



Bundesministerium
für Wirtschaft
und Energie

2017 German Renewable Energy Law (EEG 2017) and cross-border renewable energy tenders

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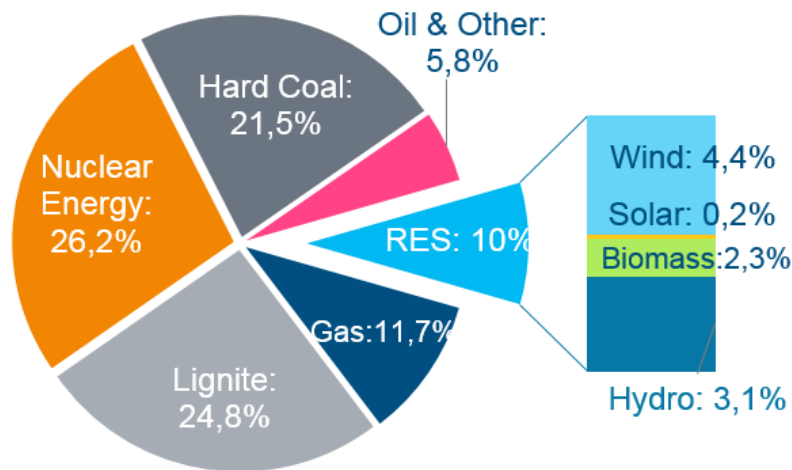
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Structure

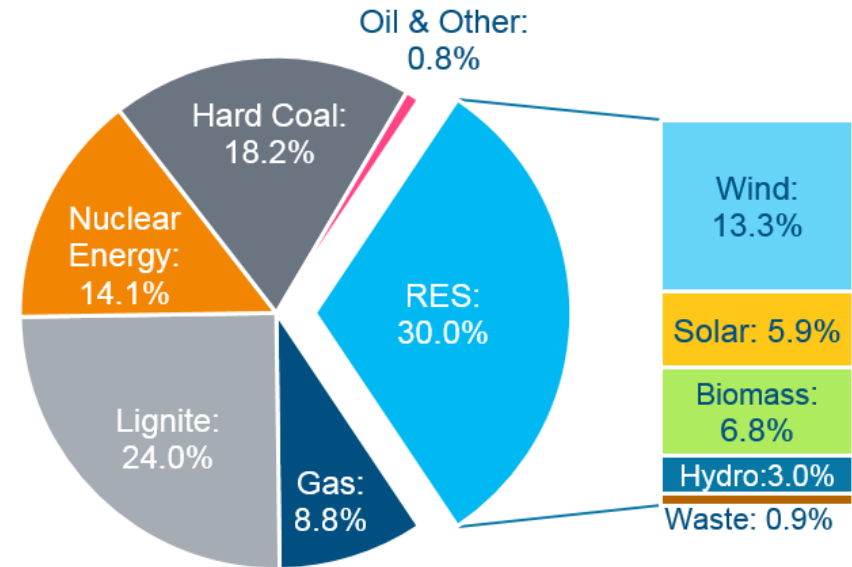
- Background
- Auctions for renewable energy under the EEG 2017
- First experiences with PV tenders in Germany
- Cross-border auctions for renewable energy

Background

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.

Objective of introducing tenders

- Switching the funding for renewable energy from prices fixed by administration/ government/ parliament to prices set by **competitive auctions**
- System change from Feed-In-Tariffs to market instrument
- Auctions can help to achieve further support cost reductions and a faster response to market developments



RES technologies up for auction

- From 2017, funding will be **auctioned** for:
 - onshore wind energy (2,8 GW; 2,9 GW from 2020 per year)
 - offshore wind energy (15 GW by 2030)
 - photovoltaics (600 MW per year)
 - Biomass (150 MW, later 200 MW per year)
- **Exempted:** installations ≤ 750 kW (biomass: ≤ 150 kW)

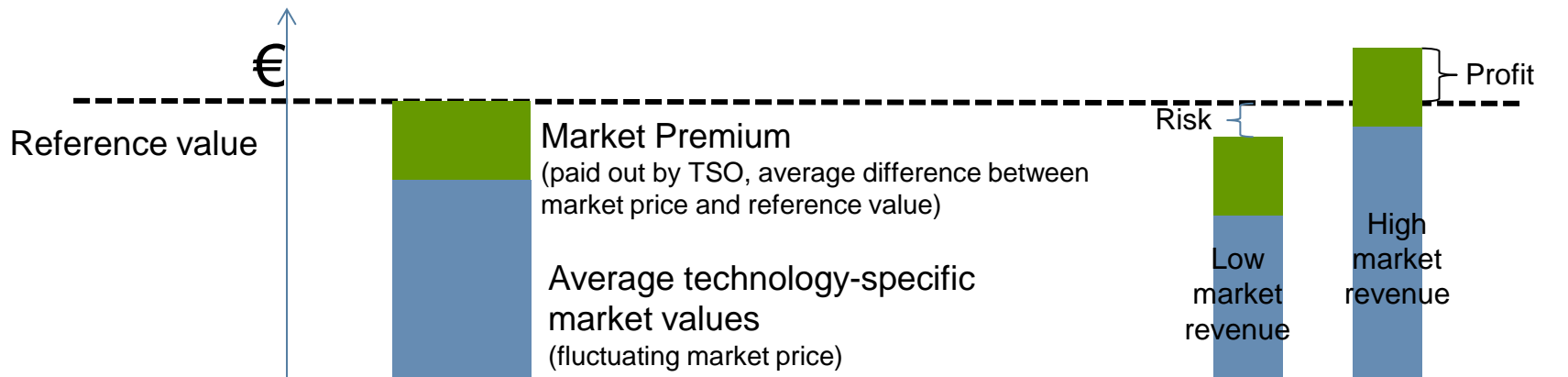
Tendering scheme in general

Technology specific, but common features:

- Tendering of **total amount of installed capacity (MW)**;
3-4 auction rounds per year conducted by Federal Network Agency
- **Only price is decisive for awarding contracts**
- Bids will be accepted, starting with the lowest until the amount of capacity that is being auctioned is reached. In principle, the amount of funding corresponds to the individual bid (pay as bid)

Market premium

- **Bids for floating market premium (ct/kWh)**
- Market premium = reference value of the respective renewable energy plant minus its technology-specific market value
- Market premium is paid for a period of **20 years**



Tendering scheme for onshore wind

- In **2017, 2018 and 2019, 2,800 MW** and **from 2020, 2,900 MW (gross)** will be **auctioned each year** (1st of May, 1st of August, 1st of November)
- Prequalification: Approval pursuant to Federal Immission Control Act (final administrative decision)
- Bid bond: 30 €/kW or bank guarantee to discourage non-realisation
- Realisation period: 30 months

Tendering scheme for photovoltaics

- PV installations > **750 kW**
- 600 MW will be auctioned each year (1st of February, 1st of June, 1st of October)
- Prequalification: admission by local authorities and/or area development plan (early planning stage)
- Bid bond: 50 €/kW to discourage non-realisation
- Realisation period: 24 months

Results of the (pilot) PV tenders since 2015

Biding deadline	15.04. 2015	01.08. 2015	01.12. 2015	01.04. 2016	01.08. 2016	01.12. 2016	01.02. 2017
Tendered volume	150 MW	150 MW	200 MW	125 MW	125 MW	160 MW	200 MW
Bids (volume)	715 MW	558 MW	562 MW	539 MW	311 MW	423 MW	488 MW
Successful bids (awarded volume)	25 (157 MW)	33 (159 MW)	43 (204 MW)	21 (128 MW)	22 (118 MW)	27 (163 MW)	38 (200 MW)
Ø reference value ct/kWh	9,17	8,49	8,0	7,41	7,25	6,90	6,58
Realisation rate (% of capacity)	66%	58%	16%	19%	-	-	-

Lessons learned from German PV auctions

- Intensive competition
- Volume several times oversubscribed
- Decreasing reference value from 1st to 7th round
(9,17 ct/kWh -> 6,58 ct/kWh = - 28 % in less than two years)
- Different actors participated, also smaller actors & projects have been successful
- High implementation rate so far

Cross-border support: background

- In the case of cross-border support /opening of support schemes , support is paid to installations located in other Member States
- Key goals:
 - Regional integration of national energy policies
 - EU compatibility of national support schemes
 - Joint learning curve and alignment of support schemes
 - Using regional synergies (e.g. diversification of RES)
 - More competition in auctions
- Germany will open up support for 5% of yearly new installed renewable capacity to installations in other Member States from 2017 onwards (ca. 300 MW per year)

Basic Requirements



Cooperation
agreement

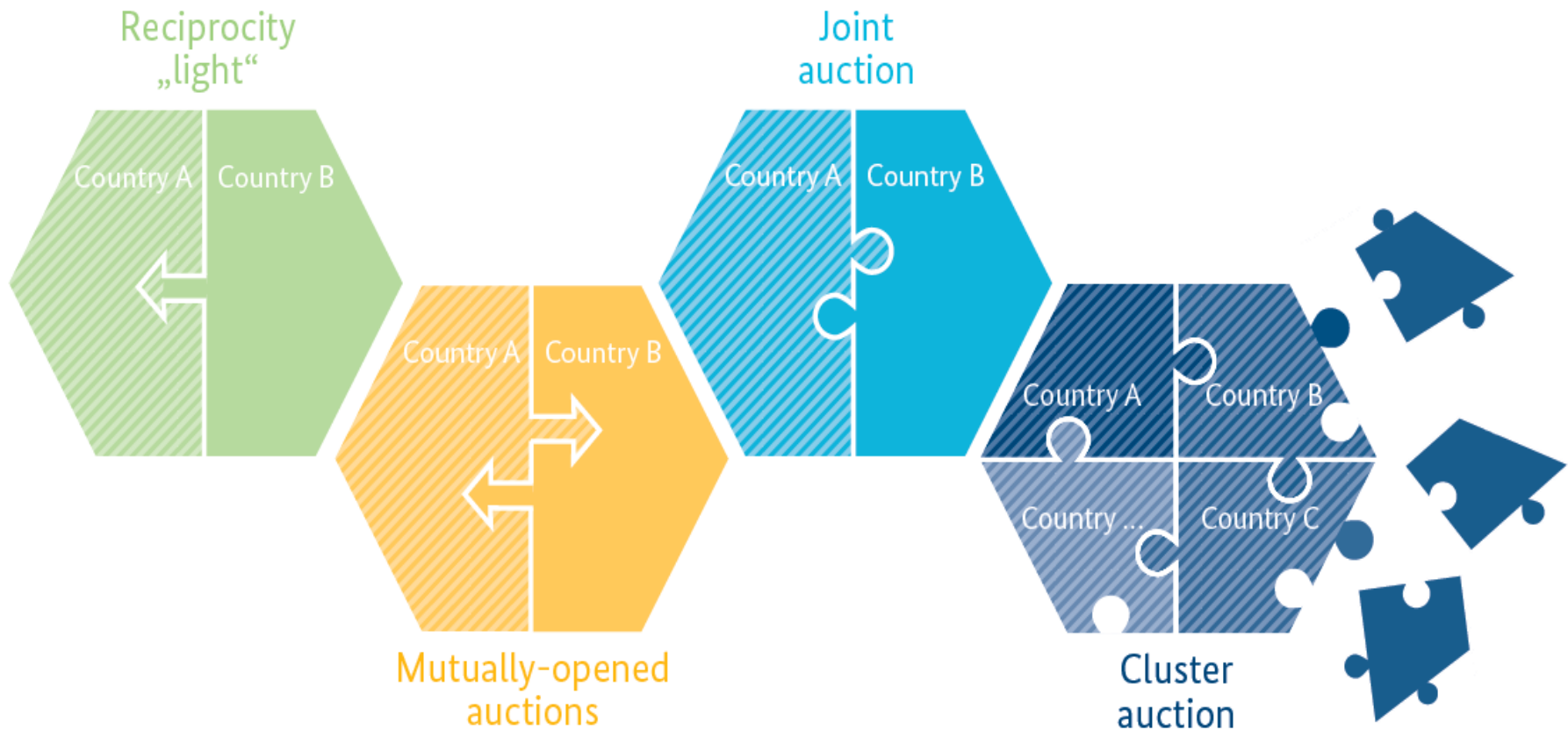


Reciprocity



„Physical“ Import

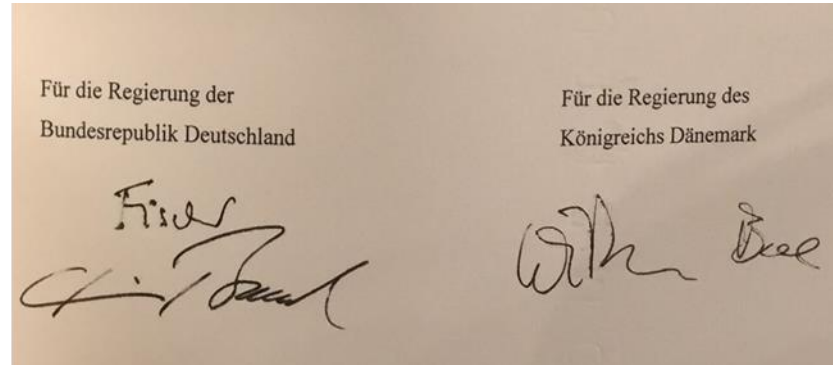
Models for Reciprocity



Auction design elements vs. location-specific conditions

- **Auction design elements** can stay different in a mutually opened auction but must be aligned in a joint/cluster auction
 - Examples: auction object, maximum bid size, pricing rule
- **Location-specific conditions:** The local rules of the country where the installation will be built apply (unless countries can agree to align them)
 - Examples: site restrictions, construction permits, grid connection, compensation for curtailment, taxes and levies

Cooperation pilot with Denmark



- Cooperation agreement for mutually opened auctions for ground mounted PV installations signed in July 2016
- First cooperation of its kind
- German and Danish opened auctions conducted in 4th quarter of 2017
 - Volume of German auction: 50 MW, fully opened for installations in Denmark
 - Volume of Danish auction: 20 MW, of which 2.4 MW were opened for installations in Germany

Results of the German opened pilot auction with Denmark

Bidding deadline	23.11.16
Tendered volume	50
Bids (volume)	297 MW
Successful bids (awarded volume)	5 bids with 10 MW each, all successful projects located in Denmark
Ø reference value ct/kWh	5,38

Outlook: Cross-border support under the EEG 2017

- Substantially higher volumes than in pilot phase (5% of yearly new installed capacity correspond to ca. 300 MW)
- Extension of cross-border support to onshore wind (pilot phase: PV only)
- Entry into force of revised ordinance for cross-border support foreseen for 2nd quarter of 2017

Thank you for your attention.

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