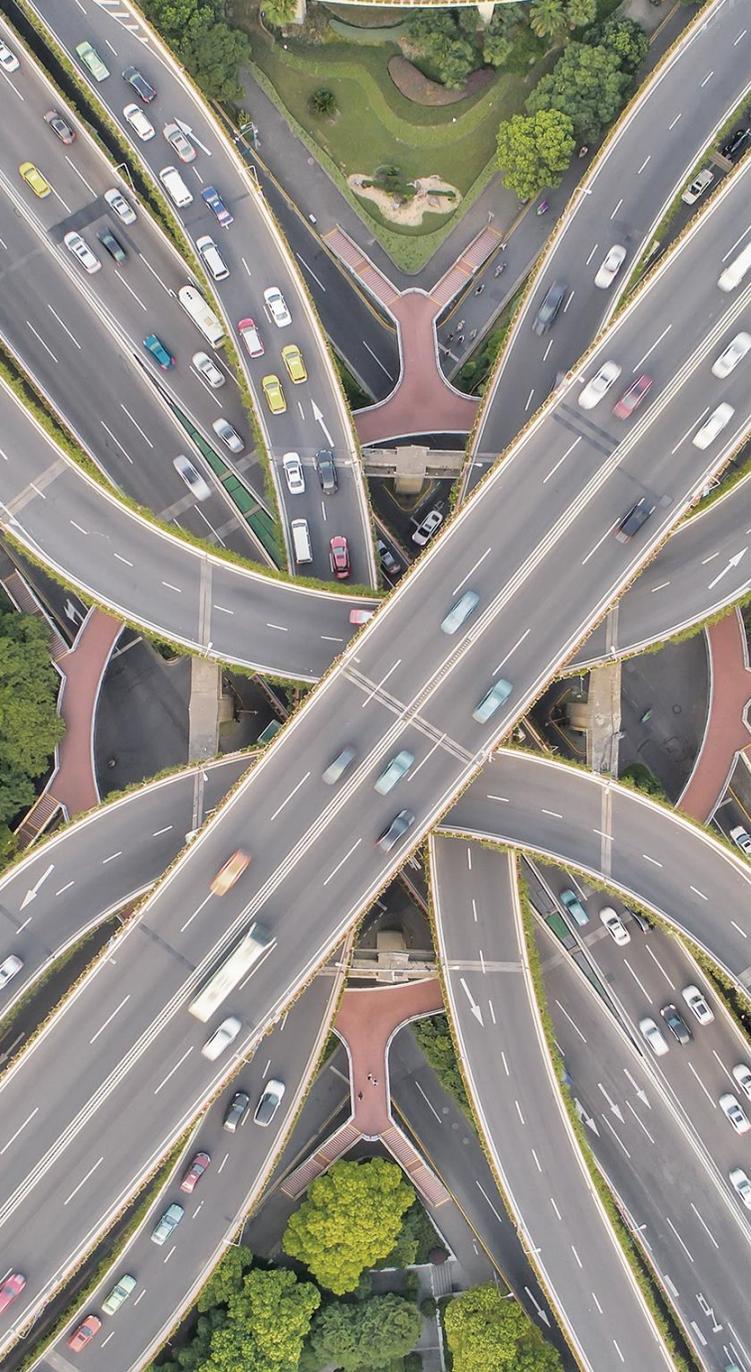


GERMANY TRADE & INVEST

HYDROGEN MARKET DEVELOPMENT BETWEEN CHINA AND GERMANY

NOVEMBER 2022

Robert Herzner(何若白)
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Agenda

German Market

China Cluster based Cooperation Opportunities

Cross Border: Exchange

Who we are





Germany Trade & Invest (GTAI) is the economic development agency of the Federal Republic of Germany.



***Export
Promotion***



***Investor
Consulting***



***Location
Marketing***



***New Federal
States & Structural
Transformation***

Business Location Germany

- Market and industry analyses
- Market entry analyses
- Extensive legal information (tax, labor law, etc.)
- Funding and financing information



Growth in Renewables

Feed-in tariff creating fast growth

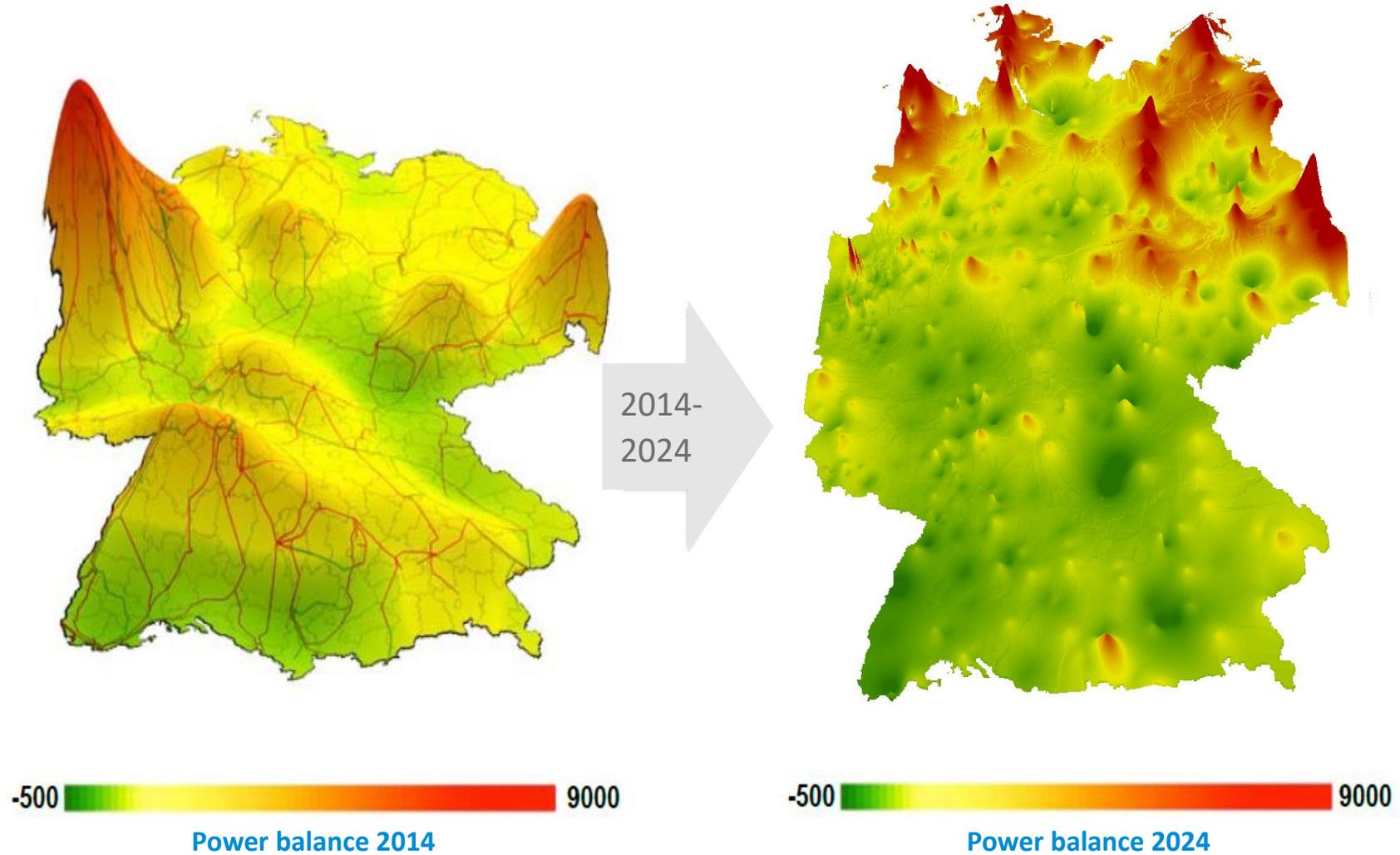
-  Wind energy
-  PV
-  Biomass

The circle **diameter** is proportional to the electrical capacity.

Year 2020: >1,900,000 units

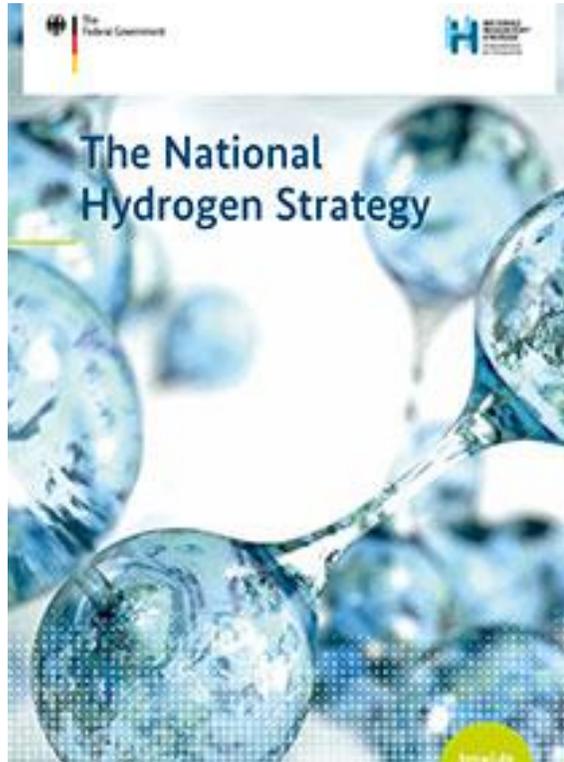
Sources: 50HertzT, TenneT, Amprion, TransnetBW, internal data © GTAI 7

Changing Power Structure



Source: Bundesnetzagentur 2016

Germany's National Hydrogen Strategy



- Invest EUR 9 billion: EUR 7 billion nationally + EUR 2 billion internationally
- 5 GW of electrolysis generation capacity till 2030, another 5 GW till 2035, latest 2040
- Develop a policy framework that encourages investments



37 measures to ramp up hydrogen market:
from generation to utilization
industry, heating, mobility, infrastructure

Hydrogen will become central pillar in achieving Germany's energy transition

Germany's National Hydrogen Strategy

Supporting the development of hydrogen markets



H₂ production

- Expected H₂ demand of 90-110 TWh by 2030
- 2030 target of up to 10 GW of H₂ capacity



Transport sector

- Priority on air and maritime
- Transport sector renewable energy target beyond EU Directive
- 2% e-kerosene quota by 2030



Industrial sector

- Carbon Contracts for Difference
- Markets for climate-neutral products
- H₂-based long-term decarbonisation strategies

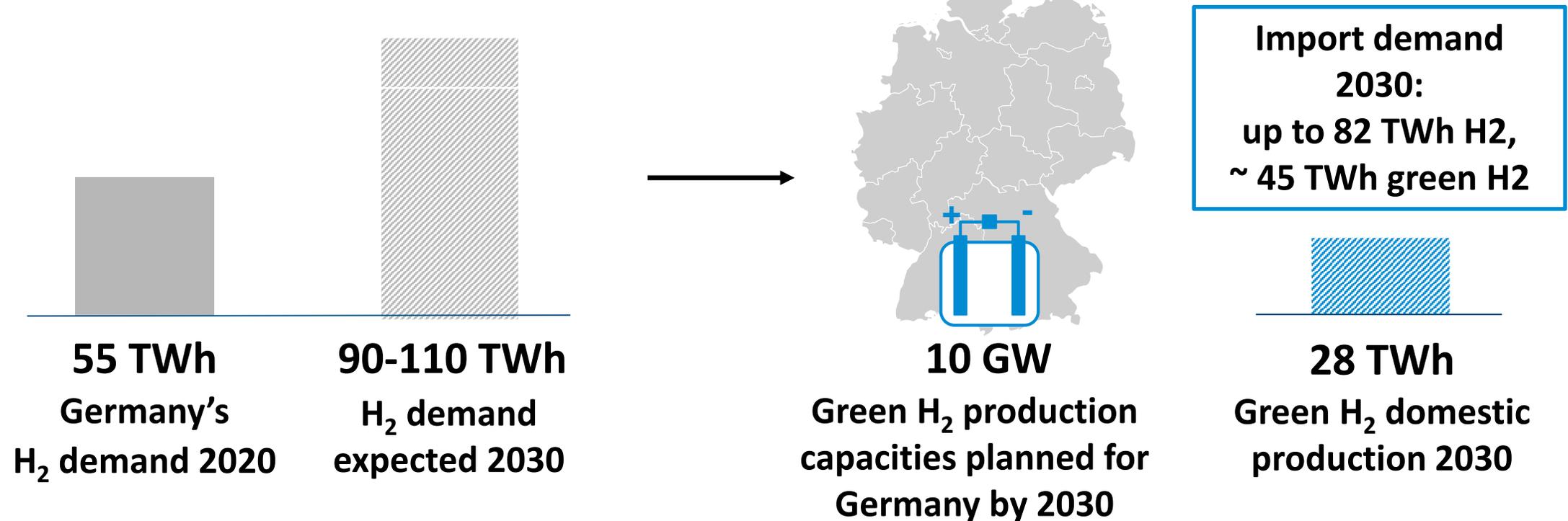


International cooperation

- Importing renewable energy from beyond EU
- €2 bn in funding for pilot projects in partner countries

Domestic Hydrogen Market and Import Demand

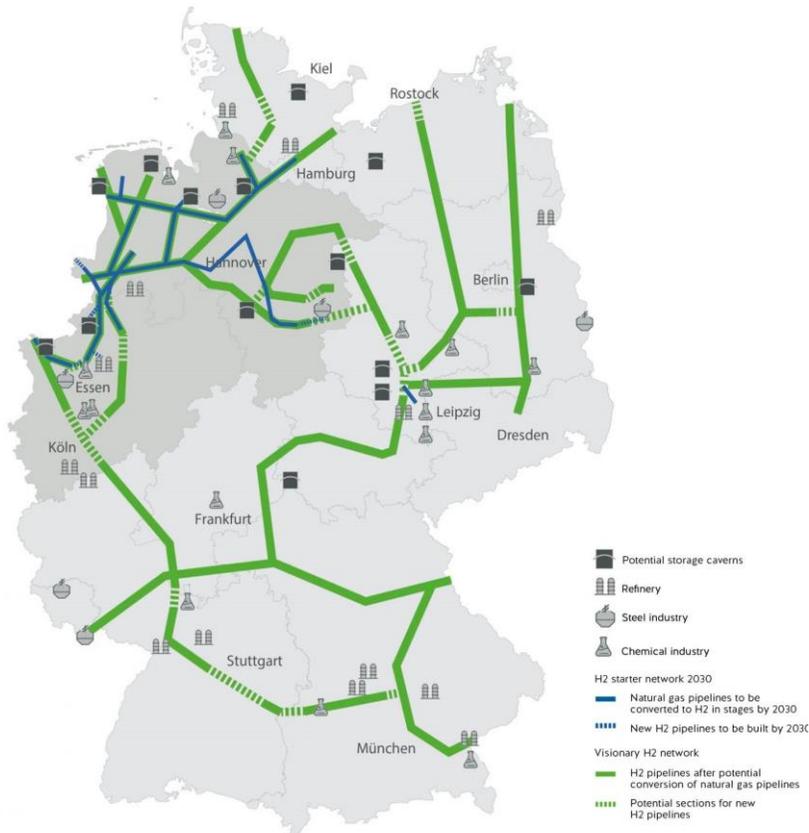
Hydrogen (H₂) volumes foreseen for 2030



New Hydrogen Infrastructure

A pipeline network to supply the German industry

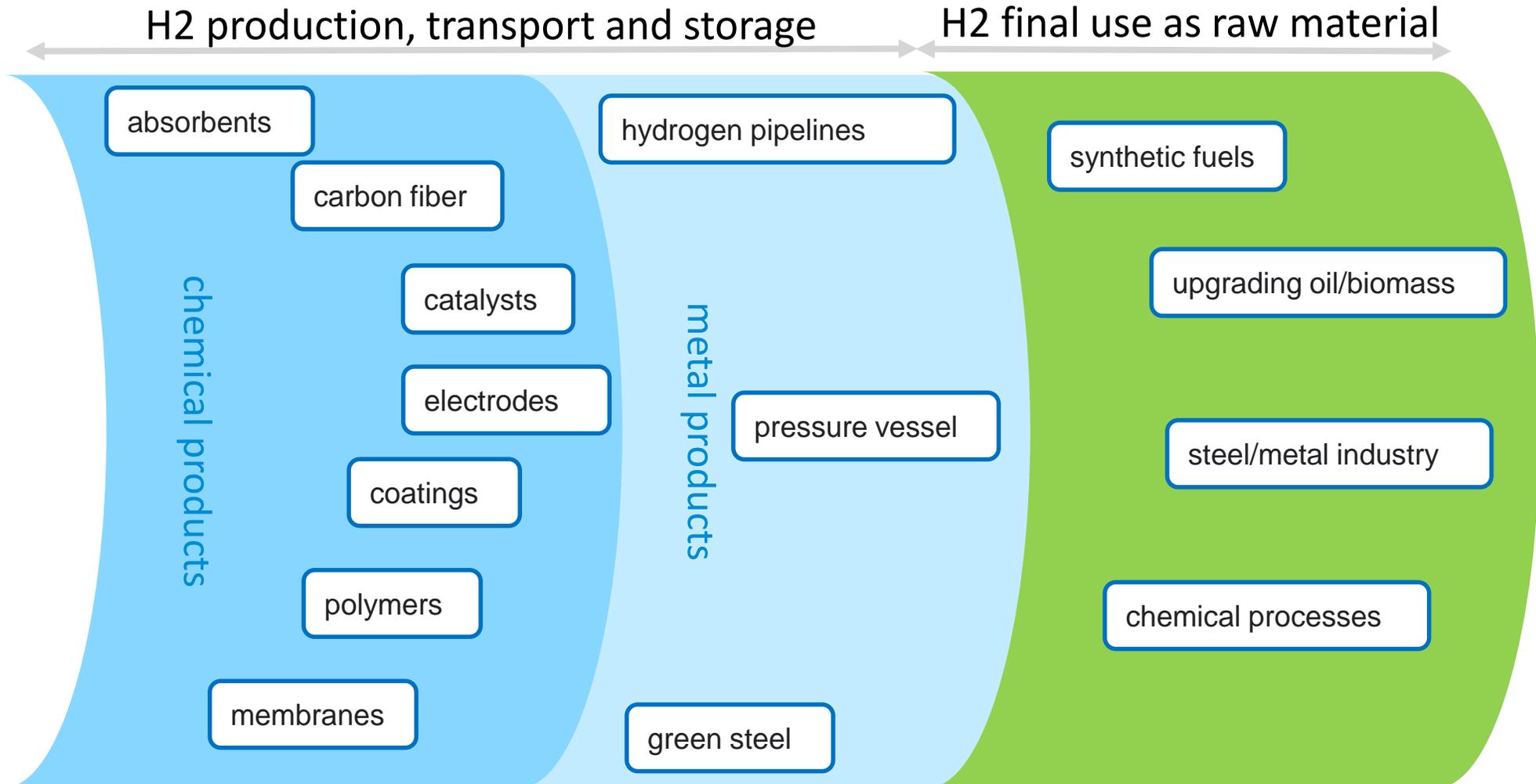
H₂ starter network 2030

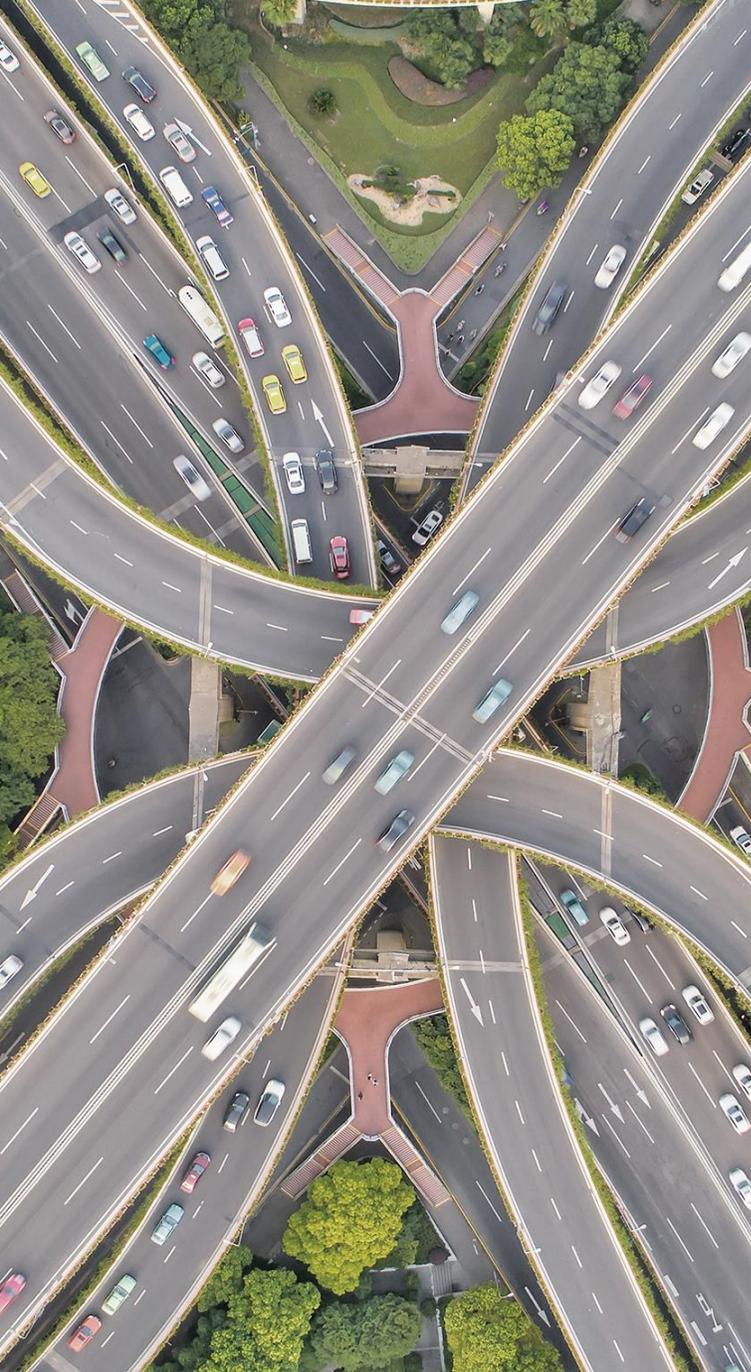


- Wind (offshore) will play an important role for the generation of H₂
- The NG infrastructure will be repurposed for hydrogen transport in connection with the European hydrogen backbone
- Storage capacity and 2 H₂ pipeline networks already exist and will be further developed
- H₂-ready LNG terminals are being built to import gas and H₂ from overseas

Investing in the H2 Economy

From H2 production to H2 final use, from materials to devices





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Information for German Companies



Home > Trade > Specials > Special > China > China setzt auf Förderung von Wasserstoffwirtschaft

Special | China | Wasserstoff

China setzt auf Förderung von Wasserstoffwirtschaft

Künftig soll Wasserstoff verstärkt zur Energiesicherheit beitragen. Staatliche Förderung sorgt für regionale Industriecluster und erzeugt *Hydrogen Valleys*.

06.08.2020

Von **Corinne Abele** | Shanghai

- ▶ [Regierung setzt ambitionierte Ziele](#)
- ▶ [Grüner Wasserstoff als Pilotprojekt](#)
- ▶ [Staat fördert Brennstoffzellenfahrzeuge](#)
- ▶ [Olympische Winterspiele 2022 als Leistungsschau](#)

Regierung setzt ambitionierte Ziele

Stichtag des Deals: der Mittel- und langfristige Wasserstoffstrategie und Brennstoffzellen im Bereich der Energieerzeugung

Funktionen



 Zur Sammelmappe hinzufügen 

My GTAI Login

INVEST

投资德国

2020 年德国的全球声誉进一步提高

在新冠疫情大流行中，许多国际调查表明，全球各地的人们对德国的理性、稳定和领导地位的重视程度有所提高。

请在此点击阅读新闻稿和视频。



National hydrogen production

China Hydrogen Alliance

	2030	2050
Mio tons	35	60
% National final energy consumption	5	10
% Produced based on renewable energy	15	75

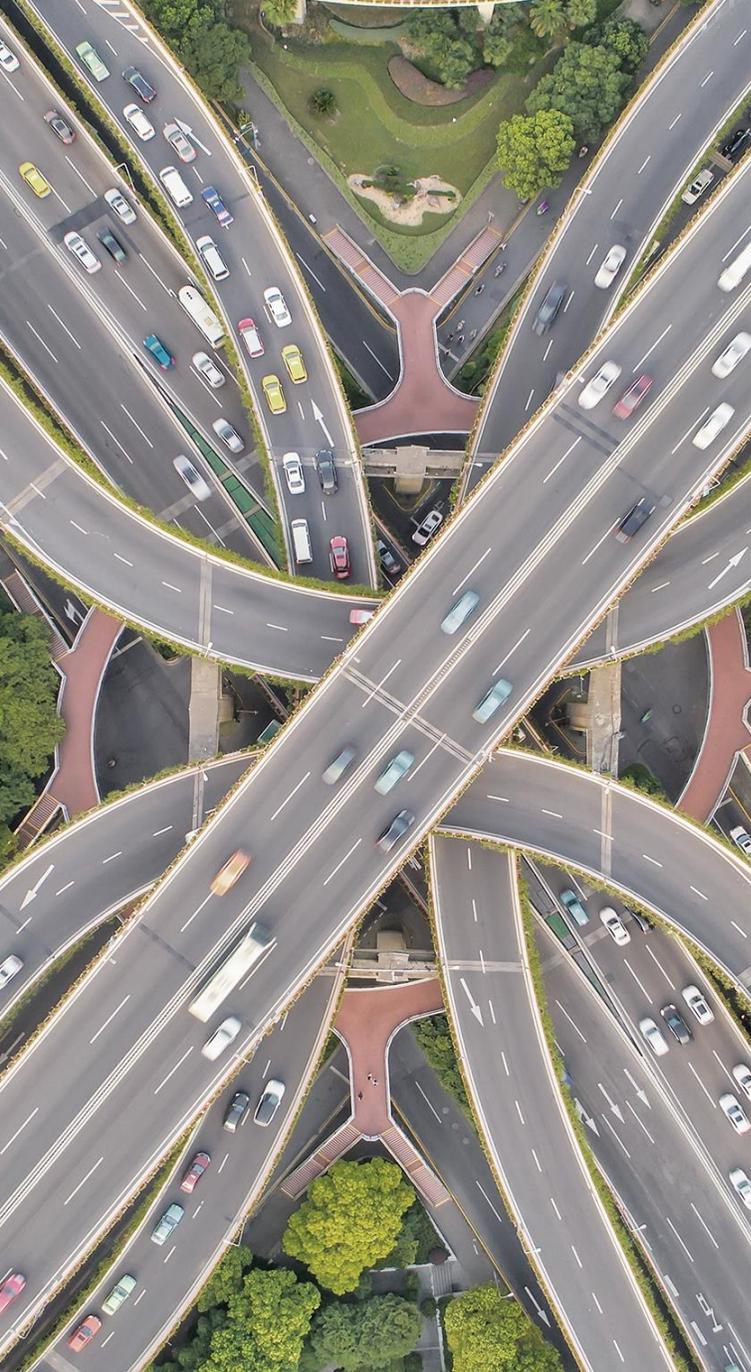
Information for German Companies

Chinas Green Hydrogen Production with regional development focus – Plan 2030

<https://www.gtai.de/de/trade/china/branchen/china-treibt-wasserstoffwirtschaft-strategisch-voran--879734>

China Hydrogen Alliance Research Institute 2022





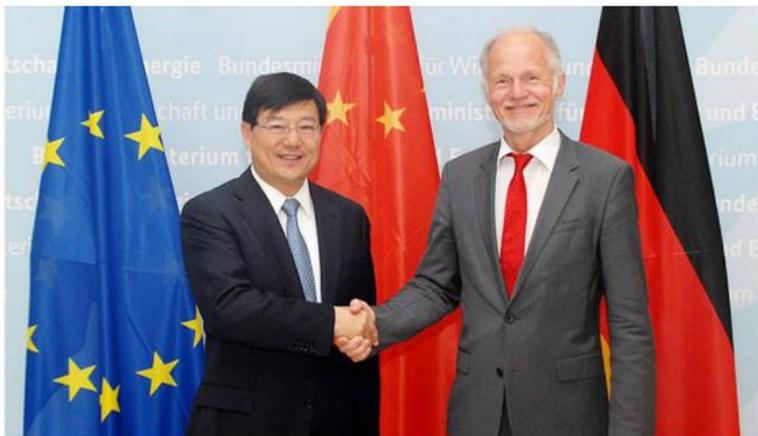
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The Sino-German Energy Partnership



Sino-German Energy Partnership: NDRC Vice Minister Hu Zucai meets former BMWi State Secretary Rainer Baake. Source: BMWi/Andreas Mertens.

Since its initiation in 2006 at the Sino-German Forum for Economic and Technological Cooperation, the bilateral cooperation between China and Germany in the energy sector has developed into a strategic partnership. The Sino-German Energy Partnership links three levels of action: high-level policy dialogue, business-to-government exchange as well as an exchange of experiences on technical and regulatory solutions promoting the energy transition.



READ MORE

GTAI Hydrogen Initiatives



经济观察
Economic Observer

关于绿色氢能新商机的问答

——专访德国GTAI氢能专家Heiko Staubitz

New Business Opportunities in Green Hydrogen Energy

—Interview with Heiko Staubitz, GTA Hydrogen Energy Expert



本刊记者 晓 骏

去

年德国推出了国家氢能战略，大力发展绿色氢能成为德国实现气候转型的重要举措之一。

推动绿色氢能对企业和投资者意味着什么？

这个领域存在着哪些商机？

为此我们专访了德国联邦外贸与投资署的氢能专家 Heiko Staubitz。

《国际市场》：为什么德国要推动绿色氢能？

Heiko Staubitz：氢能是非常适用于长期储存的能源。

目前举行许多关于氢能的线上研讨会。一个非常引人注目的活动，是来自北部德国五个联邦州的系列线上研讨会。我的问题是，北德地区发展氢能有哪些优势？

HY-5

HY-5



The Green Hydrogen Initiative
of Northern Germany

BIG NUMBERS

GREEN HYDROGEN IN NORTHERN GERMANY

13400

OFF-/ONSHORE
WIND POWER PLANTS

3.6

BILLION EUROS
IPCEI FUNDING

27

IPCEI
PROJECTS

20

HIGH-PERFORMANCE
POWER-TO-GAS
FACILITIES

12

SEAPORTS AND
IMPORT TERMINALS

9

KEY BRANCHES
AS PURCHASERS

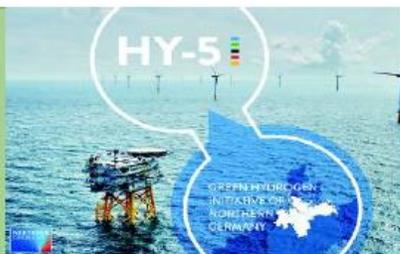
HY-5 Bremen Hydrogen Opportunities

The frame and approaches for the hydrogen economy

Our common aim:
hydrogen as one solution that will contribute to carbon neutrality and that will facilitate the transformation processes of the economy

Example Northern Germany:

5 Federal States of Northern Germany Join Forces to Promote a Green Hydrogen Economy
Aim: make Northern Germany the leading future region for green hydrogen in Europe and to complete the value chain for green hydrogen.



Example of the “Hydrogen Hanseatic League”



Hydrogen Strategy for the state of Bremen 21. 12. 2021



Cooperation on a regional level, e.g. Northern Germany (HY5)



Cooperation within the Hydrogen Strategy on National Level



Cooperation between regions and on international level (e.g. EU hydrogen strategy, IPCEI framework, HorizonEurope)

GTAI supported Chinese H2 Investments in Germany

Manufacturer of Hydrogen Plant

- R&D Center planned
- 5 – 20 Employees
- Investment volume 200,000 to 1,000,000 €
- GTAI advised on market information about hydrogen industry as well as trends and policies

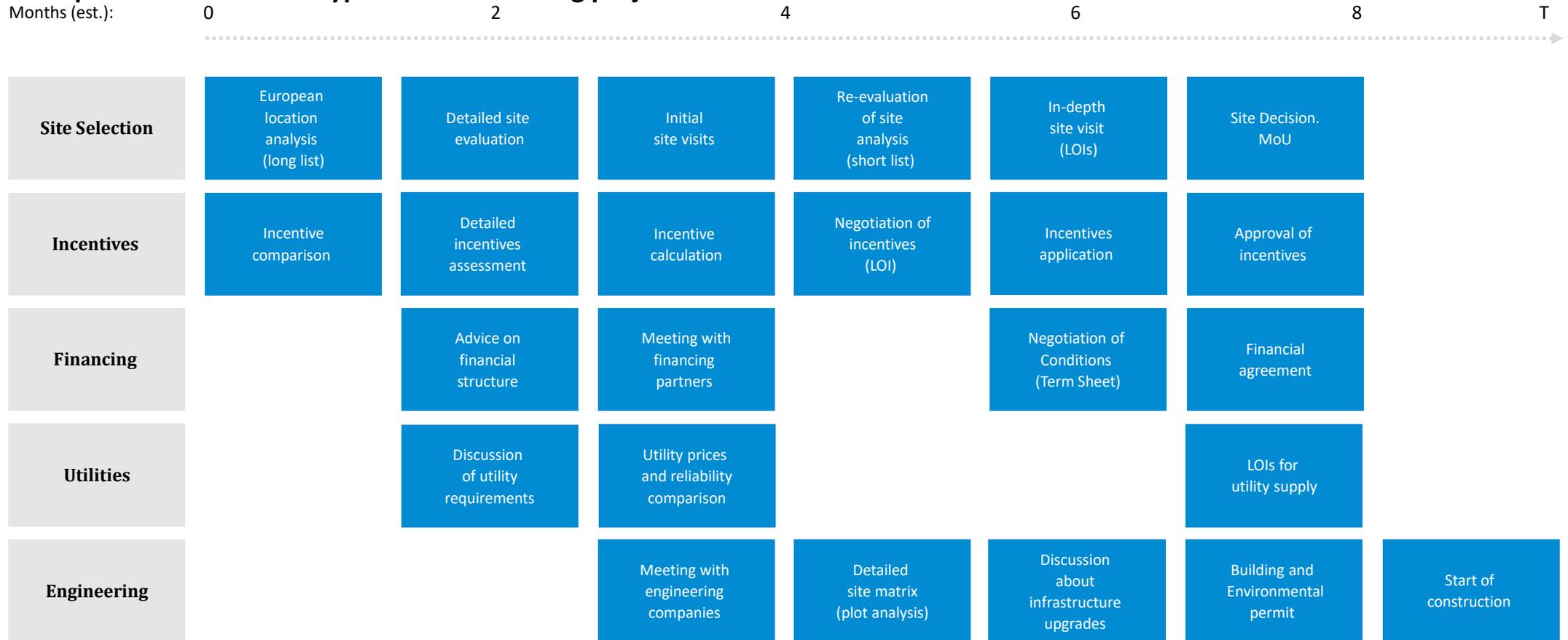
Supplier of fuel cell systems

- Company foundation
- Existing multiple cooperation with customers in Germany with various fuel cell applications
- Implementations of a market study on application of hydrogen technology

The Role of Germany Trade & Invest

Close support throughout the entire investment process

Example: Milestones of a typical manufacturing project





www.gtai.com/

- Business Location Germany
- Industries in Germany
- Investment Consulting
- Investment Guide to Germany
- Info Service

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