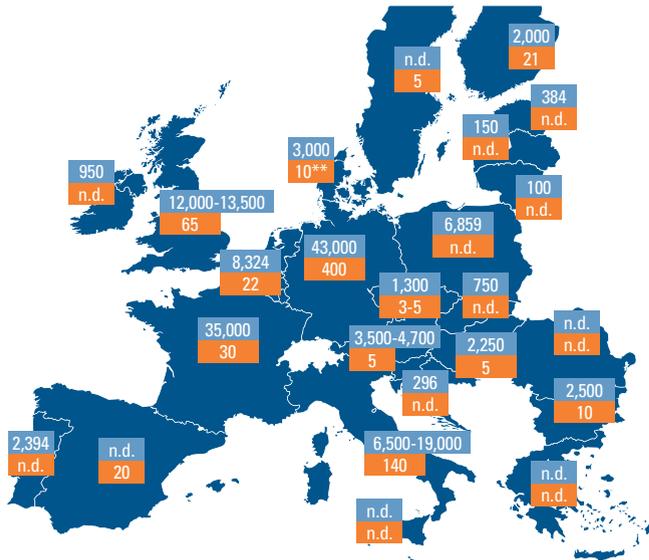


European Objectives for the Development of Alternative Fuel Infrastructures



■ Hydrogen Infrastructure until 2025
■ Recharging Infrastructure for Electric Mobility until 2020*

* Not all member states give separate figures for quick charging points.
 ** In DK, these are existing Hydrogen Refueling Stations.

The European directive on the infrastructure development for alternative fuels 2014/94/EU (Alternative Fuels Infrastructure Directive – AFID) aims to reduce CO₂ emissions and dependence on oil in transport. It requires member states to draw up plans for charging and refueling infrastructures, in particular for electricity and natural gas. With the target of establishing 43,000 charging stations by 2020 and 400 hydrogen filling stations by 2025, Germany is leading the way in Europe (see graph). Within the framework of the associated committee, the Sustainable Transport Forum and the GSG, the NOW cooperates with the member states and the European Commission.

Global developments in the areas of sustainable mobility and integrated energy systems are becoming more dynamic. In the past, cooperation has focused mainly on the field of technical challenges, the implementation of innovative technologies and the design of respective funding structures for R&D and market activation. As innovative technologies gain in marketability, the regulative framework for their establishment on the market is now moving more into focus.

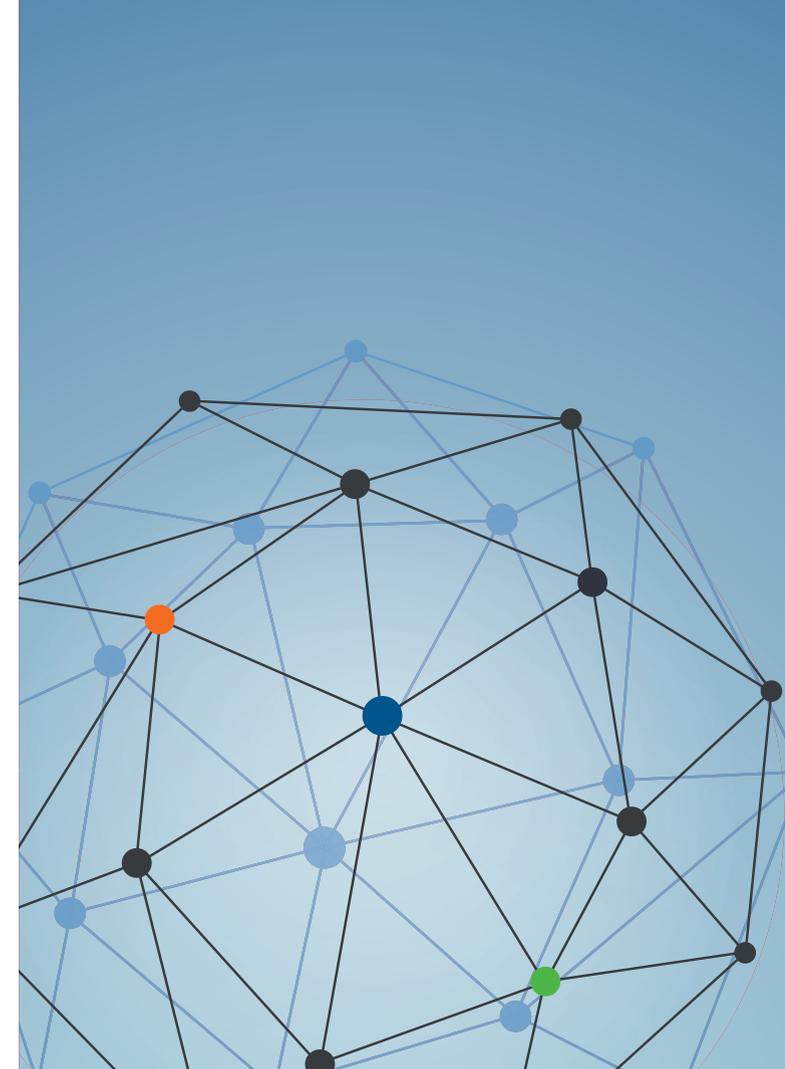
Through international collaborations, the NOW, as program company of the Federal Government, represents Germany's position as an active driver of battery technologies, hydrogen and fuel cell technologies in various global markets.

On behalf of:



Imprint:
 NOW GmbH
 National Organisation
 Hydrogen and Fuel Cell Technology
 Fasanenstr. 5
 10623 Berlin
 Germany

www.now-gmbh.de/en



International Cooperation

Mobility, Energy, Environment



MULTILATERAL

IPHE – COMMERCIALIZATION OF HYDROGEN AND FUEL CELL TECHNOLOGIES

The International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE) is a consortium of 18 member states plus the European Commission to support and promote the commercialization of hydrogen and fuel cell technologies. Germany is represented in the IPHE via the Federal Ministry of Transport and Digital Infrastructure (BMVI) with the NOW as coordinating body.

IEA HIA – EXCHANGE ON RESEARCH PROJECTS

The NOW is a member of the Executive Committee of the International Energy Agency Hydrogen Implementing Agreement (IEA HIA) and is actively involved in shaping the content of the IEA HIA. Within the framework of the IEA HIA, scientists from all over the world exchange their views on joint research projects on hydrogen and fuel cell topics.

USA, JAPAN, EU – INTERNATIONAL WORKSHOP ON HYDROGEN INFRASTRUCTURE AND TRANSPORTATION

Together with the US Department of Energy (DoE), the Japanese NEDO and the Joint Research Center (JRC) of the European Union, the NOW organizes the International Workshop on Hydrogen Infrastructure and Transportation, at which experts from the respective national demonstration projects exchange views on the challenges of the practical implementation of existing technical standards and norms.

MISSION INNOVATION – RENEWABLE AND CLEAN HYDROGEN CHALLENGE

Within the Mission Innovation association of 24 nations and the EU, NOW leads the Renewable and Clean Hydrogen Challenge alongside the EU and Australia. The Challenge aims at enabling a global hydrogen market. Central topics are the development of integrated concepts, the role of hydrogen in the gas network and in the application of heavy duty traffic.

EUROPE

EUROPEAN LEGAL FRAMEWORK

The NOW supports the BMVI in the negotiations about directives, regulations and acts of tertiary legislation in the fields of transport, energy and climate protection in the Council of the European Union. To enable concerted action with other European member states in the context of alternative fuel infrastructures and many other themes, the NOW is part of the Government Support Group (GSG) and, together with the Dutch authority Rijkswaterstaat, manage the GSG office.

FCH-JU – HYDROGEN AND FUEL CELL TECHNOLOGY IN EUROPE

Members of the Fuel Cells and Hydrogen Joint Undertaking (FCH-JU) are the European Commission, Hydrogen Europe Research as well as Hydrogen Europe, the European umbrella association representing the hydrogen and fuel cell industry. The NOW is in close contact not only with the members but also with the public-private organization.

EMERGING AND DEVELOPING COUNTRIES

GIZ – ESTABLISHING A NETWORK IN DEVELOPING AND EMERGING COUNTRIES

The international knowledge and technology transfer is to be improved within the framework of the cooperation between the German Society for International Cooperation (GIZ) and the NOW. Its main focus lies on the fields of hydrogen and fuel cell technologies, battery electro-mobility and alternative fuels for a sustainable mobility as well as on their integration in global climate actions. The project initiations and implementations take place in partner countries of the GIZ network in emerging and developing countries.

ASIA

CHINA – SINO GERMAN ELECTRO-MOBILITY INNOVATION AND SUPPORT CENTER (SGEC)

On the basis of the joint declaration between BMVI and the Chinese Ministry of Science and Technology of the PR China (MOST) on cooperation in the area of electro-mobility with batteries and hydrogen and fuel cells as well as the cooperation agreement between the China Automotive Technology & Research Center (CATARC) and the NOW, the virtual center Sino German Electro-Mobility Innovation and Support Center (SGEC) was set up. German-Chinese cooperation projects in the fields of battery electro-mobility, electro-mobility with hydrogen fuel cells, safety (battery and hydrogen) and integration of renewable energies are taking place in the SGEC in order to promote scientific exchange and the development of a partnership.

JAPAN – CLIMATE-FRIENDLY USE OF THE POWER-TO-GAS TECHNOLOGY

The NOW supports the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) at the work group on climate-friendly use of the Power-to-Gas Technology with the New Energy and Technology Development Organization (NEDO). As part of the cooperation, joint workshops are held on the integration of power-to-x and the development of regional concepts.

BMU – EXPORT INITIATIVE ENVIRONMENTAL TECHNOLOGIES

The NOW has been commissioned by the BMU as part of the Environmental Technologies Export Initiative. The aim of the contract is to give emerging and developing countries access to innovative technologies and integrated solutions – for example through the climate-friendly use of hydrogen and fuel cell technology.



International Partnership for Hydrogen and Fuel Cells in the Economy



iea hydrogen



JRC
EUROPEAN COMMISSION



GOVERNMENT
SUPPORTGROUP



FCH
FUEL CELL AND HYDROGEN JOINT UNDERTAKING



giz
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH



CATARC



NEDO



UMWELTSCHUTZ
made in Germany
Umweltministerium