



Federal Ministry  
of Economics  
and Technology



Deutsche Handelskammer  
für Spanien  
Cámara de Comercio Alemana  
para España

June 15, 2010, Madrid, Spain

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eclareon GmbH Management Consultants

on behalf of the German Federal Ministry of Economics and Technology





## The Renewable Energy Export Initiative

Launched by the German Parliament in 2002 and operated by the Federal Ministry of Economics and Technology

### **Main objectives:**

- ▶ to contribute to climate protection,
- ▶ to stimulate the acceptance of renewable energy in other countries,
- ▶ to showcase Germany's technical and business expertise in the field of renewable energy,
- ▶ to provide comprehensive support to SMEs as they tap foreign markets.

## Networking and Business Opportunities in Your Country

### Business information & contact events

- ▶ Seminars and individual get-togethers with potential business partners from Germany
- ▶ First-hand information about German renewable energy technologies
- ▶ Face-to-face contact with experienced German companies in the renewables industry
- ▶ Organized by local German bilateral chambers of commerce (AHKs)



# Information and Business Opportunities Online

- ▶ Internet portal: [www.renewables-made-in-germany.com](http://www.renewables-made-in-germany.com)  
Information about renewable energies made in Germany,  
companies and product profiles



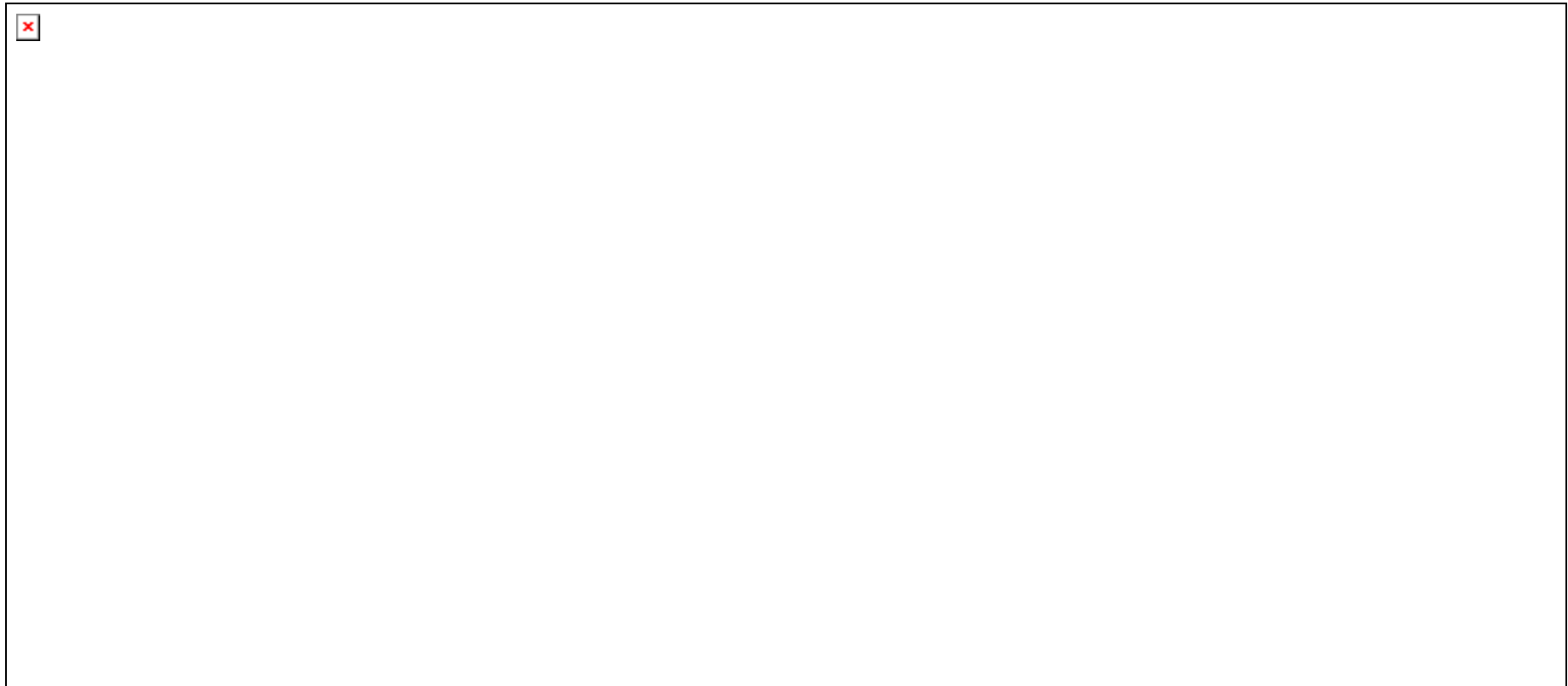
- ▶ Newsletter: [www.renewables-made-in-germany.com/newsletter](http://www.renewables-made-in-germany.com/newsletter)  
Current news and developments, information about projects,  
applications, upcoming events and more

- ▶ Virtual market place: [www.renewablesb2b.com](http://www.renewablesb2b.com)  
International online business platform, unique virtual  
marketplace and portal for market information

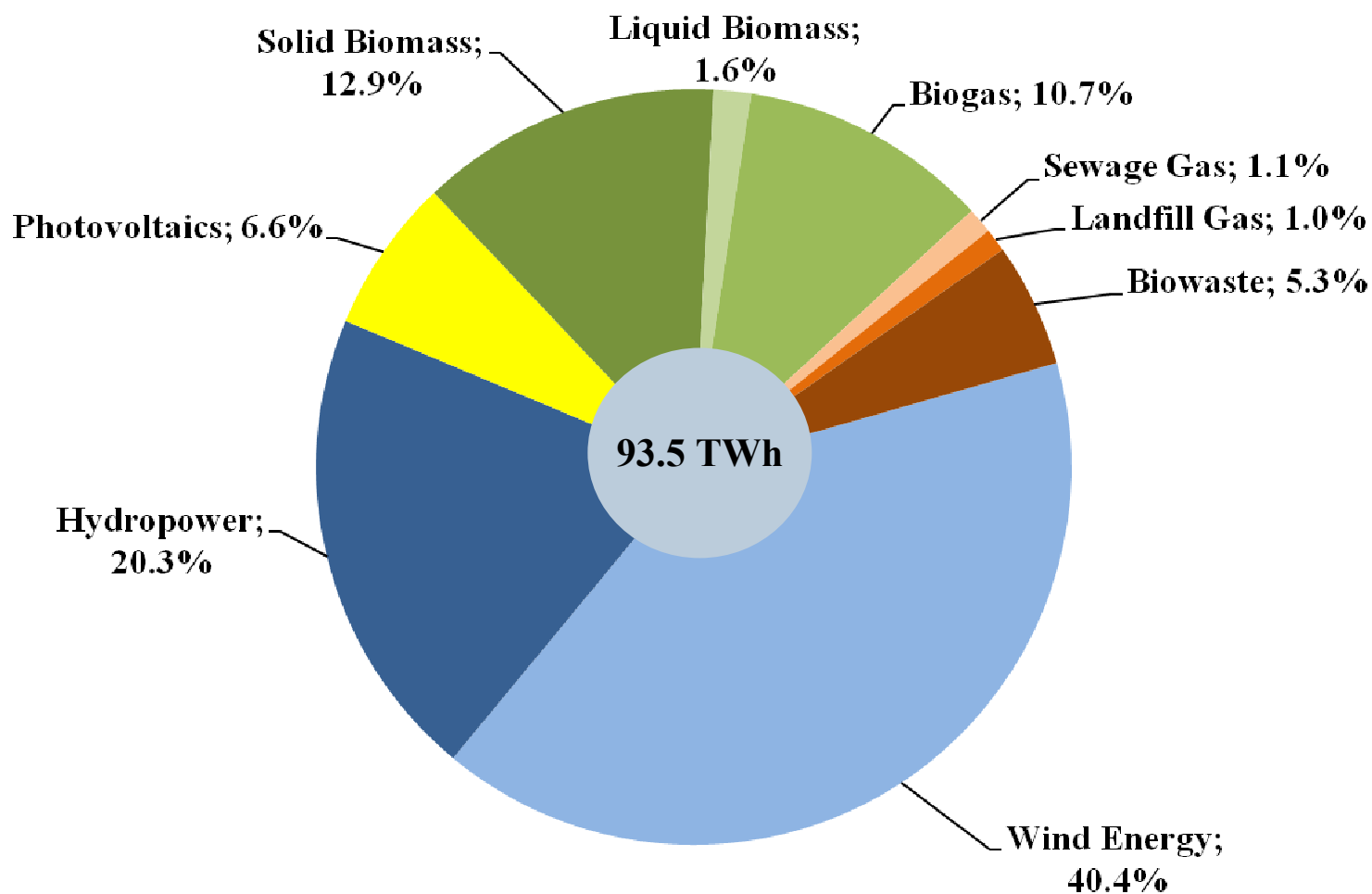




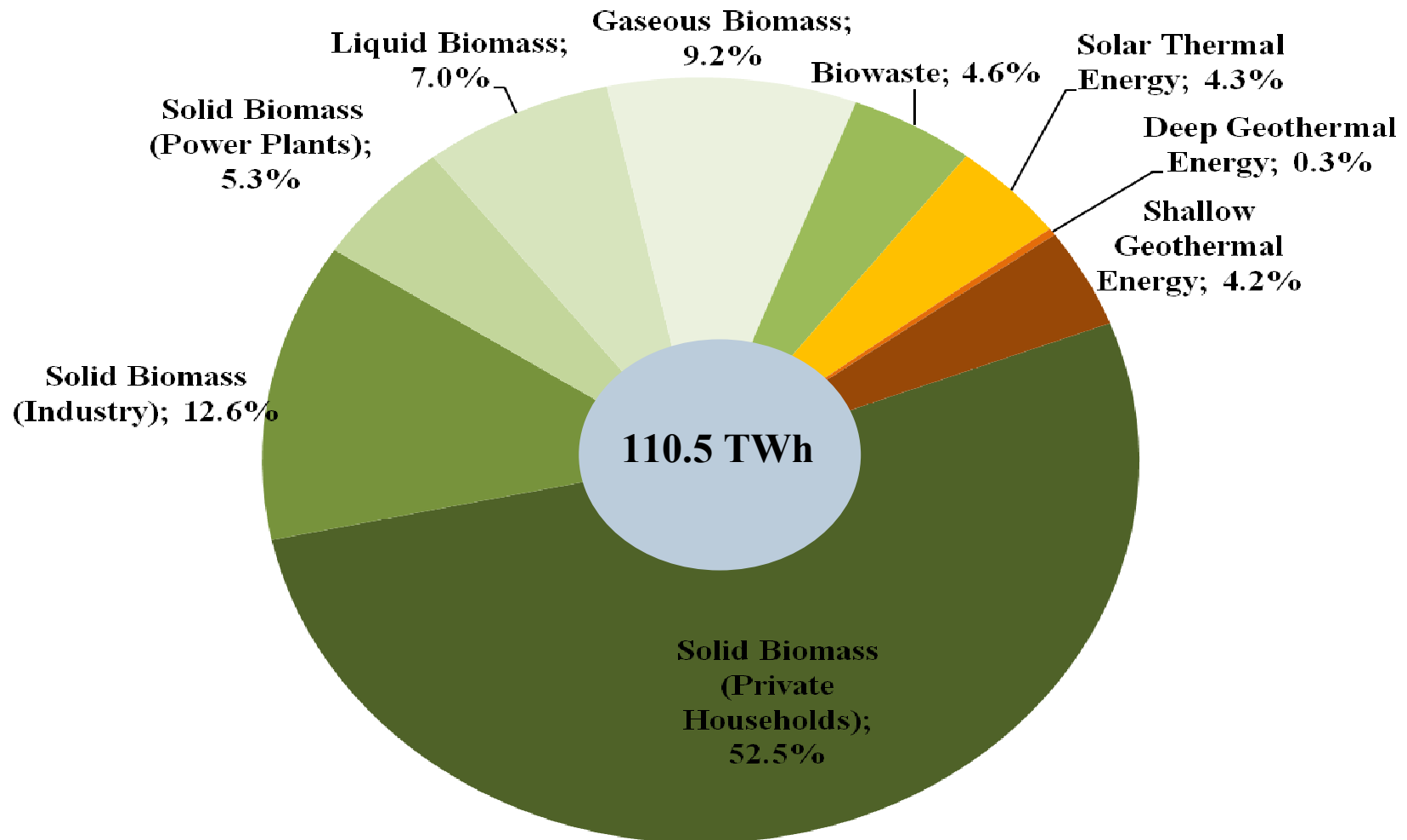
## Structure of RES in final energy consumption in Germany 2008



## Structure of Electricity Generation from RES in Germany 2009



## Structure of Heat Supply from RES in Germany 2009

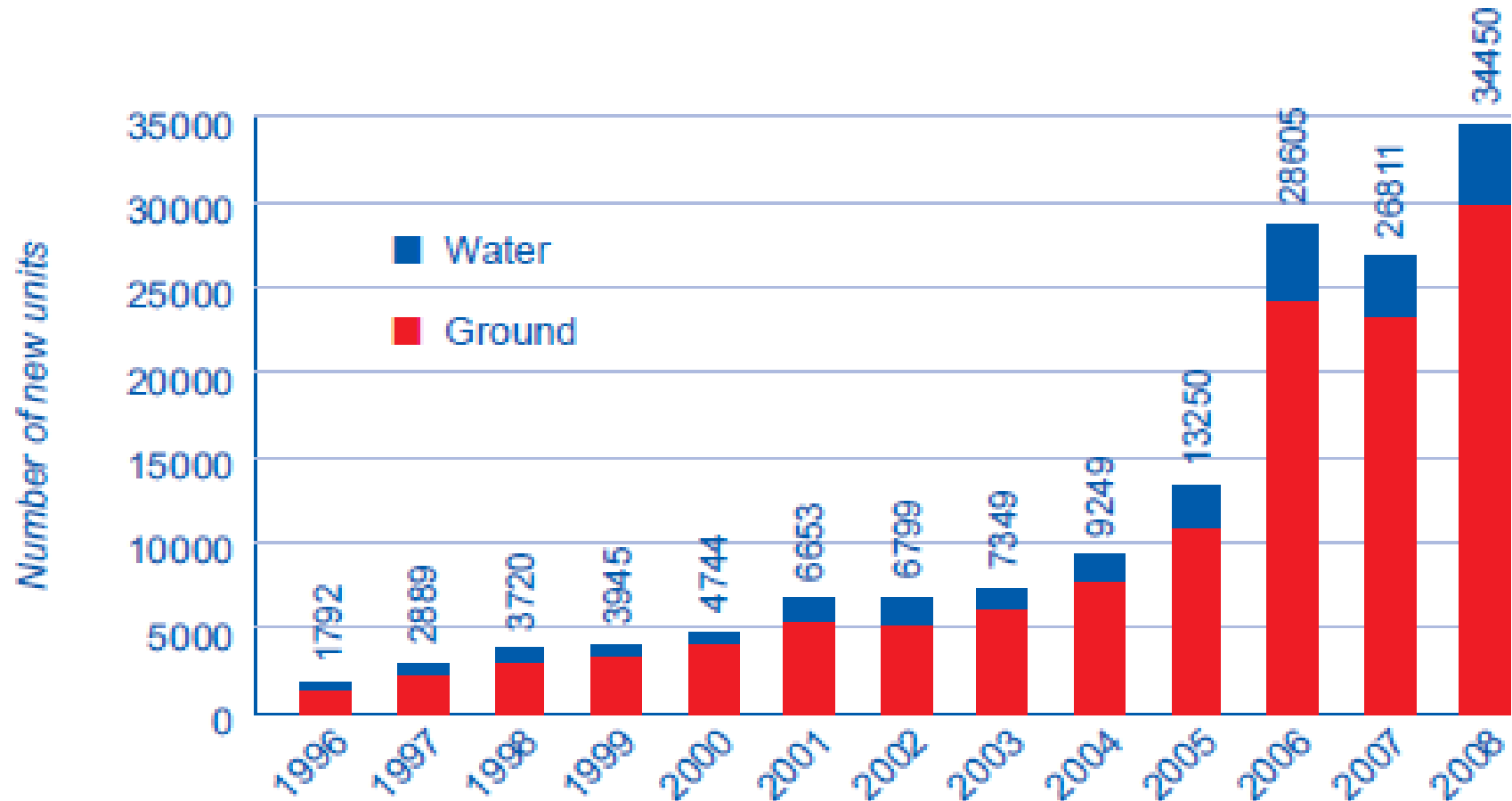


## Geothermal Energy in Germany – Market Overview

- ▶ **Shallow Geothermal Heat**
  - ▶ Biggest share in geothermal heat accounts to geothermal heat pumps
  - ▶ Newly installed shallow geothermal heat pumps 2008: ~ 34,450
  - ▶ Produced heat 2008: 4.6 TWh
  - ▶ 150,000 buildings used geothermal heat pumps in 2008
  - ▶ 10% of newly built houses are equipped with a geothermal heat pump
- ▶ Potential of shallow geothermal heat counts up to 261 TWh
- ▶ Shallow geothermal heat pumps are also suitable for cooling
- ▶ Annual sales of geothermal heat pumps show sustainable growth

## Geothermal Energy in Germany – Market Overview

### Annual Sales of Geothermal Heat Pumps in Germany

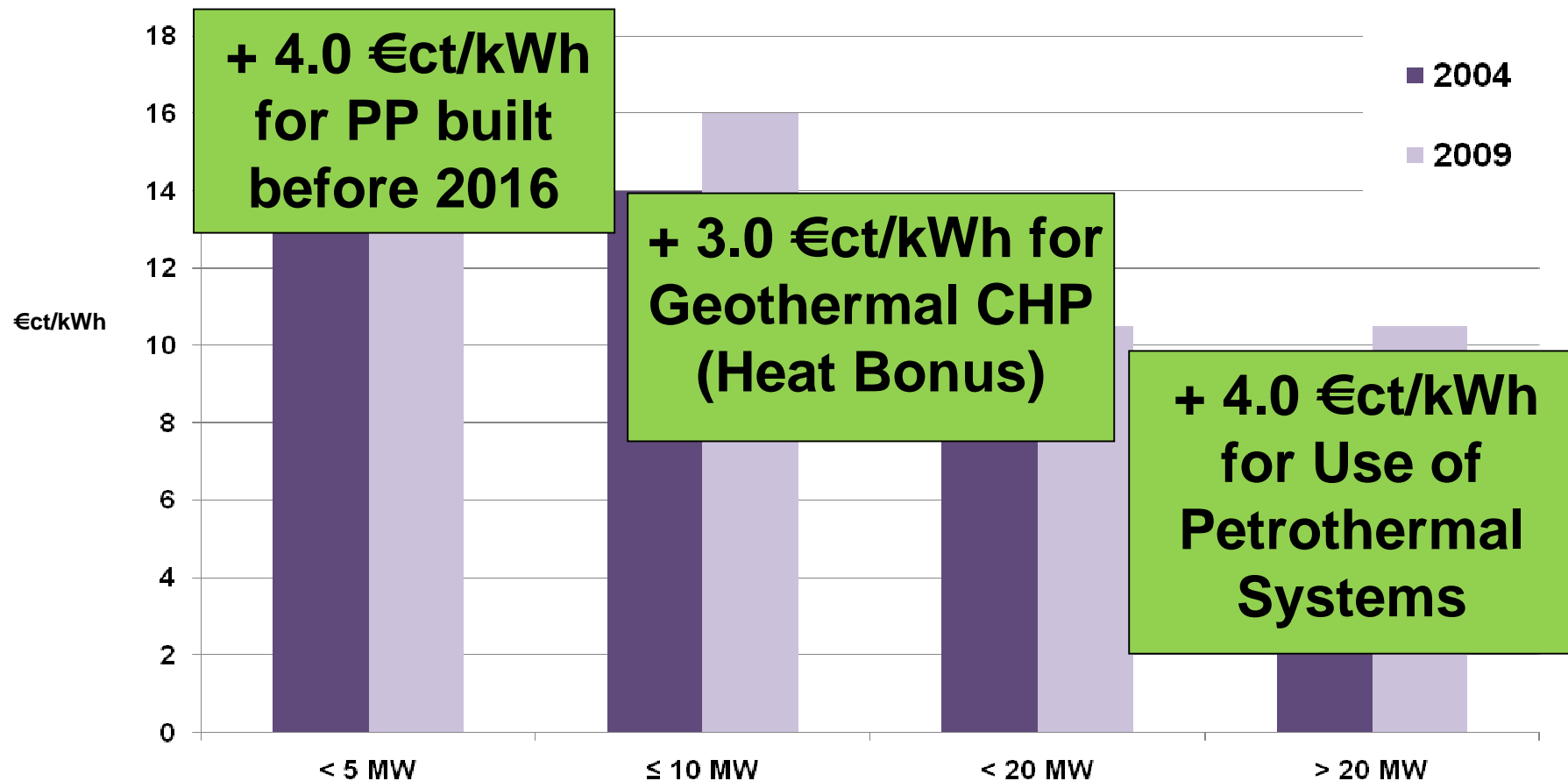


## Geothermal Energy in Germany – Market Overview

- ▶ **Deep Geothermal Heat:**
  - ▶ Predominantly heat supply from deep geothermal energy in Germany
  - ▶ About 170 systems for heat production installed in 2009
  - ▶ Heat supply for buildings and spas
  - ▶ About 13 geothermal power plants connected to local heat grid in 2008
  - ▶ Installed heat capacity in 2010: 174.28 MW
- ▶ **Deep Geothermal Electricity:**
  - ▶ 3 geothermal power plants in 2008: 7.4 MW<sub>e</sub> and ~ 51 MW<sub>th</sub> (accumulated)
  - ▶ Electricity production accumulates to about 18.6 GWh (2009)
  - ▶ Potential is estimated to reach 100 MW (2015) and 280 MW (2020)
  - ▶ New incentives stimulate investments (FIT plus Bonus)

## Geothermal Energy in Germany – Market Overview

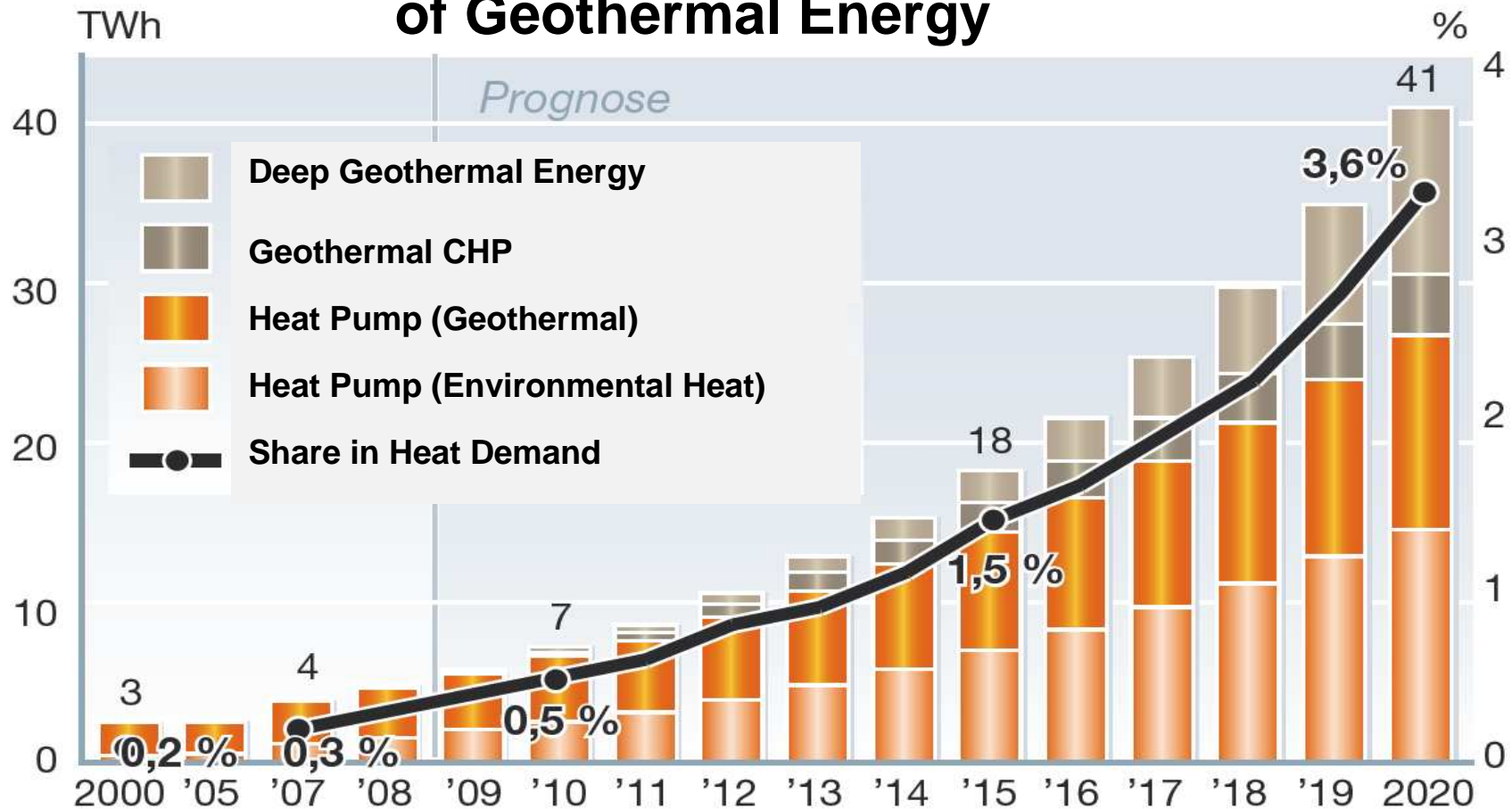
### Feed in Tariffs Geothermal Electricity Production





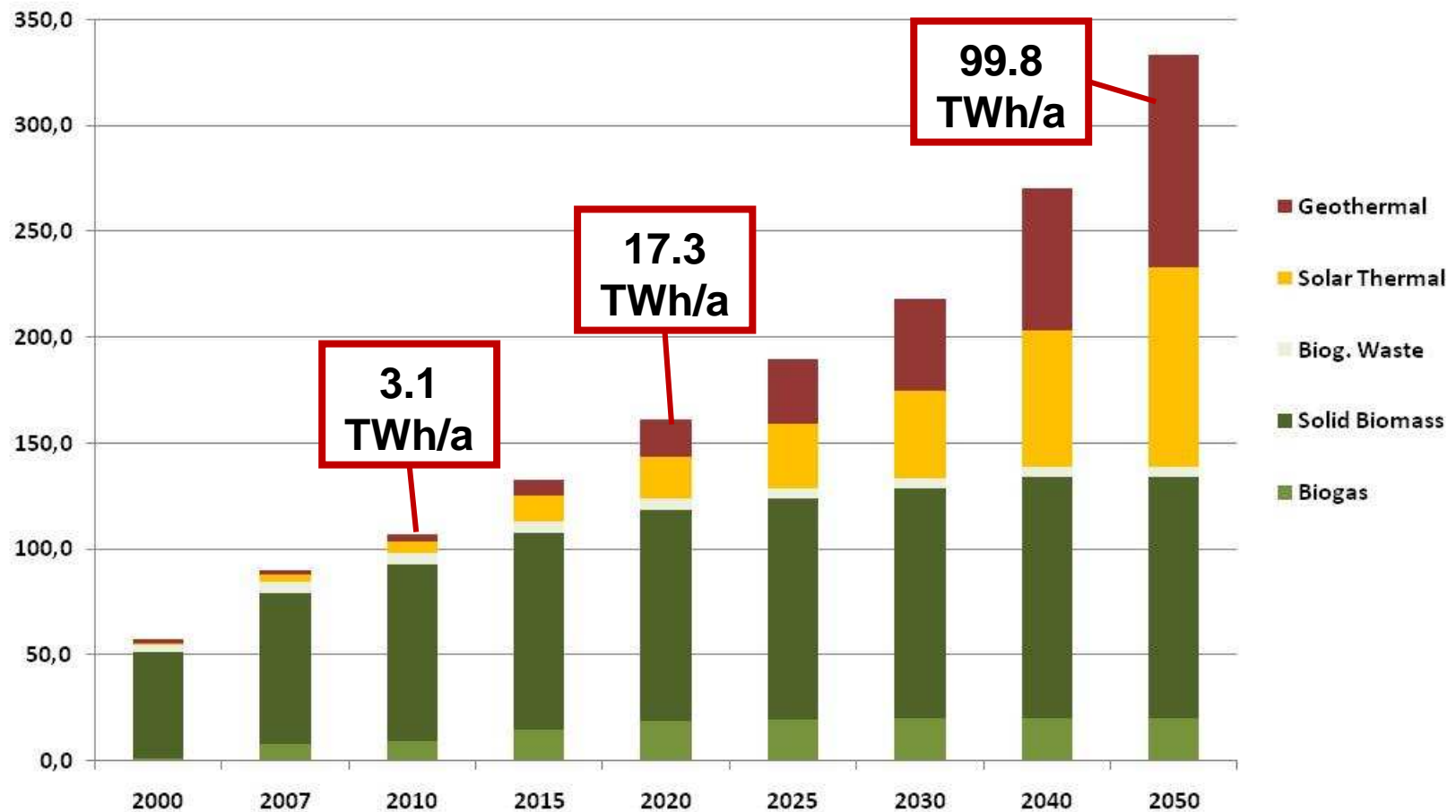
## Geothermal Energy in Germany – Market Overview

### Heat Production and Share in Consumption of Geothermal Energy



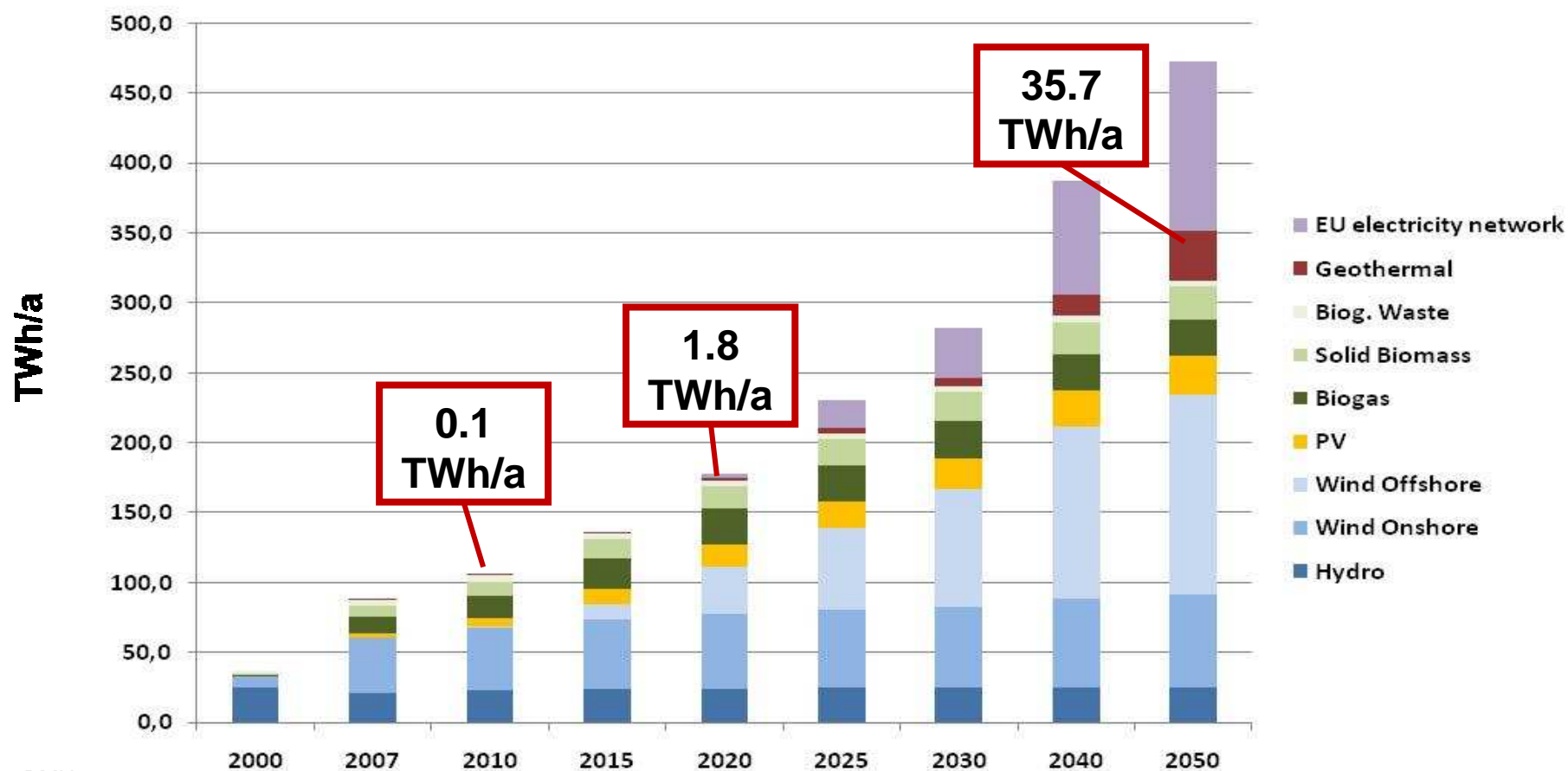
## Energy Generation in Germany - Forecast 2050

### Forecast of RES Heat Generation TWh/a



## Energy Generation in Germany - Forecast 2050

### Forecast of RES Electricity Generation





## Installed Capacity (Electricity) and Forecast in the EU

| Energy Source     | 2000 Eurostat        | 2004 Eurostat        | Annual Growth Rate 2000-2004 | Forecast 2010      | Annual Growth Rate 2004-2010 | Forecast 2020      | Annual Growth Rate 2010-2020 |
|-------------------|----------------------|----------------------|------------------------------|--------------------|------------------------------|--------------------|------------------------------|
| Wind Energy       | 13.2 GW              | 33.6 GW              | 26.3%                        | 80 GW              | 15.6%                        | 180 GW             | 8.5%                         |
| Hydro Power       | 93 GW                | 107.5 GW             | 3.7%                         | 113 GW             | 0.8%                         | 120 GW             | 0.6%                         |
| PV                | 0.18 GW <sub>p</sub> | 0.86 GW <sub>p</sub> | 47.8%                        | 8 GW <sub>p</sub>  | 45.0%                        | 52 GW <sub>p</sub> | 20.6%                        |
| Biomass           | 9.5 GW <sub>e</sub>  | 13.1 GW <sub>e</sub> | 8.6%                         | 25 GW <sub>e</sub> | 11.2%                        | 50 GW <sub>e</sub> | 7.2%                         |
| Geothermal Energy | 0.6 GW               | 0.66 GW              | 2.4%                         | 1 GW               | 7.2%                         | 2 GW               | 7.2%                         |



## Installed Capacity (Heat) and Forecast in the EU

| Energy Source        | 2000 Eurostat | 2004 Eurostat | Annual Growth Rate 2000-2004 | Forecast 2010 | Annual Growth Rate 2004-2010 | Forecast 2020 | Annual Growth Rate 2010-2020 |
|----------------------|---------------|---------------|------------------------------|---------------|------------------------------|---------------|------------------------------|
| Biomass              | 44.7 Mtoe     | 48.4 Mtoe     | 2.0%                         | 65 Mtoe       | 5.0%                         | 105 Mtoe      | 4.9%                         |
| Solar Thermal Energy | 0.38 Mtoe     | 0.68 Mtoe     | 15.6%                        | 2 Mtoe        | 19.7%                        | 12 Mtoe       | 19.6%                        |
| Geothermal Energy    | 0.66 Mtoe     | 1.5 Mtoe      | 22.8%                        | 4 Mtoe        | 17.7%                        | 8 Mtoe        | 7.2%                         |



## Participating German Companies

| Company                           | Representative             | Business segment    |
|-----------------------------------|----------------------------|---------------------|
| GFM Geo-Forschungsgruppen Marburg | Dipl.-Geologe F. Diederich | Consulting          |
| Erdwerk GmbH                      | Franz Böhm                 | Projekt Planning    |
| 360plus Consult GmbH              | Wolfgang Bauer             | Consulting          |
| Pöyry Energy GmbH                 | Rüdiger Pötter             | Project Development |

## Participating German Companies

| Company                           | Representative    | Business segment      |
|-----------------------------------|-------------------|-----------------------|
| CBM Bohrtechnik für Erdwärme GmbH | Christian Bornitz | Deep Drilling         |
| DMT GmbH & Co. KG                 | Silke Bißmann     | Consulting            |
| Glen Dimplex Deutschland GmbH     | Dieter Müller     | Heat Pumps            |
| Frank GmbH                        | Daniel Blau       | Geothermal Components |

