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# AUSSCHREIBUNGEN IM EEG 2017

Les appels d'offres dans la loi allemande sur les énergies renouvelables 2017

Prof. Dr. Mario Ragwitz, Vasilios Anatolitis - Fraunhofer ISI  
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# Motivation to use tender/auctions

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- In feed-in systems: Determination of tariffs based on administrative tariff setting (based on LCOE calculation and political negotiation processes)
- Involves risk of excessive or insufficient support, if real costs are not well-known
- Increase of cost-effectiveness requires competitive price formation
- Auctions / tender offer an option to introduce elements of competitive price formation if conditions for successful auctions are fulfilled
- Volume control: tender /auctions used to allocate financing to different technologies
- Use of auctions in electricity sector common, their use for RES-support has increased considerably in recent years
- In practice, combining auctions/tender with FIT/FIP is typical

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# Challenges of using tender/auctions

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- **Ensuring realistic bids**
  - Risk of underbidding (lack of information or strategic behaviour)
  - High prices due to collusive behaviour
- **Ensuring high implementation rates and timely implementation of projects**
  - Risk of reduced effectiveness due to non-realisation
  - Penalties required to ensure high implementation rate
  - Winning projects are often delayed or not implemented (e.g. former NFFO UK, Brazil)
- **Ensuring continuity of support**
  - Possibility of stop and go cycles
- **Limiting risks for bidders**
  - High risks for bidders lead to low number of participants and/or high risk premiums

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# Technology specific auctions with common design elements in Germany

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- **Technology specific auctions for**
  - Onshore wind energy
  - Offshore wind energy
  - Photovoltaic
  - Biomass
- **Prequalification criteria** to ensure only serious bidder participation
  - Bid bonds
  - Permits
  - Penalties for delays/non-realization
- **3-4 auction rounds per year**
- **Auction design:**
  - Sealed bid auction with project's minimum capacity of 750 kW (biomass: 150 kW)
  - Pay-as-bid
  - Published ceiling (maximum) price

# Prequalification criteria

## ■ Bid bonds

	Onshore Wind	Offshore Wind	PV	Biomass
Bid bond	<b>30 €/kW</b> (citizens' energy companies 15 €/kW before and after the auction)	<b>200 €/kW</b>	<b>50 €/kW</b> (5 €/kW before the auction, 45 (20) €/kW if successful)	<b>60 €/kW</b>

## ■ Permits

- Ensuring only serious bidders participate
- Increasing the probability of projects' realization rate

## ■ Penalties for delays/non-realization

- Ensuring that successful bidders comply with the milestones
- Bid bonds serving as collateral

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# Deployment corridor of RES technologies

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- **Onshore wind energy**
  - From 2017 to 2019: 2800 MW auctioned each year
  - From 2020: 2900 MW each year
  - From 2016 to 2018: Transitional period in which the traditional feed-in tariffs can be applied
- **Offshore wind energy**
  - Until 2030: 15 GW will be installed
- **Photovoltaic**
  - 600 MW per year (PV installations with a capacity > 750 kW)
- **Biomass**
  - From 2017 to 2019: 150 MW auctioned each year
  - From 2020 to 2022: 200 MW each year

# First experiences with PV pilot auctions

	15.04.15	01.08.15	01.12.15	01.04.16	01.08.16
Tendered volume	150 MW	150 MW	200 MW	125 MW	125 MW
Bids (volume)	715 MW	558 MW	562 MW	540 MW	311 MW
Successful bids (awarded volume)	25 (157 MW)	33 (159 MW)	43 (204 MW)	21 (128 MW)	25 (130 MW)*
Ø reference value	9,17	8,48	8,0	7,41	7,25
Corresponding FIT EEG 2014	9,02	8,93	--	--	--
Price mechanism	Pay-as-bid	Uniform	Uniform	Pay-as-bid	Pay-as-bid
Realisation rate	25%	27%	6%	7%	--

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# Ensuring the cost efficiency of the “Energiewende”

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- **Measures taken to harmonize renewable energy expansion and grid issues**
    - Introduction of an instrument for using excessive RES-E in heat sector as an interruptible load
    - Implementation of a “grid expansion area” due to grid bottlenecks: yearly awarded capacity of onshore wind power in this area limited to 58% of the average yearly installed capacity between 2013 and 2015
    - Offshore wind power will be planned centrally in order to ensure a trajectory according to the grid extension
  - **Implementation of “central model” for offshore wind power**
    - Offshore sites are pre-examined and pre-developed by the Federal Network Agency (Bundesnetzagentur – BNetzA)
    - Grid connections guaranteed and installed by TSO
    - Transitional phase for already planned projects with auctions in 2017 and 2018 in order to ensure a steady expansion and prohibit “stop and go” policy
- ➔ Less risk exposure for stakeholders and thus lower risk premiums



# Ensuring the cost efficiency of the “Energiewende”

- **Reference revenue model for onshore wind power**
  - Introduction of a single-tier revenue model: one strike-price for 20 years
  - Bids translated according to the output of a site with a wind quality with 100%

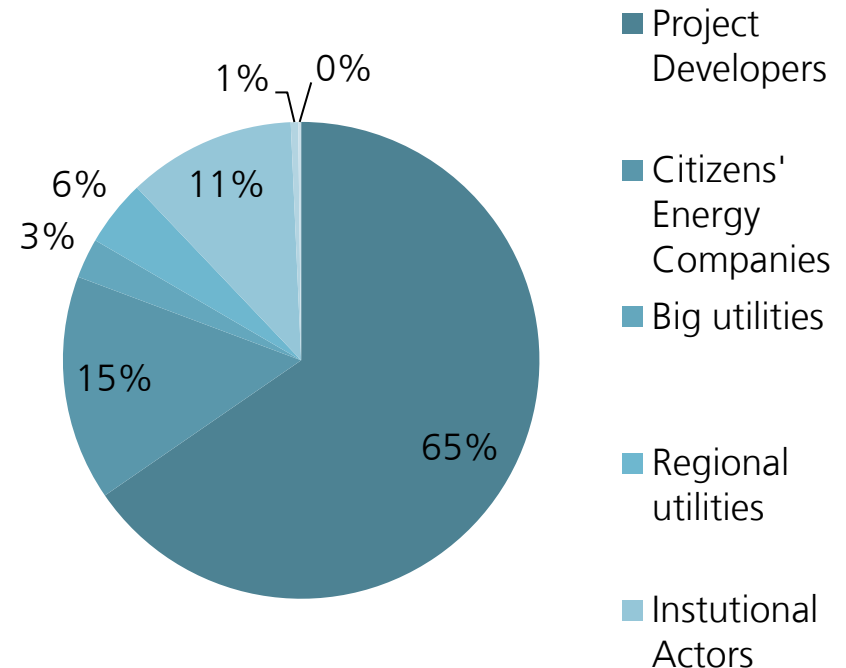
	Feed-in tariff									
Award value in %	60	70	80	90	100	110	120	130	140	150
Corrective factor	1.29	1.29	1.16	1.07	1	0.94	0.89	0.85	0.81	0.79
Example of feed-in tariffs in ct/kWh	7.74	7.74	6.96	6.42	6.00	5.64	5.34	5.10	4.86	4.74
	8.39	8.39	7.54	6.96	6.50	6.11	5.79	5.53	5.27	5.14
	9.03	9.03	8.12	7.49	7.00	6.58	6.23	5.95	5.67	5.53

# Maintaining stakeholder diversity

Several measures in order to maintain the high level of stakeholder diversity in the German RES market:

- **750 kWh participation requirement**  
Smaller actors with minor projects still eligible for feed-in tariff
- **Simple and transparent auction design**
- **Support and advisory services**
- **Special requirements for citizens' energy companies in the onshore wind auctions**

Stakeholders during realization phase 2012-2014



Source: Deutsche WindGuard GmbH, Akteursstrukturen von Windenergieprojekten in Deutschland

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# Citizens' energy companies: relaxed rules in auction design

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**Under certain criteria, application of relaxed rules in the onshore wind auctions for the locally anchored citizens' energy companies**

- **Prequalification criteria**
  - No permit under the Immissions Act required
  - Just half of the usual bid bond required (15 €/kW instead of 30 €/kW)
  - Other half required only if bid is successful
- **Uniform pricing**
  - Highest awarded bid as the remuneration level for citizens' energy companies
  - In contrast to the other actors, who receive exactly their bid (if successful)
  - Measure to favour the local actors and to ensure stakeholder diversity

# So far: First experience with pilot auctions for ground-mounted PV

## Favourable outcome of the six pilot auctions:

- **Sufficient competition**
  - Tendered volume oversubscribed multiple times
- **Decreasing prices**
  - From 9.17 ct/kWh to 6.9 ct/kWh in 18 months
- **Stakeholder diversity**
  - Successful participation of smaller actors
  - Second bid bond by almost every awarded bidder

