DAY 03

#GIEnergyDays

COLLABORATE. INNOVATE. INTEGRATE.

FROM 19 | TO 21

MAY

2021

SESSION 01

Innovation Lab
#Coal2Gas2Hydrogen

Gas quality & the switch from coal to natural gas to hydrogen

#GIEnergyDays

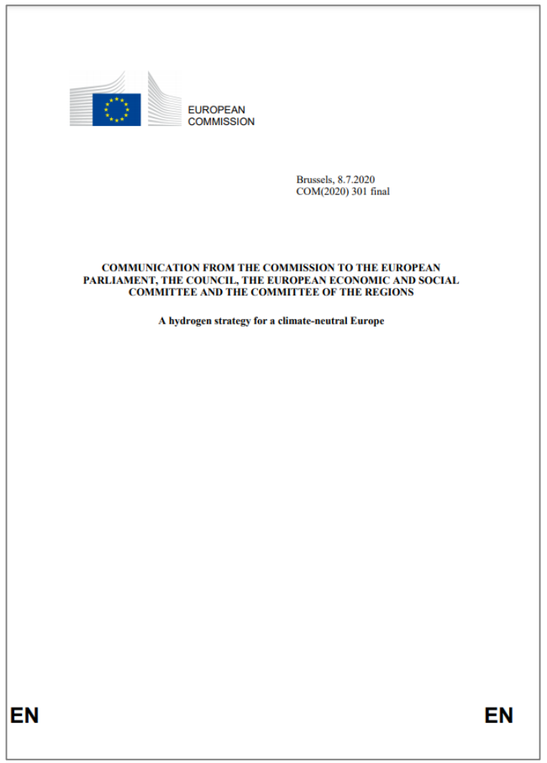
1

Eren Çam

Senior Research Consultant, Institute of Energy Economics (EWI) at the University of Cologne

#GIEnergyDays

Supply costs of low-carbon hydrogen: Options for Europe and Germany

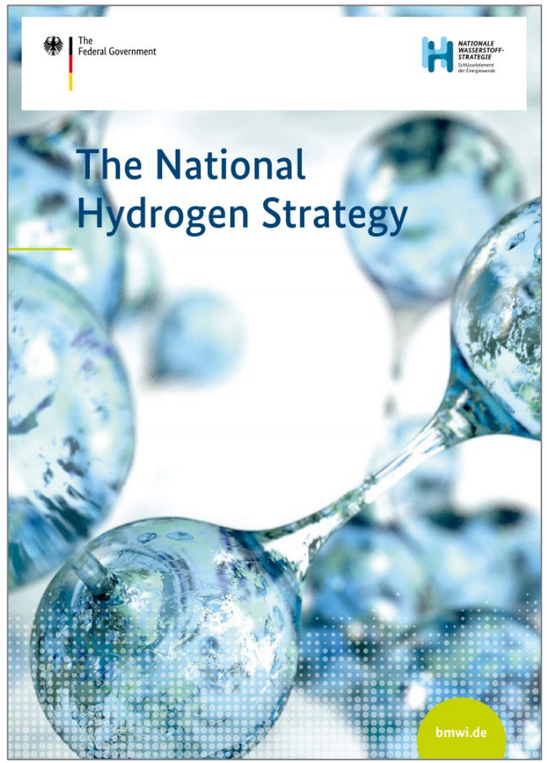

EUROPEAN COMMISSION

Brussels, 8.7.2020
COM(2020) 301 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

A hydrogen strategy for a climate-neutral Europe

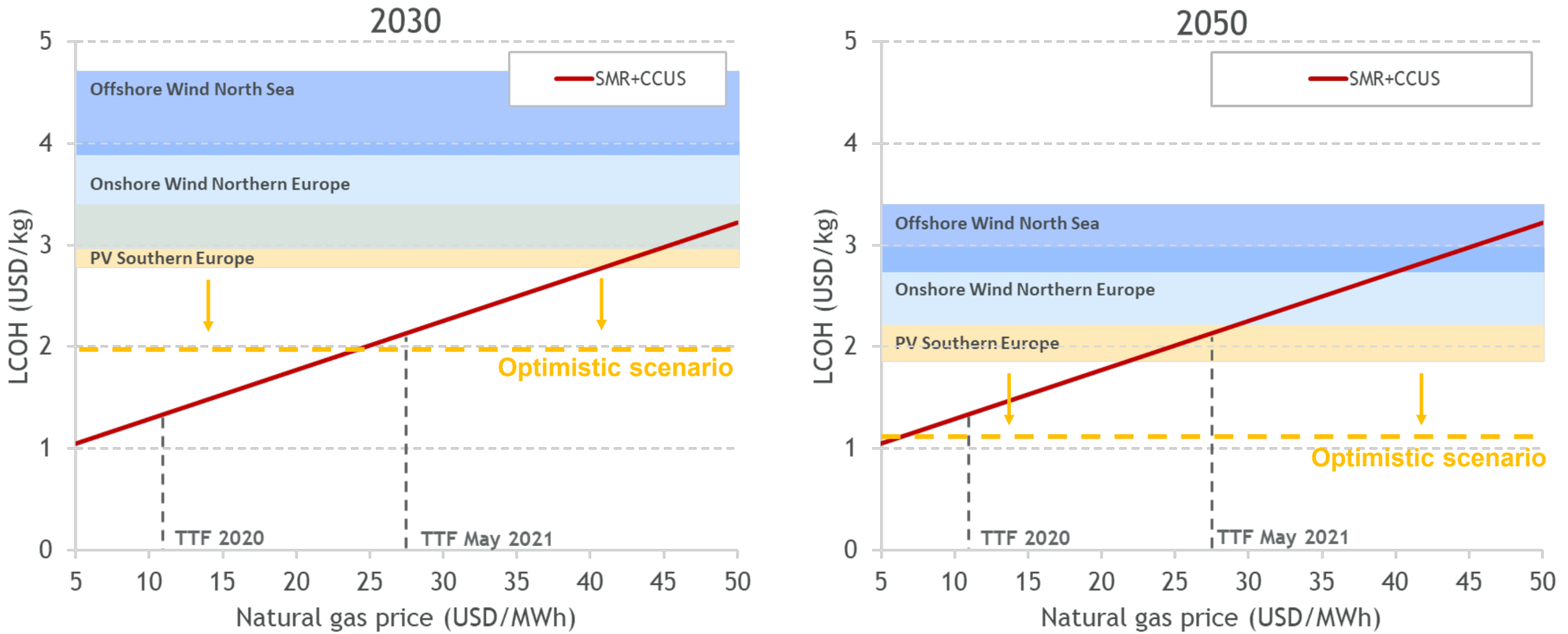
EN EN



- The EU hydrogen strategy envisages ramping up green hydrogen capacities to a minimum of 40 GW by 2030.
- Germany published its own national hydrogen strategy in June 2020, focusing on green hydrogen.
- Germany will continue to rely on energy imports in the long term since the large-scale production of green hydrogen is limited in Germany.

➢ **EWI examined the supply costs for low-carbon hydrogen in a new research paper entitled *Estimating Long-Term Global Supply Costs for Low-Carbon Hydrogen.***

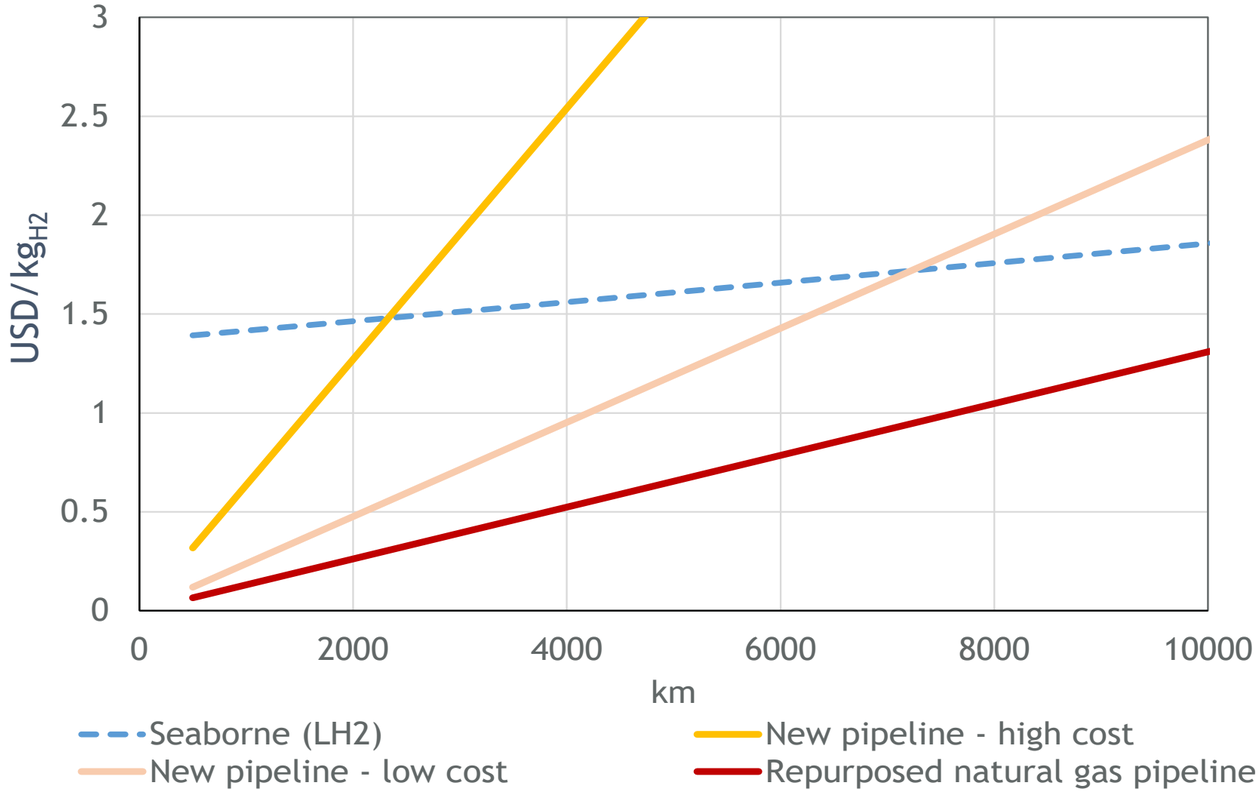
Green hydrogen is not cost-efficient in the medium term but can become competitive in the long term



Source: Lambert, M., Schulte, S., 2021. Contrasting European hydrogen pathways: An analysis of differing approaches in key markets. OIES Paper: NG 166

Figure 1: Cost of blue hydrogen with respect to natural gas price vs. cost of green hydrogen produced in Europe

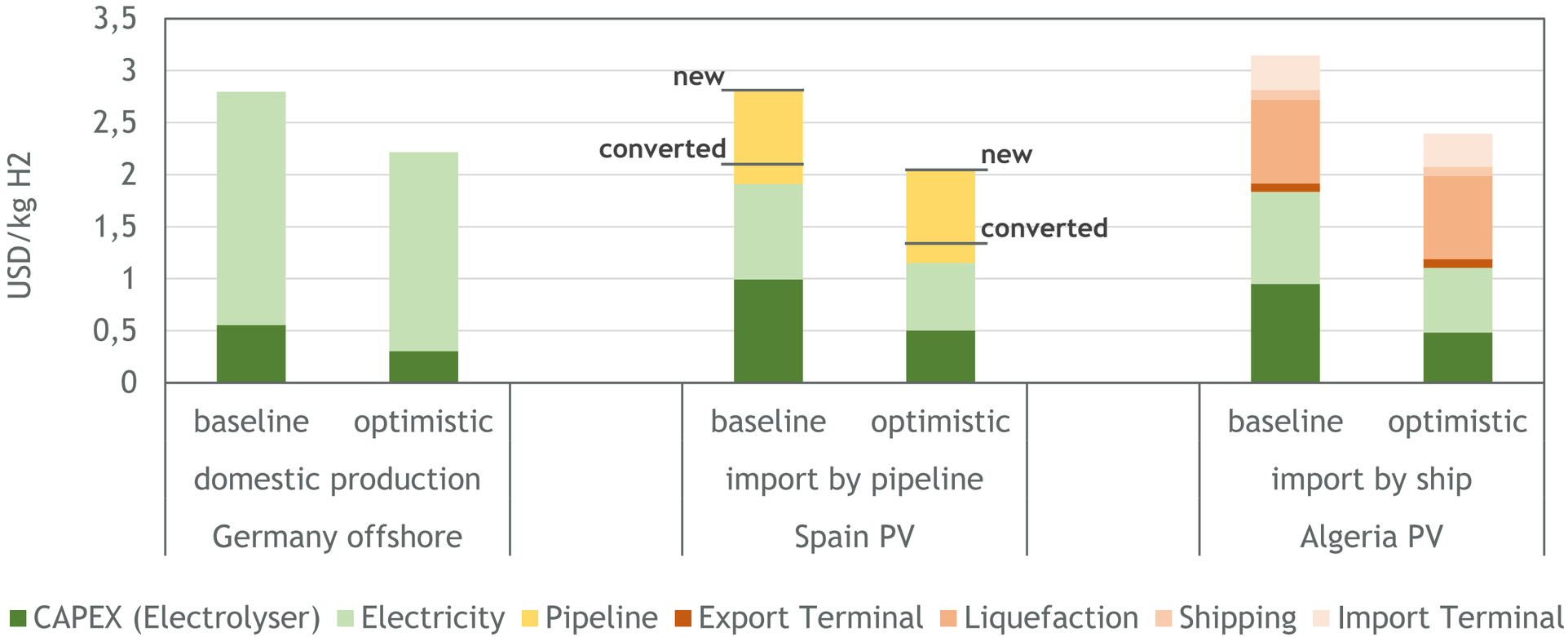
Pipelines are generally the most cost-effective option for transporting hydrogen



Source: Brändle, G., Schönfisch, M.,Schulte, S., 2020. Estimating Long-Term Global Supply Costs for Low-Carbon Hydrogen. EWI Working Paper 20/04

Figure 2: Comparison of options for long-distance hydrogen transportation

For Germany, importing from high-RES-potential countries via retrofitted pipelines is cost-efficient



Source: Brändle, G., Schönfisch, M.,Schulte, S., 2020. Estimating Long-Term Global Supply Costs for Low-Carbon Hydrogen. EWI Working Paper 20/04

Figure 3: Supply costs of green hydrogen for Germany in 2050

2

Annamária Fehér

Hungarian Gas Storage Ltd.

3

Razvan Nicolescu

Deloitte Central Europe

4

Nicola Rega

CEFIC

#GIEnergyDays

Gas quality & Hydrogen: perspectives from the chemical industry

Nicola Rega
Energy Director

21 May 2021, #GIEnergyDays

The European Chemical Industry Council, AISBL – Rue Belliard, 40 - 1040 Brussels – Belgium
Transparency Register n°64879142323-90

Setting the scene: hydrogen, natural gas and the chemical industry

- The chemical industry is the main industrial consumer of natural gas and the main producer and consumer of hydrogen
- Hydrogen is expected to play a key role in supporting the chemical industry in the transition towards carbon neutrality
- The chemical industry can use hydrogen and renewable and low carbon gases both as feedstock and as energy carriers
- Our priority is to preserve gas quality.
  Failing to do so would have negative impacts on our equipment and our feedstock.
- Hydrogen, on the one hand, and renewable and low carbon gases, on the other hand, should be delivered in dedicated pipelines.

Thank you.

Contact:
Nicola Rega
Energy Director
nre@cefic.be

About Cefic

Cefic, the European Chemical Industry Council, founded in 1972, is the voice of large, medium and small chemical companies across Europe, which provide 1.1 million jobs and account for 15% of world chemicals production. Cefic members form one of the most active networks of the business community, complemented by partnerships with industry associations representing various sectors in the value chain. A full list of our members is available on the Cefic website.
Cefic is an active member of the International Council of Chemical Associations (ICCA), which represents
chemical manufacturers and producers all over the world and seeks to strengthen existing cooperation with global organisations such as UNEP and the OECD to improve chemicals management worldwide

The European Chemical Industry Council, AISBL – Rue Belliard, 40 - 1040 Brussels – Belgium
Transparency Register n°64879142323-90