



Federal Ministry  
for Economic Affairs  
and Energy

# Hydrogen Days 2016

## Hydrogen Technology Developments

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## Key Area of the German Energy Research Programme

**Dr. Georg Menzen**

**Federal Ministry for Economic Affairs**

**and Energy**

**7. April 2016**

**11:00 am**

**Prague**

# The German Energy Research Programme

1. The German Energy Concept (“Energiewende”)
  2. The German Energy Research Programme
  3. Fuel Cells and Hydrogen:
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# The German Energy Concept ("Energiewende")

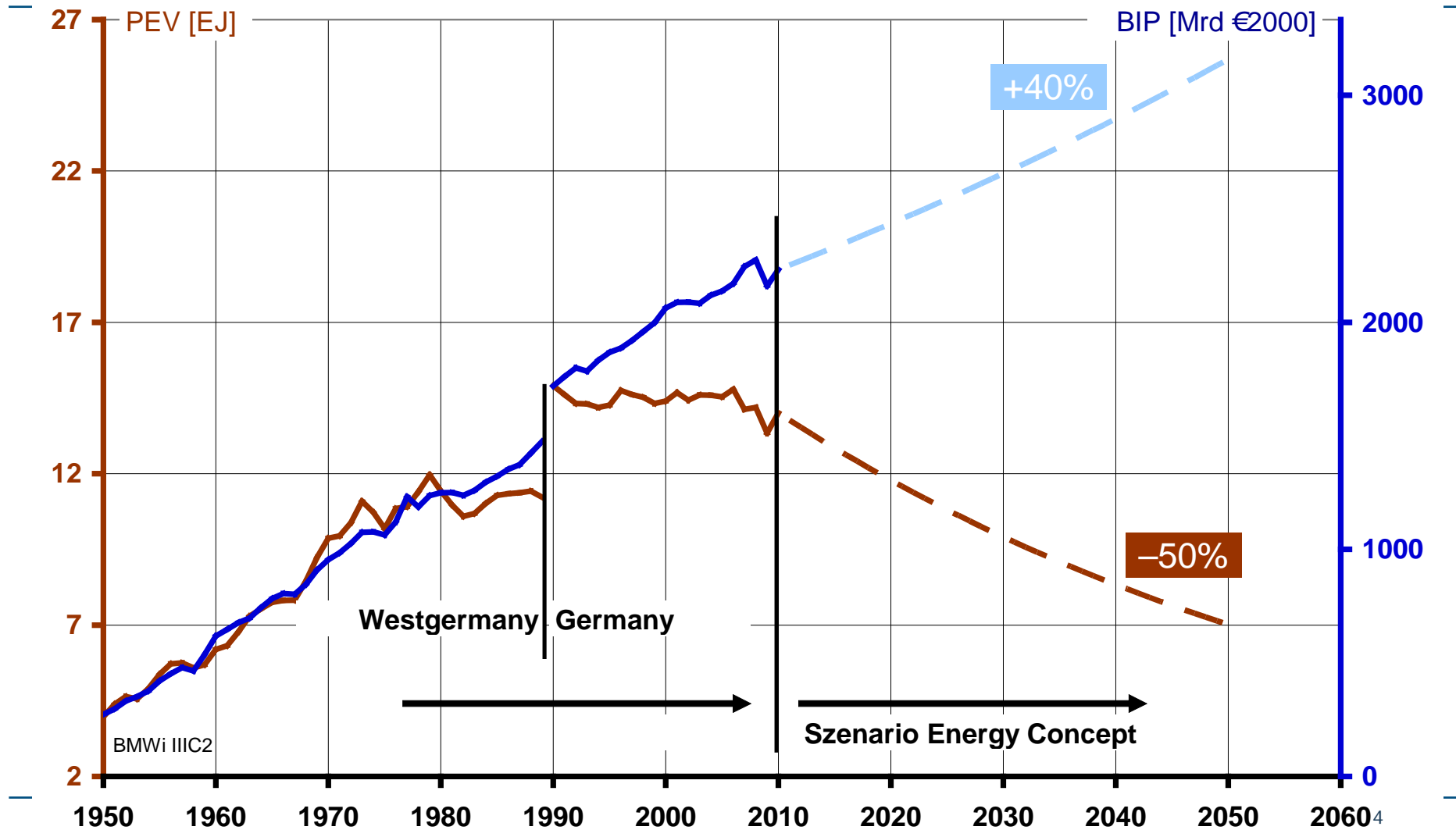
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## Objectives for 2050

Primary Energy consumption: (Basis 2008)	Minus 50 %
Greenhouse gas emissions: % (Basis 1990)	Minus 80 % up to 95
Share Renewables to end energy consumption	Contribution 60 %

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# Reduction of Primary Energy Consumption



# The German Energy Research Programme

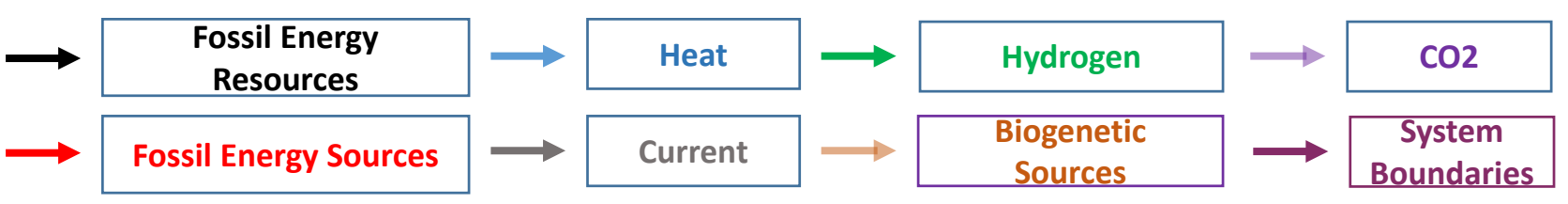
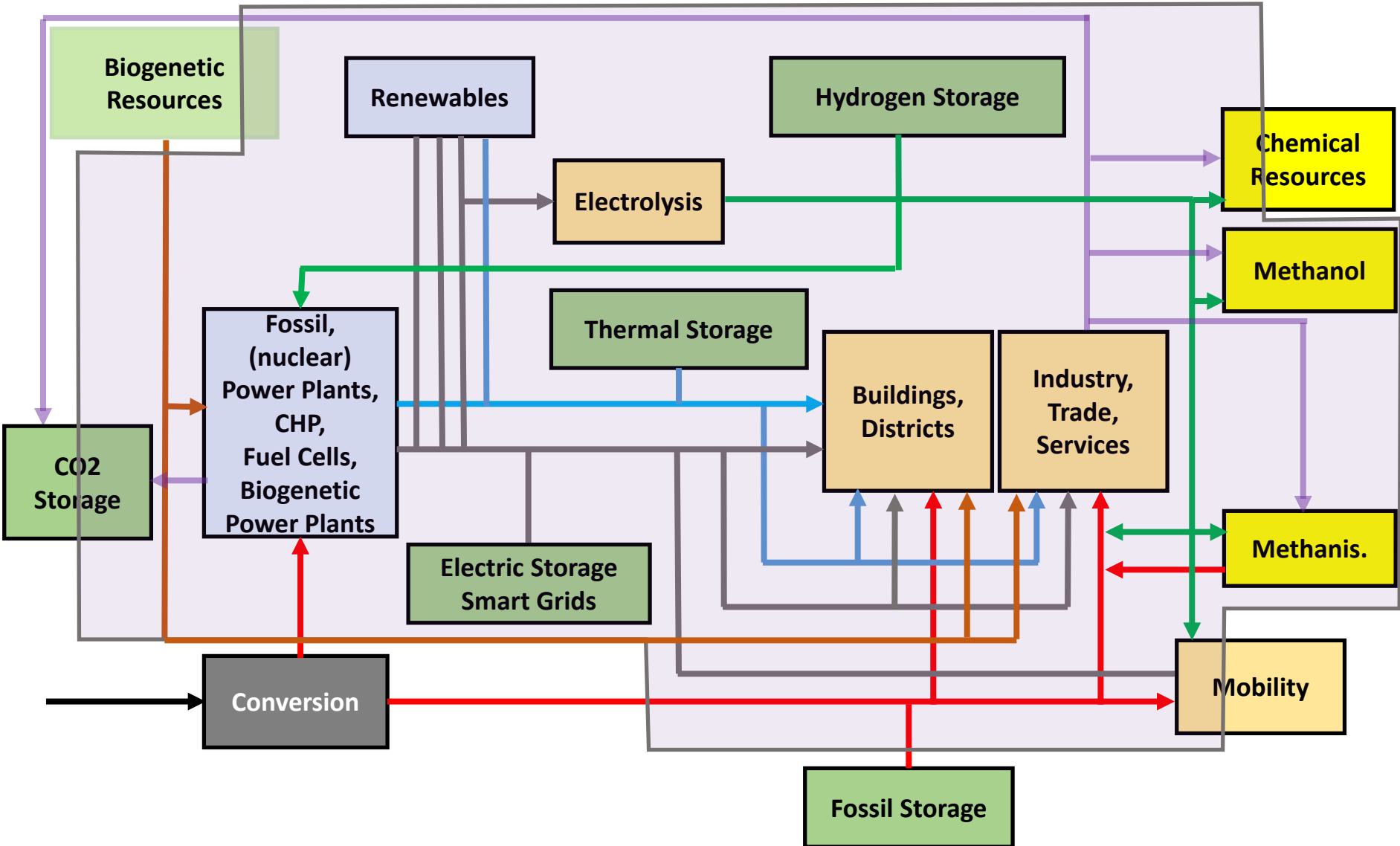
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# Energy Research Programme



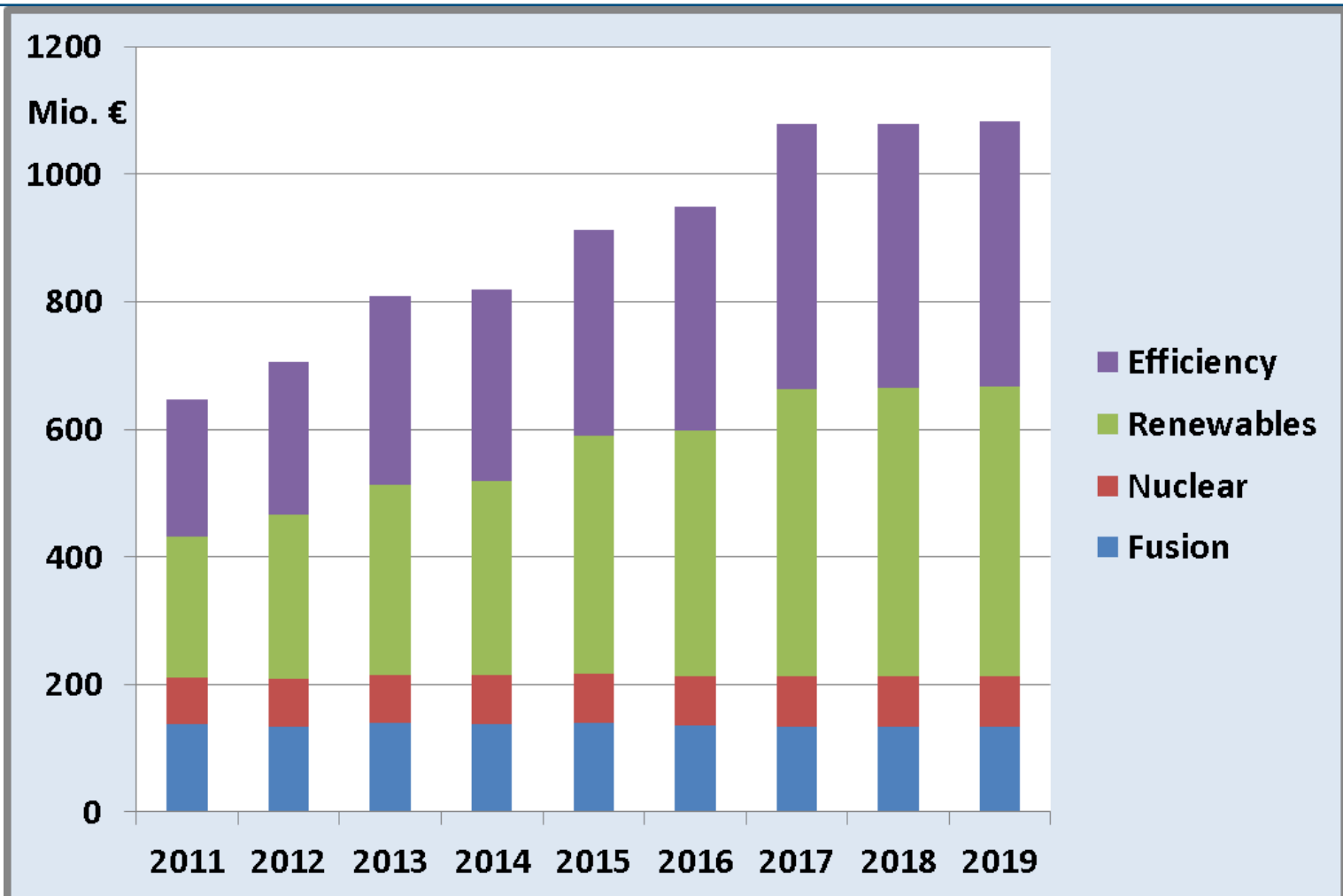
## Strategic Instrument of the Energy Policy

- Acceleration of the Modernisation Process  
Market introduction of innovative Energy Technologies,
- Enforce export of energy efficient products and services
- Ensure and enhance of technological options





# Public support by the Federal Government



2015 preliminary dates, 2016 – 2019 planning dates





## Update of the 6th Energy Research Programme

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1. - Implementation of the Initiative:  
„Future Compliant Electrical Grid“  
- New Initiative: „Solar Buildings / Energy Efficient City“
2. Strengthening of the European and international cooperation  
i. e. in Hydrogen and Fuel Cells, Smart Grids, Smart Cities  
(SET Plan, ERA-NET Cofund, “Berlin Model”, IEA)
3. Intensification of the cooperation with the Federal States
4. Implementation of a centralized information system Energy  
Research (EnArgus)

# The German Energy Research Programme

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# The “Energiewende”

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## Objectives for 2050

Primary Energy consumption: **Minus 50 %**  
(Basis 2008)

Greenhouse gas emissions: **Minus 80 % up to  
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(Basis 1990)

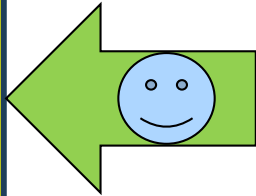
Electricity supply from Renewables: **Contribution 80 %**

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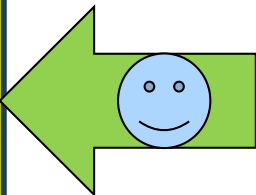
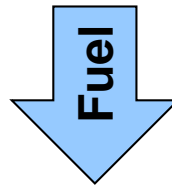
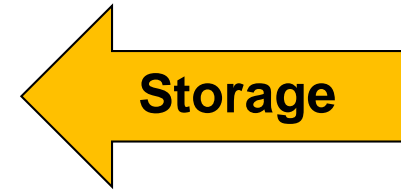
## The two columns of the Energiewende

Improvement of  
Energy Efficiency

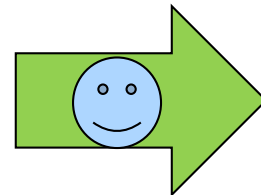


1. Stationary Application of Fuel Cells:  
Converter with high efficiency

2. Hydrogen as an ideal storage  
medium for volatile renewable  
energy sources



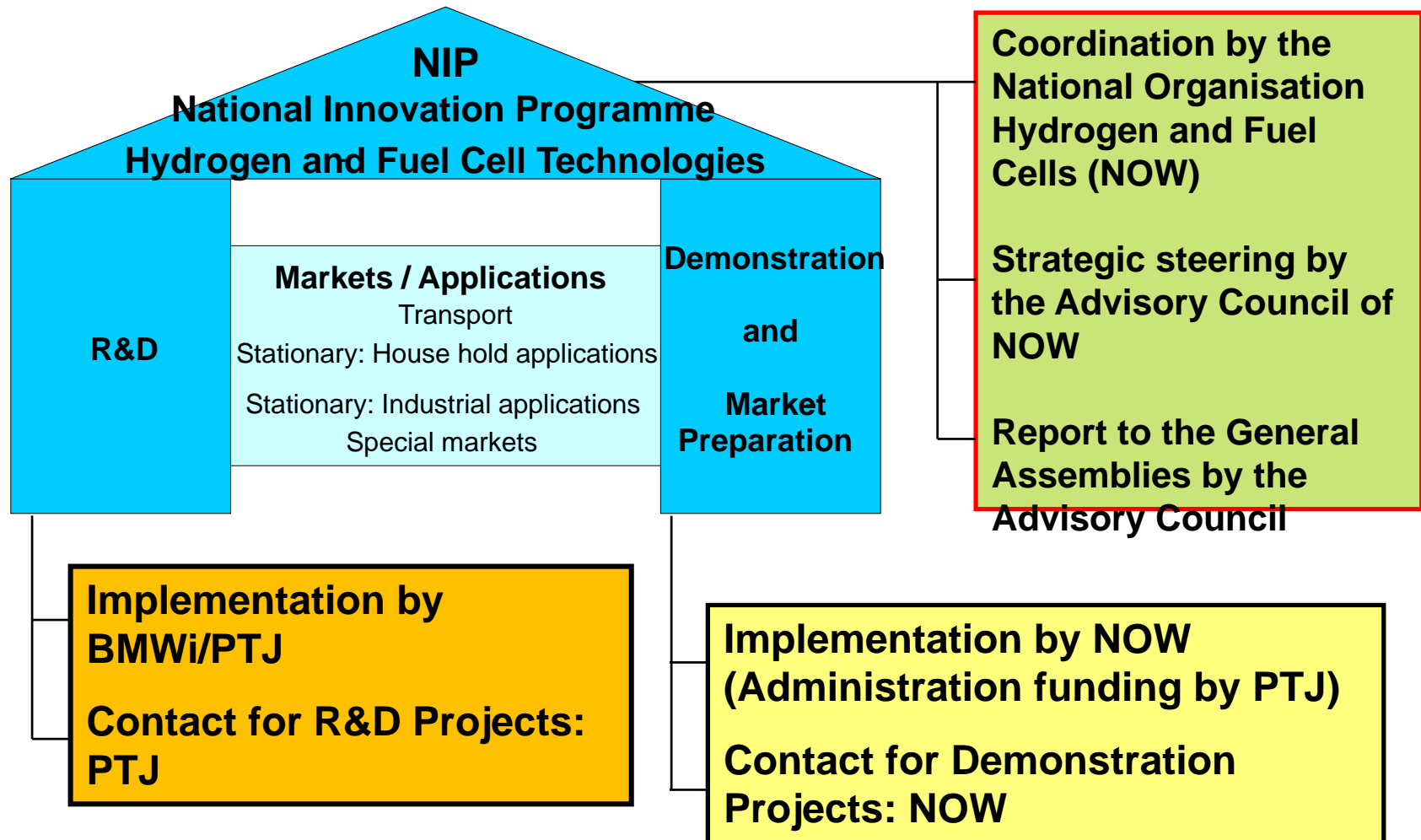
3. Hydrogen as fuel for fuel cell  
vehicles with high efficiency,  
use of renewable energies in  
the mobility sector



Increase of  
Renewable Energies



# Structures for the implementation of the NIP



# Distribution of the financial support by the Federal Government in NIP (BMVi und BMWi)

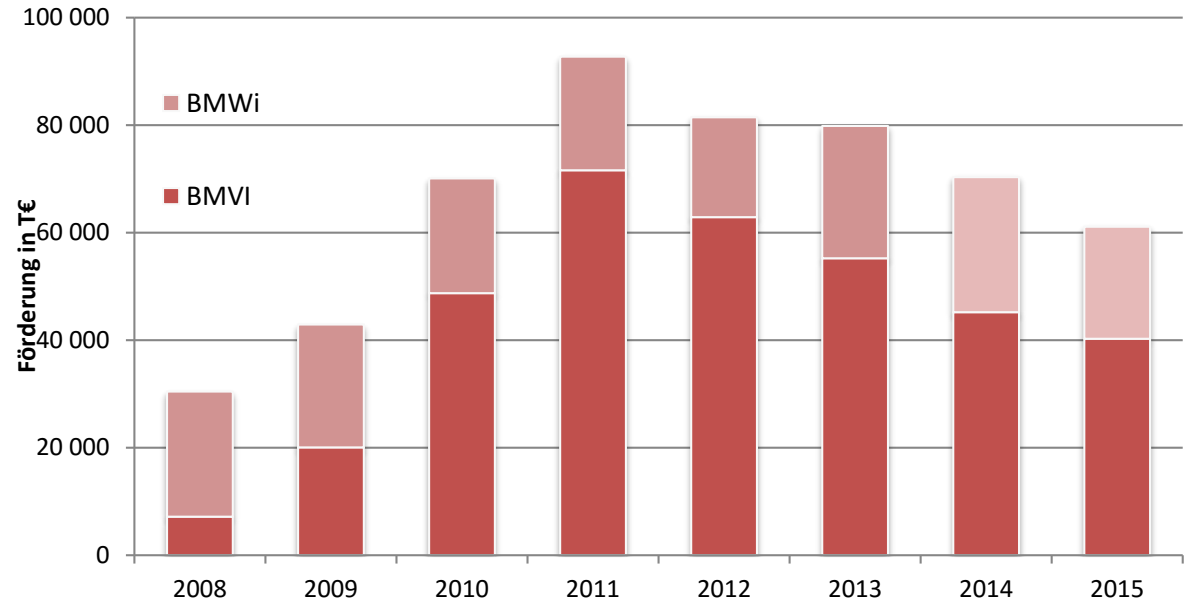


Bundesministerium für Wirtschaft und Technologie

Funding 2015 :  
20,8 Mio. €

Bundesministerium für Verkehr und digitale Infrastruktur

Funding 2015  
40,3 Mio. €



Funding in NIP:

2015 61 Mio.€  
2008-2015 529 Mio.€

Status 12/2015

