



German WindEnergy  
Association (BWE)

# The new German Renewable Energy Sources Act (EEG) and its impact on wind energy

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SIREME



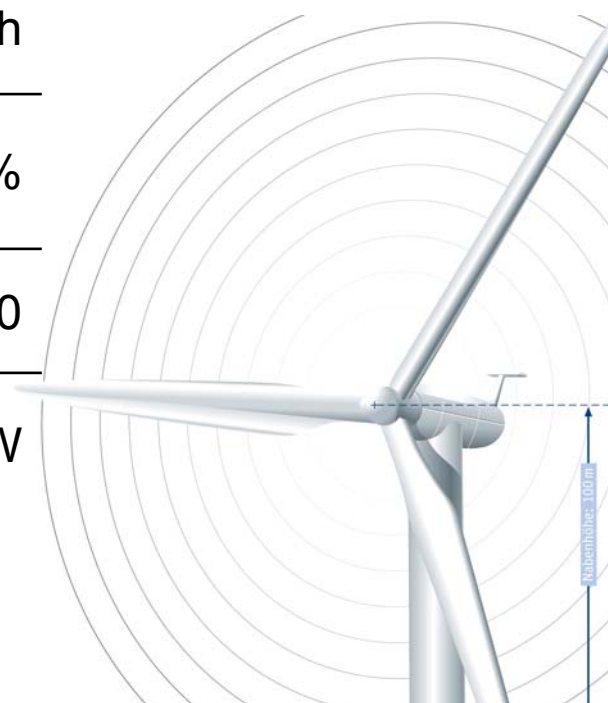
[www.wind-energie.de](http://www.wind-energie.de)

# German wind market

## Overview on the current situation

# Wind Energy in Germany – data first half of 2008

|  |                  |
|--|------------------|
| Installed capacity                                 | 23,044 MW        |
| Number of turbines                                 | 19,869           |
| Annual energy yield (potential)                    | 41.5 billion kWh |
| Share in gross electricity consumption (potential) | 6.73 %           |
| Employment   | estimated 90,000 |
| New capacity installed in first half 2008          | 799 MW           |



# The German Renewable Energy Sources Act (EEG) –

## Amendments from 1st January 2009

# EEG 2008: Higher remuneration and lower rate of degression

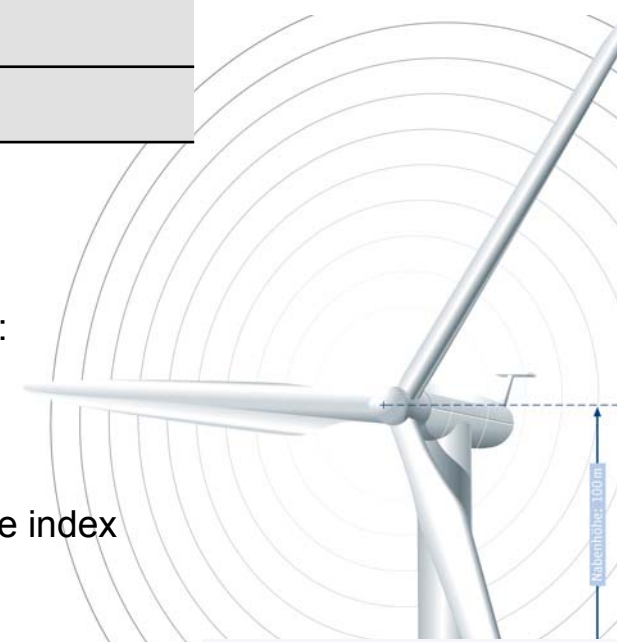
## Remuneration for new turbines on land

### EEG 2004: § 10

- Initial remuneration (2009): **7.87 ct/kWh**
- Basic remuneration (2009): **4.97 ct/kWh**
- Degression: **2% p.a.**
- **Not** linked to producer price index

### EEG 2008: § 29

- Initial remuneration (2009): **9.20 ct/kWh**
- Basic remuneration (2009): **5.02 ct/kWh**
- Degression: **1% p.a.**
- **Not** linked to producer price index



# EEG 2008: New Repowering bonus

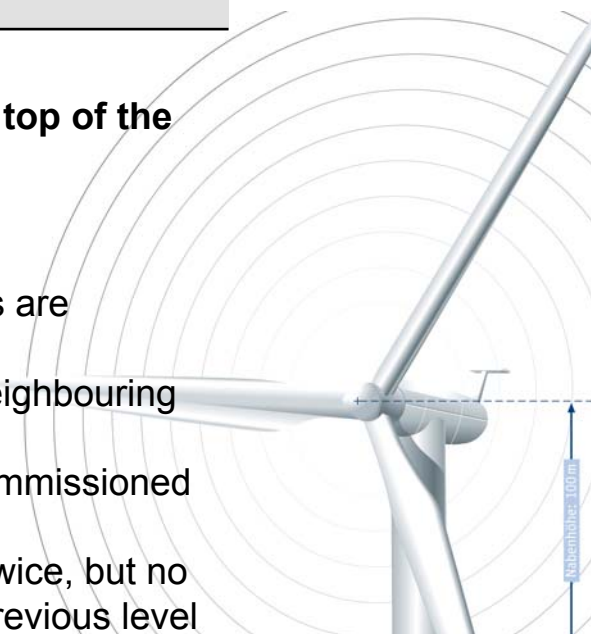
## Repowering

### EEG 2004: § 10 Sect. 2

- Initial remuneration paid for an extra 2 months at 0.6% of reference yield
- **Criteria:**
  - existing turbines are replaced or renewed
  - must be located in the same administrative district
  - original turbines commissioned before 31 Dec.1995
  - capacity is at least trebled

### EEG 2008: § 30

- **NEW: Bonus payable on top of the initial remuneration** amounting to 0.50 ct/kWh
- **Criteria:**
  - one or several converters are completely replaced
  - located in the same or neighbouring administrative district
  - original turbine(s) first commissioned at least 10 years ago
  - new capacity is at least twice, but no more than five times the previous level

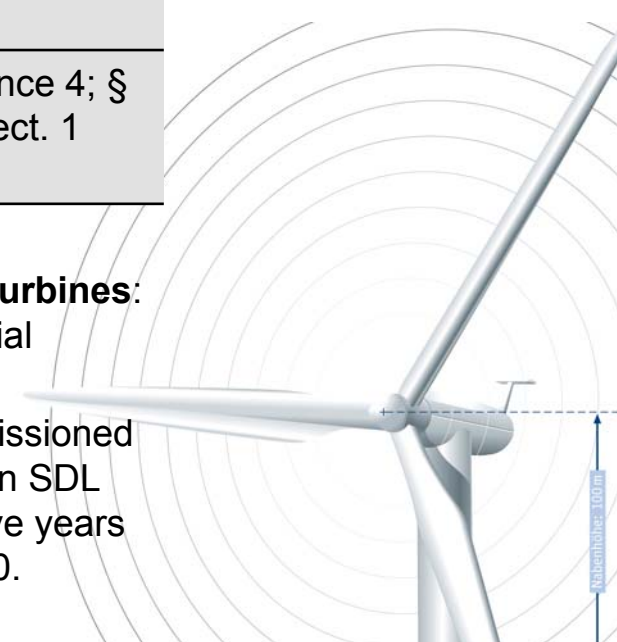


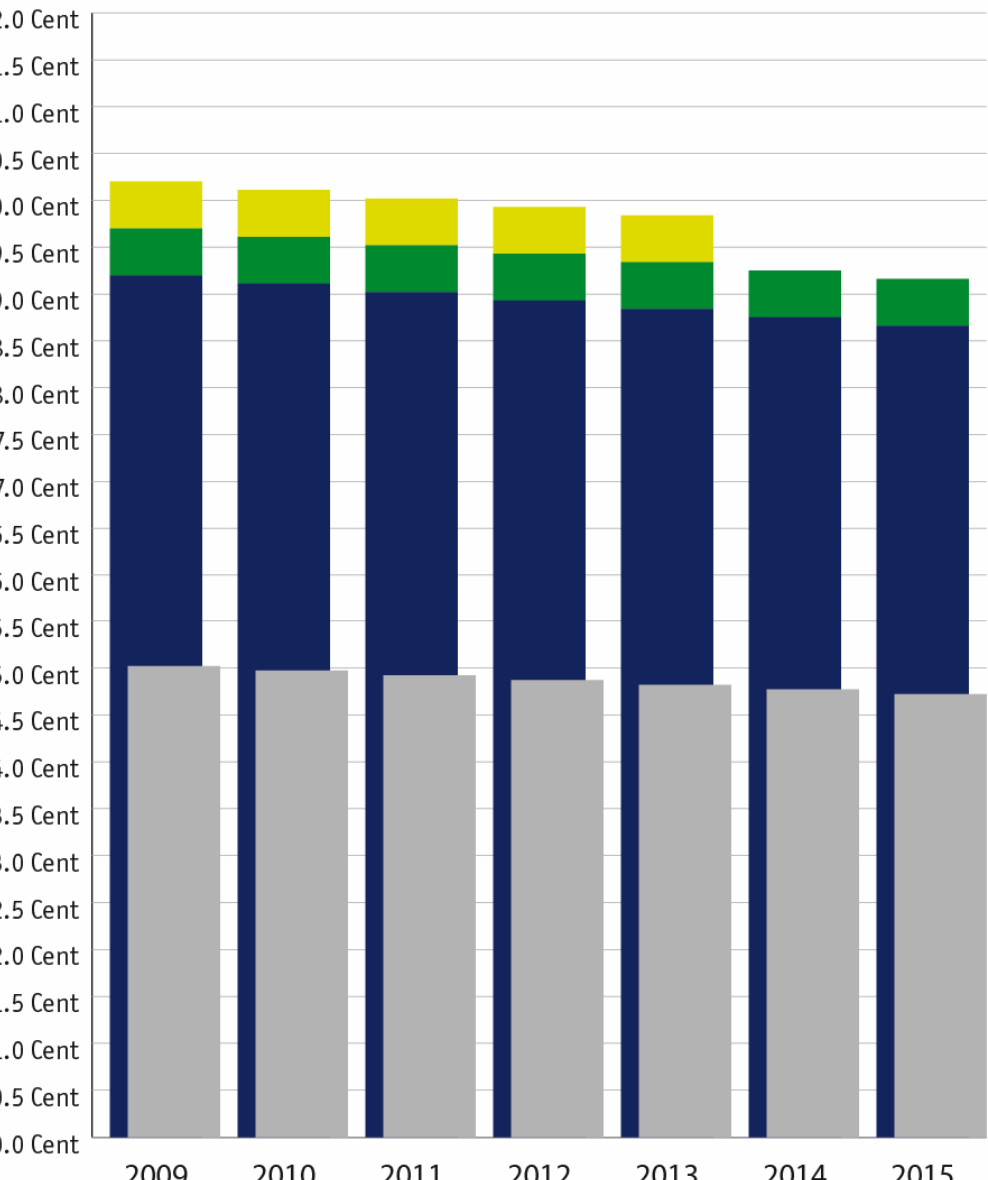
# EEG 2008: Additional bonus for improved grid compatibility

## System service bonus (SDL)

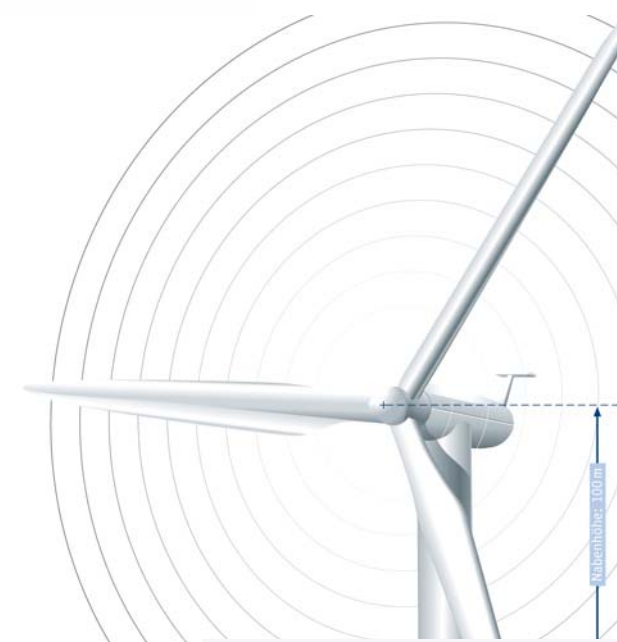
|          |  |
|----------|--|
| EEG 2004 | EEG 2008: (§ 29 Sect. 2 sentence 4; § 66 Sect. 1 No. 6 i.V.m.; § 64 Sect. 1 No. 1) |
|----------|--|

|               |  |
|---------------|--|
| No provisions | <ul style="list-style-type: none"> <li>• <b>NEW:</b> SDL bonus for <b>new turbines</b>: 0.5 ct/kWh on top of the initial remuneration</li> <li>• <b>NEW:</b> <b>Old turbines</b> (commissioned after 1 Jan. 2002) receive an SDL bonus of 0.7 ct/kWh over five years if upgraded by 31 Dec. 2010.</li> </ul> |
|---------------|--|





- System service bonus (SDL)
- Repowering bonus
- 1. step recompensation
- Basic recompensation



# EEG 2008: Increased remuneration for offshore wind

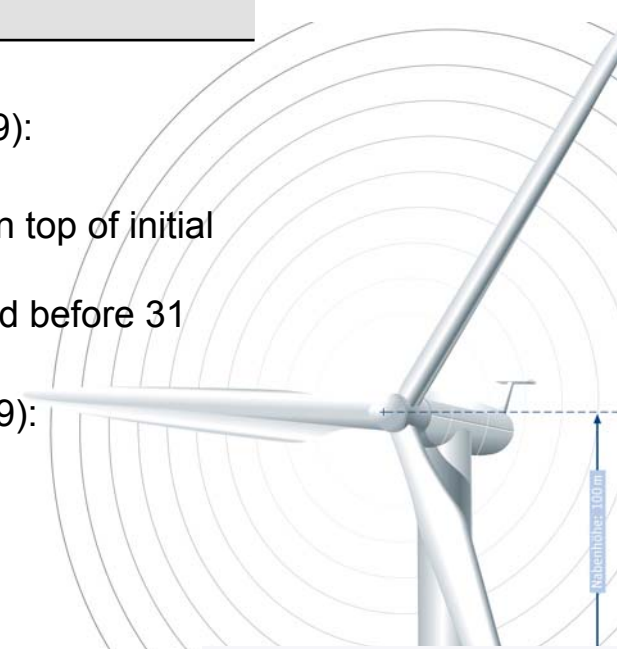
## Offshore

### EEG 2004: § 10 Sect.3

- Initial remuneration (2009): **8.74 ct/kWh**
- Basic remuneration (2009): **5.95 ct/kWh**
- Degression: **2% p.a.**

### EEG 2008: § 31

- Initial remuneration (2009): **13 ct/kWh**
- **NEW: Sprinter bonus** on top of initial remuneration: **2 ct/kWh** if commissioned before 31 Dec. 2015
- Basic remuneration (2009): **3.50 ct/kWh**
- Degression: **5% p.a.** from 2015



# EEG 2008: Better conditions for operators in terms of power generation management

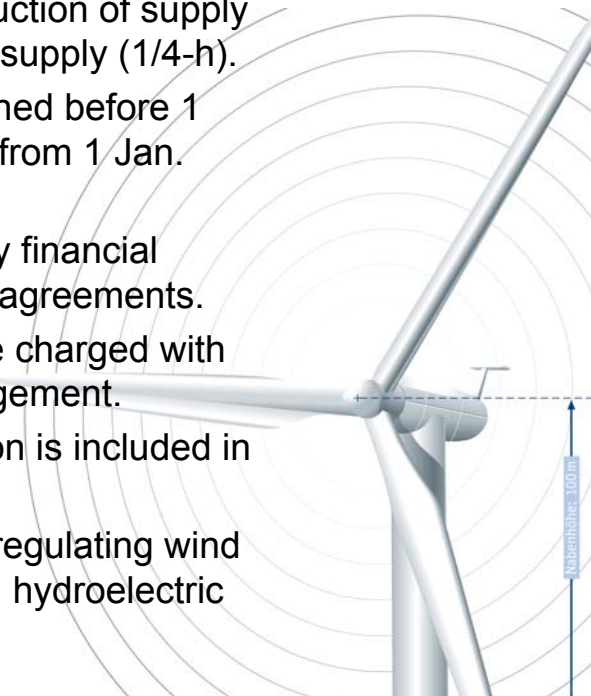
## Feed-in management

### EEG 2004:

- No financial compensation
- Preferential feed-in of renewable energy compared to fossil co-generation
- Equal treatment of all renewables

### EEG 2008: (§ 6, 11, 12 i.V.m; § 66 Sect. 1)

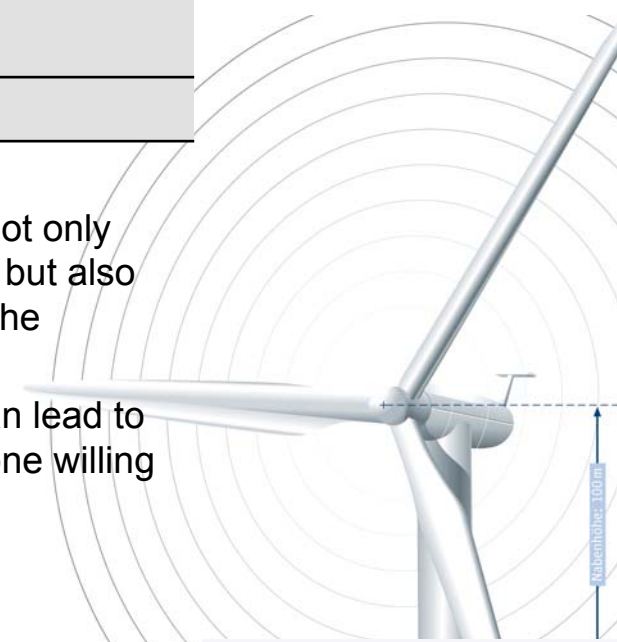
- **NEW:** Turbines over 100 kW need to be equipped for remote reduction of supply and monitoring of actual supply (1/4-h).
- Old turbines (commissioned before 1 Jan. 2009) must comply from 1 Jan. 2011.
- **NEW:** Grid operators pay financial compensation based on agreements.
- **NEW:** Grid operators are charged with optimising feed-in management.
- **NEW:** fossil co-generation is included in preferential feed-in.
- **NEW:** Lower priority for regulating wind energy (same as PV and hydroelectric power).



# EEG 2008: Grid operators have a duty to extend and optimise the grid. Failure to comply may lay them open to claims for losses!

## Grid extension and losses

| EEG 2004:  | EEG 2008: §9 and §10  |
|--|---|
| <ul style="list-style-type: none"><li>Duty to extend the grid.</li></ul> | <ul style="list-style-type: none"><li><b>NEW:</b> Grid operators are not only obliged to <b>extend</b> the grid, but also to <b>optimise</b> and enhance the existing grid.</li><li><b>NEW:</b> Failure to comply can lead to <b>claims for losses</b> by anyone willing (but unable) to feed in.</li></ul> |



# EEG 2008: Clear rules for selling wind power on the stock exchange

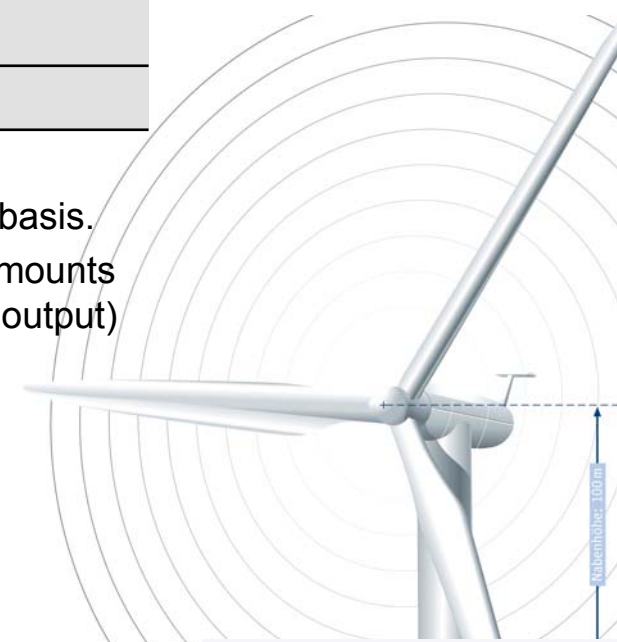
## Direct marketing

### EEG 2004:

- Entry and exit at any time, but not accepted by transmission grid operators and Federal Network Agency (BNetzA).

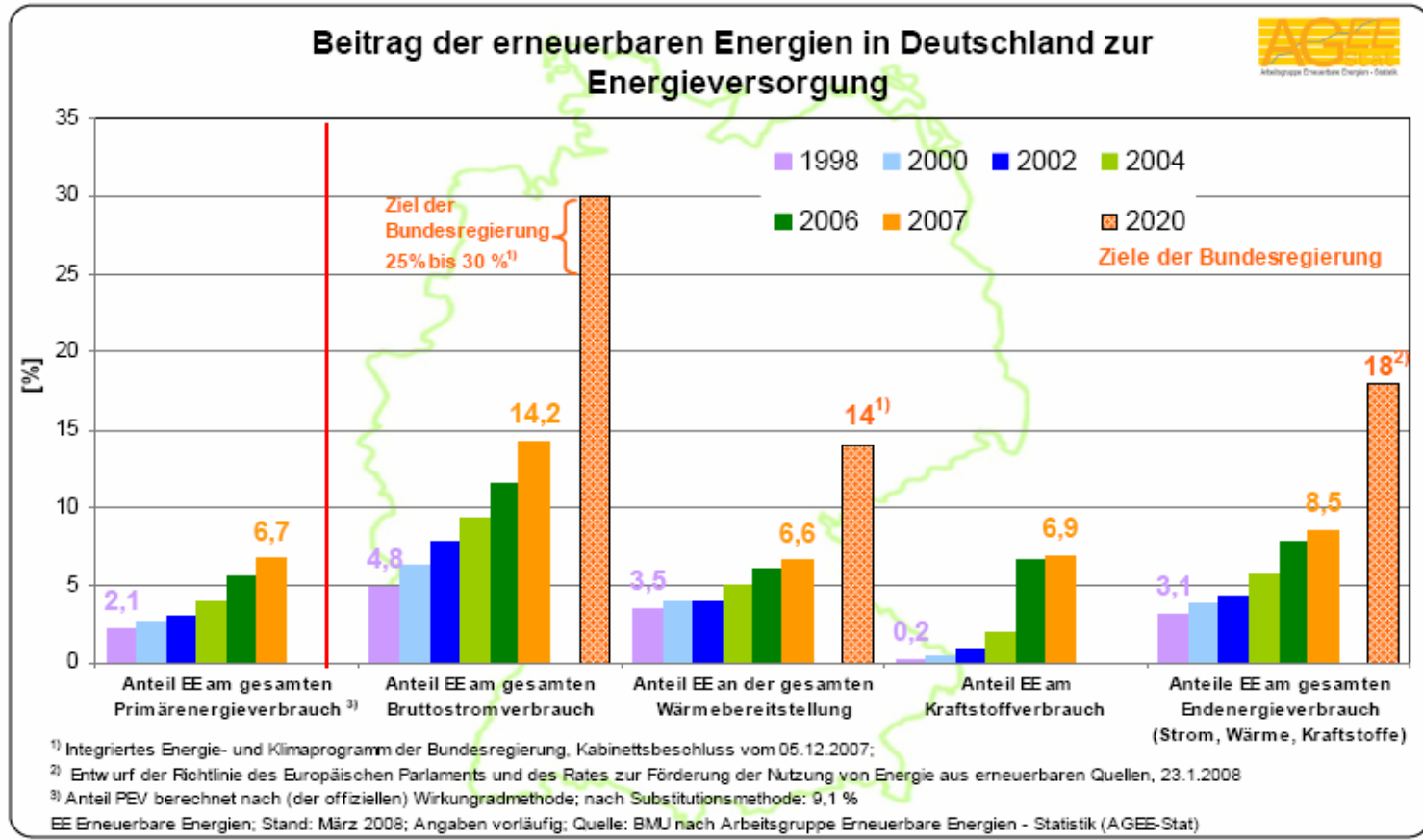
### EEG 2008: §17

- Entry and exit on a monthly basis.
- **NEW:** Marketing of partial amounts (fixed percentage of current output)



# Perspectives of wind energy in Germany until 2020

# German EU-target for renewable energy: 18 % until 2020



**= More than 30 % renewable electricity until 2020  
 (Energy and Climate Programme end 2007 / EEG 2008)**

# Wind Energy in Germany – data today and BWE projections for 2020

|                                      | 2007             | 2020  |
|--------------------------------------|------------------|---|
| Installed capacity                   | 22,247 MW        | <b>55,000 MW</b><br><br>45,000 MW onshore<br>10,000 MW offshore |
| Number of turbines                   | 19,460           | 20,000 -25,000  |
| Electricity generation               | 39.5 billion kWh | 110 billion kWh   |
| Share in net electricity consumption | 6.4 %            | 20-25 %   |





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