

# **2<sup>nd</sup> Hydrogen Energy Ministerial**

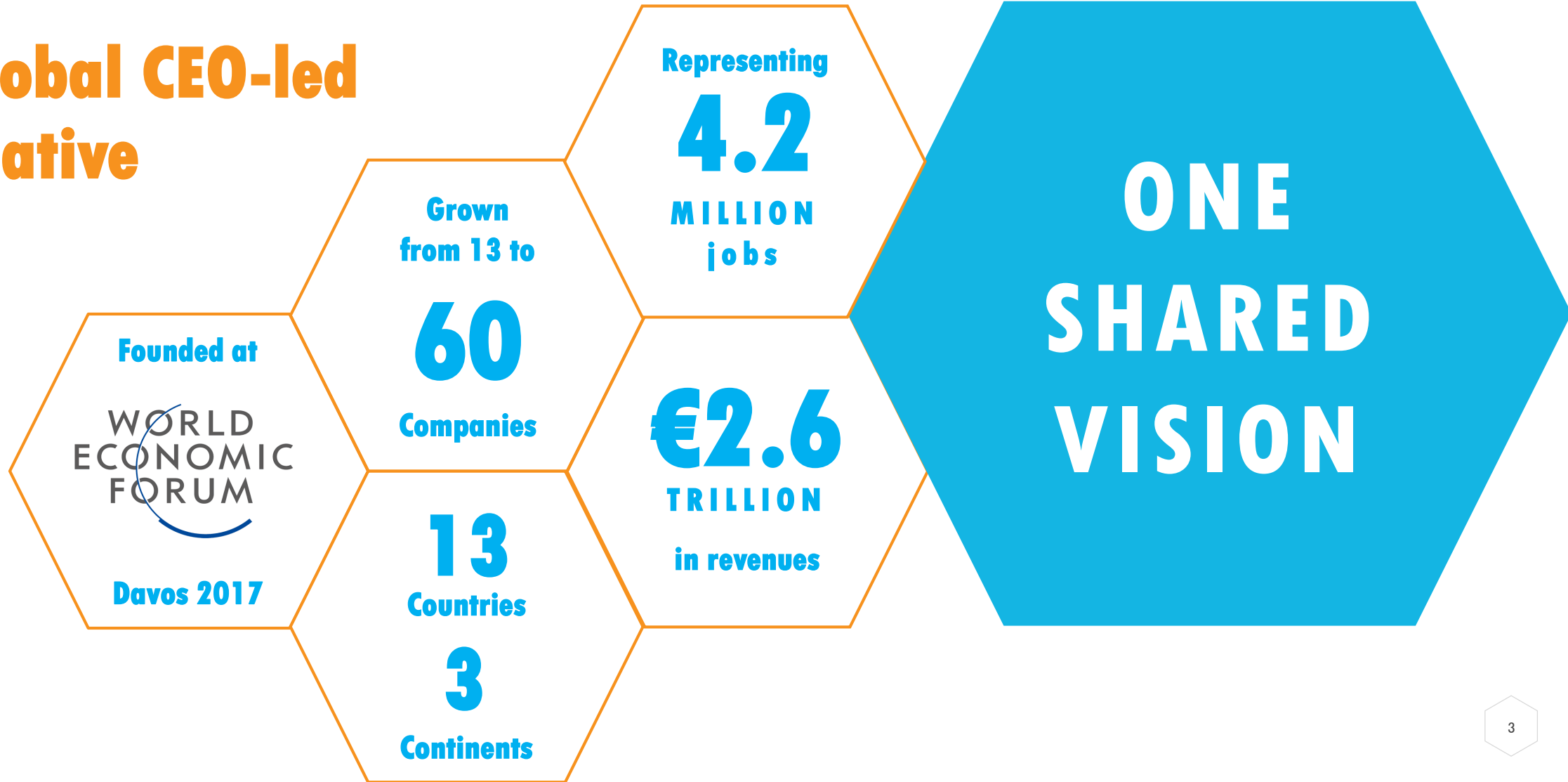
Tokyo, Japan  
25 September 2019



# THE HYDROGEN COUNCIL

# THE COALITION

## A global CEO-led initiative

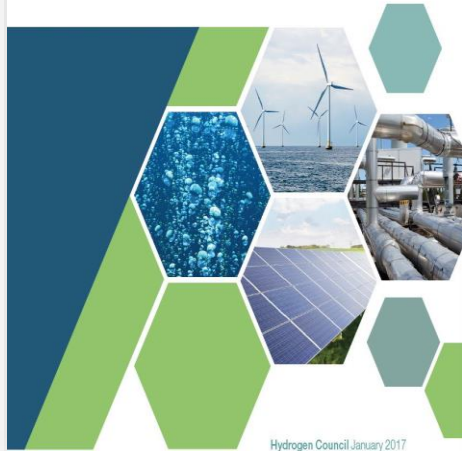


# A STRONG & DIVERSE GROUP



# MAKING THE CASE FOR HYDROGEN

## How hydrogen empowers the energy transition



Hydrogen Council January 2017

## Hydrogen meets digital

New opportunities for the energy and mobility system

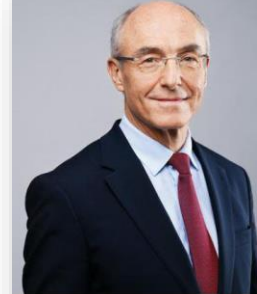
Hydrogen Council September 2018  
Discussion paper



## Hydrogen scaling up

A sustainable pathway for the global energy transition

Hydrogen Council November 2017



Hydrogen Council

"We are responding to public demand for a clean future by raising the understanding of hydrogen's key role across different sectors."

**BENOÎT POTIER**

Co-Chair of the Hydrogen Council & Chairman and CEO of Air Liquide



Hydrogen Council

"ENGIE is one of the founding members of the Hydrogen Council. We are convinced that hydrogen, and more particularly renewable hydrogen, will play a major role in the next phase of the energy transition. By that I mean that we go beyond decarbonizing electricity production, and strive to decarbonize all the uses of energy: transportation, industry, heating and cooling."

**ISABELLE KOCHER**  
CEO, ENGIE



Hydrogen Council

"We believe that a hydrogen-powered society is the most viable way to achieve a successful energy transition."

**EUISUN CHUNG**

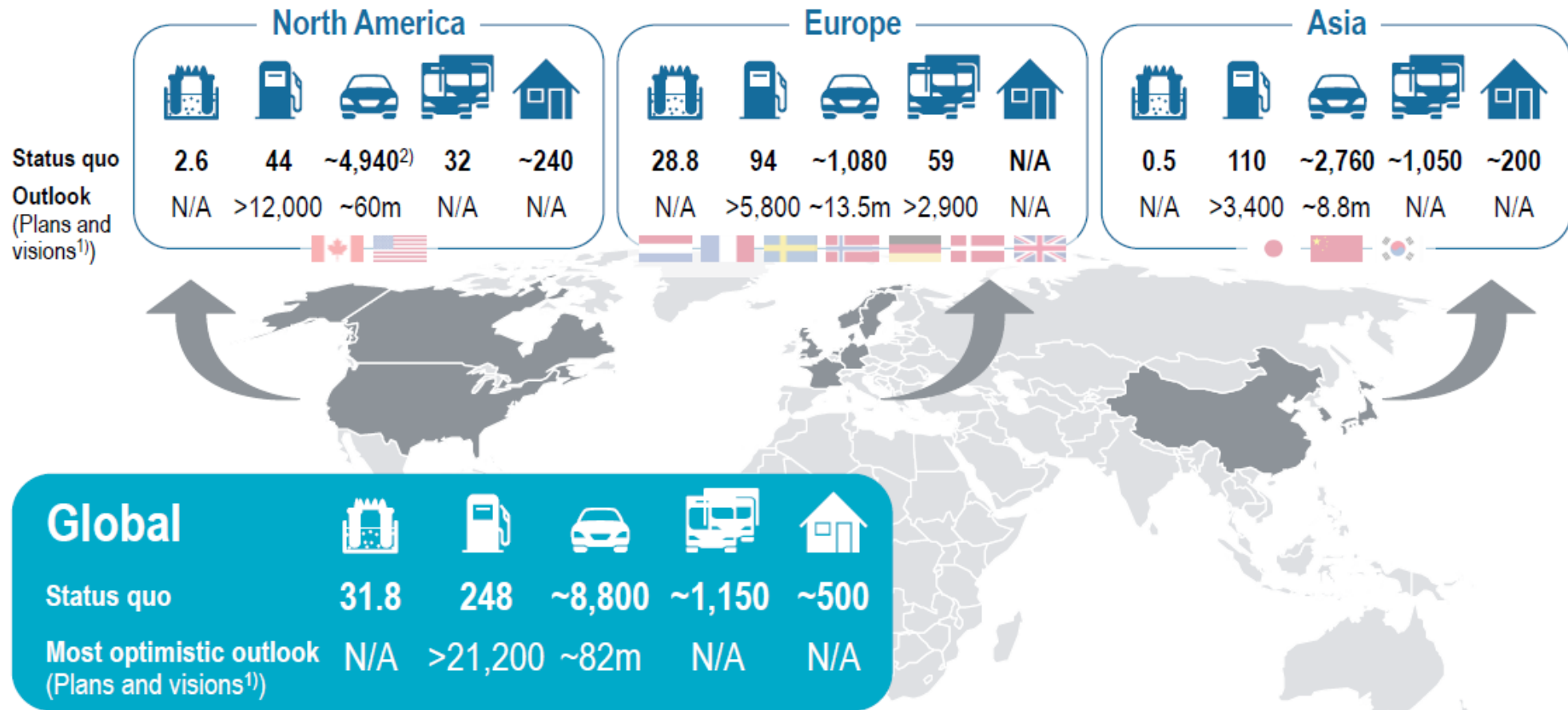
Co-Chair of the Hydrogen Council & Executive Vice Chairman of Hyundai Motor Group



# **PATHS TO SCALE**

# STATUS OF HYDROGEN DEPLOYMENT

Status and publically stated plans of deployment of FCH technology by continent

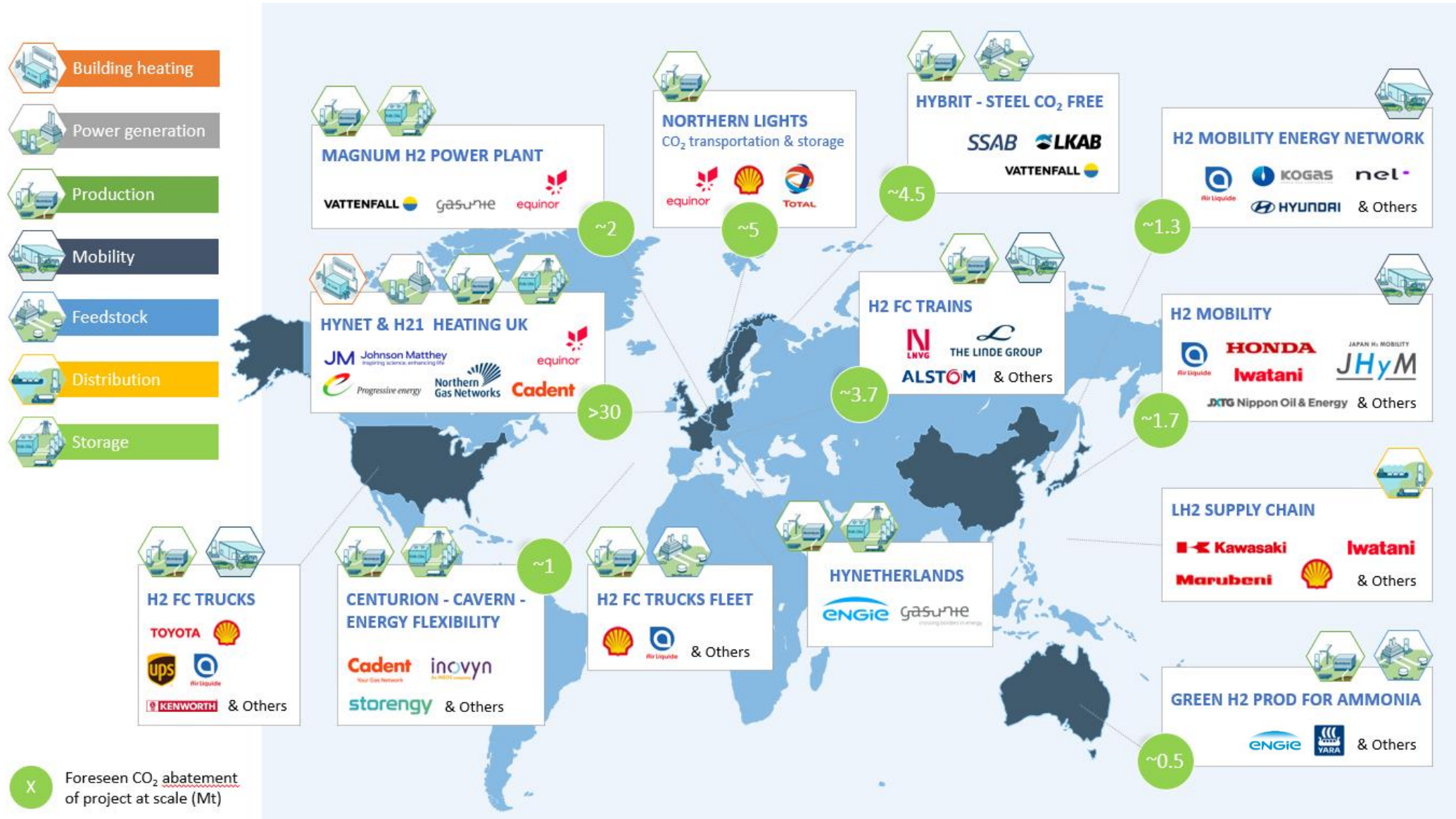


Electrolysis [in MW]
 HRS [#]
 FCEVs [#]
 Commercial vehicles (Buses and trucks) [#]
 FC CHP [MW]

1) Sum of government's publically stated ambition worldwide (Long-term 2030+) 2) 4,926 FCEVs in California  
 Source: Public reports and databases; Desk Research; Roland Berger

# LARGE-SCALE HYDROGEN PROJECTS

## Project Pipeline of \$90 Billion





# EMBRACING AMBITIOUS GOALS FOR HYDROGEN

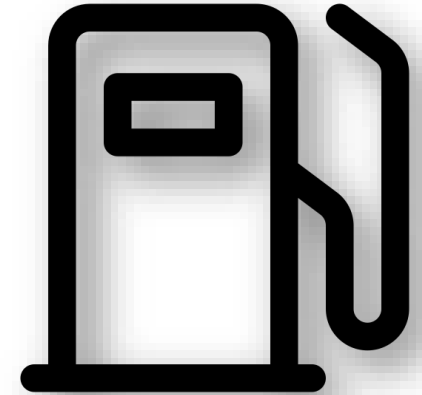
The Hydrogen Council welcomes bold, ambitious targets to inspire and mobilize the private sector. In addition, strong policy schemes and regulations will be needed support and sustain hydrogen deployment at scale.

For Example  
Hydrogen Energy  
Ministerial's  
10/10/10 Vision:  
  
**IN 10 YEARS...**

**10** million hydrogen-powered  
systems



**10** thousand hydrogen refueling  
stations



# KEY STEPS NEEDED TO SUCCESS



SHARED VISION BETWEEN KEY COUNTRIES



ARCHETYPE DEPLOYMENTS ALONG THE VALUE CHAINS



CLEAR REGULATIONS FAVOURING COMPETITIVE DEPLOYMENTS



SUPPORTING SCHEMES TO BRIDGE GAS P TO COMPETITIVENESS



ONGOING



ONGOING



SCATTERED



MISSING

# KEY PATH TO SCALE

## #1 Public-private partnerships & guarantee mechanisms to unlock investment in transportation infrastructures



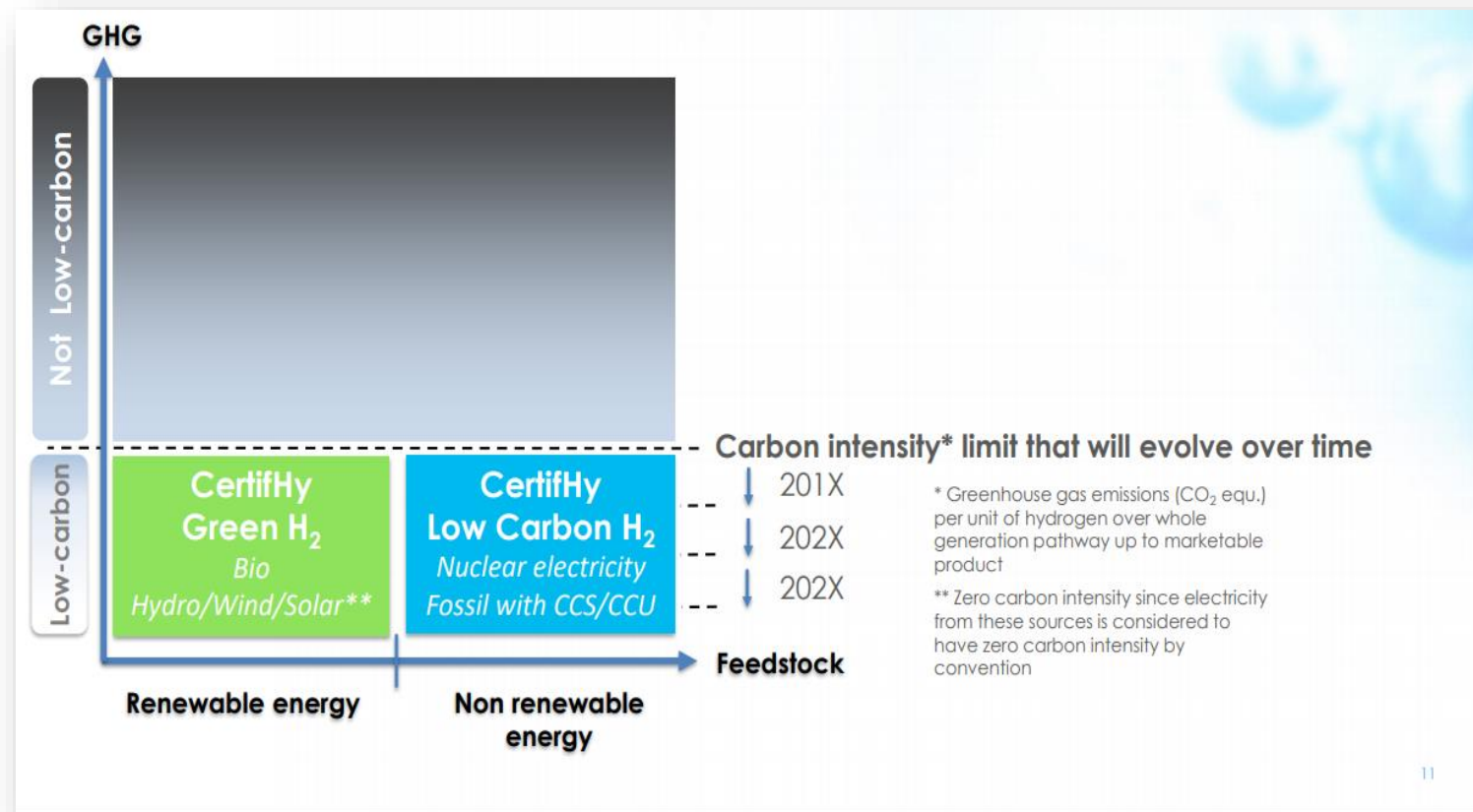
# KEY PATH TO SCALE

## #2 Harmonized regulations for transport and distribution of hydrogen



# KEY PATH TO SCALE

## #3 Agreement in methodology for low-carbon pathways



# KEY PATH TO SCALE

## #4 Incentive programs & regulations to enforce the supply and demand of clean and green hydrogen premium value



# THE HYDROGEN COUNCIL'S ROLE FORWARD

## Sector Engagement :

- **Marketplace** for the sector (which includes relations with different membership groups)
- **Advocacy** to the media and grand public (which includes coordination of actions with various stakeholders, and outreach activities)

## Support to the stakeholders and policy makers:

- Providing a **tool box of qualified and detailed best practices** in regulations, in policy tools, in financing schemes, per sector vertical
- Reacting and coordinating on **safety issues** emerging from the sector development

# SHARED VISION BETWEEN KEY COUNTRIES

## INDUSTRY

**COP23, Nov. 2017:** CEOs call on governments to work together on multilateral hydrogen deployment, set joint objectives & progress harmonisation

**Global Climate Action Summit, Sept. 2018:** CEOs pledge 100% decarbonised hydrogen in transport & call on governments to support



## GOVERNMENTS

**G20 Summit, June 2019:** Governments consider supportive policies & incentives to scale hydrogen technologies

**Hydrogen Energy Ministerial, Sept. 2019:** Progress made since the release of the 2018 Tokyo Statement & strengthen international cooperation







**Thank you for your time!**

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