ENERGIEINSTITUT
an der Johannes Kepler Universität Linz

JOHANNES KEPLER UNIVERSITÄT LINZ

IEA Vernetzungstreffen

TCP Hydrogen

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TCP Hydrogen (1)

Self-understanding (1)

The Hydrogen TCP was created in October 1977, and since then it has worked on over 40 R&D&D and analysis tasks, being a hub for international cooperation and knowledge exchange to promote and accelerate the development and implementation of hydrogen technologies, currently with 25 member countries and 6 sponsors from four different continents.
Besides, throughout its history, the TCP has devoted many efforts to outreach activities, disseminating the benefits of hydrogen.

TCP Hydrogen (2)

Self-understanding (2)

The Hydrogen TCP works to accelerate hydrogen implementation and widespread utilisation in the areas of production, storage, distribution, power, heating, mobility and industry.
The Hydrogen TCP seeks to optimise environmental protection, improve energy security, transform global energy systems and grid management, and promote international economic development, as well as serving as the premier global resource for expertise in all aspects of hydrogen technology.

TCP Hydrogen (3)

The Future of Hydrogen

At the request of the government of Japan under its G20 presidency, the International Energy Agency produced this landmark report to analyse the current state of play for hydrogen and to offer guidance on its future development.

TCP Hydrogen (4)

Dr Fatih Birol

Hydrogen is today enjoying unprecedented momentum. The world should not miss this unique chance to make hydrogen an important part of our clean and secure energy future.

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TCP Hydrogen (5)

Austrian Participation

Since 2018 Austria is TCP member (Zillner, Steinmüller).

Since 2019 Austria participate in following Tasks:
Task 38 Power to Hydrogen
Task 41 Data and Modelling
Follower Task 35 Renewable Hydrogen Production

TCP Hydrogen (6)

Other running Tasks

Task 34 Biological Hydrogen for Energy and Environment

Task 37 Hydrogen Safety

Task 39 Hydrogen in Marine Applications

Task 40 Hydrogen Storage

Energy Technologies Perspectives 2020 (1)

Quicker progress towards net-zero emissions will depend on faster innovation in electrification, **hydrogen**, bioenergy and CCUS.

Keynotes on H_2

H_2 contribution to cumulative emissions reductions

H_2 + CCUS = 50% in the steel, cement and chemicals sectors.
H_2 + Synthetic fuels + biofuels = 55% - 80% in trucking, shipping and aviation sectors.

By 2070: global H_2 production grows 7x up to 520Mt, 60% of that H_2 will be produced via electrolysis; H_2 covers 13% of final energy demand; use of H_2 and H2-based synthetic fuels represent 6% of cumulative emissions savings.

Energy Technologies Perspectives 2020 (2)

https://www.linkedin.com/pulse/despite-covid-19-crisis-heres-why-im-increasingly-optimistic-birol/?utm_campaign=IEA%20newsletters&utm_source=SendGrid&utm_medium=Email

European Funds (1)

- **IPCEI**
- **European Innovation Fund**
- **Just Transition Fund**
- **Next Generation EU recovery plan**
- **COVID -19 RESPONSE AND RECOVERY PARTNERSHIPS for Hydrogen in carbon intensive region**

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European Funds (2)

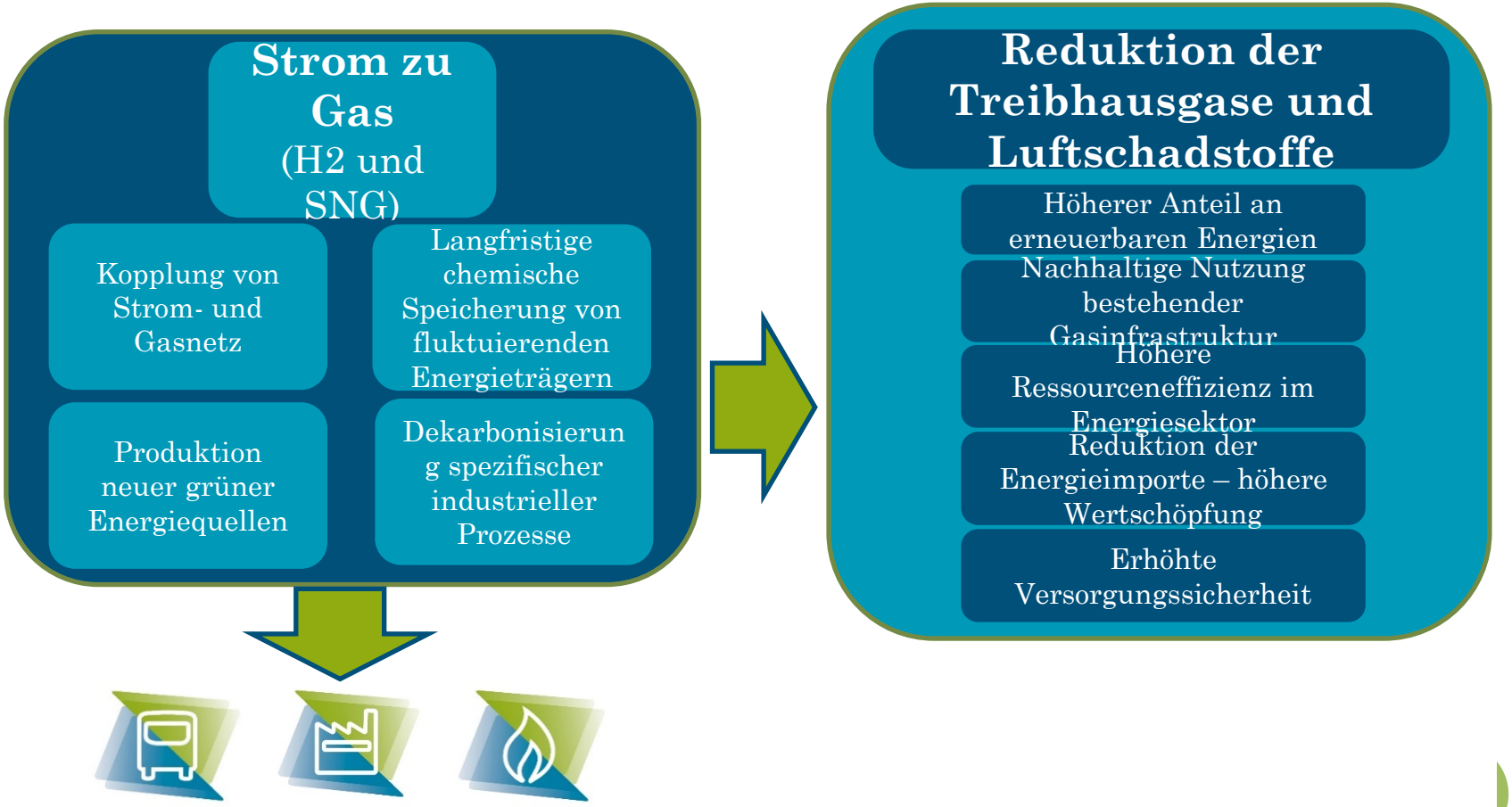
IPCEI

In den derzeit diskutierten IPCEIs geht es um „Forschung zur massiven CO2-Reduzierung in der Zement- und Stahlindustrie“ und um den „effizienten Einsatz von Wasserstoff“

Gewessler: „Mit diesen EU-weiten Programmen und den staatlichen Beihilfen unterstützen wir ganz konkret den nötigen Wandel hin zu einer klimafitten Industrie. So katapultieren wir uns als Innovationsführer an die Weltspitze, holen Wertschöpfung nach Europa zurück, sichern Arbeitsplätze – und ein gutes Leben auf unserem Planeten!“

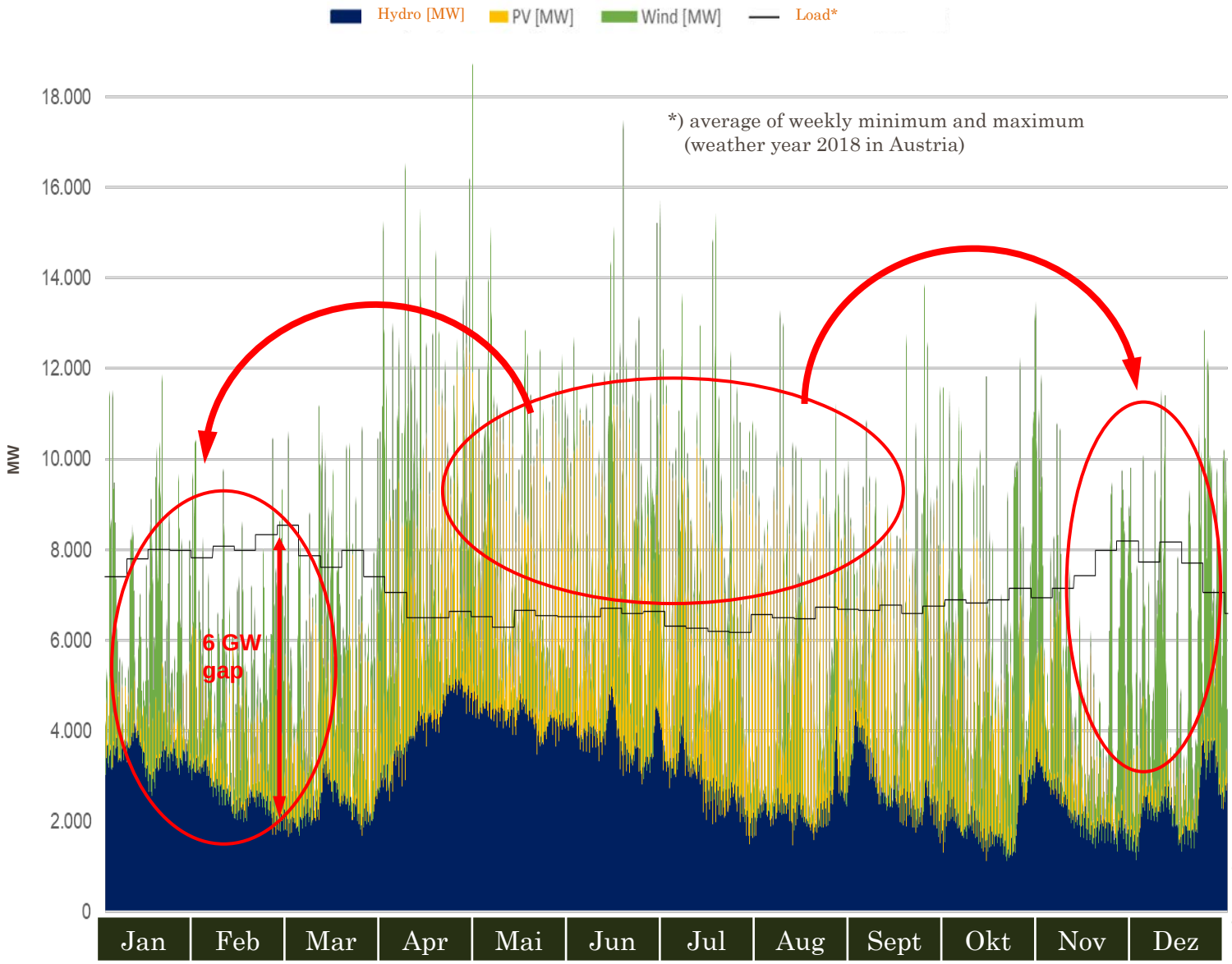
„Ein wasserstoffbasierendes Energiesystem mit den erneuerbaren Quellen Wasser, Wind und Sonne kann alle Wirtschaftsbereiche versorgen.“

Einsatz von Wasserstoff in einem nachhaltigen Wirtschaftssystem



Blick in die Zukunft

Bsp: notwendige saisonale Speicherung



Basis 2030:

Strom zu 100% aus erneuerbarer Energie

Ohne Zusatzbedarfe der Sektoren Stahl, Chemie, Raffinerie, Mobilität (plus min. 9 GW)

Quelle: Transformation of energy system, APG, Christiner, voestalpine synergyplatform, Berlin May 2019