



# Hydrogen: Accelerating & Expanding Deployment

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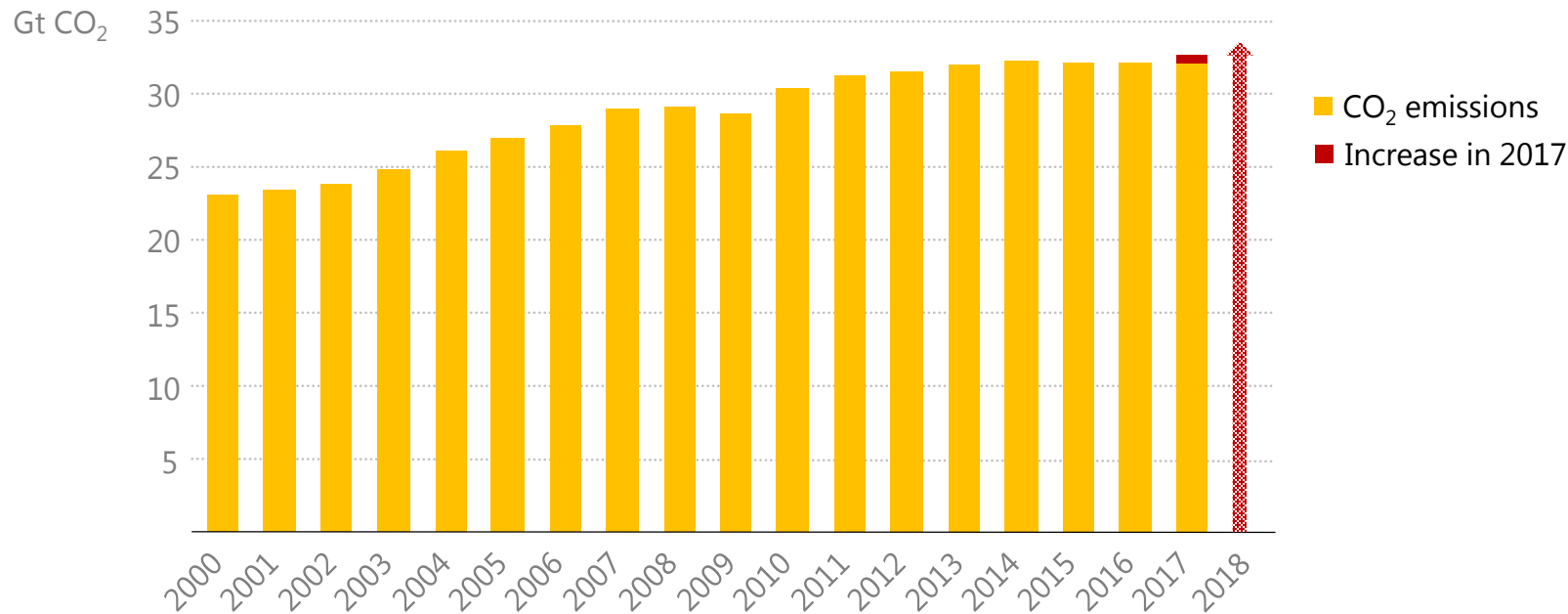
Dr. Fatih Birol, Executive Director, IEA

Hydrogen Energy Ministerial, Tokyo, 23 October 2018

- Hydrogen can support clean energy transitions, diversify the fuel mix & address energy security concerns
- Hydrogen is already with us, currently a production of about 80 Mt per year, mainly as feedstocks for chemicals & in the refining industry
- Hydrogen deployment has technological & economic challenges, but global momentum is increasing
- Japan's Hydrogen Energy Ministerial is a critical milestone to send a strong signal to governments & companies across the world

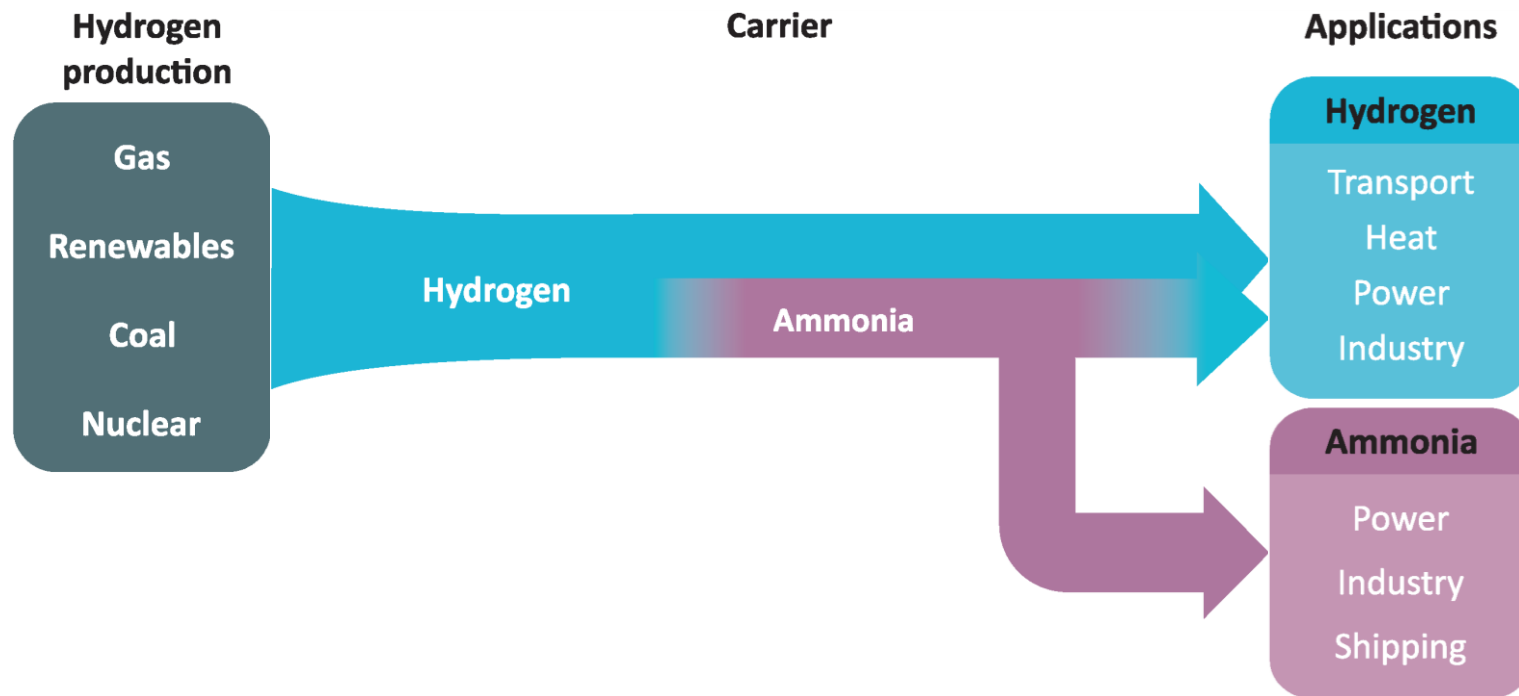
# Global emissions are set to increase in 2018 – again

Global energy-related CO<sub>2</sub> emissions



**Based on preliminary IEA data, CO<sub>2</sub> emissions are on track to rise for a second year in a row; Hydrogen can play a role in reducing emissions while also improving energy security**

# Hydrogen has many production sources and applications



Hydrogen can be produced from different sources & has multiple applications, including in transport, industry, buildings & power generation; when produced from fossil fuels, coupling with CCUS maximises CO<sub>2</sub> benefits

- There are numerous sources for producing hydrogen & numerous applications, but technical & cost challenges still remain
- Government & industry commitments are crucial to facilitating & scaling-up investment in hydrogen
- There is a need to raise awareness & remove roadblocks, such as by harmonizing safety regulations & standards, including in cars & storage
- The IEA is ready to support governments & industry, with data, analysis, an “All-Fuels-And-All-Technologies” approach & real-world solutions
- The IEA will release a major report for Japan’s G20 Presidency on the state of play of hydrogen, its economics & its future potential

## Reports



## Technology Network



## Workshop



Electrofuels

Date: Monday 10 September 2018

## Business Network

### Energy Business Council



IEA Ministerial Meeting (Nov 2017)

## Secretariat



**IEA has been active on the analysis of hydrogen for many years; our work will expand, collaborating closely with our extensive technology and business networks**



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