

# Wind Energy

Expansion Status, Promotion & Legal Advice

The expansion of renewable energies in Germany is progressing only sluggishly. At the end of 2022, the Federal Network Agency only recorded an increase of 264 onshore wind turbines. This means that Germany is far behind the requirements of climate and energy policy.

Particularly due to the newly defined legislative framework of the federal government, new drafts on the part of politicians and greater interest on the part of society, the topic of renewable energies is characterised by a high degree of topicality and new opportunities. It is important to implement the new requirements as quickly as possible. In doing so, the federal states are called upon to make proper use of the instruments provided in order to accelerate the expansion of renewable energies in their own regions.

To this end, we offer you a rough overview of the current state of expansion in Germany. In the course of this, we inform you about the funding procedure and the legal framework that must be observed.

# 1. State of Development

- a) General Information
- b) Onshore Wind Energy
- c) Offshore Wind Energy Expansion
- d) Accelerated expansion

# 2. Promotion

- a) Numbers, Data, Facts
- b) Funding

# 3. Legal Advice

- a) Energierecht
- b) EEG
- c) Wind-an-Land-Gesetz
- d) WindSeeG

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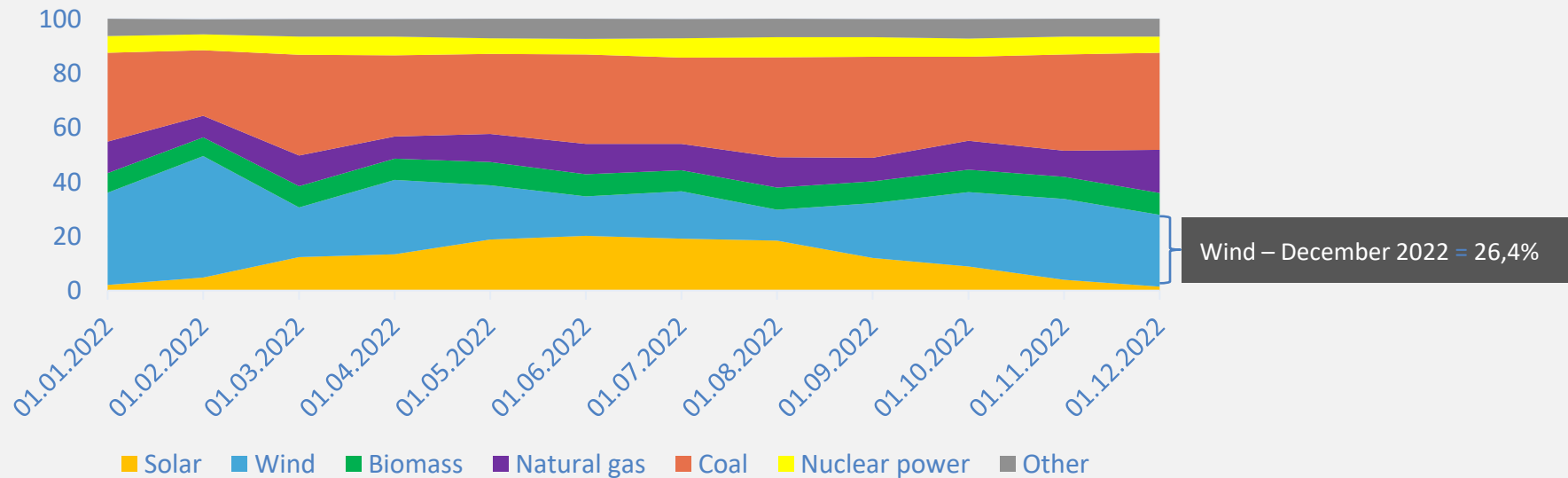
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### a) General Information

#### Goals Federal Government

- Phase-out of coal-fired power generation → by 2030
- EEG = 80 % of electricity generation from renewable energies → by 2030

#### Electricity Generation in Germany by Energy Source



### b) Onshore Wind Energy

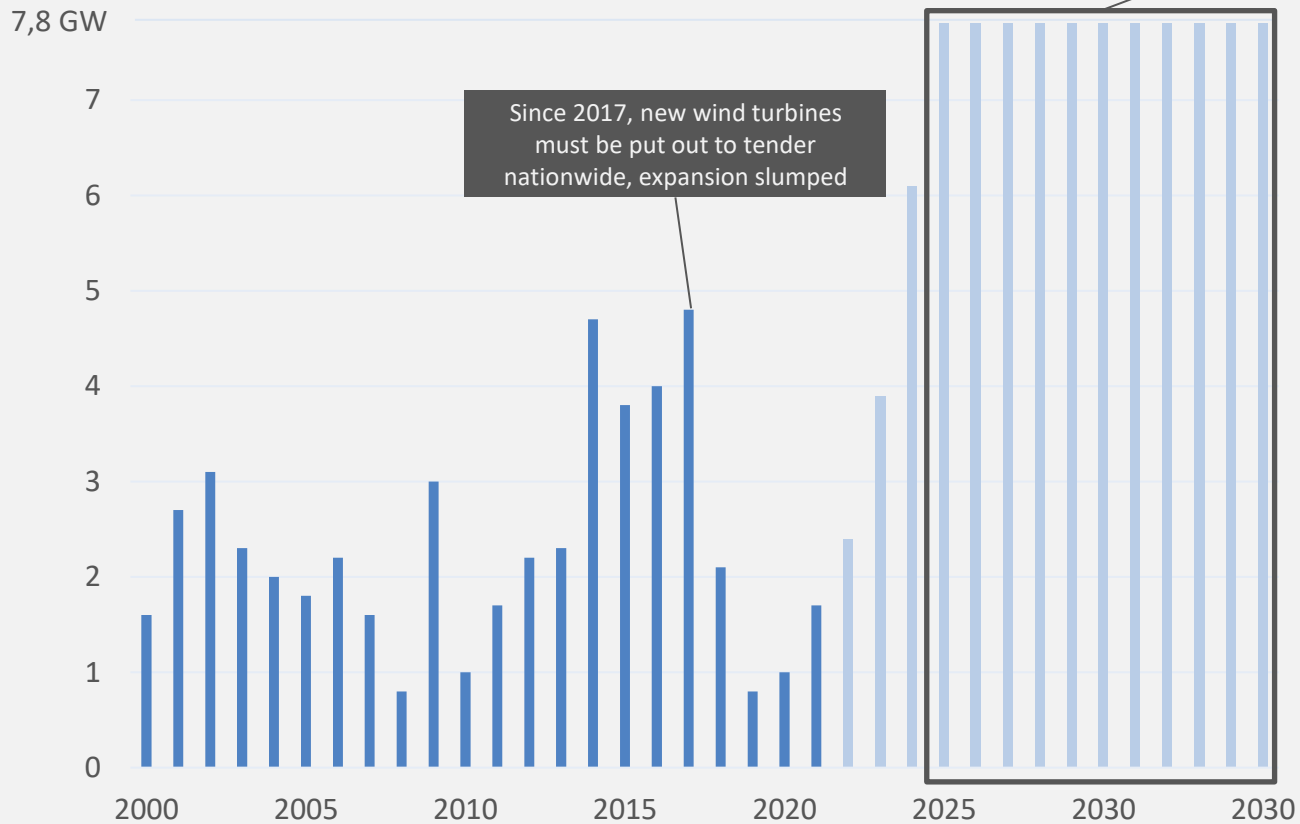
#### Status of Onshore Wind Energy Expansion

	Power [MW]	Number of Facilities
Gross additions 2022	2.403	551
Thereof Repowering	423	103
Shutdowns total year 2022	266	246
Net additions total year 2022	2.137	305
Cumulative portfolio at 31.12.2022	58.106	28.443

#### Forecast 2023

- Associations forecast an increase in capacity of 2.7 to 3.2 GW for 2023 (assuming unchanged implementation speed).

### Annual Addition of Onshore Wind Energy

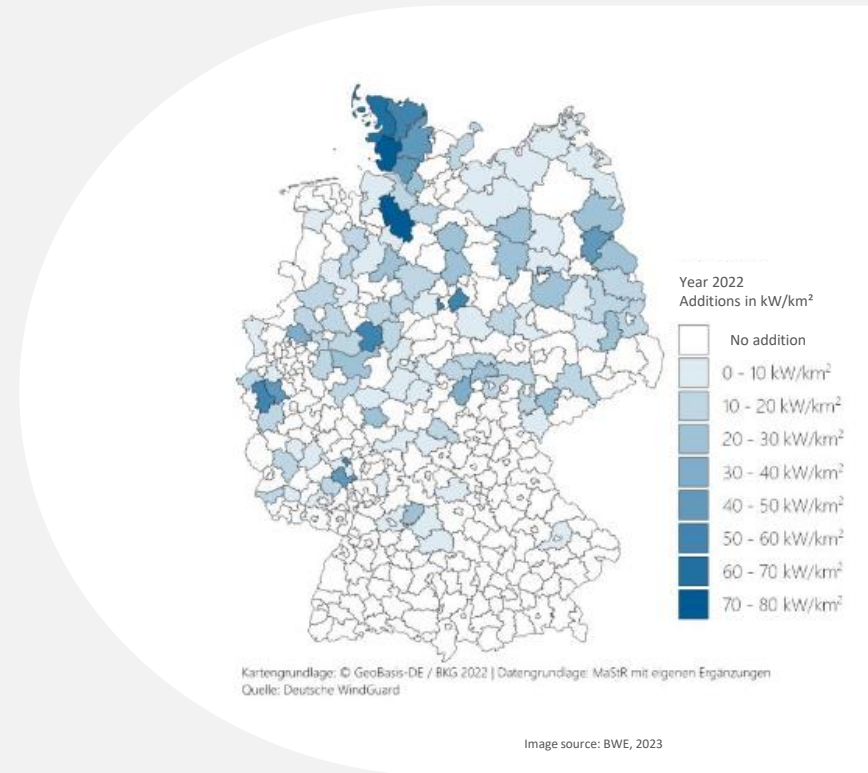


From 2025, 7.8 GW to be added annually

Since 2017, new wind turbines must be put out to tender nationwide, expansion slumped

### Additions by County

- Front runners = Lower Saxony and Schleswig-Holstein
  - Large regional differences within the federal states as well
- The addition corresponds to a „patchwork“.
- For the realization of an energy mix it is necessary that there is also wind energy in every federal state





### Solution Approaches

- The following points are necessary for successful goal achievement:
  - Elimination of certification hurdles for towers of the installations → only so fastest possible ramp-up of projects realizable
    - Provision of suitable areas
    - Overcoming licensing bottlenecks
    - Facilitation of the transport

### Challenges

- Current onshore additions too low to meet federal government targets
- North-South divide → Consumption-intensive states in the south, still far behind
- Average approval duration = 23,5 months
- Additions in 2023 based on surcharges from 2021 → Implementation wobbles due to cost and interest rate increases

### c) Offshore Wind Energy Expansion

#### Status of Offshore Wind Energy Expansion

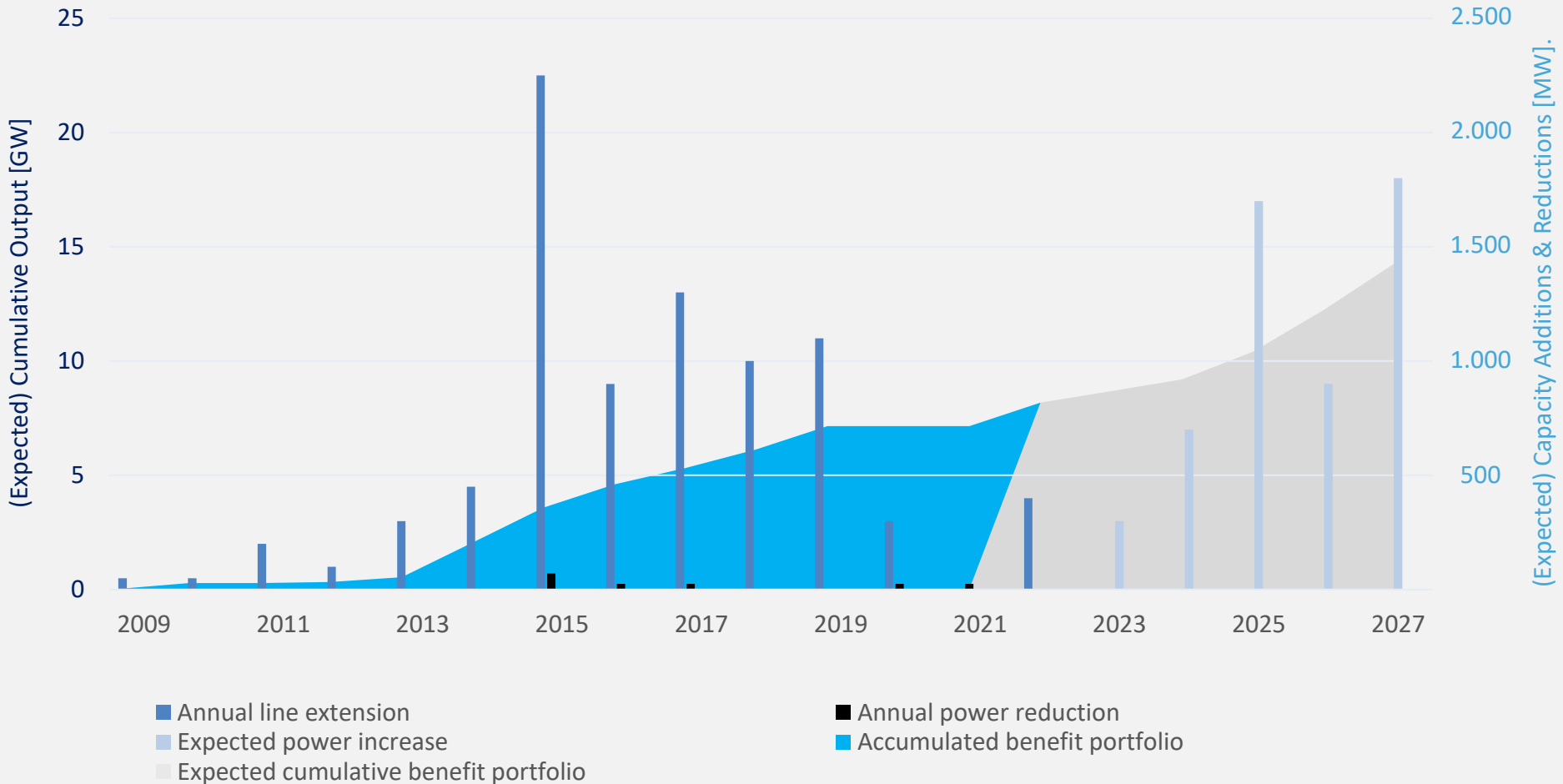
Addition Year 2022	Power [MW]	Number of Facilities
OWEF with first grid feed-in	342 MW	38 OWEF
Installed OWEF without grid feed-in	86 MW	9 OWEF
Foundations without OWEF		18 Foundations

Accumulated Dec. 31, 2022	Power [MW]	Number of Facilities
OWEI with grid feed	8.136 MW	1.539 OWEF

Expansion until 2027	Power [MW] North Sea	Power [MW] Baltic Sea
Projects with surcharge or grid connection claim	3.680 MW	1.950 MW

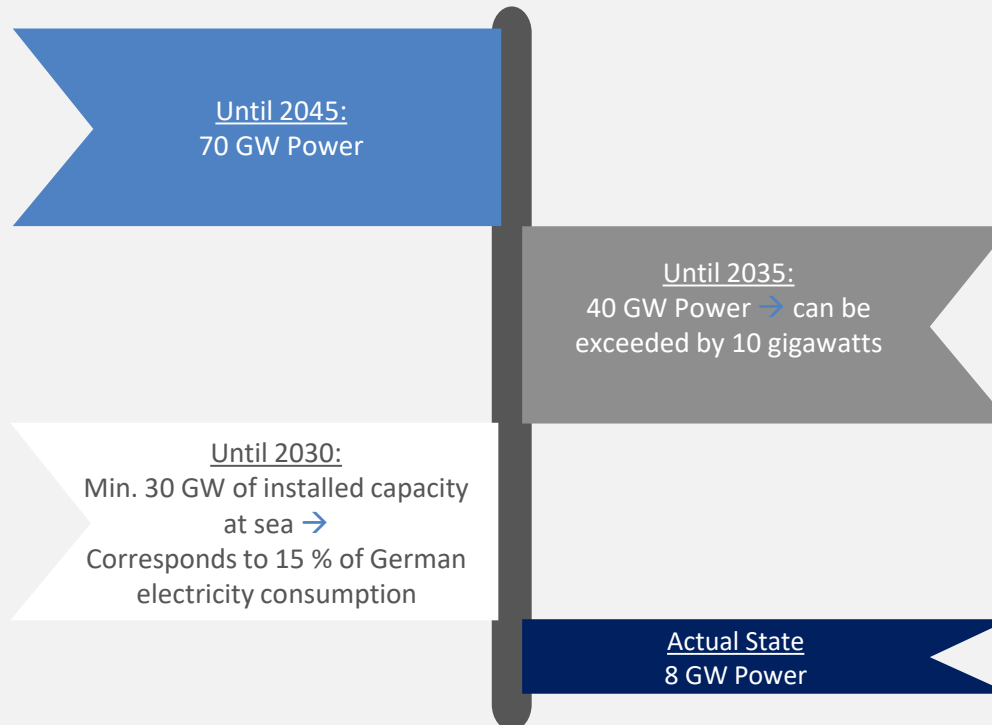
OWEF= Offshore wind energy facilities

### Expected Development of Offshore Wind Energy in Germany



### New Roadmap for Offshore Wind Energy

- German government paves the way for comprehensive expansion of wind energy in the North and Baltic Seas → Bundesamt für Seeschifffahrt und Hydrographie (BSH) publishes new areas
- Targets :**



### d) Accelerated expansion

- Federal Cabinet paves way for implementation of **EU rules** through new draft
- If a strategic environmental assessment (SEA) has already been carried out for an area designated for wind power, the environmental impact assessment (EIA) and the species protection assessment should be omitted from the approval procedure
  - Approval of the Bundestag required for the draft to enter into force
- Target → **Faster approval of wind turbines**
- Potential through new draft: reduction of the duration of planning, approval and construction of a wind turbine from about seven to **five years**

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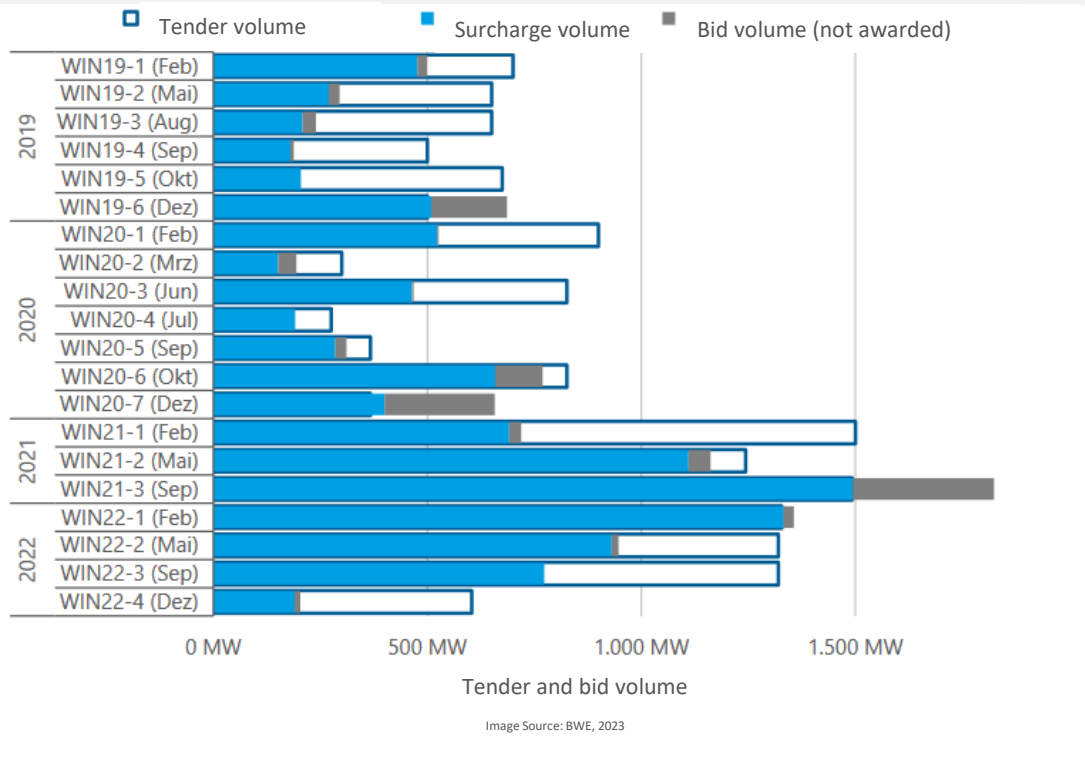
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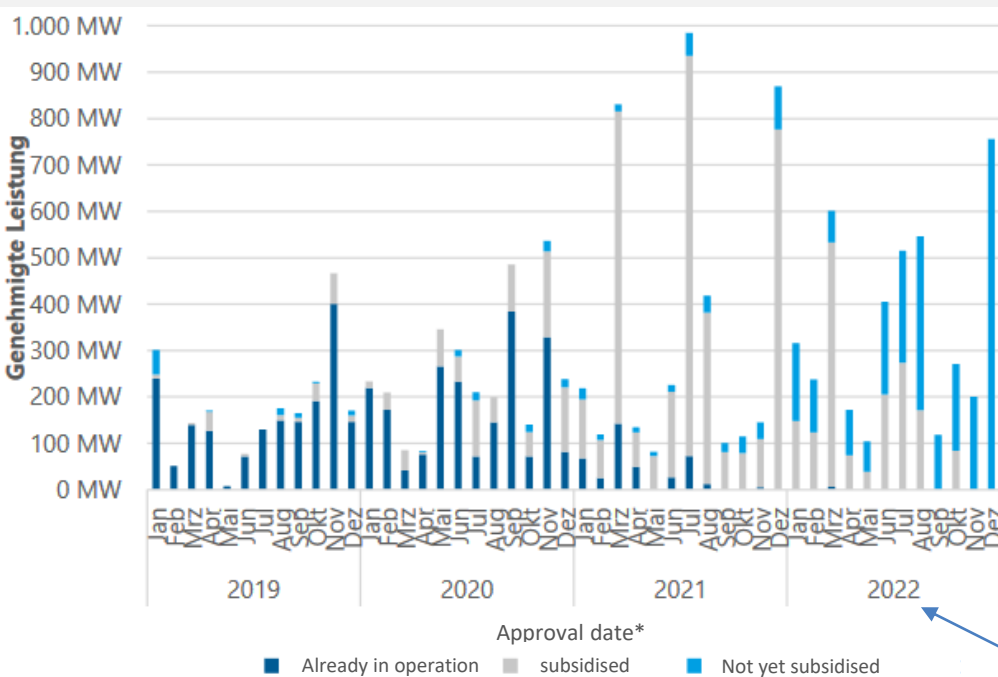
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#### Results of the Tenders - Wind Energy Expansion in Rural Areas



Tender Year	Realized Quantity	Realization Rate
2017	309 MW	11%
2018	1.881 MW	80%
2019	1.708 MW	92 %
2020	2.208 MW	83%
2021	678 MW	21%
2022	10 MW	0%

### Approved Projects - Wind Energy Expansion in Rural Areas



Approval Year	Approved Quantity	Number of Facilities
2019	2.092 MW	526 WEF
2020	3.069 MW	691 WEF
2021	4.245 MW	890 WEF
2022	4.243 MW	842 WEF

WEF= Wind energy facilities

**Permits 2022:**

- 1,6 GW subsidized
- 2,6 GW not yet subsidized

\*Approvals with an updated approval date were backdated to the time of the first registration in MaStR

Image Source: BWE, 2023



### Tender plan 2023

**1) Onshore wind energy** → 2023 Record volume of **12.84 GW** goes out to tender

**2) Offshore Tender 2023**

- Amount tendered = 8.800 MW (8,8 GW)
- Takes place from 2028
- Focus = North Sea

### Flächenentwicklungsplan (FEP)

- = specifies concrete areas, tender years, commissioning and grid connection
- Forms basis for European offshore power grid
- Intended Offshore Areas for Tender Until 2027 (I):

Area	Tender Deadline	Planned Commissioning	Expected Capacities	Area Size	Preliminary Investigation	Status Central Preliminary Investigation
N-3.5	2023	2028	420 MW	ca. 29 km <sup>2</sup>	central	Suitability determined (2. WindSeeV)
N-3.6	2023	2028	480 MW	ca. 33 km <sup>2</sup>	central	Suitability determined (2. WindSeeV)
N-6.6	2023	2028	630 MW	ca. 44 km <sup>2</sup>	central	Continuous (Draft 3. WindSeeV)*
N-6.7	2023	2028	270 MW	ca. 16 km <sup>2</sup>	central	Continuous (Draft 3. WindSeeV)*

### ■ Intended **Offshore Areas** for Tender Until 2027 (II):

Area	Tender Deadline	Planned Commissioning	Expected Capacities	Area Size	Preliminary Investigation	Status Central Preliminary Investigation
N-11.1	2023	2030	2.000 MW	ca. 205 km <sup>2</sup>	Not central	
N-12.1	2023	2030	2.000 MW	ca. 193 km <sup>2</sup>	Not central	
N-12.2	2023	2030	2.000 MW	ca. 187 km <sup>2</sup>	Not central	
O-2.2	2023	2030	1.000 MW	ca. 92 km <sup>2</sup>	Not central	
N-11.1	2023	2030	2.000 MW	ca. 205 km <sup>2</sup>	central	
N-12.1	2023	2030	2.000 MW	ca. 193 km <sup>2</sup>	central	
N-12.2	2023	2030	2.000 MW	ca. 187 km <sup>2</sup>	central	
O-2.2	2023	2030	1.000 MW	ca. 92 km <sup>2</sup>	central	
N-9.1	2024	2029	2.000 MW	ca. 158 km <sup>2</sup>	Not central	Continuous

### ■ Intended **Offshore Areas** for Tender Until 2027 (III):

Area	Tender Deadline	Planned Commissioning	Expected Capacities	Area Size	Preliminary Investigation	Status Central Preliminary Investigation
N-9.2	2024	2029	2.000 MW	ca. 157 km <sup>2</sup>	Not central	Continuous
N-9.3	2024	2029	1.500 MW	ca. 106 km <sup>2</sup>	Not central	Continuous
N-11.2	2024	2031	1.500 MW	ca. 156 km <sup>2</sup>	Not central	
N-12.3	2024	2031	1.000 MW	ca. 80 km <sup>2</sup>	Not central	
N-10.1	2025	2030	2.000 MW	ca.151 km <sup>2</sup>	central	Continuous
N-10.2	2025	2030	500 MW	ca.31 km <sup>2</sup>	central	Continuous
N-13.1	2026	2031	500 MW	ca.50 km <sup>2</sup>	central	
N-13.2	2026	2031	1.000 MW	ca. 91 km <sup>2</sup>	central	
N-21.1	2027	2032	2.000 MW	ca. 242 km <sup>2</sup>	central	
SEN-1				ca. 95 km <sup>2</sup>		

### b) Funding

#### KfW - Renewable Energies - Standard

- = Promotional loan for electricity and heat

#### What Is Promoted?

*Construction, expansion and acquisition of renewable energy systems, including the associated costs for planning, project planning and installation. The facilities must meet the requirements of the Renewable Energy Expansion Act.*

- *Wind power generation facilities*

### Who Is Supported?

*Corporations and institutions under public law, municipal special-purpose associations*

- *Private individuals and non-profit applicants (at least part of the electricity or heat generated must be fed into the grid)*
- *Cooperatives, foundations and associations*

### Conditions

- Interest Rates:

Programm Laufzeit / tilgungsfreie Anlaufjahre / Zinsbindung	KP- Nr.	Anmerkung	maximaler Zinssatz EKN % Solzins (Effektivzins)									Aus- zahl- ung %	Bereit- stellungs- provision p.M. %	Zinssätze gültig ab
			Bei Programmen mit risikogerechtem Zinssystem gelten die Preisklassen											
			A	B	C	D	E	F	G	H	I			
<b>Erneuerbare Energien</b>														
KfW- Programm Erneuerbare Energien Standard 5/ 1/ 5	270	beihilfefrei	3,85 (3,91)	4,25 (4,32)	4,55 (4,63)	5,05 (5,15)	5,65 (5,77)	6,35 (6,51)	6,85 (7,03)	7,95 (8,19)	10,25 (10,66)	100	0,15	16.01.2023
KfW- Programm Erneuerbare Energien Standard 10/ 2/ 10	270	beihilfefrei	3,82 (3,88)	4,22 (4,29)	4,52 (4,60)	5,02 (5,12)	5,62 (5,74)	6,32 (6,47)	6,82 (7,00)	7,92 (8,16)	10,22 (10,62)	100	0,15	16.01.2023
KfW- Programm Erneuerbare Energien Standard 15/ 3/ 15	270	beihilfefrei	4,18 (4,25)	4,58 (4,66)	4,88 (4,97)	5,38 (5,49)	5,98 (6,12)	6,68 (6,85)	7,18 (7,38)	8,28 (8,54)	10,58 (11,01)	100	0,15	16.01.2023
KfW- Programm Erneuerbare Energien Standard 20/ 3/ 10	270	beihilfefrei	3,87 (3,93)	4,27 (4,34)	4,57 (4,65)	5,07 (5,17)	5,67 (5,79)	6,37 (6,52)	6,87 (7,05)	7,97 (8,21)	10,27 (10,67)	100	0,15	16.01.2023
KfW- Programm Erneuerbare Energien Standard 20/ 3/ 20	270	beihilfefrei	4,52 (4,60)	4,92 (5,01)	5,22 (5,32)	5,72 (5,84)	6,32 (6,47)	7,02 (7,21)	7,52 (7,74)	8,62 (8,90)	10,92 (11,38)	100	0,15	16.01.2023
KfW- Programm Erneuerbare Energien Standard 30/ 5/ 10	270	beihilfefrei	3,87 (3,93)	4,27 (4,34)	4,57 (4,65)	5,07 (5,17)	5,67 (5,79)	6,37 (6,52)	6,87 (7,05)	7,97 (8,21)	10,27 (10,67)	100	0,15	16.01.2023

- Loan Amount and Disbursement:
  - Up to 50 million euros per project
  - Up to 100 % of the investment costs incurred
  - 100% payout
  - Callable within 12 months of commitment (in total or partial amounts)
  - Commitment fee 0.15% per month starting 6 months and 2 banking days after commitment
  
- Repayment:
  - During the grace period, only interest is paid - thereafter, equal quarterly installments plus interest on the amount of the loan still to be repaid
  - Loan can be repaid in full or in part off schedule - against payment of early repayment penalty
  - Repayment via house bank

### ■ **Combination With Other Funding:**

- Basically possible with other public subsidies (loans, allowances and grants)
- For power generation facilities (for example photovoltaic, wind power, CHP plants) the simultaneous claiming of a state subsidy in the form of a feed-in tariff, for example according to the Erneuerbare-Energien-Gesetz or the Kraft-Wärme-Kopplungsgesetz, is possible



### Application Procedure

1

Prepare application with  
KfW Funding Assistant

2

Find Financing partner

3

Apply for credit

4

Examination of the  
Credit application

5

Conclude credit agreement  
and start

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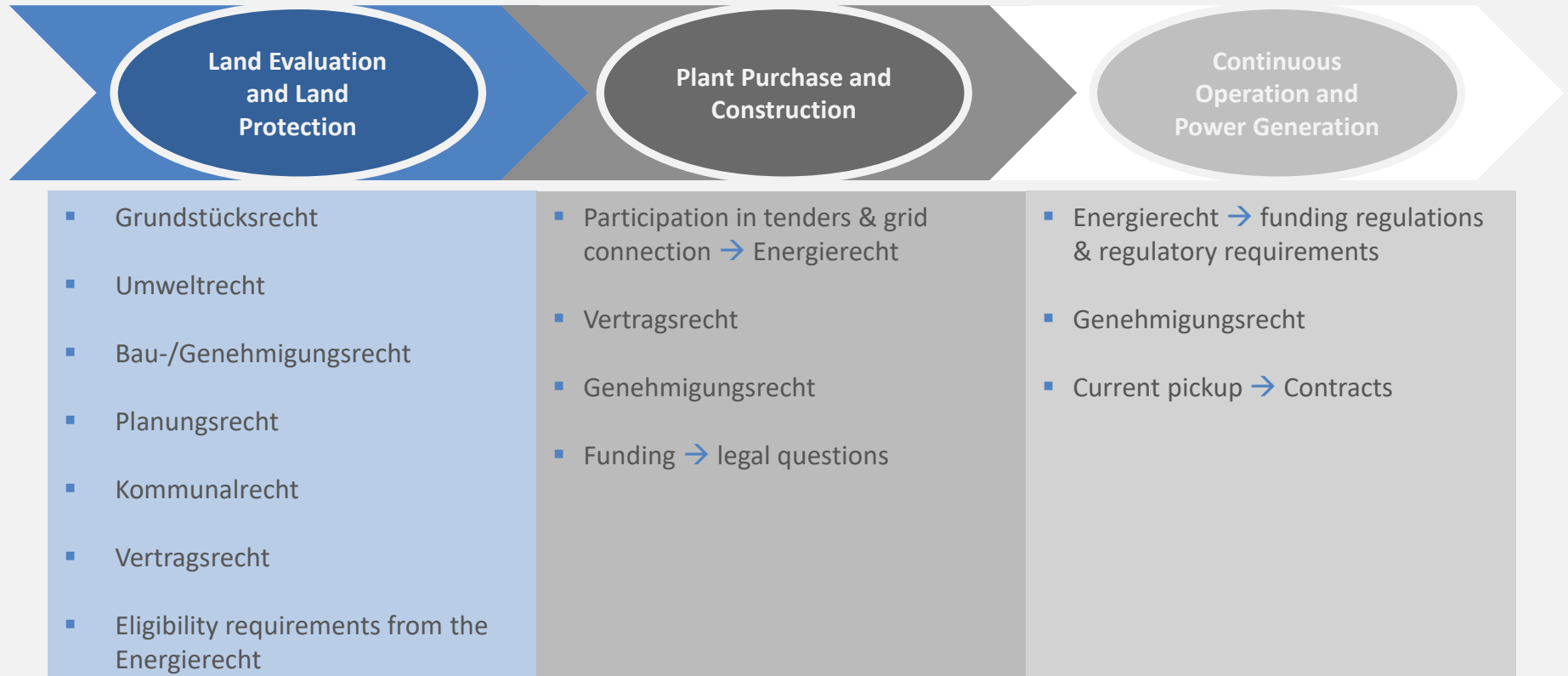
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### a) Energierecht

#### Legal Framework of the Project Phases



### The Main Sources of Law

#### Förderrecht

- Eligible?
- Tendering obligation
- Reporting requirements
- Plant categories according to EEG
- Follow-up coordination with grid operator
- Merging of plants
- Technical equipment

#### Other Legal Sources

- Energiesteuerrecht
- Stromsteuerrecht
- Planungs- & Genehmigungsrecht
- Eich- & Messrecht
- Certification

### b) Erneuerbare-Energien-Gesetz (EEG)

- = Central pillar of the energy turnaround
- Serves as an important tool for promoting electricity from renewable energy sources

#### Targets

- Increase share of renewable energies to at least **80 % by 2030**
- Limit global warming to 1.5°C

### EEG 2023 - The Most Important Innovations (I)

- 1) **Tender targets** → Expansion paths and tender volumes for wind energy to be increased
- 2) **Contracts for Difference** → Financing of renewable energies will be supplemented or replaced by other regulatory approaches via the market premium in the future
- 3) **Use of renewable energies** = Overriding public interest and serves public safety
- 4) **Separate legislative procedures** → Removal of barriers to onshore wind

### EEG 2023 - The Most Important Innovations (II)

- 5) **Citizen energy excluded from tender** → corresponding wind projects can be realized unbureaucratically
- 6) **Financial participation for municipalities in wind energy projects**
- 7) **Abolition of the EEG-Apportionment**

### c) Wind-an-Land-Gesetz

- Comes into force on February 1, 2023
- By 2032, 2% of land areas are to be designated for wind power at the state level in the future
  - Currently only 0.8% reported nationwide → of which only 0.5% available

#### Binding Area Targets for Federal States

Year	Land Provision for Wind Energy
2027	1,4%
2032	2,0%

➤ Fulfillment of area targets is a matter for the states

- In addition, redesign of the state opening clause for minimum distance regulations under state law



- Decision-making power on minimum distances lies with federal states
  - Must comply with area targets from the Windenergieflächenbedarfsgesetz
    - In case of non-achievement of the area targets, country-specific spacing rules **cease to apply**

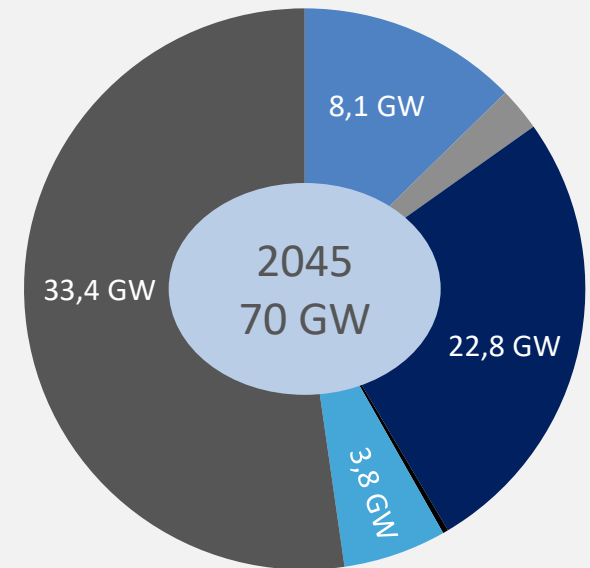
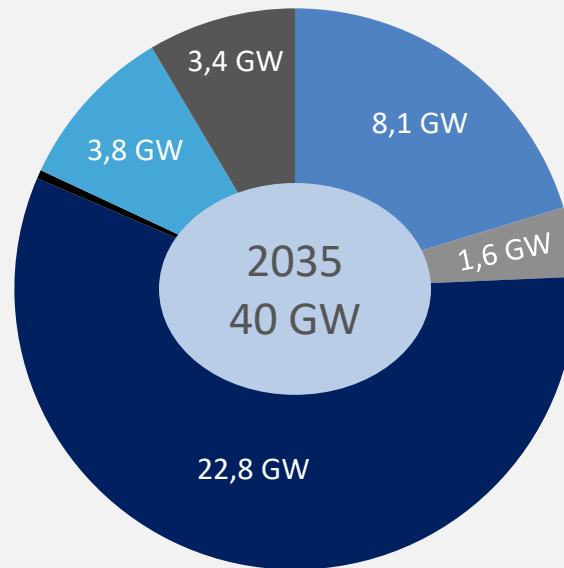
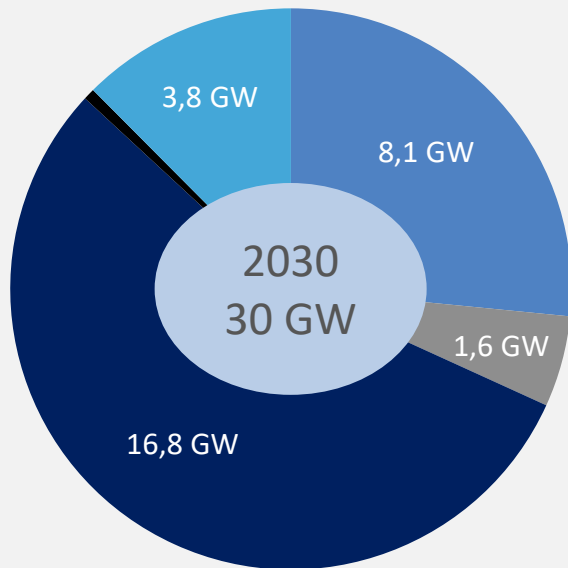
### Amendment Bundesnaturschutzgesetz

- In order to accelerate approval procedures, **uniform federal standards** apply to species protection audits
- Law clarifies that operation of wind turbines is in the overriding public interest and serves public safety
- **Landscape protection areas** can be included in search for areas for wind energy expansion

### d) Windenergie-auf-See-Gesetz (WindSeeG)

- Part of the "Easter Package" (expansion of renewable energies and amendment of Bundesnaturschutzgesetz)
- Amendment to increase expansion targets became law in summer 2022
  - Changes come into force on January 1, 2023
- **Target** → Massive increase in expansion paths and tender volumes

### Expansion Targets Until 2030, 2035 & 2045 - Installed Capacity OWEI



- In operation
- Investment decision

- Proposed tender
- Under construction

- Subsidized/network connection claim
- Additionally required capacities

### Implementation

- Stronger bundling of environmental assessments and participation rights
- **Tender** for smaller plants from **500 MW** capacity
- Issuing guidelines on the duration of procedures with regard to plan approval and plan authorization
- Elimination of plan approval procedures for centrally pre-surveyed areas and replacement with faster plan approval procedures.
- Allocation of offshore grid connection in the future directly after inclusion of the area in the area development plan → Accelerates contract award by several years



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