



# INTERNATIONAL PARTNERSHIP FOR HYDROGEN AND FUEL CELLS IN THE ECONOMY

## IPHE Country Update November 2022: Germany

<b>Name</b>	Adam Mutwil
<b>Contact Information</b>	<a href="mailto:adam.mutwil@bmdv.bund.de">adam.mutwil@bmdv.bund.de</a>
<b>Covered Period</b>	April 2022 to November 2022

### 1. New Initiatives, Programs, and Policies on Hydrogen and Fuel Cells

In April, the new German Federal Government presented the federal cabinet with a comprehensive package of legislation, the so-called “[Easter Package](#)”. It forms part of the [immediate climate action programme for 2022](#) and implements many of the energy policies contained in the coalition agreement. Amongst others, the package promotes the ramp-up of sector-coupling with green hydrogen.

In the course of the German Canadian Business Conference, Germany’s Federal Minister for Economic Affairs and Climate Action Robert Habeck and Canada’s Federal Minister of Natural Resources Jonathan Wilkinson signed a [declaration of intent on a German-Canadian Hydrogen Partnership](#) in August in Stephenville, Newfoundland and Labrador.

In September, the Abu Dhabi National Oil Company (ADNOC) shipped its first ever shipment of low-carbon (blue) ammonia to Hamburg, Germany.

### 2. Hydrogen and Fuel Cell R&D Update

*No Updates.*

### 3. Demonstration, Deployments, and Workforce Developments Update

*No Updates.*

### 4. Events and Solicitations

In July, the [German Hydrogen General Assembly](#) took place in Berlin. The Hydrogen General Assembly aims to inform an interested audience about a broad overview of the state of hydrogen technology and market-ready products, to raise visibility for the projects in society and in Berlin’s political landscape, and to ensure transparency in the handling of the funding being provided.

### 5. Investments: Government and Collaborative Hydrogen and Fuel Cell Funding

At COP27, Chancellor Olaf Scholz [confirmed that Germany is planning to invest over four billion EUR](#) [approx. 4,16 billion USD] into the H2Global instrument. In October, Dutch Prime Minister Mark Rutte and Chancellor Olaf Scholz announced that the Dutch government is [planning to participate financially in the H2Global](#) initiative.

Germany is [planning to provide another 550 million EUR](#) [approx. 571,97 million USD] for the establishment of new hydrogen funds at KfW bank. This was announced in November 2022 by German Development Minister Svenja Schulze and Stefan Wenzel, Parliamentary State Secretary at the German Economic Affairs Ministry, at COP27. Two special hydrogen funds are to be created in order to provide tailored support. The PtX Development Fund will foster



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hydrogen investment in developing and emerging economies, while the PtX Growth Fund will contribute to accelerating the global market and infrastructure development for green hydrogen across all countries.

The HyPerformer category of the Federal Ministry for Digital and Transport's (BMDV) HyLand regional funding competition [is now entering its second round](#). The goal of HyPerformer is to support the implementation of integrated concepts for the mobility sector, thus establishing a regional hydrogen economy. A total of 45 million EUR [approx. 46,79 million USD] in funding is available for establishing regional hydrogen economies along the entire value chain.

### **6. Regulations, Codes & Standards, and Safety Update**

In September 2022, NOW GmbH, on behalf of BMDV, co-delivered the 8th International Workshop on Hydrogen Infrastructure for Transportation. The workshop was organized by the U.S., the European Commission, Germany and Japan and was held at Clean Hydrogen Partnership in Brussels. In addition to updates from individual countries, key topics included infrastructure requirements for heavy-duty vehicles, infrastructure reliability, infrastructure ramp-up challenges, and safety.



## Summary Country Update November 2022: Germany

Transportation	Target Number	Current Status	Partnerships, Strategic Approach	Support Mechanism
Fuel Cell Vehicles <sup>1</sup>		2,049 (Nov. 2022)		Subsidy for purchase for fleets (NIP II 3rd Call) incl. construction of refueling infrastructure.
FC Bus		Current fleet: 71 (Nov. 2022) 1. Call: 464 approved 2. Call: 161 approved	Joint procurement in Europe, funded by JIVE, FCH-JU and NIP I and II	Subsidy for purchase (NIP II call 2018) incl. construction/installation of refueling infrastructure. New funding guideline for procurement of vehicles and infrastructure since 2021 in place. Duration 2021-2025. Two calls already happened.
Fuel Cell Trucks <sup>2</sup>		Current fleet: 29 (Nov. 2022) 1. Call: 280 approved 2. Call: still in process		R&D activities of NIP. New funding guideline for procurement of vehicles and infrastructure since 2021 in place Duration: 2021-2024. Two calls already happened.
Forklifts		180 (Nov. 2022) plus 152 in implementation	Industry Network Clean Intralogistics Net (CIN)	NIP market activation, additional procurement call.
H <sub>2</sub> Refueling Stations	Target Number	Current Status	Partnerships, Strategic Approach	Support Mechanism

<sup>1</sup> Includes Fuel Cell Electric Vehicles with Range Extenders

<sup>2</sup> As above



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70 MPa On-Site Production	No target	n.a.		
70 MPa Delivered	100 by 2020 (basic network)	95 (Nov 2022) plus 8 in planning or under construction	H2 Mobility, others	Subsidy for construction/ installation for publicly accessible stations for road transport.
35 MPa On-Site Production	No target	n.a.		
35 MPa Delivered	400 by 2025; 1000 by 2030 (depending on vehicle roll out)	12 in operation + 5 in optimization mode (refueling already possible, but not yet officially opened), 10 in planning or under construction.	H2 Mobility, others	Subsidy for construction/ installation for publicly accessible stations for road transport.
Stationary	Target Number <sup>3</sup>	Current Status	Partnerships, Strategic Approach	Support Mechanism
Small <sup>4</sup>	No target	20,810 units approved for funding (2016 through August 2022)		KfW programme 433 of the Federal Ministry for Economic Affairs and Climate Action (BMWK), a combination of fix rate and capacity-related subsidies.
Medium <sup>5</sup>	No target	n.a.		

<sup>3</sup> Targets can be units installed and/or total installed capacity in the size range indicated

<sup>4</sup> <5 kW (e.g., Residential Use)

<sup>5</sup> 5kW – 400 kW (e.g., Distributed Residential Use)



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Large <sup>6</sup>	No target	n.a.		
District Grid <sup>7</sup>	No target	n.a.		
Regional Grid <sup>8</sup>	No target	n.a.		
Telecom backup	No target	850 (Nov. 2022) plus 608 in implementation	Industry Network Clean Power Net (CPN)	Subsidy for procurement (NIP II call).
<b>H<sub>2</sub> Production</b>	<b>Target<sup>9</sup></b>	<b>Current Status</b>	<b>Partnerships, Strategic Approach</b>	<b>Support Mechanism</b>
Fossil Fuels <sup>10</sup>				
Water Electrolysis <sup>11</sup> (PEM, Alkaline, SOEC)	10 GW by 2030. (pledged by new government)	78 MWeI plus >2 GWel planned or proposed as part of IPCEI		Various support schemes.
By-product H <sub>2</sub>				
<b>Energy Storage from Renewables</b>	<b>Target<sup>12</sup></b>	<b>Current Status</b>	<b>Partnership, Strategic Approach</b>	<b>Support Mechanism</b>

<sup>6</sup> 0.3MW – 10 MW (e.g., Industrial Use)

<sup>7</sup> 1MW – 30 MW (e.g., Grid Stability, Ancillary Services)

<sup>8</sup> 30MW plus (e.g., Grid Storage and Systems Management)

<sup>9</sup> Target can be by quantity (Nm<sup>3</sup>, kg, t) and by percentage of total production; also, reference to efficiency capabilities can be a target

<sup>10</sup> Hydrogen produced by reforming processes

<sup>11</sup> Please indicate if targets relate to a specific technology (PEM, Alkaline, SOEC)

<sup>12</sup> Can be expressed in MW of Installed Capacity to use the electricity from renewable energy generation, and Annual MWh of stored energy capacity



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Installed Electrolyser Capacity	As above	As above		As above
Power to Power <sup>13</sup> Capacity	No target			
Power to Gas <sup>14</sup> Capacity	No target			

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<sup>13</sup> Operator has an obligation to return the electricity stored through the use of hydrogen back to electricity

<sup>14</sup> Operator has the opportunity to provide the stored energy in the form of hydrogen back to the energy system through multiple channels (e.g., merchant product, enriched natural gas, synthetic methane for transportation, heating, electricity)