



Institut für Klimaschutz, Energie und Mobilität

Legal framework on repowering and further operation of wind turbines

For a successful implementation of the energy transition in Germany

13 September 2017



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- On an international level, IKEM supports the United Nations as a recognised NGO
- As an interdisciplinary research institute, IKEM provides counseling to federal and regional ministeries



Main Building of the University Greifswald



former State Printing Office of the GDR in Berlin

EEG funding is limited to 20 years

- At the end of 2020, wind turbines with total generating capacities of approx. 4,5 MW will cease to receive funding
- Between 2021 and 2026 further 2,5 MW a year will lose EEG funding
- The affected wind energy plants will be switched off if a further operation is not profitable
- This could affect the chances of reaching the goals set for the energy transition

Conditions for profitability

- In the base case, a revenue between 3,57 und 4,07 ct/kWh is necessary for a profitable further operation. This includes:
 - investments for further operation
 - running costs
 - economic incentives for operators
- The average price at the day-ahead market amounted in 2016 to only 2,82 ct/kWh

Decisive issues

Which EEG privileges are maintained?

How is the electricity market developing?

Privileges

- **Connection to the grid, § 8 EEG**
As a principle, renewable energy plants are prior and promptly connected
Irrespective of requirements for optimisation, strengthening or grid expansion, § 12 EEG
- **Feed-in, § 11 EEG**
Renewable electricity, whether sold with or without support or with a compensation fee, must be prior and promptly integrated
- **Claim for compensation, § 15 EEG**
The operator of a renewable energy plant gets compensated for involuntary losses through feed-in management

Claims

- **Entitlement to payment, § 19 EEG**
Market premium for directly sold renewable electricity
Basis for calculation
 - Basically: legally set applicable value for plants launched until 31.12.2016
 - Basically: applicable value determined competitively for plants launched from 01.01.2017(feed-in remuneration for plants up to 100 kW)

Perpetuation of EEG privileges

Option A: Repowering (new construction)

Option B: Further operation after the end of the support

Main idea and status quo

- Complete replacement of older wind turbines with more modern and more efficient plants
- In 2016, 15 % of the new constructions were “repowered” plants (AnlReg 04/17)
- § 30 EEG (old version) was abolished, so there are no more special provisions for repowering
- Support claims are no longer enforceable, even if the 20 year period is not yet over
- Handling as if the plant is first launched, § 3 Nr. 30 EEG

Scope of the EEG

- Scope of application: “electricity from renewable energies (or from mine damp)”
- Funding on the grounds of the EEG is not a condition for the applicability of the EEG

Privileges of the EEG

- No support for renewables, §§ 19 ff. EEG
- Connection to the grid/adjustment, §§ 8, 12 EEG
- Entitlement to prior feed-in, § 11 EEG
- Claim for compensation, § 15 EEG

 **Participation in tender calls**

Construction independently from tender calls

- Expansion phase, § 4 EEG, serves the “quantity control” of the constructions for purposes of synchronization with the grid development
- “Nearly binding rule”: discrepancy only on special circumstances
- Expansion phase coincides quantitatively with the volumes of tender calls, § 28 Abs. 1 EEG
- Significant infringement of constitutional rights, Art. 12 I, 14 GG
- Apart from grid expansion areas, tender calls are not geographically coordinated = construction of wind plants not predictable for the grid expansion
- No explicit prohibition of construction
- Plants up to 750 kW also increase theoretically the total volume over that of the expansion phase

 **Significant legal uncertainty**

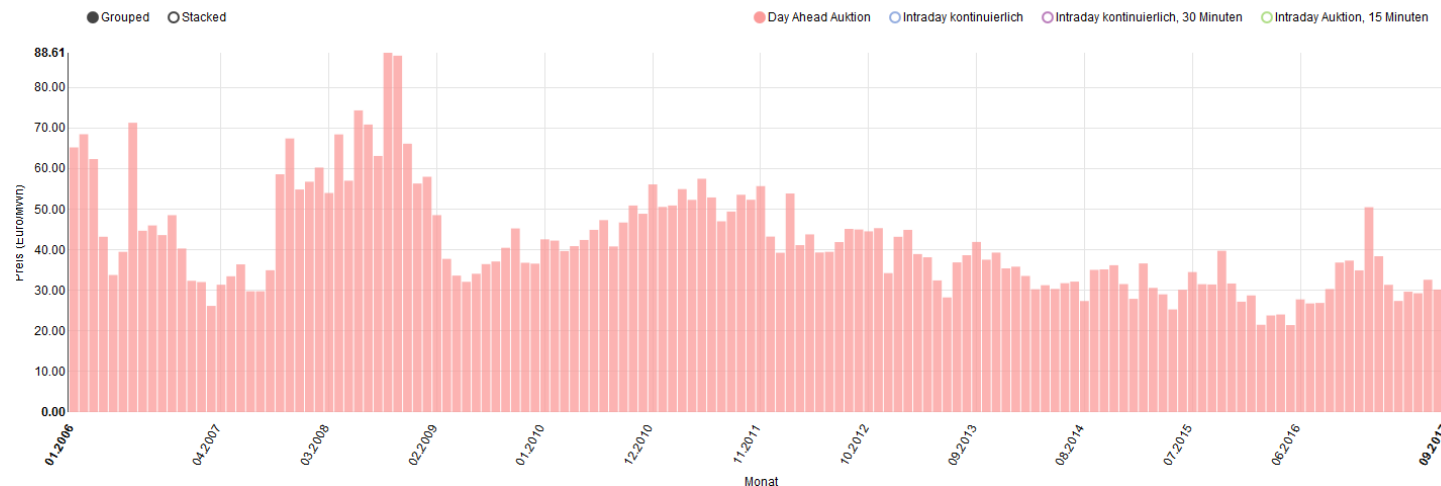
Further operation after 20 years

Privileges of the EEG

- No claim to EEG funding, §§ 19 ff. EEG
- Connection to the grid/adjustment, §§ 8, 12 EEG
- Entitlement to prior feed-in, § 11 EEG
- Claim for compensation, § 15 EEG

Market price for electricity

- Most forecasts expect a price increase in the long term
- A forecast is difficult because of numerous uncertain influence factors
- In the past, a reliable forecast was not possible



Solution: Higher prices

EPEX-Spot price development

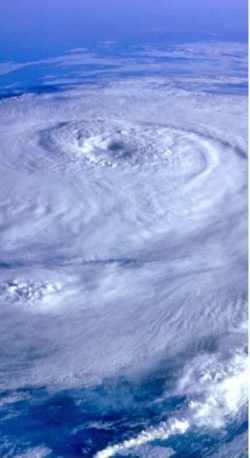
- Higher general demand for electricity (e.g. because of a rise in electromobility)
- End of nuclear power generation in Germany could decrease the electricity offer and cause higher prices (balancing effects of the common energy exchange)
- Political market interventions (e.g. carbon taxation)

 **Long term, based on volatile political and economic conditions**

Marketing model “green wind electricity”

- It is possible to promote the electricity generated without EEG funding as “electricity from renewable energies”
- Guarantees of origin, § 79 EEG (provided there was no support pursuant to § 19 EEG)
- Regional guarantee, § 79a EEG (electricity for which a market premium was paid)
- Green balancing group

 **Changes in regulation needed in order to enable regional direct marketing of green electricity**



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