Nationale Organisation Wasserstoff- und Brennstoffzellentechnologie

19th IPHE Steering Committee Meeting (SC)
May 23rd, 2012
London, England

Country Update Germany

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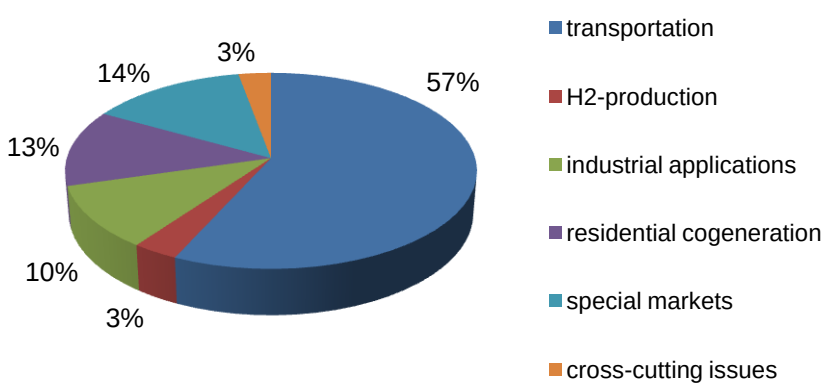
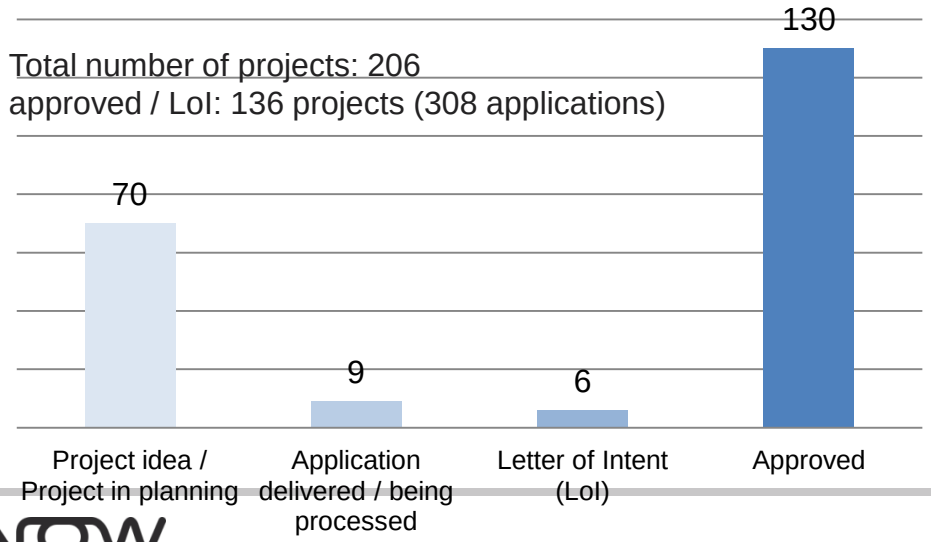
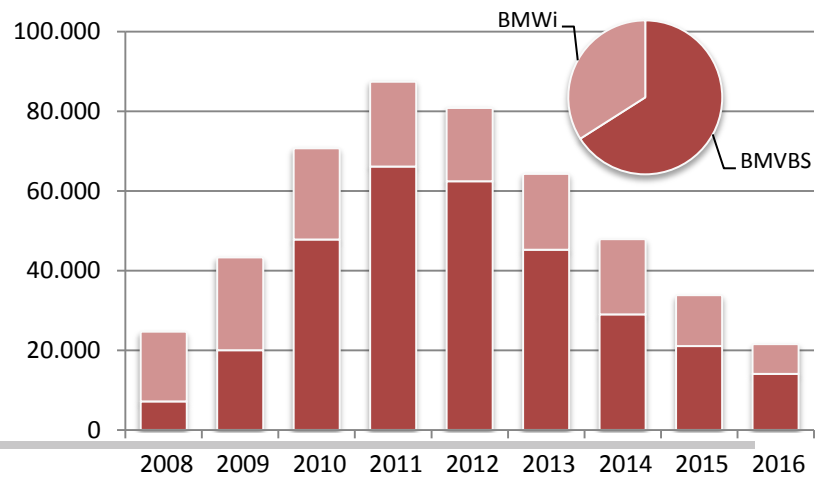
National Innovation Programme for Hydrogen and Fuel Cell Technology (NIP)

BMVBS-funding Status 04/2013

program area	LoI & approved k€	In discussion €k	total k€
transportation	228.288	58.859	287.147
H2-production	15.055	1.241	16.296
industrial applications	32.513	20.417	52.929
residential cogeneration	43.986	19.883	63.869
special markets	49.298	21.365	70.663
cross-cutting issues	4.839	9.744	14.583
product line	**373.979**	**131.509**	**505.488**







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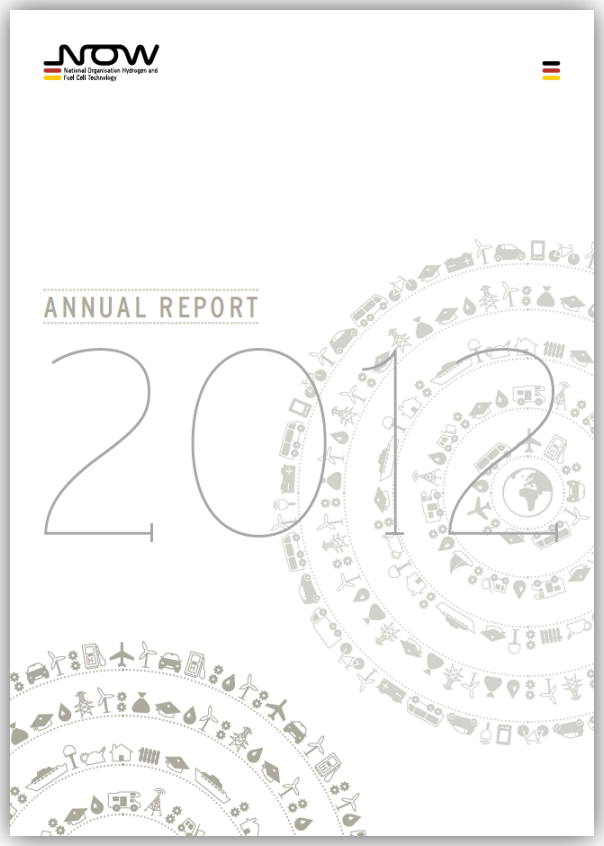


Please find the full version of the report at the NOW website!

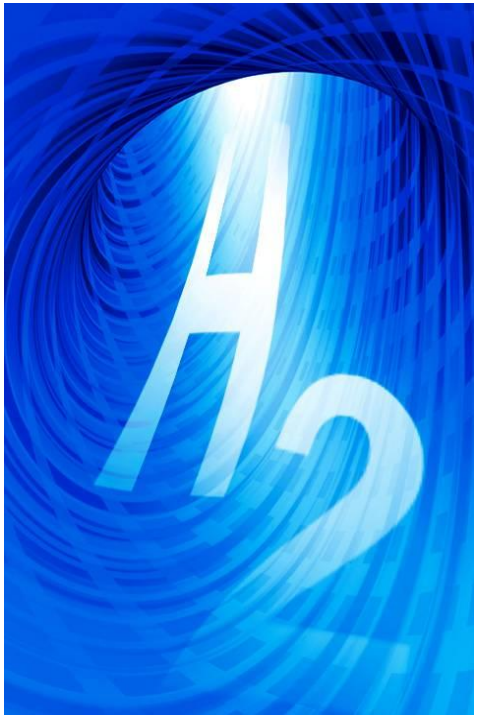
www.now-gmbh.de

Industry initiative targets the development of a network of hydrogen refueling stations for fuel cell electric vehicles in Germany

Berlin/Germany ,January 2013

Building up a refueling station network for fuel cell electric vehicles is taking on a concrete form. The current partners in the H2 Mobility initiative (**Air Liquide, Daimler, Linde, OMV, Shell, and Total**) are working on implementing a business model to build up a nationwide hydrogen refueling station network in Germany. The objective of this initiative is to prepare for the planned series launch of fuel cell electric vehicles and build up a hydrogen refueling station network infrastructure. In September 2009, the cross-industry H2 Mobility initiative already joined forces to develop scenarios to build up a hydrogen supply infrastructure in Germany within the scope of a study. Based on this study, H2 Mobility assessed the probable success of potentially building up this infrastructure and developed various business models along with an implementation road map in a second phase in 2011. Beyond the six partners, seven associated partners from the automotive industry (**BMW, Honda, Hyundai, Intelligent Energy, Nissan, Toyota, and Volkswagen**) as well as the National Organization of Hydrogen and Fuel Cell Technology (**NOW**) as interface to Germany's federal government are also involved.

In the currently launched third phase of preparations initiative partners are negotiating the foundation of a joint corporate entity to implement the business model and invest in building up the infrastructure.



H_2 Mobility

source: www-now-gmbh.de

HyTrust Project

Project duration: 09/2009 – 08/2013

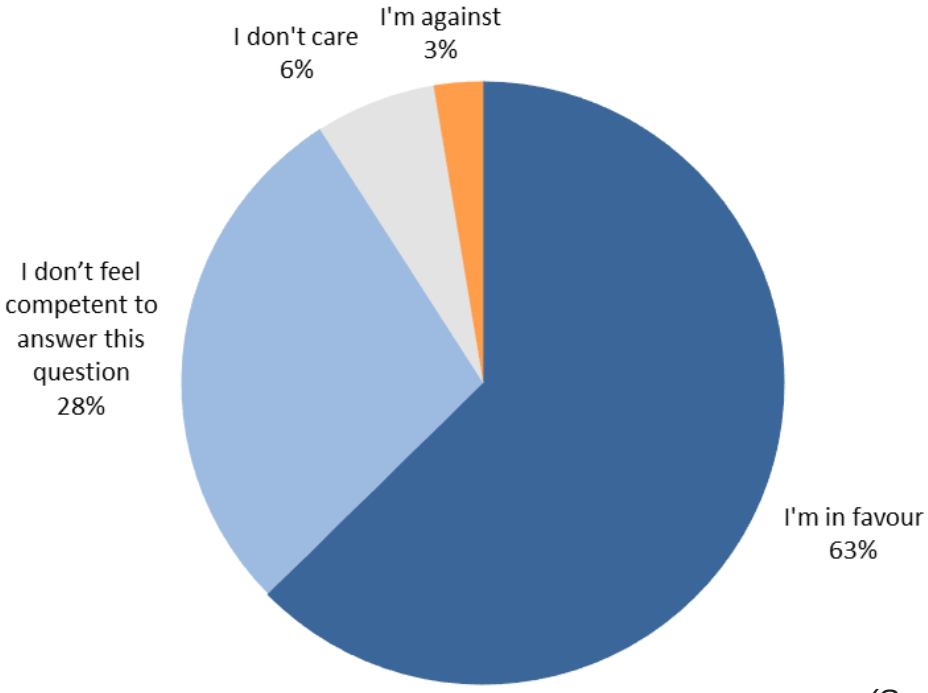
Funded by: Federal Ministry of Transport (BMVBS)/ NOW

Research questions:

1. What is the current state of public acceptance of hydrogen technology?
2. How can familiarity with hydrogen technology and trust in the actors responsible for it's implementation be raised in the public?
3. How can a successful transition towards the use of hydrogen in the mobility sector be achieved?

Acceptance of FCEV in the public

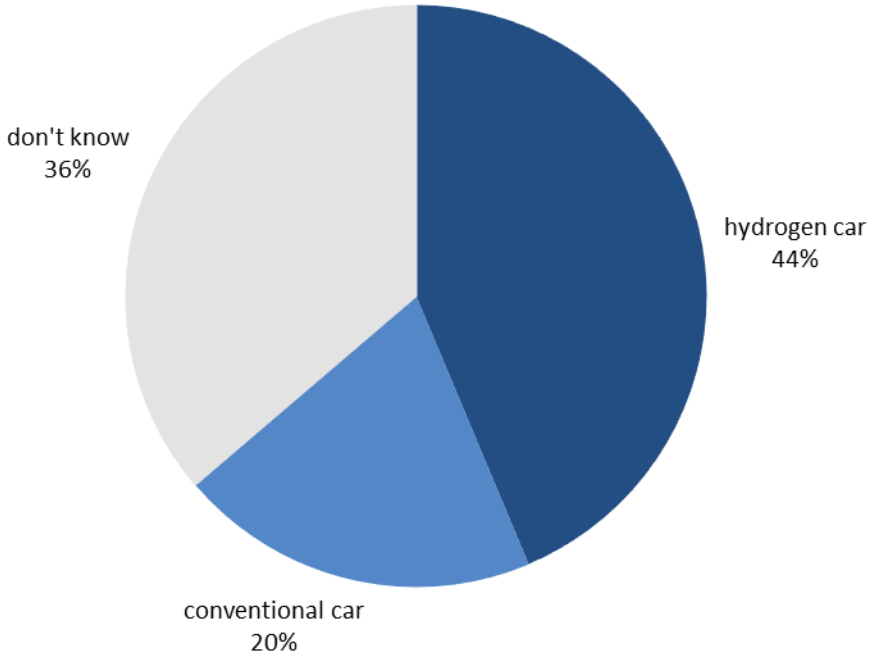
After all, what do you know about hydrogen cars or have just heard: Are you in favour or against the introduction of hydrogen cars?



(Survey 01/2013, n=1012)

Purchase preferences

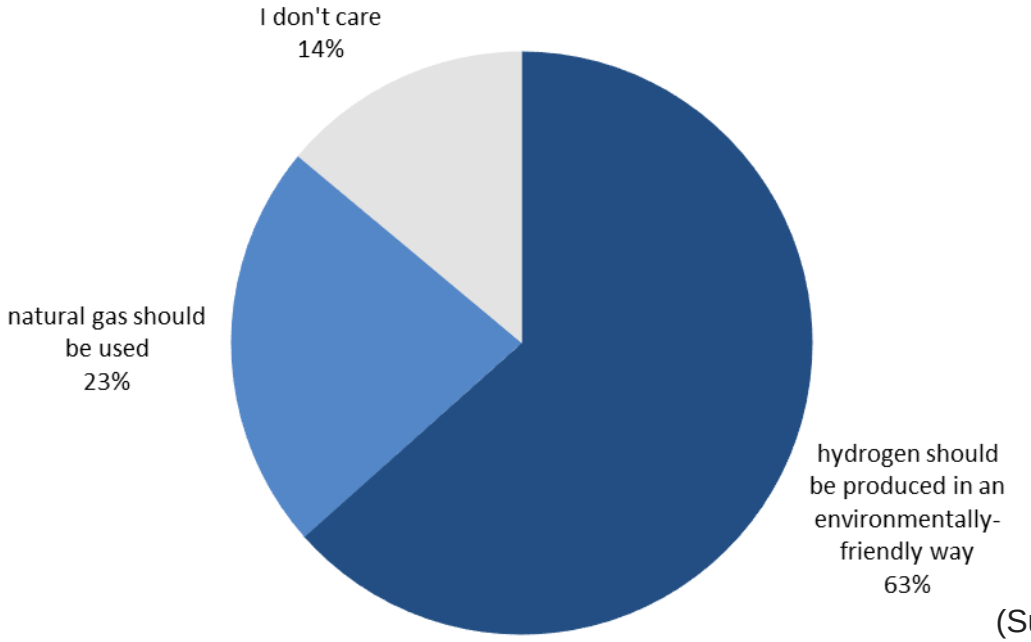
Imagine, you would buy a new car in the near future. If you had the choice and price, features, design, brand, etc. would be the same, would you opt for a hydrogen car or still for a conventional car?



(Survey 01/2013, n=1012)

Production of hydrogen

Hydrogen can be produced in an environmentally friendly way from renewable energies. This is still very expensive. It would be cheaper to produce hydrogen from natural gas. Do you think that natural gas should be used as a temporary solution, or should hydrogen be produced environmentally friendly even with a higher price?



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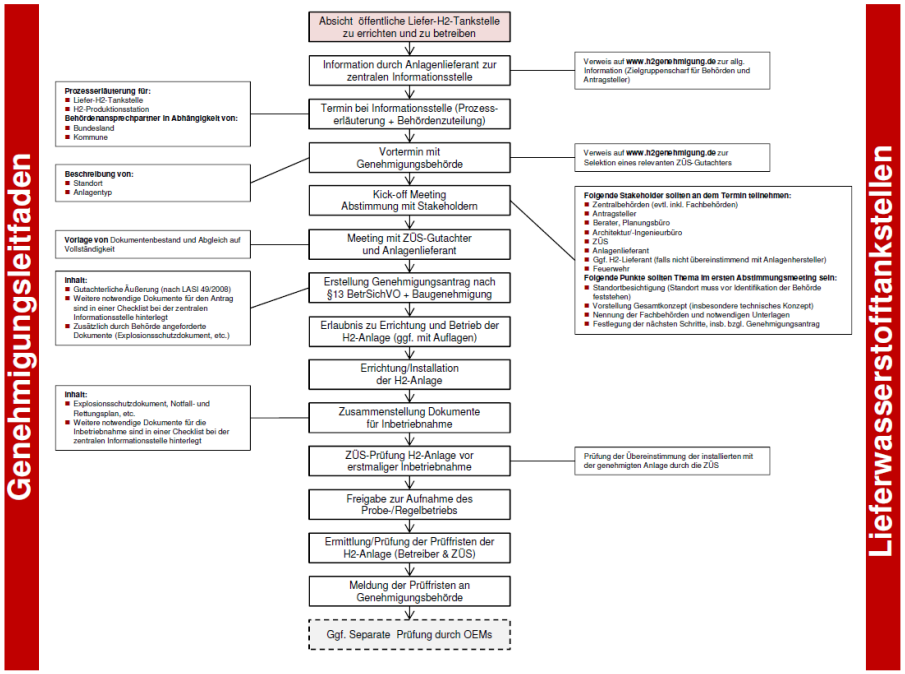
HRS Approval Guidline



Background:

- New situation for the authorities.
- Uncertainty how to handle hydrogen in approval processes.

Target:

- Elucidation with regards to hydrogen.
- Standardization and acceleration of the approval process by learning from best practice examples.

CHP Market Support in NRW

Market Introduction Program: Subsidies for CHP systems < 50 kW_{el}

Fuel Cell and Hydrogen Network NRW

- Subsidies for systems deployed in NRW, complementing funding of Mini CHP Program (< 20 kW_{el}, since April 2012)
- Technology, among others:
  - „High efficient“ decentral CHP systems
  - Demonstration of innovative CHP (e.g. fuel cells)
- Addressees: Companies – manufacturing and service industries, housing societies, municipal companies/utilities, infrastructure operators, contractors, etc.
- Funding für innovative CHP: **up to 45 % to 65 % of surplus investment costs**
  (e.g. up to 13,000 € for 1,5 kW fuel cell)
- In force since October 19, 2012

Source: Baxi Innotech, CFCL, Hexis, RBZ, Vaillant