

# It's not only about technology – setting the right framework for successful hydrogen applications

franco-german conference on hydrogen

22.10.2018, Paris

# About us



Becker Büttner Held has been operating since 1991. At BBH, lawyers, auditors and tax advisors work hand in hand with the engineers, consultants and other experts of our BBH Consulting AG. We provide advice to more than 3,000 clients and are the leading law firm for the energy and infrastructure industry.

BBH is known as “the” law firm of public utilities. But we are far more than that – in Germany and also in Europe. The decentralised utilities, the industry, transport companies, investors as well as political bodies, like the European Commission, the Federal Government, the Federal States and public corporations appreciate BBH’s work.

- ▶ Accredited professionals: ca. 250; total staff: ca. 550
- ▶ Offices in Berlin, Munich, Cologne, Hamburg, Stuttgart, Erfurt and Brussels

# Dr. Martin Altrock



Dr. Martin Altrock provides comprehensive advice on all legal matters related to renewable energy, the further development of the corresponding legal framework, the future of electricity storage and sector-coupling, i.e. the use of electricity, e.g. in the mobility and heat sectors.

- ▶ Born in Kassel in 1968
- ▶ 1989-1997 studies of law and administrative studies in Heidelberg, Leiden (NL) and Speyer, 1995-1997 legal traineeship at the Higher Regional Court (*Oberlandesgericht*) of Karlsruhe
- ▶ 1997-2000 research associate and in 2001 doctoral degree at Heidelberg University
- ▶ Since 2000 lawyer at BBH and since 2006 partner
- ▶ Editor and author of "Kommentar zum EEG" (Commentary on the Renewable Energy Sources Act, C.H. Beck, 5<sup>th</sup> edition in preparation)
- ▶ Expert for the German Parliament regarding, among others, the EEG 2017
- ▶ Ongoing advisory work for the German Federal Government since 2004 (BMU (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety), subsequently: BMWi (Federal Ministry for Economic Affairs and Energy), currently also: BMVI (Federal Ministry of Transport and Digital Infrastructure)

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# Agenda

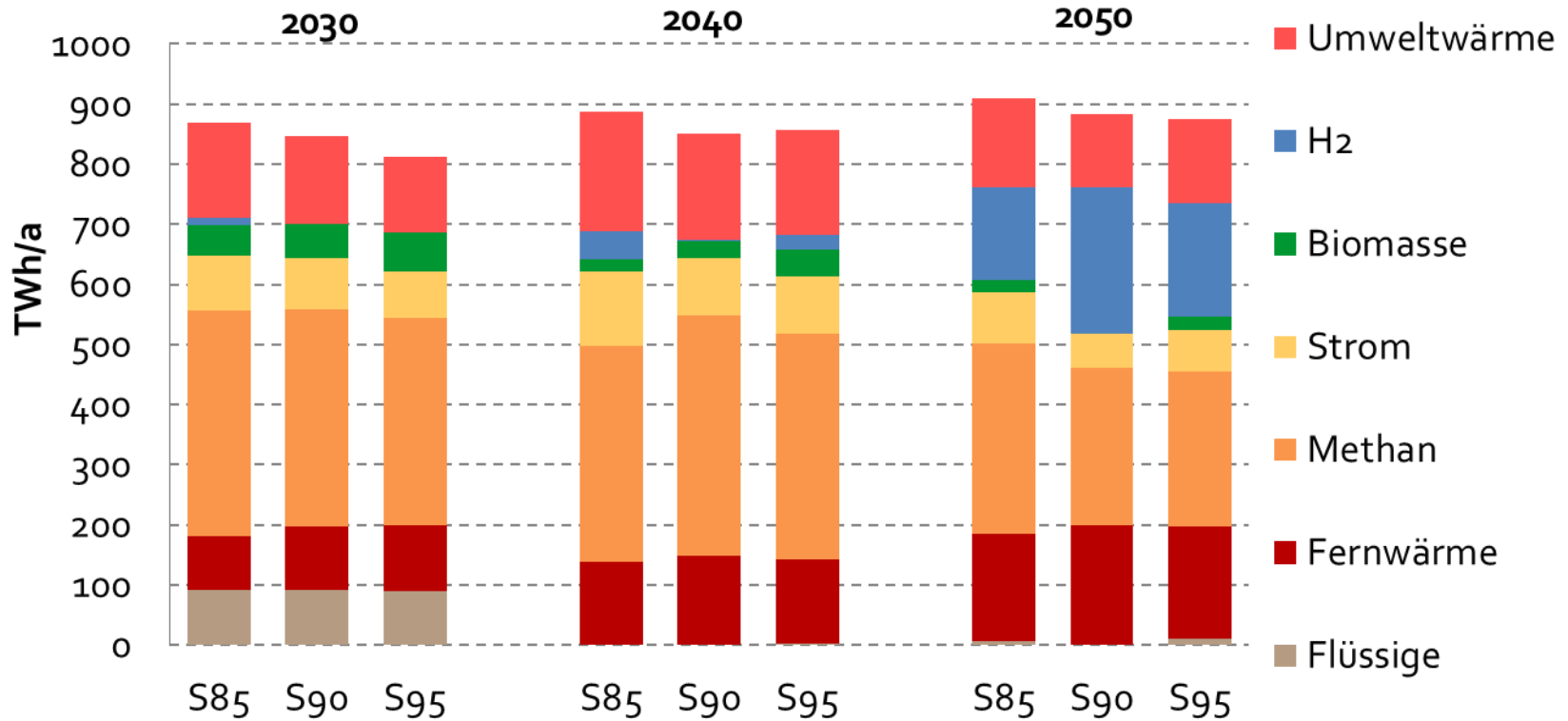
1. Possible Hydrogen Applications
2. Legal Status Quo: Important Incentives and Barriers
3. Approaches to Promote Green Hydrogen

# 1. Possible Hydrogen Applications

## 1.1. Integrated Energy Concept 2050

- ▶ The following figures are the results from the scientific study „**Integrated Energy Concept 2050**“ and show possible applications for (green) hydrogen in the heating and transportation sector
- ▶ The scientific study was authorised by the federal ministry of transportation and digital infrastructure, coordinated by the NOW and finally realised by BBH in cooperation with Fraunhofer ISE, LBST and IKEM
- ▶ The results have been presented at 08.10.2018 in Berlin

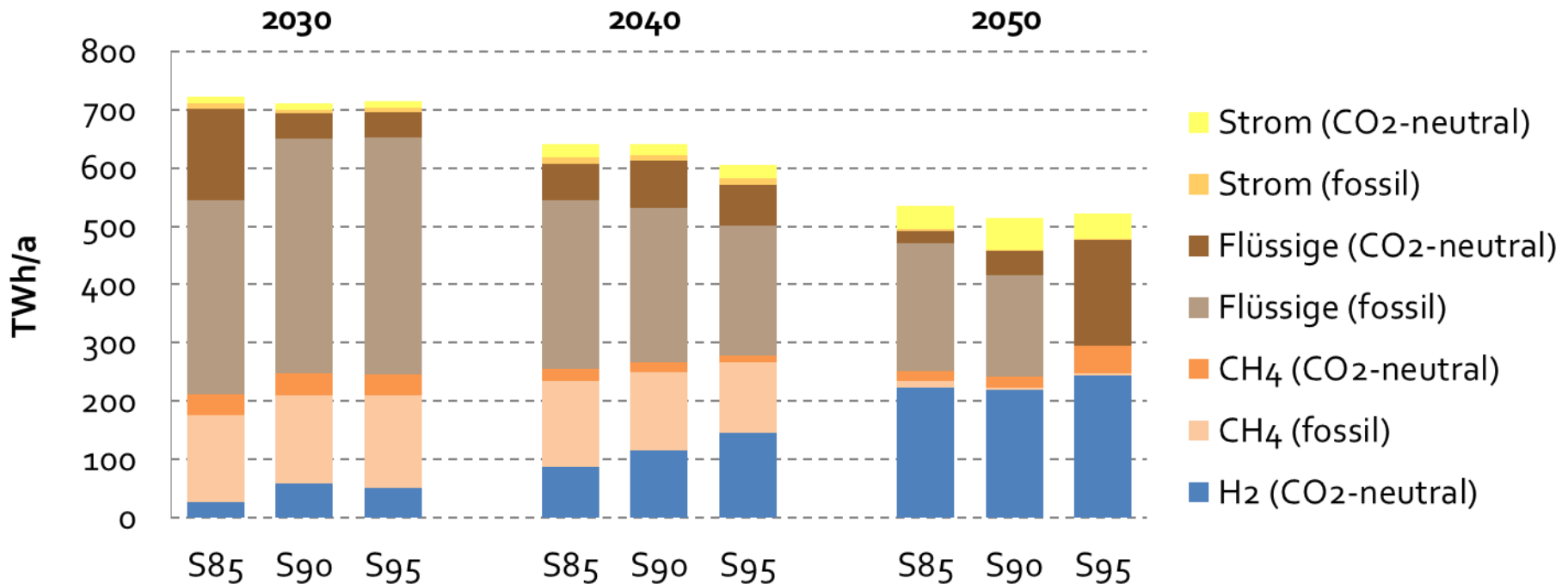
# 1.1 Final Energy Consumption in Space Heating



Source: IEK2050, Fh-ISE, 2018

- ▶ The graph shows a high likelihood for the demand of (green) hydrogen (blue areas) in the heating sector in 2040 and especially in 2050

# 1.1 Final Energy Consumption Transport



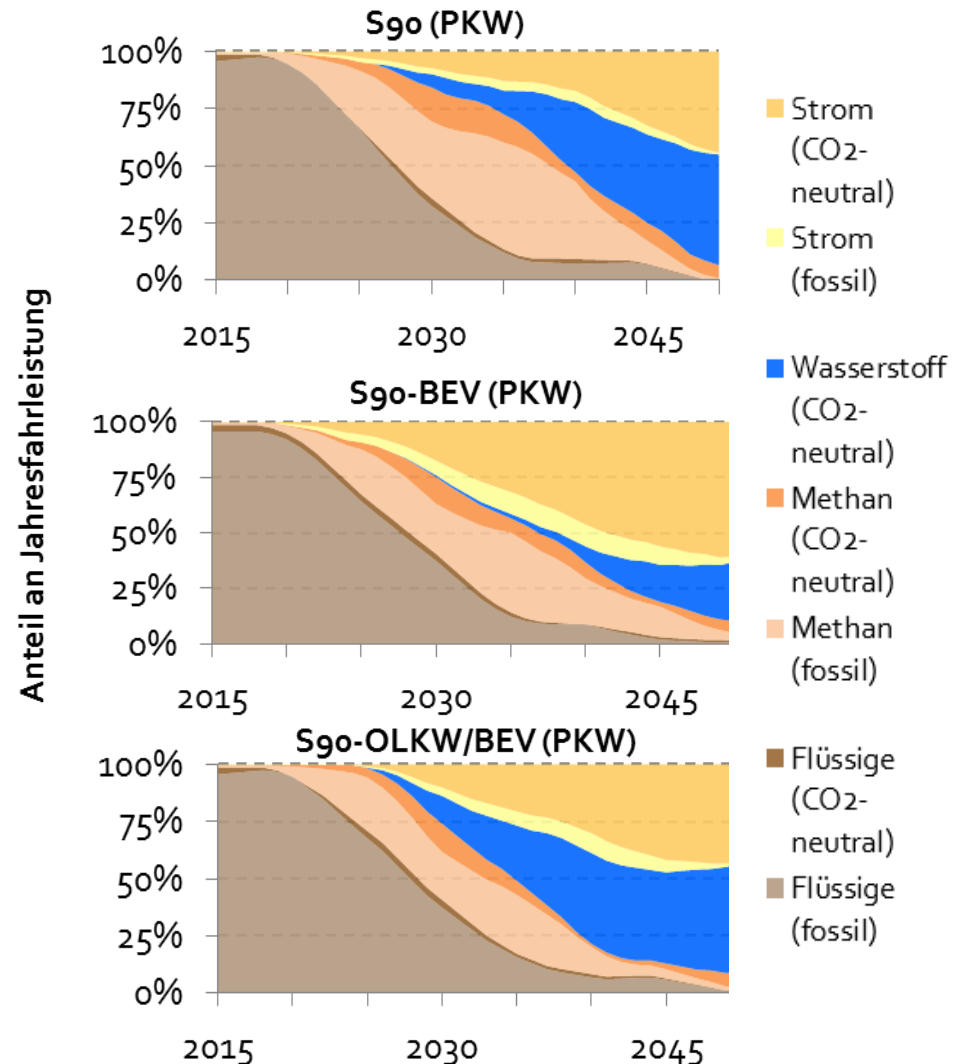
Source: IEK2050, Fh ISE, 2018

- ▶ The graph shows a demand for (green) hydrogen (blue areas) in the transportation sector which increases with higher CO<sub>2</sub>-Emission Reduction Targets and from 2030 to 2050



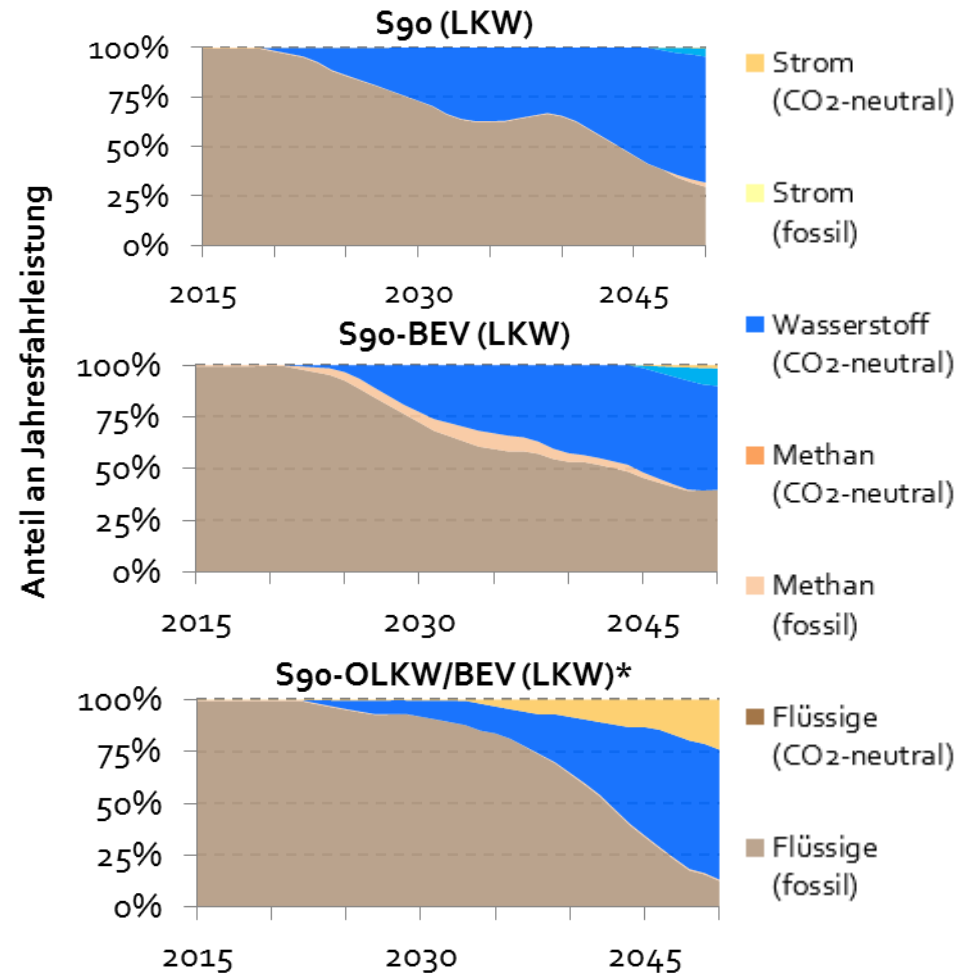
# 1.1 Transformation of Fuels – Passenger Cars

- ▶ The graphs show **three scenarios** of the fuels transformation process in the transportation sector
- ▶ All three scenarios include **(green) hydrogen** (blue areas)
- ▶ The **specific time** (2030? 2040?) for the introduction remains **unclear**
- ▶ Increasing use of (green) hydrogen in passenger vehicles, if the use of electric overhead line heavy-duty vehicles will be possible



# 1.1 Transformation of Fuels – Heavy-Duty Vehicles

- ▶ **High share** in the consumption of **(green) hydrogen** (blue areas) by heavy-duty vehicles
- ▶ Relatively **small share** of overhead line heavy-duty vehicles
- ▶ The presented results show that it is **reasonable to promote** the generation of green hydrogen **in the near future**



Source: IEK2050, Fh-ISE, 2018

## 2. Legal Status Quo: Important Incentives and Barriers

## 2.1. Incentives: European Law

- ▶ **Art.25 para. 1 subsec. 2** Renewable Energy Directive 2: „**Renewable gaseous transport fuels of non-biological origin** shall also be taken into account when these are used as **intermediate product** for the **production of conventional fuels.**“
  - That means a soon to realise business idea for the use of green hydrogen in the production of fuels
- ▶ **Art.19 para. 1** Renewable Energy Directive 2: „[...], Member States shall ensure that the **origin of energy** produced from **renewable sources** can be guaranteed as such within the meaning of this Directive, [...].“
  - That means the introduction of a **Guarantee of origin system** for hydrogen; this closes a gap in the present framework

## 2.1. Incentives German Law

- ▶ **Section 3 Annex 1 37. federal immission control ordinance:**
  - hydrogen which is produced **exclusively** through electrolysis out of **non-biogenic renewable energies** and used in **fuel cells** may be offsetted for the greenhouse gas reduction quota (section 37a (1) federal immission control act)
  
- ▶ **However,** if the electricity has been imported from the grid, further restrictive requirements apply:
  - Firstly, the facility to generate fuel must be situated in an area of network expansion according to section 36c (1) renewable energy sources act („*Netzausbaubereich*“ version: 01.01.2017) **and**
  - Secondly, the facility is operated exclusively on the ground of a contract according to section 13 (6)a german energy industry act („*Zuschaltbare Lasten*“)

## 2. Barriers: German Law

- ▶ The **transformation** of electricity into hydrogen in a electrolyseur facility is considered as an **energy consumption** according to the federal court of justice.
- ▶ Therefore, **charges** such as the **EEG-surcharge**, **grid charges** and **electricity taxes** have to be paid; due to further loses of energy in the transformation process into hydrogen, the production of green hydrogen is not economically viable presently
- ▶ Although **some exemptions** have been created, these are **not comprehensive**: for instance, the **exemption of grid charges** for PtG-facilities according to **section 118 (6)** german energy industry act does **not include all attached charges**
- ▶ **To conclude**, one can see from the previous analysis that there are some incentives to promote green hydrogen in the european and german law, **however** they are not sufficient in particular against the background of the arising charges for the electricity consumption

# 3. Approaches to Promote Green Hydrogen

## 3.1 Proposals for Possible Indirect Promotions

- ▶ Creation of an **exemption** from the obligation to pay the **EEG-surcharge** for **electrolysers („EEG-Umlage“)**
- ▶ **Limitation** of EEG-surcharge for electro-intensive undertakings also for hydrogen producers (**„BesA“**)
- ▶ Using the electricity in an electrolyseur, which would not be produced in case of a feed-in management measure acc. sec. 14 renewable energy sources act: **Using instead of not using it at all**; Optional: Payments acc. sec. 15 renewable energy sources act („Nutzung von EinsMan-Strom“).
- ▶ To extend the exemptions of sec. **27a** renewable energy sources act for the production of hydrogen out of self-supplied electricity from financially supported generation facilities
  - This would increase the economic viability of self-supplied electricity and therefore increase the economic viability for the production of green hydrogen itself



## 3.1 Proposal for a Possible Direct Promotion

- ▶ Instead or thereby, the production of green hydrogen could also be promoted through a **direct approach** (similar to the current *EEG*)
- ▶ **Renewable Fuels Act („EEKraftstoffG“)**: would enable the promotion for the producers of hydrogen if the product will later be used in the **transportation sector**
  - Support should be determined administratively and include a market premium covering the difference between the market price and the production costs during a predetermined timeframe
  - The law shall allow to produce both, green and fossil hydrogen in facilities, however only the green product shall receive support
  - Financiation of support through taxes (state aid unter European Law)
- ▶ Expansion on **further sectors** for instance as a **Renewable Hydrogen Product Act** is also possible („EEGasG“)

Thank you very much  
for your attention.

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