

# *Energiewende*

Transformation of the German energy system

Indo-German Energy Forum Support Office

## The triangle of energy policy objectives of the *Energiewende*

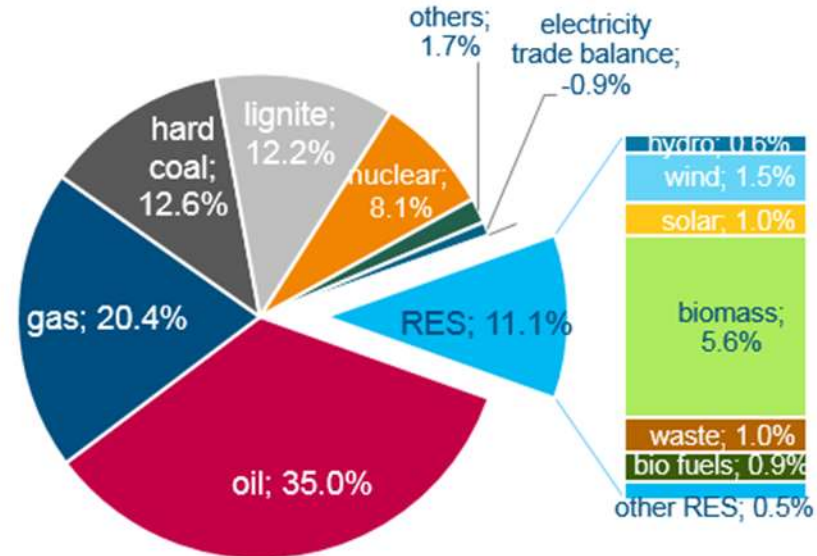
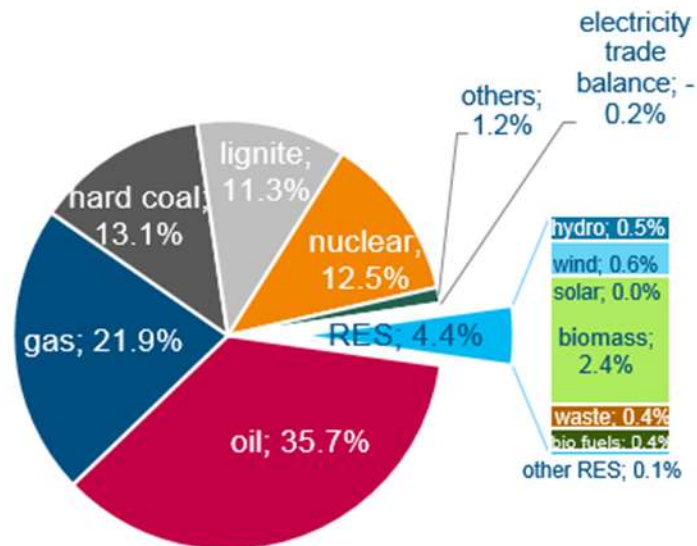


*Security of supply, cost-effectiveness and environmental protection are interlinked.*

# German primary energy consumption

**2004 total: 14,591 PJ**

**2014 total: 13,095 PJ**

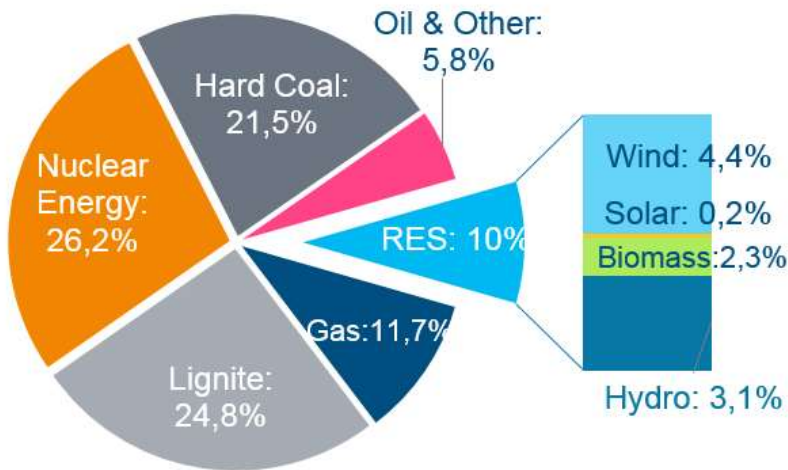


The renewables' share tripled within ten years, covering the declining share of nuclear.

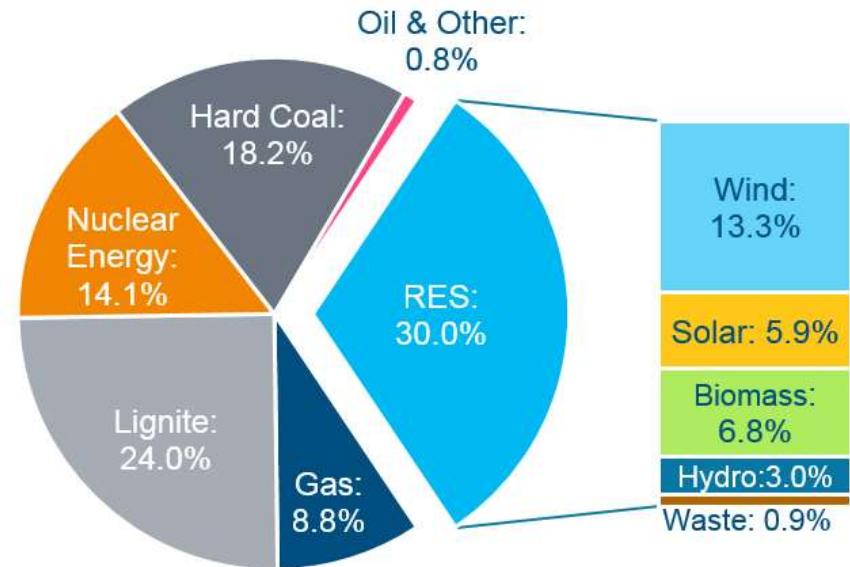
Source: Ecofys 2015 based on data from AGE2015

# German gross electricity production

**2005** total: 622,6 TWh  
 renewables share: 62,5 TWh

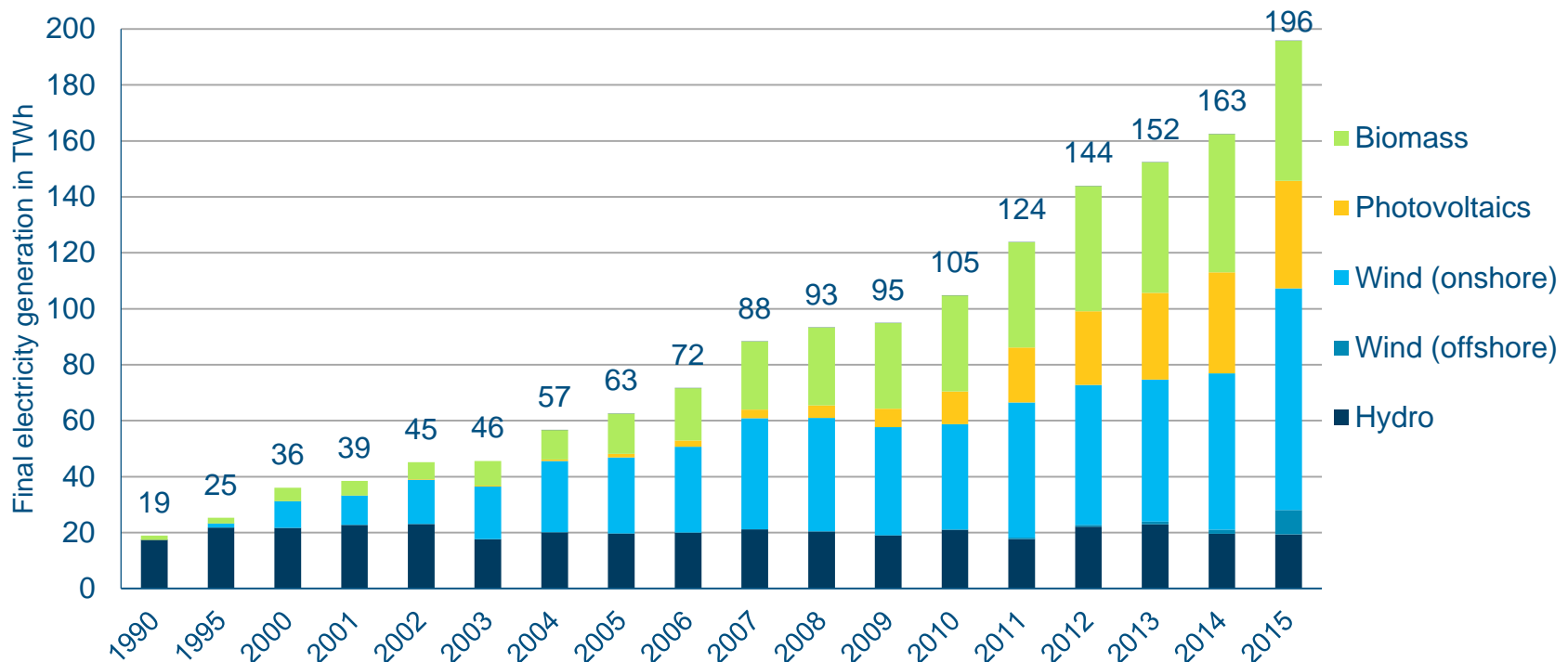


**2015** Total: 647.1 TWh  
 renewables share: ~ 194 TWh



Renewables have overtaken each conventional source to become the largest electricity source in just ten years.

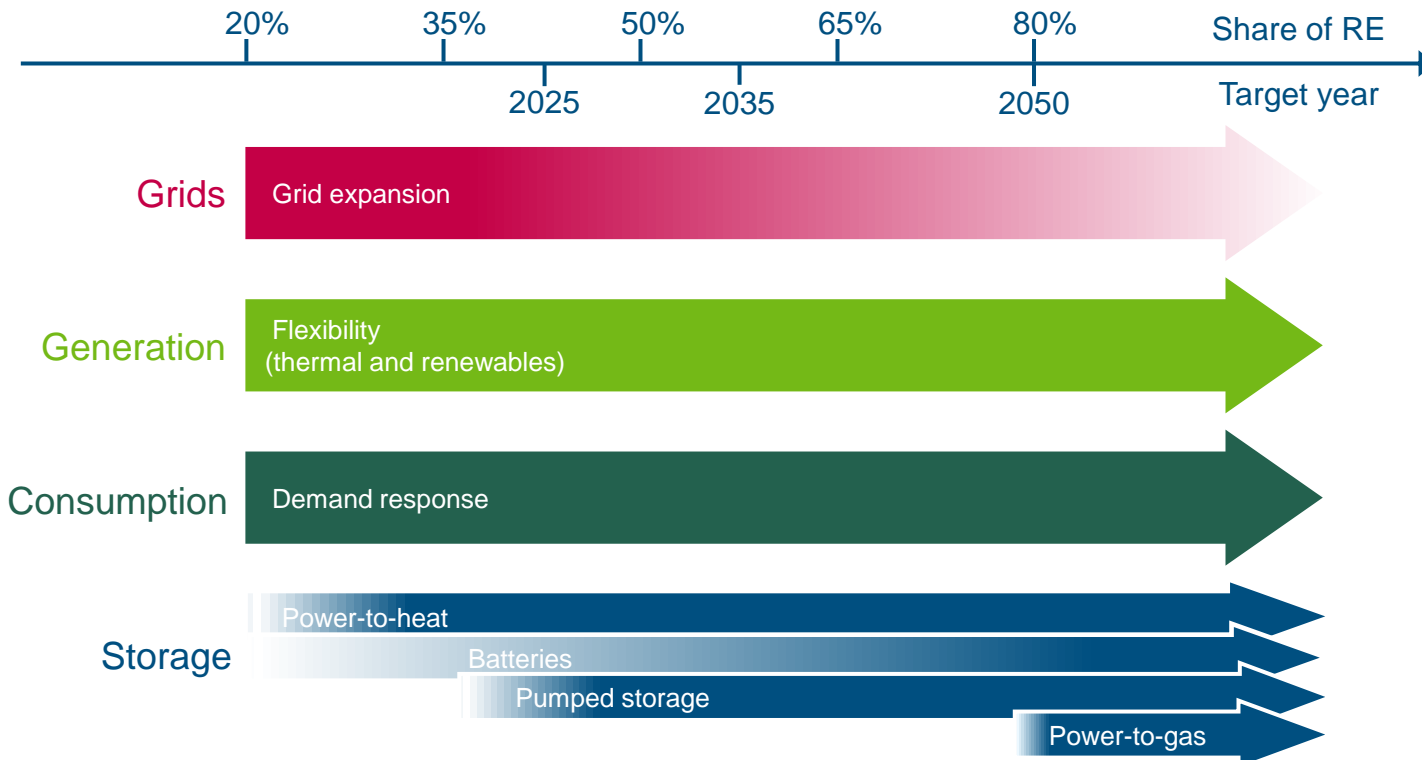
## Development of electricity generation from renewable energy sources in Germany



\* incl. gas, solids, and liquids  
 Source: Ecofys 2016 based on AGEEStat 2016

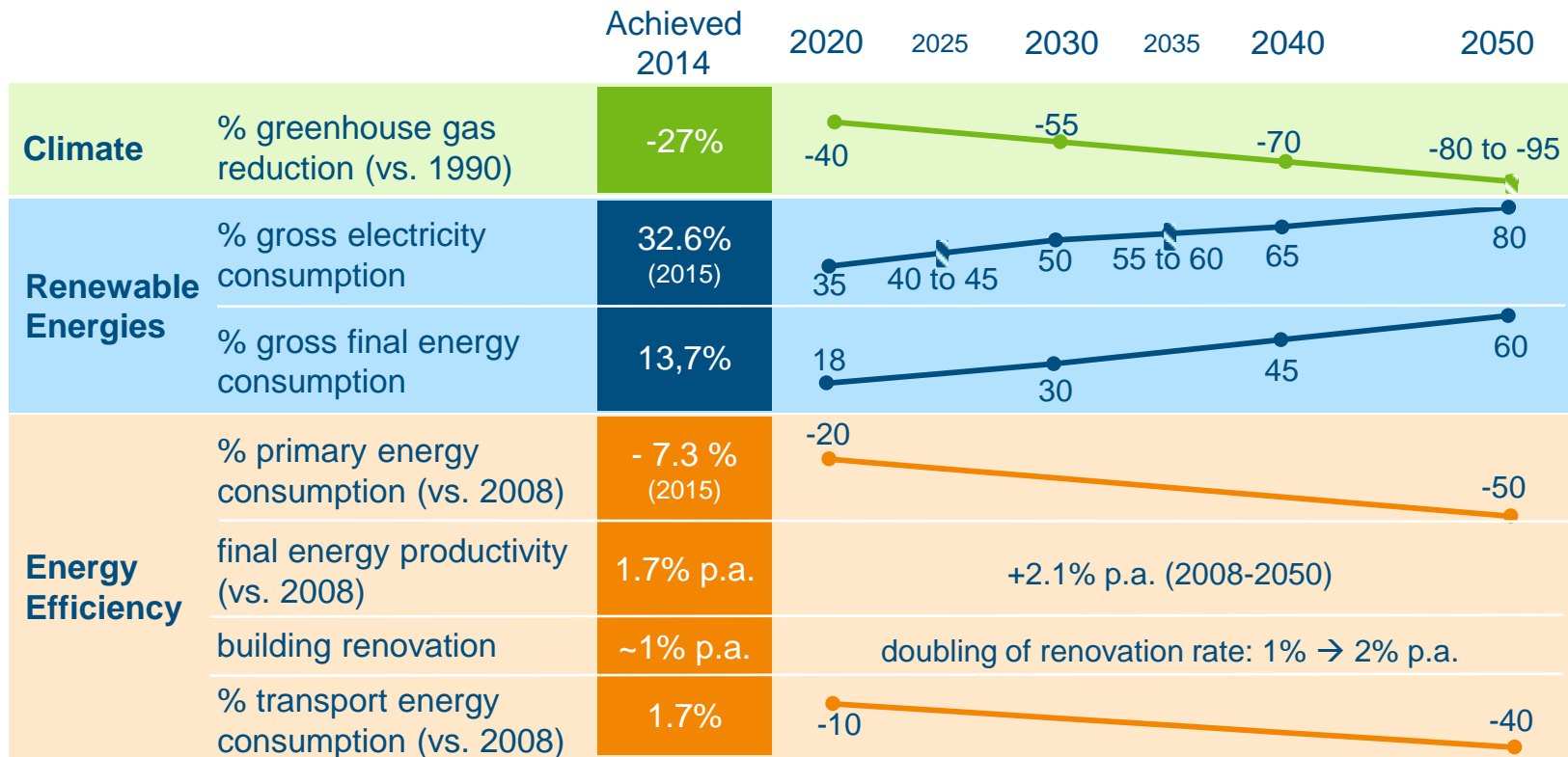
While in the 1990s hydro was the only renewable energy source, wind onshore, biomass and solar contribute all to the generation of electricity.

## Four areas to increase flexibility



*Technology neutral policies foster innovation: Different flexibility measures are suitable for different challenges to the grid.*

## 2050 *Energiewende* targets



Source: Federal Government 2010, BMU/BMWi 2014, BMWi 2015, AGEE-Stat 2014, AGEE 2015, BMWi 2016

*The energy transition follows a transparent, long-term strategy with specific targets.*