



Federal Ministry  
for Economic Affairs  
and Energy



# energy solutions – made in Germany

Meike Wächter, 08/06/2016, Guatemala City





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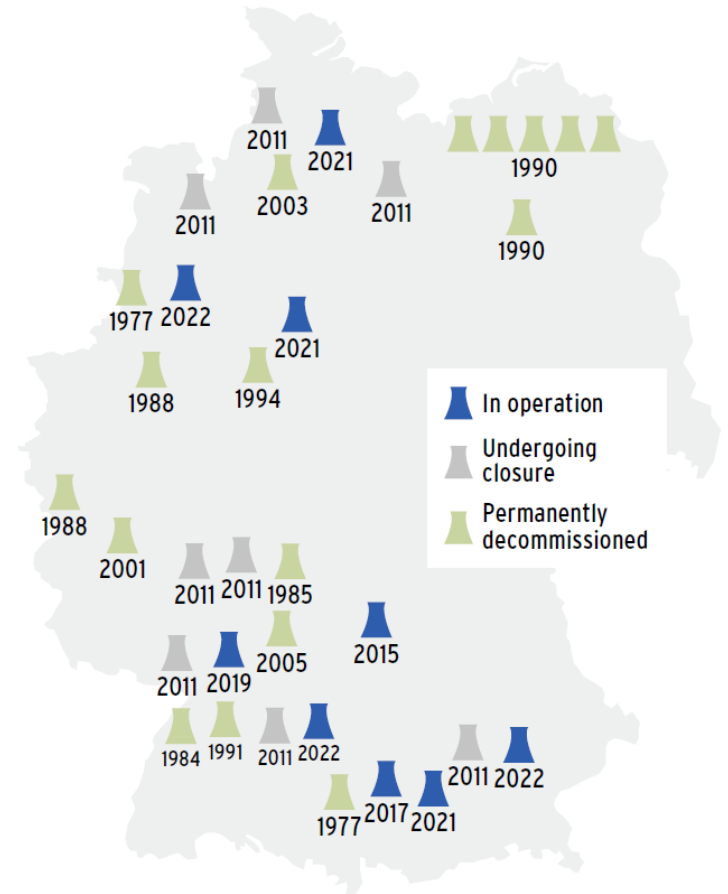
# Germany's *Energiewende*

[www.german-energy-solutions.de](http://www.german-energy-solutions.de)



# Germany's *Energiewende* („Energy Turnaround“) in 2011

- Already after Chernobyl (1986) and even before many Germans called for a phase out of nuclear energy use
- Finally the Catastrophe in Fukushima led to Germany's energy turnaround by cabinet decision in June 2011:
- Nuclear power use phase out until 2022:
  - Deactivation of eight nuclear power plants in 2011
  - Nine power plants remaining that will be switched off until 2022

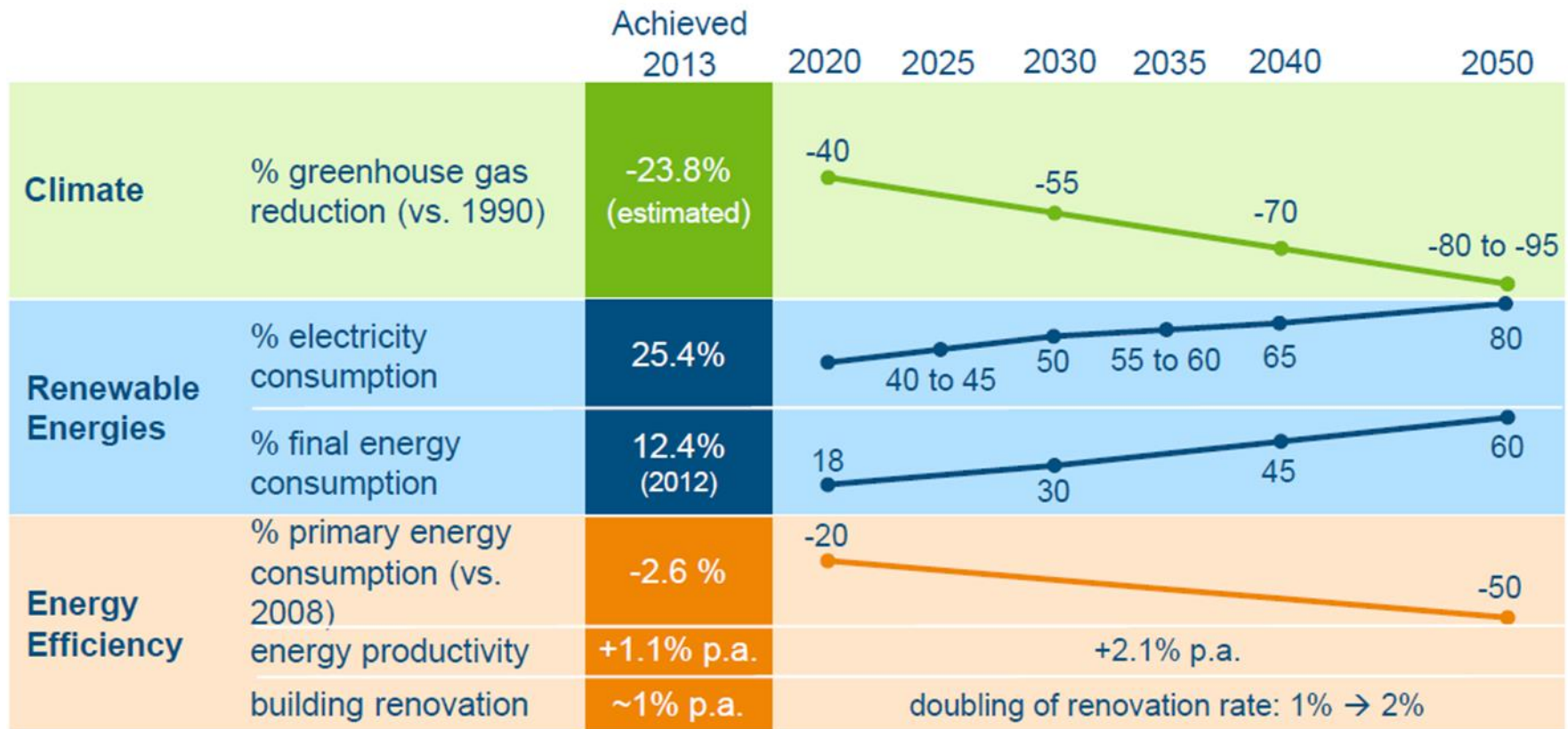


# Three Target Areas of the *Energiewende*



*Affordability, reliability and environmental protection are interlinked.*

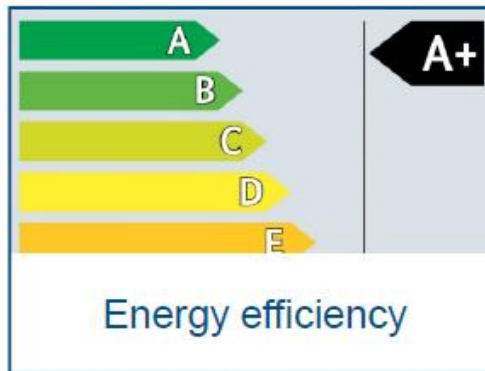
# Energiewende targets until 2050



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

*Germany has set ambitious targets in all sectors and is on track.*

# Three Pillars of the *Energiewende*



Renewable  
Energy  
Sources Act

National Climate Initiative  
Market Incentive Programme

Energy  
Saving  
Ordinance

Grid Expansion Acceleration  
Act

Federal Requirement Plan

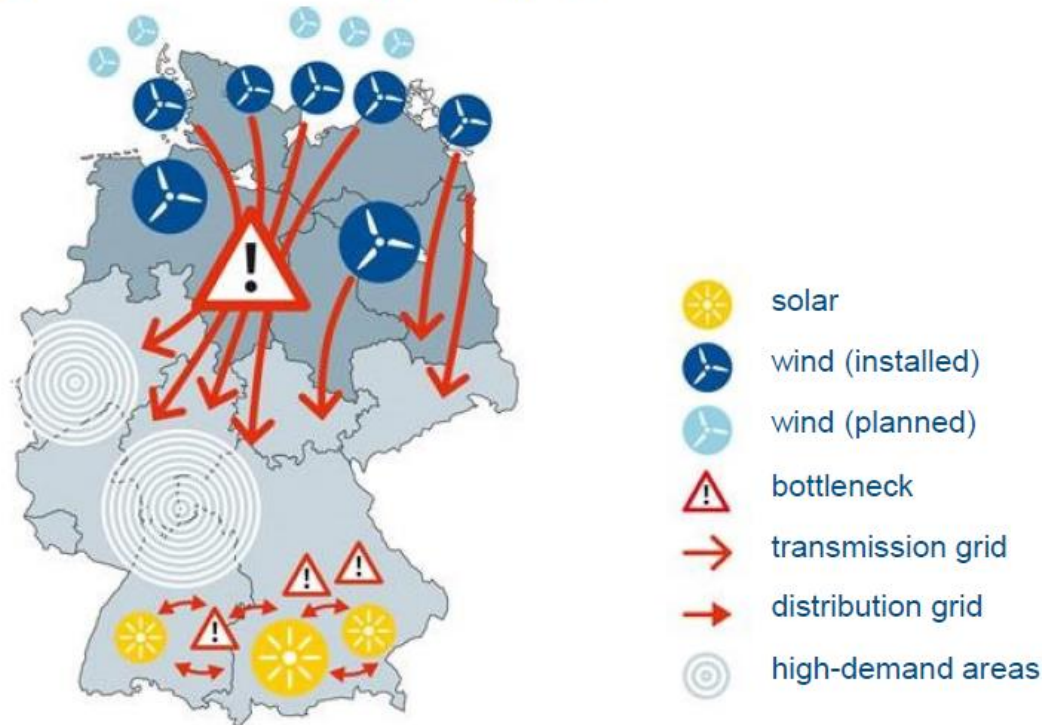
- Steady growth
- Cost-efficient
- Environmentally friendly

- Reduce energy consumption
- Improve efficiency

- Increase flexibility
- Enlarge capacities
- Integrate renewables

*Switch to renewables, halve energy consumption and upgrade grids.*

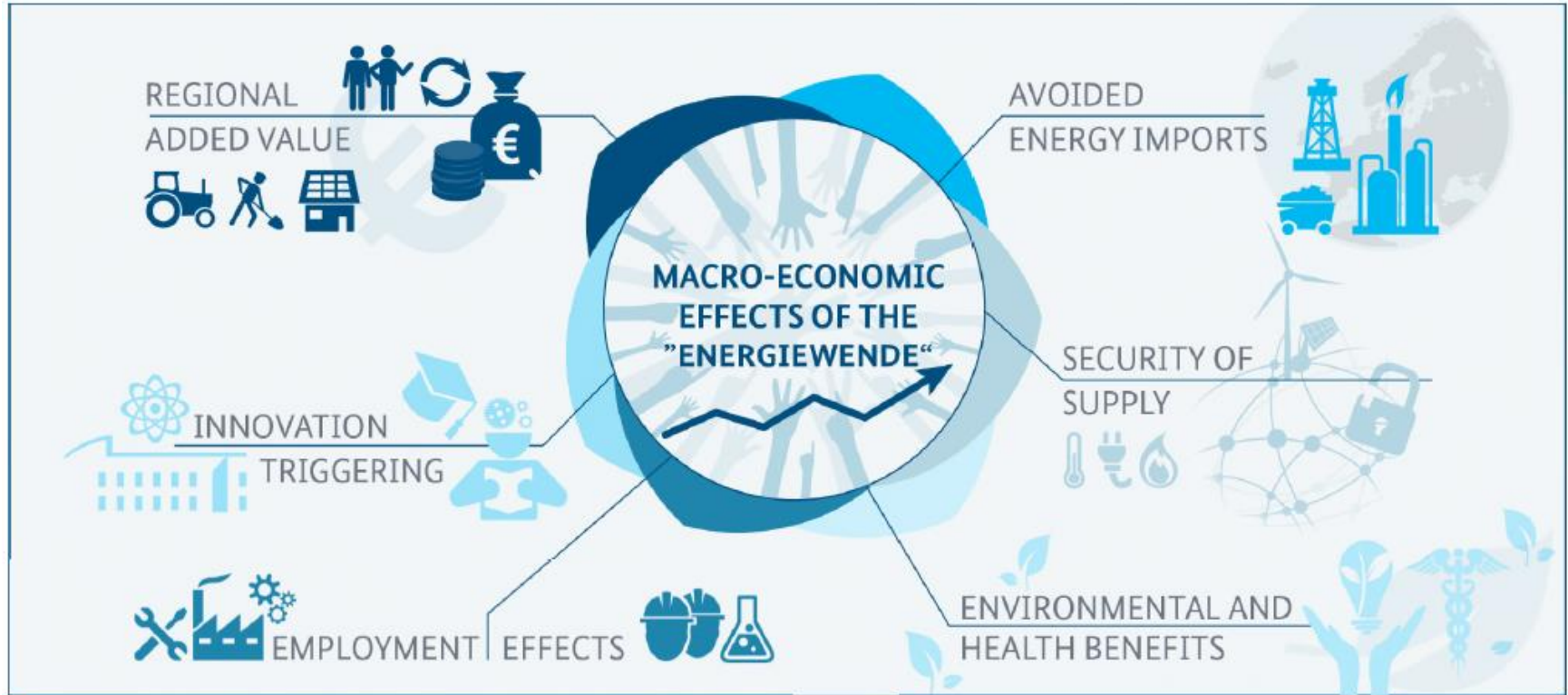
# The challenge: Connecting Supply and Demand



Source: DUH 2011

*New power lines need to transport excess supply in northern Germany to southern Germany in order to prevent shortages.*

# Benefits of fostering the *Energiewende* in Germany



Source: BMWi 2014

*The energy transition has positive effects on various levels.*

# The Energiewende in the global context

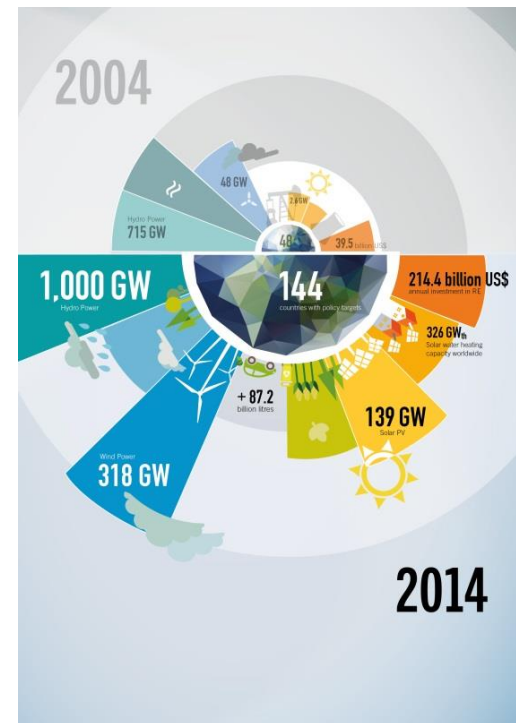
Projected levels of renewable energy for 2020 were already surpassed by 2010.

## Renewables at the forefront

- Global **installed capacity** and **production** from all renewable technologies have **increased** substantially;
- Significant **cost reductions** for most technologies;
- **Supporting policies** spread throughout the world;

## Energy efficiency (EE) improvement worldwide

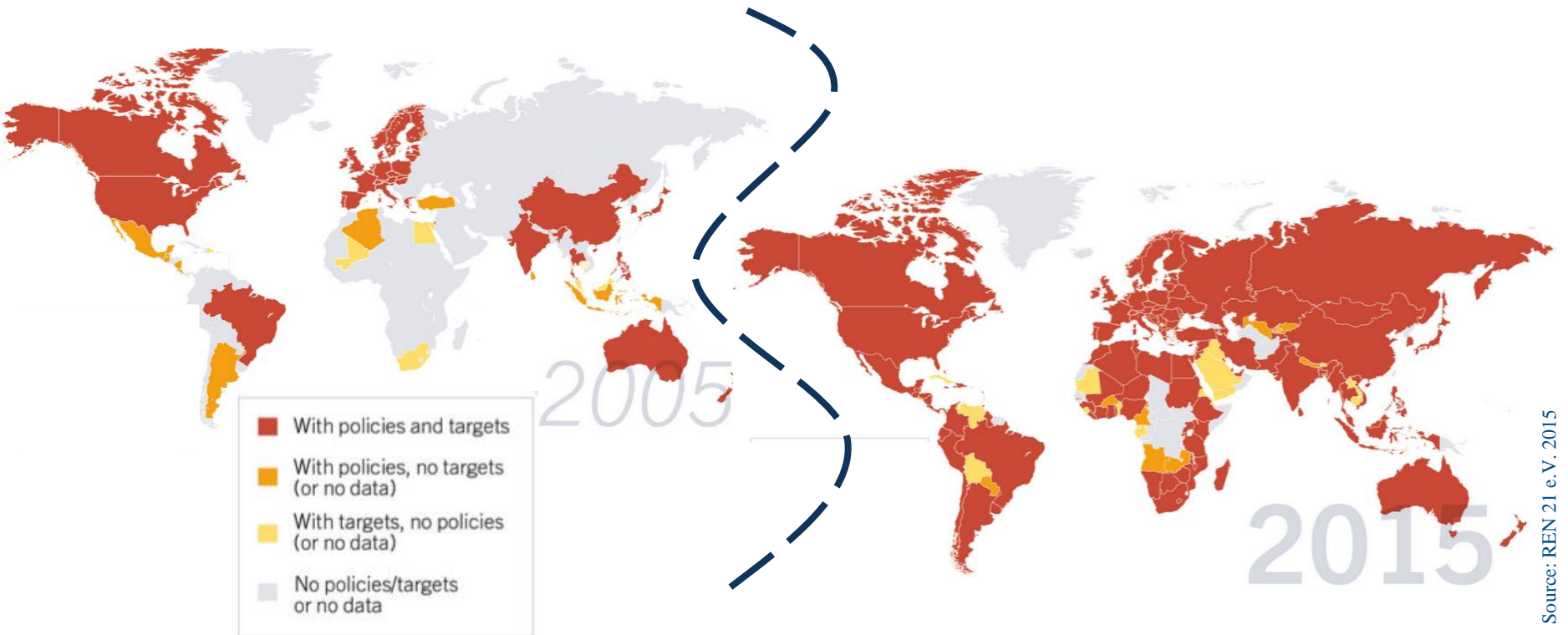
- Large **market** for EE investments **>300 billion USD**
- Final **energy consumption reduced by 60%** in IEA countries due to efficiency efforts over the past four decades



Source: REN 21 e.V.

# Countries with Renewable Energy Policies 2005 and early 2015

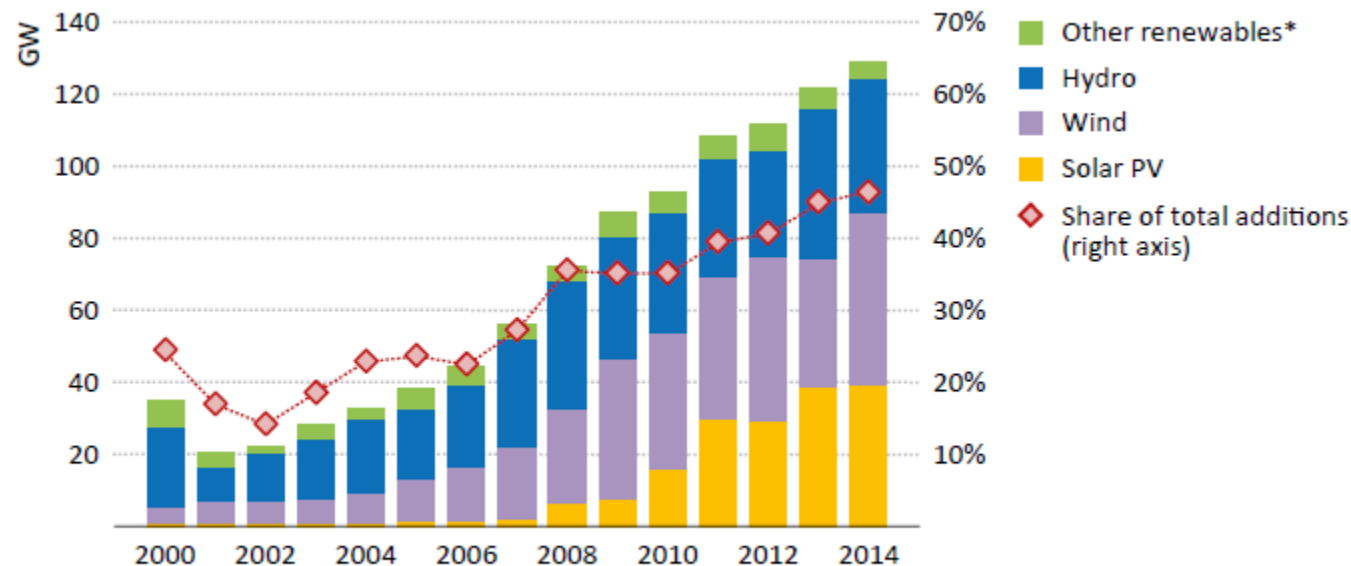
RES policies spreading beyond Germany and EU all over the world.



Source: REN 21 e.V. 2015

# Global gross renewables-based power capacity additions by type and share of total capacity additions

Renewables represented approximately 59% of **net** additions to global power capacity in 2014



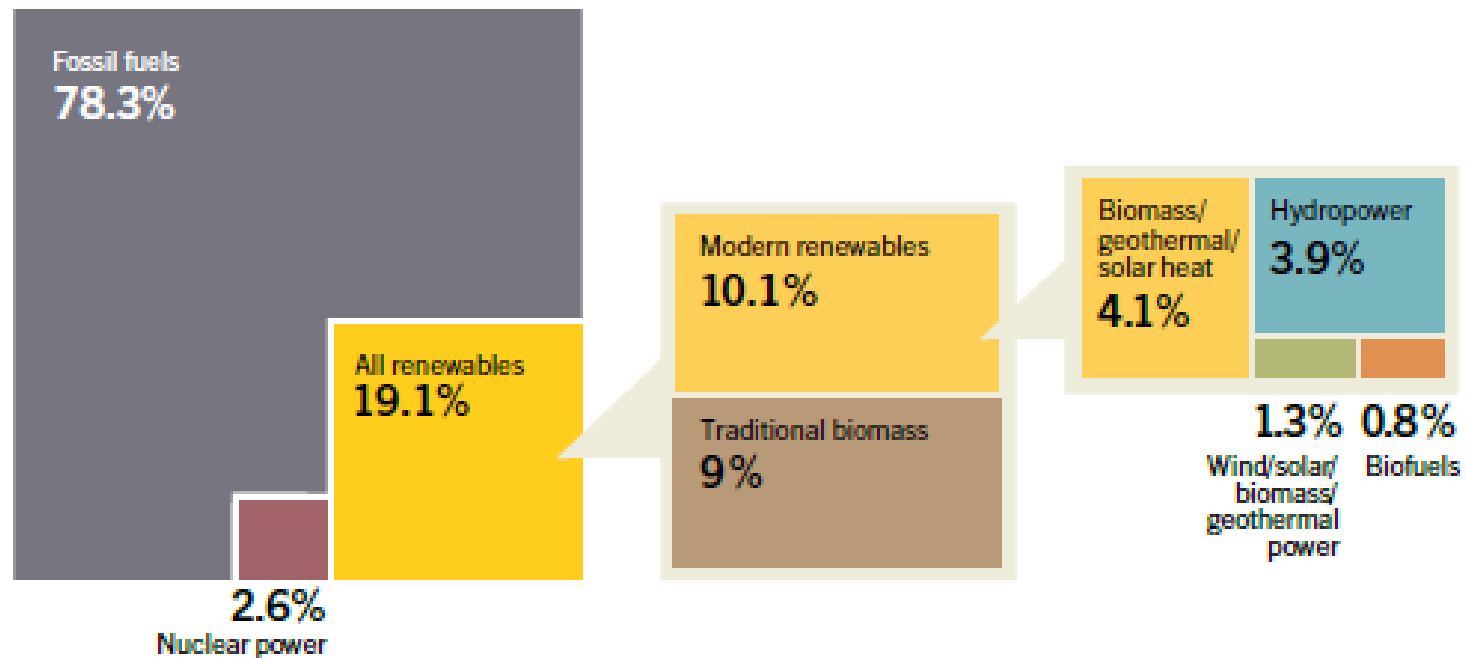
\* Includes geothermal, marine, bioenergy and concentrating solar power.

Source: IEA 2015; REN21 2015

# Estimated renewable energy share of global final energy consumption

2013

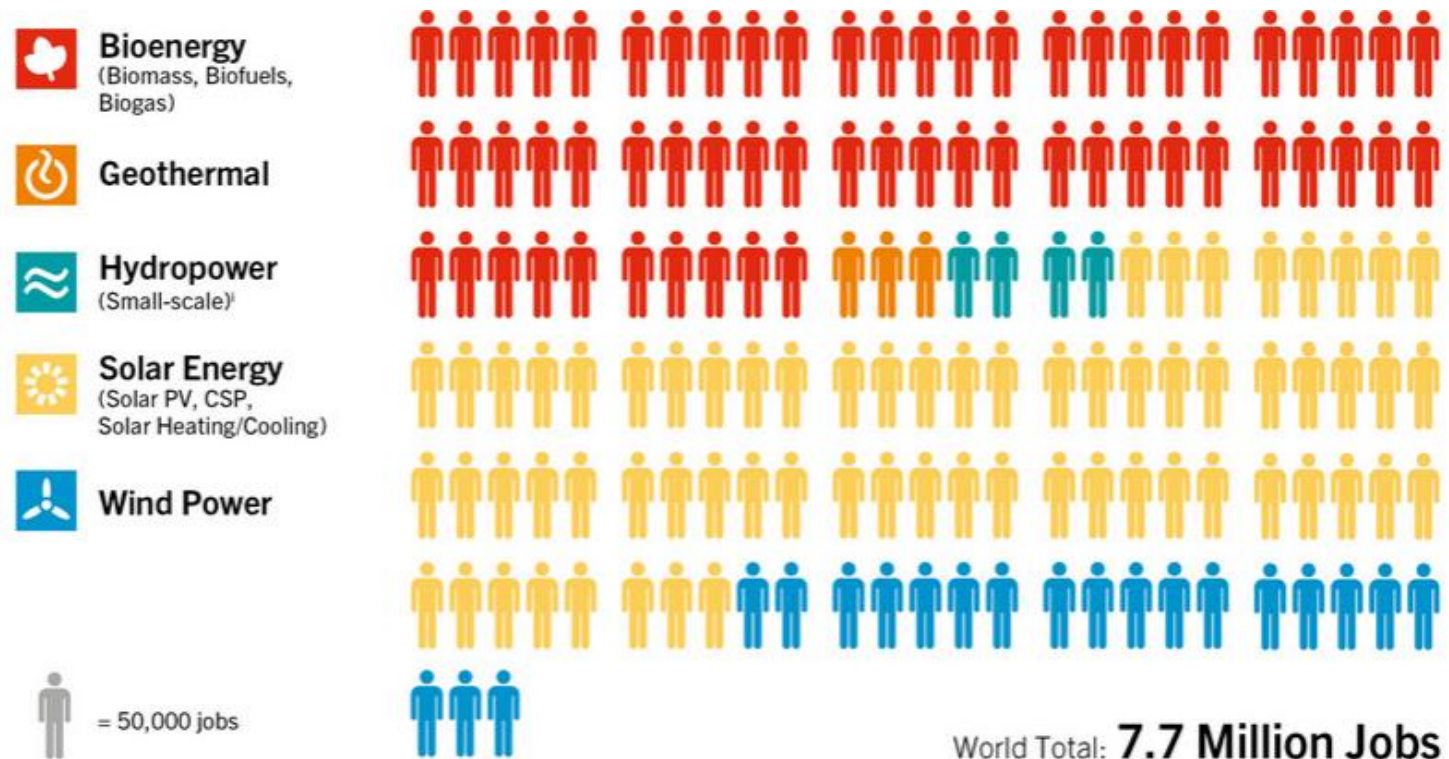
Modern renewables are well established and exceed the role of nuclear more than seven-fold.



Source: REN 21 2015

# Worldwide jobs in renewable energy

Over 7 million people are employed in the field of renewables.



Source: REN 21 2015



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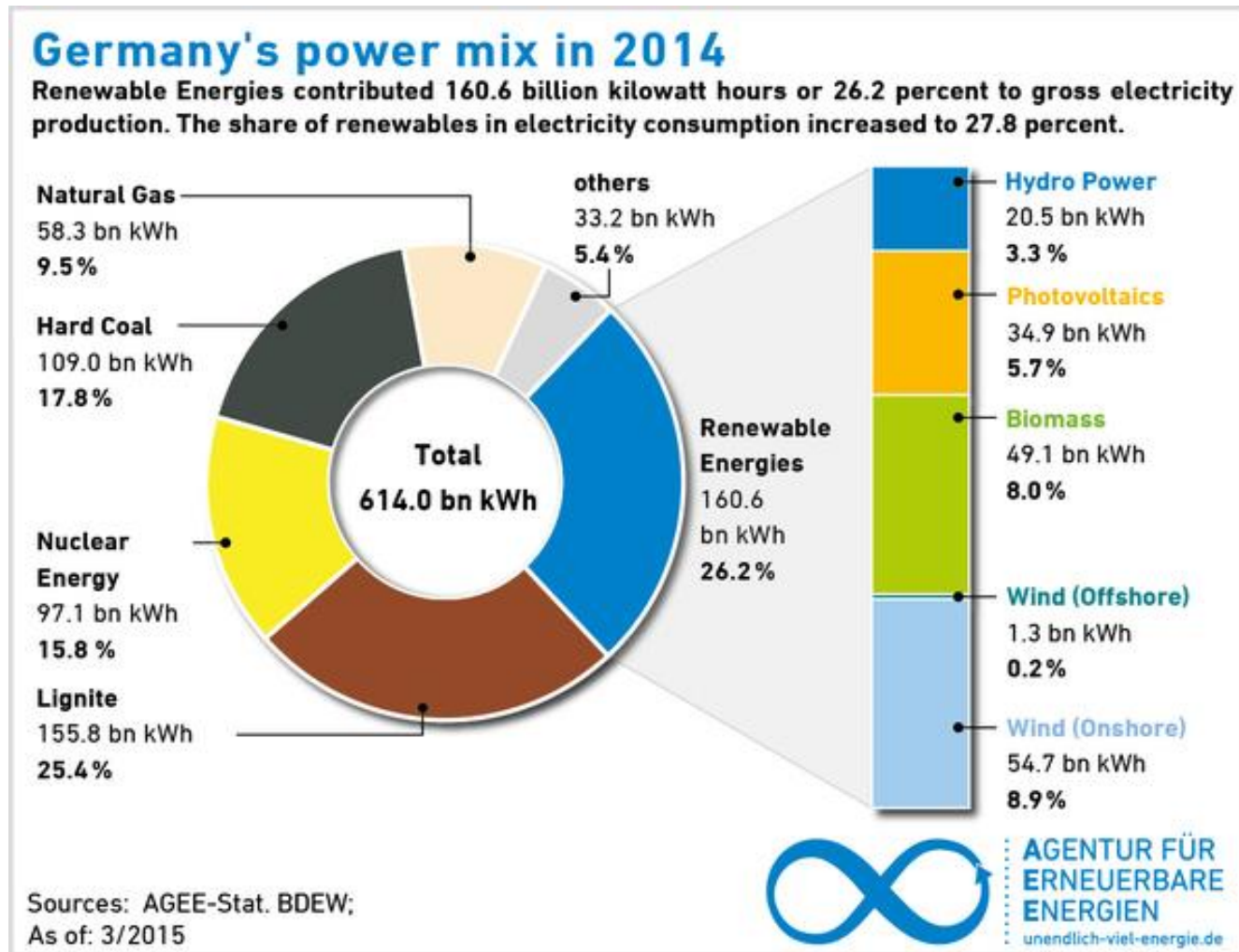


# Renewables in Germany

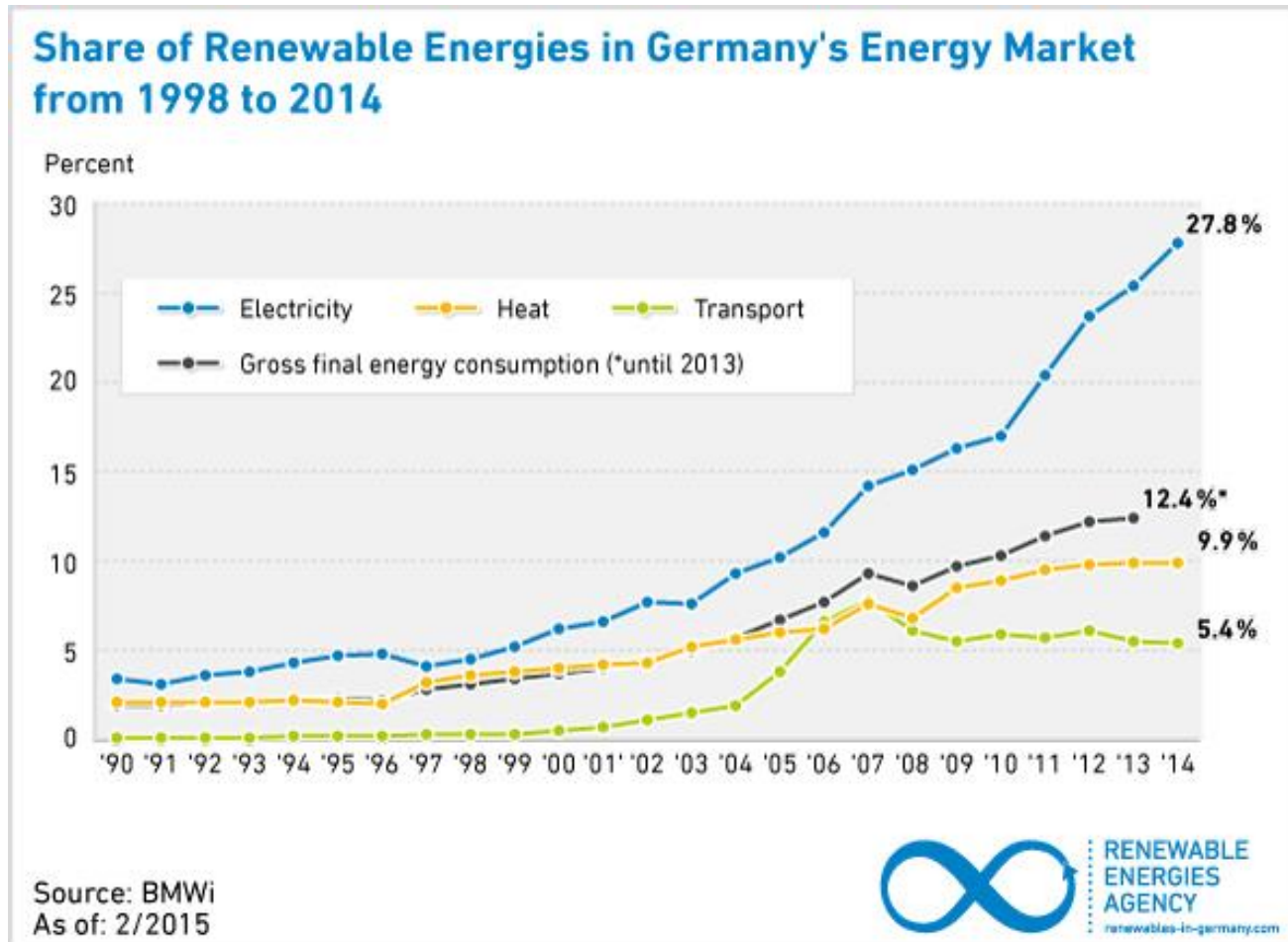
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# Germany's power mix in 2014



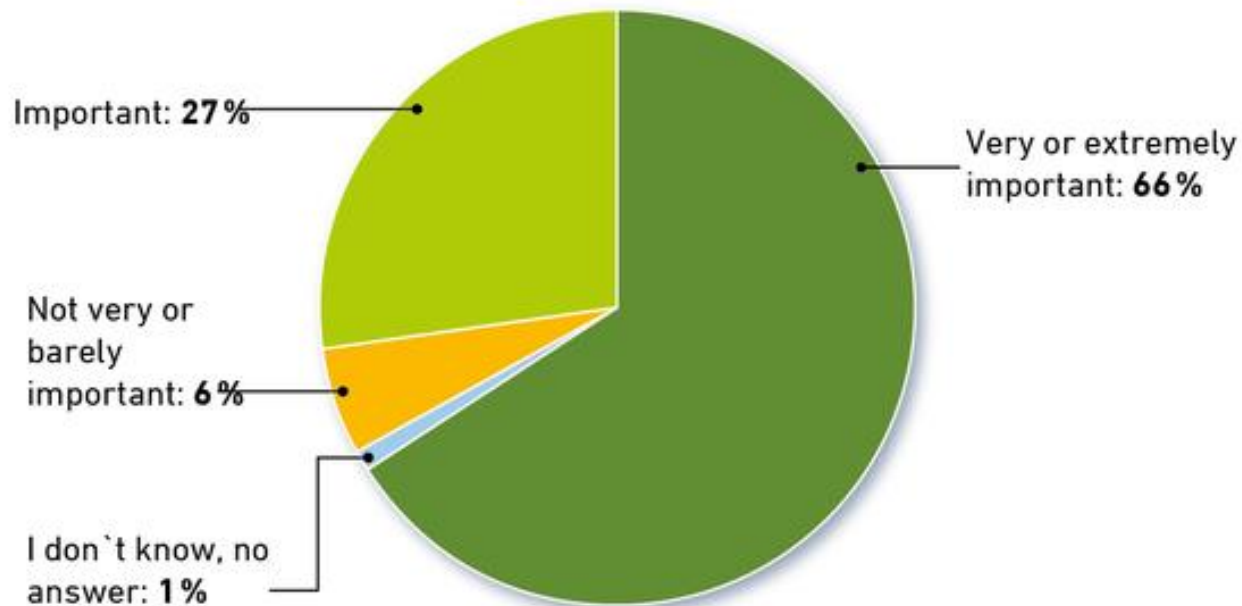
# Development of RE in Germany from 1998 to 2014



# Public opinion

## 93% of the German population support further expanding renewable energy

Increased use and expansion of renewable energy is...



Source: Poll from TNS Emnid commissioned by the Renewable Energies Agency, 1,006 polled  
As of: 8/2015





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# The Initiative „energy solutions – made in Germany“ and the participating German companies

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# „energy solutions – made in Germany“

**[www.german-energy-solutions.de](http://www.german-energy-solutions.de)**

- ✓ Info on upcoming events:  
Business trips, trade fairs,  
information trips for foreign  
decision makers to Germany
- ✓ Information on German companies  
and institutions
- ✓ Information on  
actual market developments

**[www.renewablesb2b.com](http://www.renewablesb2b.com)**

- ✓ Virtual Market Place; B2B platform



## Energy solutions – made in Germany

Die Exportinitiative Energie unterstützt kleine und mittlere, deutsche Unternehmen aus den Bereichen erneuerbare Energien und Energieeffizienz bei der Erschließung von Märkten in Ausland.

Auf den folgenden Seiten finden Sie umfassende Informationen und Veranstaltungshinweise zu spannenden Märkten weltweit:



# Participating German companies

Company	Representative	Business segment
Renusol GmbH	Armando Cadima	Manufacturer of PV mounting systems
SUNSET Energietechnik GmbH	Dominik Hammer	Manufacturer and system integrator for on- and off-grid solar energy solutions
Bernt Lorentz GmbH & Co. KG	Felix Leyva Fillad	Photovoltaic, Solar pumping systems

# Participating German companies

Company	Representative	Business segment
Droege Energy GmbH	Gustavo Droege	Photovoltaic, Solar Thermal, Small wind power, Solar cooling, Geothermal, Heat pumps, Small Hydropower
Solar XXL Group GmbH	Stefan T. Wilhelm Holz	Manufacturer of PV panels
Erdwerk GmbH	Ulrich Steiner	Geothermal

# Contact

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