participants. Also, please provide any information regarding solicitations that can lead to collaboration among IPHE members.
- 5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding**
Provide recent government and government with industry collaborative funding for hydrogen and fuel cell R&D, Demonstrations, Deployments and Infrastructure (in domestic currency and U.S. dollars). Please only include government funding for activities directly related to hydrogen and fuel cells.
- 6. Regulations, Codes & Standards Update**
Provide an update on any national or regional developments related to Regulations, Codes & Standard.

Hydrogen Ministerial Meeting- Oct 23, 2018 Tokyo Statement Sets Areas for Collaboration



Four areas for global collaboration

- **Harmonization of regulation, codes and standards**
- **Information sharing on safety and infrastructure**
- **Technical studies**
- **Communication, education and outreach**





- **Identify concrete actions to address Ministerial priorities**
- **Gather feedback from stakeholders – e.g. Industry Forum**

- **How can we best accelerate progress?**

Example: Regional cluster strategy

Today's focus: South Africa

Thank you



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