

Study on the legal framework of a future hydrogen economy - presentation of highlighted topics

Friederike Allolio | Leony Ohle | Scientific Conference TransHyDE | 30.11.2022

Agenda

- ▮ Presentation of the institute
- ▮ Overview of the study results
- ▮ Focus on regulation of hydrogen networks
- ▮ Focus on planning and permitting law for hydrogen networks



H₂

IKEM Overview



**Non-profit association
Independent research
institute**

180+
projects



**More than 10 years of
experience in interdisciplinary
climate research**

395+
publications



**Reduction of emissions
Expansion of renewables
Sustainable development**

70+
employees

Study: Overview

Study on the legal framework of a future hydrogen economy - Focus on transport infrastructure

Status quo analysis of the current legal framework with
selective inclusion of legal developments

aims at

Identifying barriers and
white spots in the regulatory
framework under review



Analysed legal fields

Green hydrogen production

Definition, permitting of electrolyzers

Transport infrastructure

Hydrogen networks and storage, import terminals

**Transport of dangerous goods by road,
rail and ship**

Dangerous goods classification, overview of regulations

Energy regulatory framework

Regulation of (pure) hydrogen networks, blending

End-use of green hydrogen

Sector quotas, emissions trading

Legal framework for funding

State aid legal framework, funding instruments

Overview of the general findings

No coherent, comprehensive and user-friendly legal framework to date

Highly dynamic legal development and growing awareness among legislators

- Der Infrastrukturausbau ist mit langwierigen und komplexen Genehmigungsverfahren verknüpft
- Umrüstung der geplanten LNG-Terminals auf den Wasserstoffimport zwingend notwendig



Import terminal

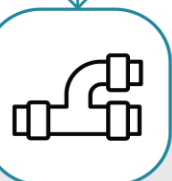
- Quoten im Spannungsverhältnis mit der Verfügbarkeit von grünem Wasserstoff
- Potenzial im Flugverkehr wird noch nicht ausgeschöpft
- Kein Sanktionsmechanismus



Heimische Erzeugung



Elektrolyse



Transport

Zusätzlicher Ausbau der erneuerbaren Energien für Wasserstoff ist erforderlich

- Der Genehmigungsbestand für Elektrolyseure ist unklar
- Noch restriktive Flächenausweisung für Offshore-Elektrolyse

- Privilegierung der Umstellung von Erdgasnetzen auf Wasserstoff weitgehend gelungen
- Eine ähnliche Privilegierung für Speicher ist sinnvoll
- Wasserstoffinfrastruktur sollte als überragendes Interesse gesetzlich verankert werden

Nutzung



Fehlender Regulierungsrahmen auf europäischer Ebene mit derzeit im Entwurf noch zu strengen Entflechtungsvorgaben

Spotlight on the study findings:
Focus on regulatory frameworks for hydrogen networks

Central goal: an effective regulatory regime for hydrogen networks



Regulatory regime as a key enabler for the development of a grid-based hydrogen infrastructure



Decisive for shaping competition and thus crucial for investment decisions and the construction and operation of future hydrogen networks



Regulation of energy networks

Core Areas



Grid connection



Grid access



Grid charge



Unbundling

The lack of competitive pressure due to the monopoly position of the network operators and the state's responsibility to provide guarantees justify extended state supervision in the form of regulation

aims at

Ensuring effective and undistorted competition



The regulation of hydrogen networks

Blending into the natural gas network

- Falls under the definition of gas if produced by electrolysis and fed into the grid, § 3 No. 19a EnWG
- Essentially applicable regulatory requirements for gas networks; privileged treatment if also falls under the notion of biogas as defined in § 3 No. 10f EnWG

Pure hydrogen networks

Transitional:

„Opt-in“ regulation

§ 28 j EnWG

Upon voluntary submission:

- Negotiated network access
- Network charges – H2-NEV
- (Vertical) unbundling

Legal uncertainties with regard to certain specifics

Pure hydrogen networks according to the "gas package" (draft)

Draft of 15.12.21 -Directive and Regulation; Corrigendum of the Directive of 23.11.22

Regulation obligatory (after transition period)

- Regulated grid access
- Regulated grid charges
- Horizontal and vertical unbundling

Obstacle: unbundling requirements 

Why are the proposed regulations considered a substantial barrier?

For the hydrogen market, too, a separation between the competitive activities of production and supply and the non-competitive activities of transport is desirable to create a functioning market



Unbundling requirements for hydrogen ramp-up as a barrier

- Phase-out of the ITO model
- No separation of network levels
 - Horizontal unbundling




- limits incentives for conversion towards hydrogen
- Inappropriately strict requirements in particular on distribution level
 - Ineffective duplication of structures


Outlook



Coordination at EU level ongoing - most recent revision of the Commission's draft directive of 23.11.2022 with mainly editorial changes



Numerous critical voices, especially on the unbundling requirements, from the ranks of business and politics



Presentation of the draft report by the responsible rapporteur to the Energy Committee (summer 2022): Retention of the ITO model and separation of network levels



No parliamentary decision on the directive yet, expected for the beginning of 2023



Still unclear development at European level and outlook for possibly too strict specifications as an obstacle to the ramp-up of the hydrogen economy

Spotlight on the study findings

Planning and approval law

Hydrogen networks

Key factor: acceleration and simplification of permitting processes

Slow and complex permitting processes are a key obstacle to unleashing the renewables revolution and for the competitiveness of the renewable energy industry.

(RePowerEU, COM 2022, 230, S. 11)

Council regulation laying down a framework to accelerate the deployment of renewable energy

General leverages

Digitalisation of the administration

Additional senates at the BVerwG

Expansion of human resources and professional capacities

Hydrogen
infrastructure must
be equally considered

Procedure acceleration and simplification from a legal perspective

Approval process

Implementation of the construction of hydrogen pipelines to the energy planning approval system with some acceleration mechanisms:

- Early admission into possession
- early construction start
- Concentration effect



Legal leverage

Legal privileges for the conversion
of natural gas pipelines to
hydrogen

Legal protection

- Shortening of the appeal process directly to the OVG or BVerwG for certain infrastructure projects
- Adjustment in interim legal protection

Legislative projects in
departmental coordination

Construction of hydrogen pipelines according to the EnWG

Integration of hydrogen networks into the planning law regime of the EnWG

Procedure

Basically: long and complex procedure that ties up a lot of resources on the side of the applicant as well as on the side of the authorities

Planning justification

- Public and private interests affected must be weighed in
- **§ 1 EnWG**: Safe, affordable, consumer-friendly, efficient and environmentally compatible pipeline-based **supply** of electricity, gas and **hydrogen to the general public**
energy needs must be identified



§ 43I Abs. 1 S. 2
EnWG: The construction of hydrogen pipelines is in the **overriding public interest** until **December 31, 2025**.

Demand planning

- Strategic and integrated infrastructure planning required (Integrated NEP)

Legal privileges for the conversion of natural gas pipelines

FNB Gas: 70-80% of the hydrogen network is to be established from converted natural gas pipelines

New pipelines: Planning approval

- **Complete examination of all legal areas affective**
- Extensive public participation
- Limitation of the overriding interest

Conversion: Notification procedure

- Always: **safety notification procedure** - § 113 Abs. 3 S. 1 EnWG
- Possibly: **Further notification procedure**
 - Conclusion with an official decision on admission without a formal procedure ("**third approval decision**")

Approaches to accelerate procedures sufficient?

Outlook



Legal focus on the expansion of renewable energy

Hydrogen infrastructure needs equal acceleration and must be integrated in such legal developments

Current legal approaches already show potential to accelerate infrastructure development

It is to be examined to what extent possibilities exist to further simplify the procedures and to what extent the approaches found so far can also be applied to other infrastructure elements (e.g. H2 storage).

TransHyDE Regulatory Community: Status quo and outlook

Elena Timofeeva (Fraunhofer IEG)

Cäcilia Gätsch (**cruh21**)

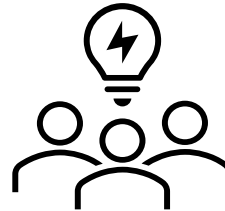
Regulatory Community

Overarching issues surrounding the whole value chain of green hydrogen will be discussed with regulatory experts of the consortia TransHyDE, H2Mare and H2Giga

3 WORKING GROUPS

- Planning and permitting of electrolyzers (offshore and onshore)
- Support instruments for green hydrogen
- Green hydrogen accounting and certification

Our **aim**: Science-based development of regulatory framework to **promote green hydrogen ramp up**



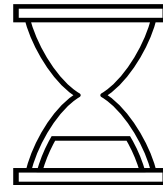
Planning and permitting of electrolysers (1)

Measures to accelerate and streamline approval procedures:

- Autonomus permit scheme for electrolysers
- Legal classification of electrolysers as “projects of overriding public interest”.
- Removing electrolysers from the scope of the IE-Directive
- Privileges in terms of planning

Regulation model: LNG-Beschleunigungsgesetz

Complex and long
permitting procedures for
electrolysers
hinder hydrogen ramp-up



Planning and permitting of electrolyzers (2)

To what extent does the current planning law provide incentives for hydrogen production that serves the system (especially with regard to the electricity grid) and is there a need for optimisation?

1. Site criteria of electrolyzers

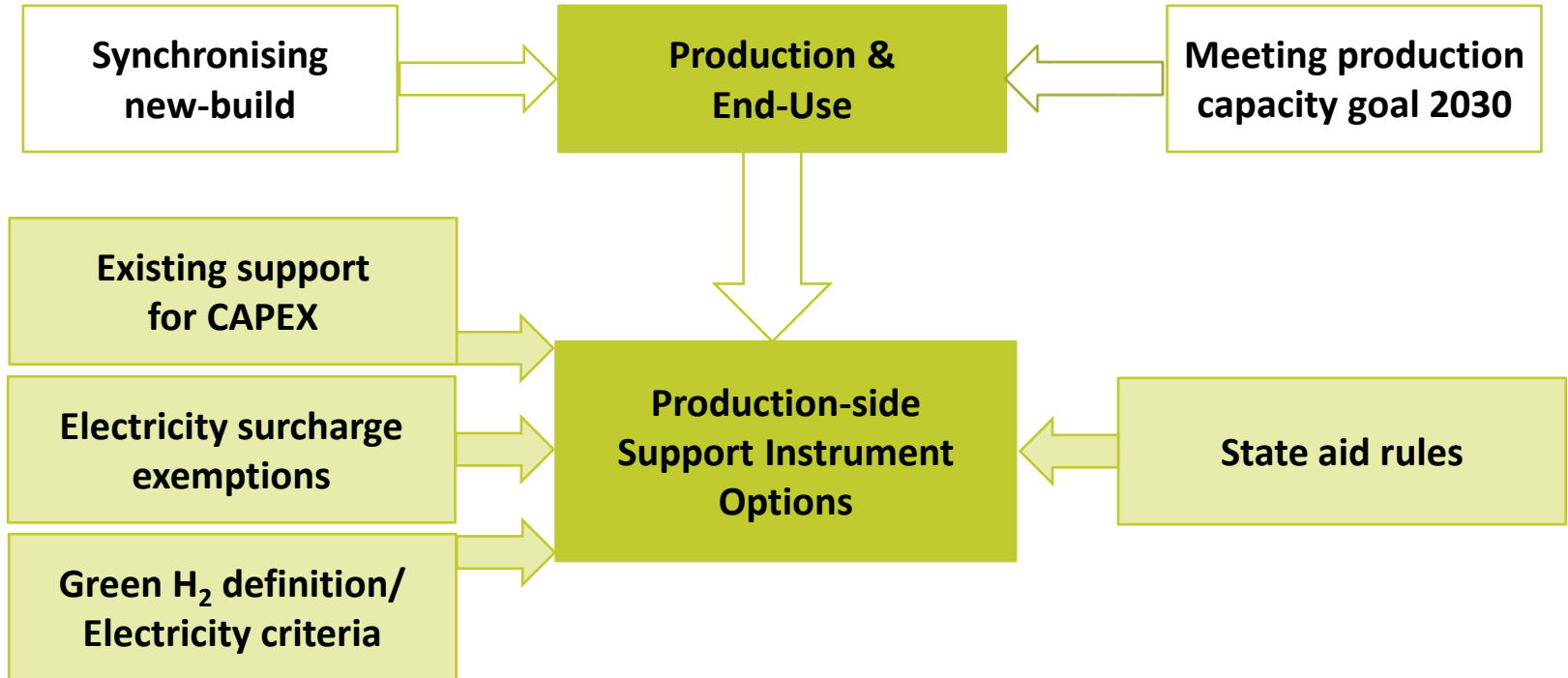
- System efficiency with regard to the electricity grid
- System efficiency with regard to h₂-infrastructure
- System efficiency in other respects (e. g. use of waste heat)

2. Incentives provided by planning law?

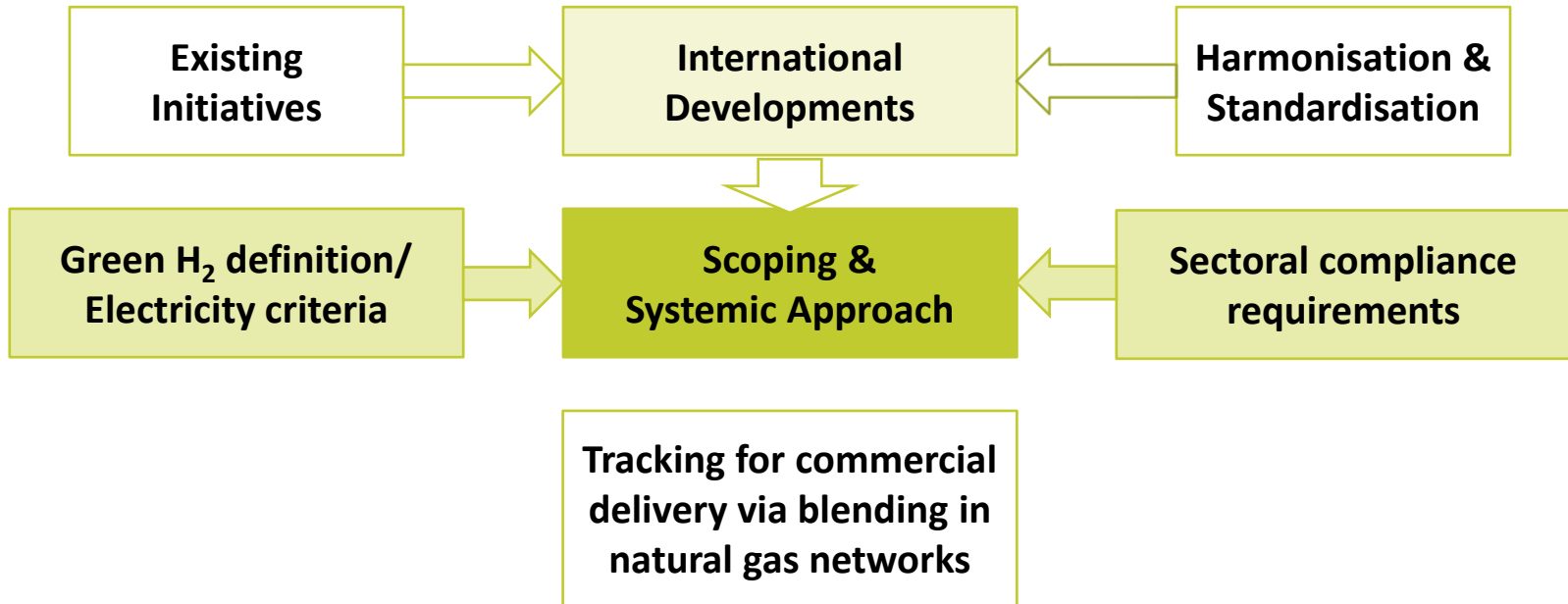
Site criteria for electrolyzers play a central role from a company's point of view and need to be addressed in legal framework.



Support instruments for green hydrogen



Green hydrogen accounting and certification





Thank you