

Phasing out coal: Case studies from Germany and the Philippines

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Our Work & Goal

WE WORK TO SHAPE
A FUTURE WORTH LIVING
AROUND THE WORLD



The Paris Agreement and the COP26 mandated Carbon Neutrality and Net-zero Emission targets for global efforts against climate change

2050

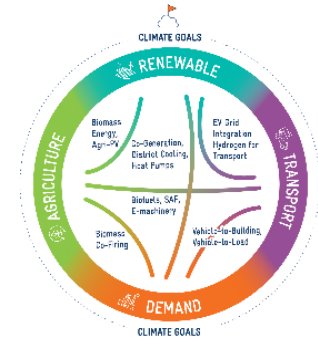
Carbon Neutrality Target



2065

Net-zero Emission Target

Thailand set its carbon neutrality and net-zero GHG emission targets by 2050 and 2065 respectively, with the conditional target of up to 40% reduction with international support by 2030



Decarbonisation requires involved efforts from key sectors, including; energy, transport, agriculture and industry.

Six key focus areas that are integrated and synergize one another

- Increase of **renewable energy and energy efficiency**
- **Green hydrogen** market development
- **Policy and road map for vehicle efficiency and electrification**
- **Decarbonization pathway toward Thailand** carbon neutrality goal in energy & transport
- **Climate resilience and low-carbon city development** in Thai spatial, sustainable transport and ecological spatial policy & planning
- **SDG localisation at sub-national level**
- **Climate resilient and low-carbon health care facilities proposal for GCF**

- **Regional just transition master plan** for the Lampang coal regions
- **Energy transition policy** and narrative change



Decarbonisation policy and pilot solution in key industry sub-sector

- **Promotion of natural refrigerant** in cooling sector
- **Share knowledge on GPP and eco-labelling development** to countries in the region
- **Improved TVET system** in ASEAN toward digitalization and women in green job

- **Waste management in tourism sector**
- **Strategies to avoid and replace single-use plastic packaging & promotion of EPR**
- **Ambitious climate criteria for green public procurement** inventory for public procurer nation wide

Regional Integrated **Approaches to Transboundary Air Pollution in Southeast Asia**

Promotion of learning and innovation through AIZ Bangkok, SNRD and TUEWAS Sector network

An aerial photograph of a massive open-pit coal mine. The mine is characterized by deep, terraced levels of earth and rock. A complex network of conveyor belts and metal structures spans across the site, connecting different levels. A large crane or conveyor structure is visible on the left side, extending over the mine's interior. The overall scene is industrial and shows the scale of coal extraction.

Just Energy Transition in Coal Regions

Innovation Regions for a Just Energy Transition (IKI JET)

Supported by:



on the basis of a decision
by the German Bundestag

About the Project

Innovation Regions for a Just Energy Transition (IKI JET) and the JET CR Platform

Donors Co-financed by the International Climate Initiative (IKI) of the German Federal Ministry for Economic Affairs and Climate Action (BMWK) and jointly financed by the European Union Commission – DG INTPA, Global Challenges Multiannual Indicative Programme 2021-27 for the JET CR Platform

Target Support key stakeholders in coal regions to plan for and implement regional just energy transition pathways away from coal and toward a low-carbon energy system.

Countries

Global approach to Thailand, Viet Nam, Mongolia, South Africa, Colombia, and Chile. Project country components in Indonesia and Colombia.

Project Implementing Partner

A member of the consortium of five partners implementing IKI JET, with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH as consortium coordinator and the Climate Action Network (CAN), the International Institute for Sustainable Development (IISD), the International Labour Organization (ILO), Solidarity center and the Wuppertal Institut für Klima, Umwelt, Energie gGmbH implementing the Project

Project Duration December 2022 – January 2027

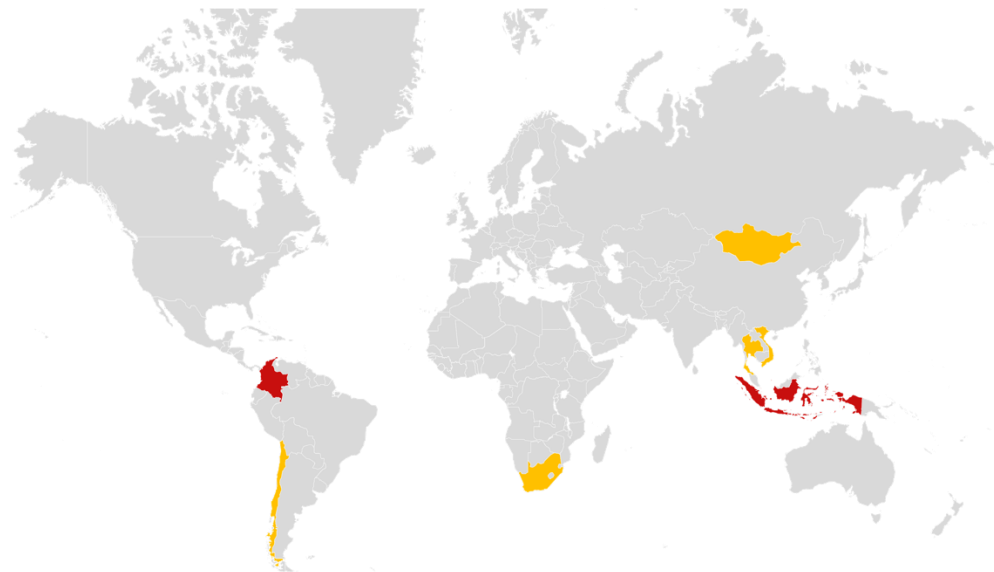
Implemented by



Target countries and regions

Participants in the **Interregional Platform**

- Chile (Coronel, Mejillones)
- Colombia (La Guajira, El Cesar)
- Indonesia (East Kalimantan, South Sumatra)
- Mongolia (Nalaikh district)
- South Africa (Mpumalanga)
- Thailand (Lampang)
- Viet Nam (Quang Ninh)



Global

Close cooperation with initiatives like:



The project in a nutshell

IKI JET supports countries in **developing plans for a just transition away from coal to renewable energy and other sustainable economic activities with a focus on the regional level**, including renewable energy investment, existing coal assets, and socio-economic diversification.

Project components



Key elements of the JET-CR Platform

International Forum for Coal Regions in Transition

Yearly hybrid event convening stakeholders (policy-makers, NGOs, academics, unions, & industry) from IKI JET regions to share experiences and lessons learnt of just transition processes around the world

International Forum 2023

Berlin, Germany & online



Opening - Anja Hajduk, State Secretary, Ministry for Economic Affairs and Climate Action



© IISD/ Bethan Jones

Panel discussion with representatives of Indonesia, Thailand, Mongolia and Viet Nam

International Forum 2024

Pretoria, South Africa & online



Opening of the forum, with participants from all the IKI JET regions and the Philippines



© Jess Meniere

Opening - Duduzile Sibiya, Mpumalanga Provincial Government, DARDLEA

Find all recordings and presentations [here](#) & the key-takeaways [here](#)

Find all recordings, presentations & key-takeaways [here](#)

Key elements of the JET-CR Platform

Expert Exchange Series



[Just Transition Toolbox](#)



[Gendering the debate: Just energy transition for all](#)



[Skilling, Upskilling and Reskilling for a Just Transition in Coal Regions](#)



[Financing the Early Retirement of Coal-Fired Power Plants](#)



[Assessment tool for just energy transition plans](#)



[Youth Empowerment for a Just Energy Transition](#)



[Financing Justice in the Just Transition](#)

Country-specific and global knowledge

CASE STUDY Choosing Renewable Energy for an Industrial Park in Nalaikh, Mongolia

Country: Organisation:
Mongolia GIZ

The Mongolian district of Nalaikh, the country's capital Ulaanbaatar, is a coal mining area. Nalaikh's mining industry employs over 100,000 people employed and 100,000 people employed.

[Download publication](#)

CASE STUDIES The Day Krabi Became Coal-Free, Thailand

Country: Organisation:
Thailand GIZ

This case study looks at the activities and community engagement of a proposed coal plant in Krabi, Thailand.

[Download publication](#)

POLICY BRIEF Just Energy Transitions for All – Gender in just energy transitions

Country: Organisation: Languages:
Global GIZ English

The transition of the energy system away from coal has gender-specific impacts. These should be properly addressed in just transition strategies. A just energy transition can be seen as chance to make society fairer and more inclusive with respect to gender.

[Download publication PDF](#)





By the end of this session, you will be able to:

1. Discuss the challenges faced by coal power plants in the transition to cleaner energy sources.
2. Discuss the lessons learned from the coal phase-out processes in Germany and recommendations for Thailand
3. Explore both financial and non-financial support mechanisms for facilitating the coal phase-out.

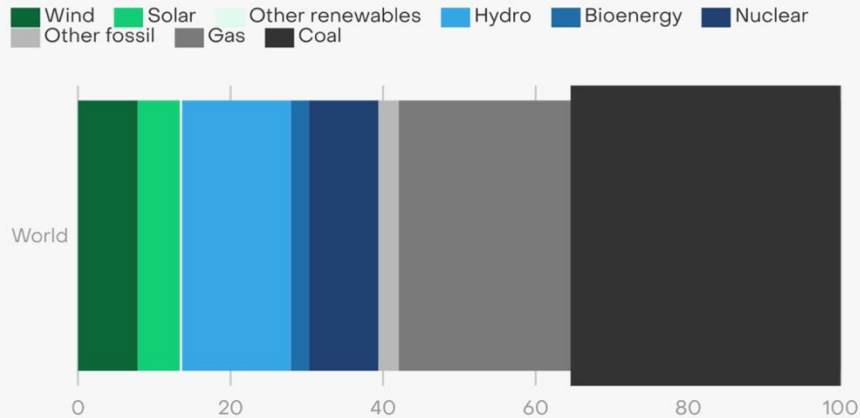
Why Coal Phase-out?

Challenges of coal power plants

Coal generated 35% (10,434 TWh) of global electricity in 2023, remaining the largest source of electricity generation

Coal: Role in the global electricity mix in 2023

Share of electricity generation, by source (%)



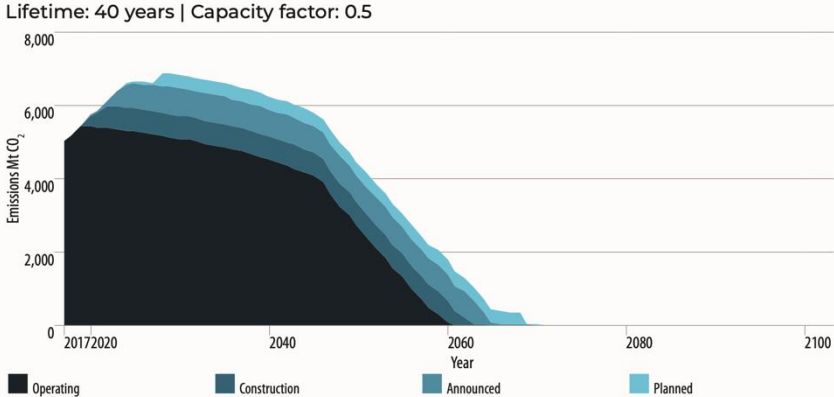
Source: Annual electricity data, Ember

EMBER

- Coal generated 35% of global electricity in 2023, with China responsible for more than half of global generation
- The increase in global coal generation was driven in large part by low hydro output in just four countries
- Coal expansion plans in Asia-Pacific put the world off track from climate goals
- Risk of stranded assets and associated financial risk from existing and planned coal projects

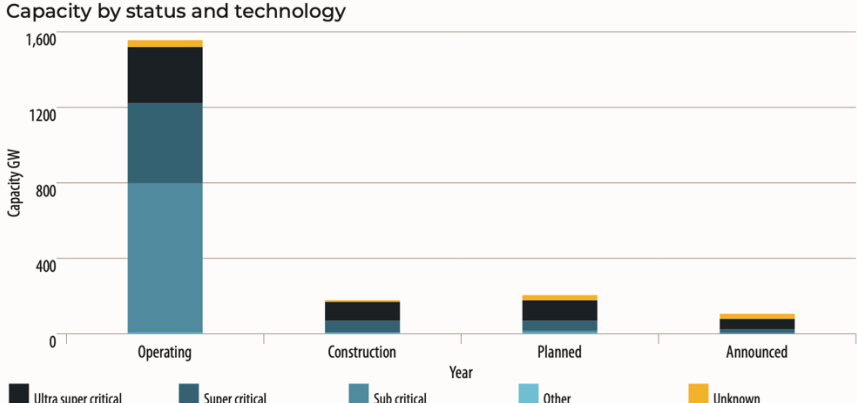
Coal phase out becoming a key element of regional and global climate response

Estimated emissions over time resulting from current coal-fired power generation capacity in the Asia-Pacific region



Source: Authors' calculation, based on Global Energy Monitor, 2020.
 Note: Assuming a plant lifetime of 40 years, as well as added capacity as included in the current coal pipeline.

A total of 27 countries in the Asia-Pacific region account for almost the entire (94 percent) global pipeline of coal-fired power plants under construction, planned or announced.



Source: Authors' calculations based on data from Global Energy Monitor, 2020.

Understanding the EU: A Different Landscape

Difference ASEAN – EU



Decision-Making

Law-Making

Institutions

Example

EU (Supranational)



Shared sovereignty; decisions made jointly by EU institutions and member states.

Binding regulations directly applicable in all member states. Directives set goals that member states must implement through national laws.

Strong supranational institutions (Commission, Council, Parliament, Court of Justice) with significant powers.

- **Regulations** (e.g. Climate Targets)
- **Directives** (e.g. RE Directive, ETS)

ASEAN (Intergovernmental)



Member states retain full sovereignty; decisions by consensus and consultation.

Agreements and declarations are **not legally binding**; implementation relies on national commitment.

Secretariat with a coordinating role; less powerful institutions.

ASEAN sets a non-binding target for renewable energy; implementation depends on each member state's individual efforts.

Climate Targets (Regulation)

- **2050:** Climate-neutral (net-zero emissions)
- **2030:** At least 55% emissions reduction (from 1990 levels)
- **2040:** 90% emissions reduction (*proposed*)



RE Targets, ETS (Directives)

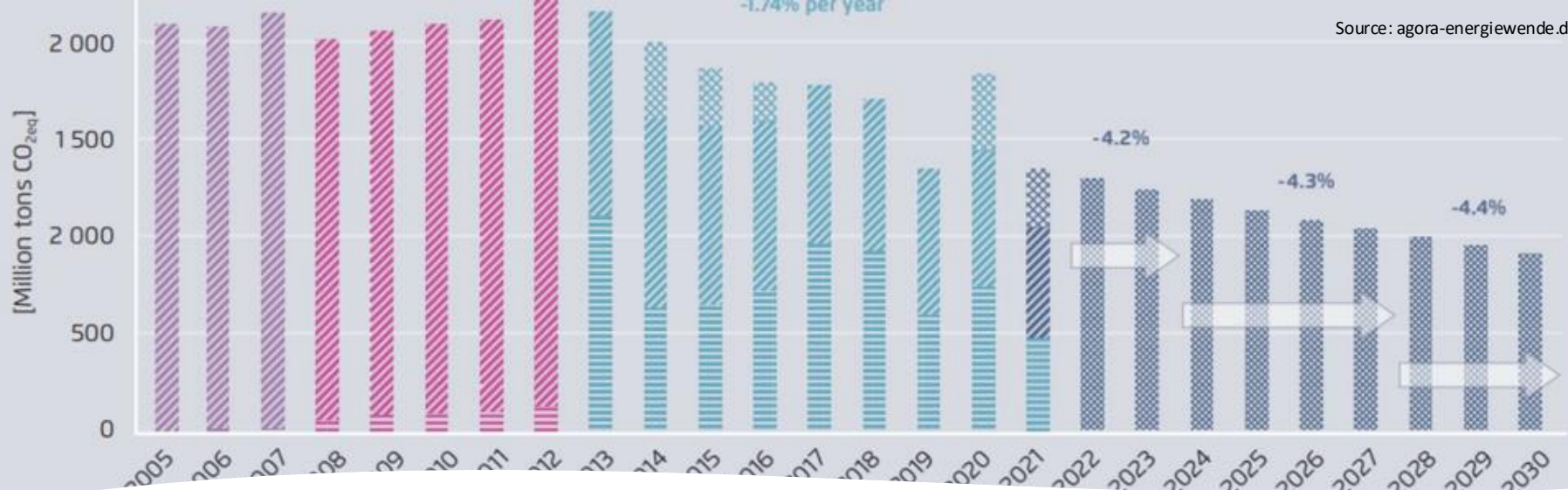
Renewable Energy Directive (RED):

- Sets a binding target: At least 42.5% of EU energy from renewable sources by 2030.
- Each member state develops its own policies to achieve this target (national plans).
- Promotes wind, solar, hydro, biomass, and other renewable sources.

Emissions Trading System (ETS) Directive:

- Establishes a 'cap-and-trade' system for greenhouse gas emissions.
- Covers power plants and energy-intensive industries.
- Companies must surrender allowances for their emissions.
- Creates a carbon price and incentivizes emission reductions.





EU ETS in more detail

- **How it works:**

- **Cap:** A limit is set on total emissions allowed.
- **Trade:** Companies buy and sell emission allowances.
- **Price:** Scarcity of allowances creates a carbon price.
- **Incentive:** Companies are incentivized to reduce emissions to avoid buying allowances.

- **What it covers:**

- Power plants,
- Energy-intensive industries (e.g., steel, cement).
- Aviation within the EU.

Energy Transition in Germany

Coal Phaseout in Germany

NESDC in Thailand, who in Germany?



+



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Federal Ministry
for Economic Affairs
and Climate Action



Relevant milestones

2045: net-zero / GHG-neutral

2038 (aiming for 2030): phase-out of coal

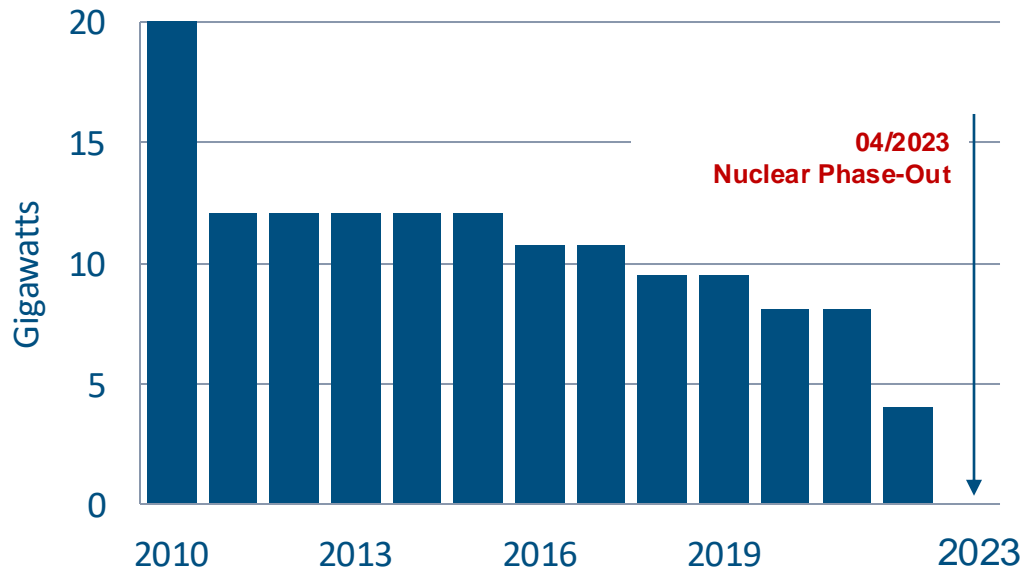
2035: electricity generation “largely climate neutral”

~**2030:** from natural gas to hydrogen

2023: phase-out of nuclear



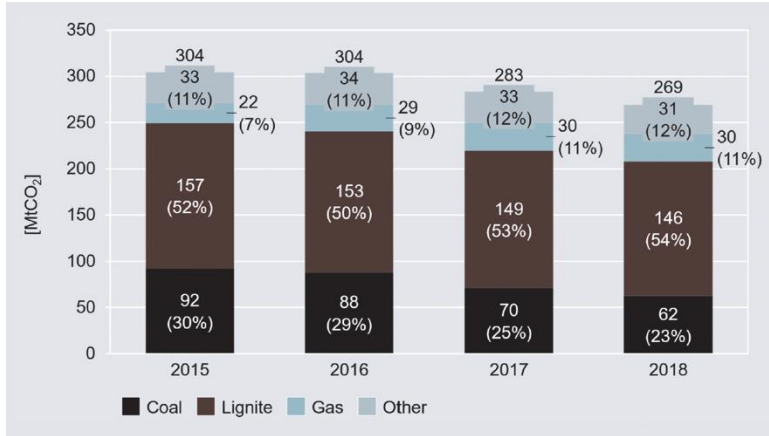
Nuclear: phase out by 2023



Source: BMWK, 2024

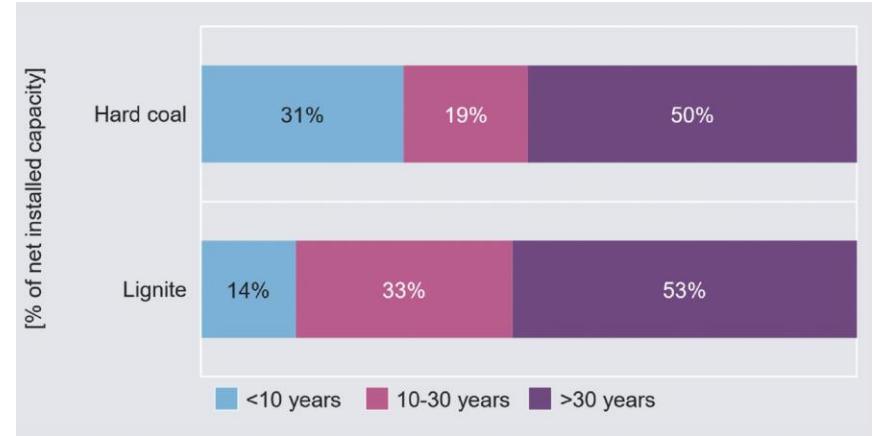
Why phase out coal: the German coal fleet in 2018

Coal-fired generation accounted for almost 80% of electricity generation emissions in 2018; but CO2 emissions from coal-fired generation decreased by ~20% between 2015-2018



Bundesnetzagentur (2020)

The pace of decarbonisation was clearly insufficient to reach Germany's emissions reduction goal of 40% for 2020, and currently it is not on track to meet its 2030 target of 65%

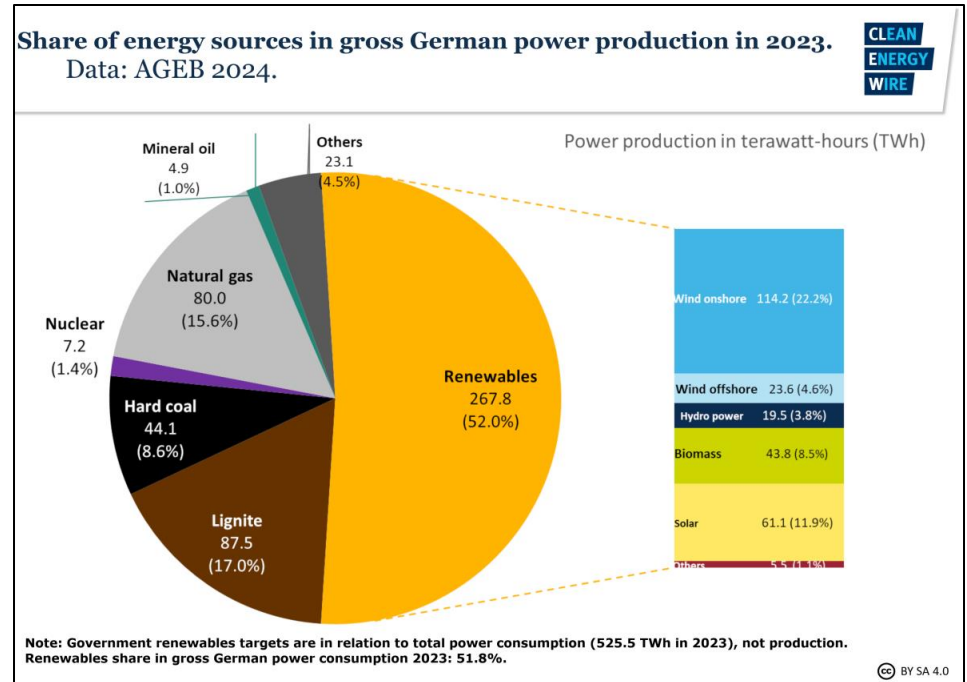


Bundesnetzagentur (2020)

Germany's coal plants, built to last decades, could continue emitting CO2 into the 2040s, reinforcing the need to phase them out.

Going (non-)nuclear: April 2024, one year after

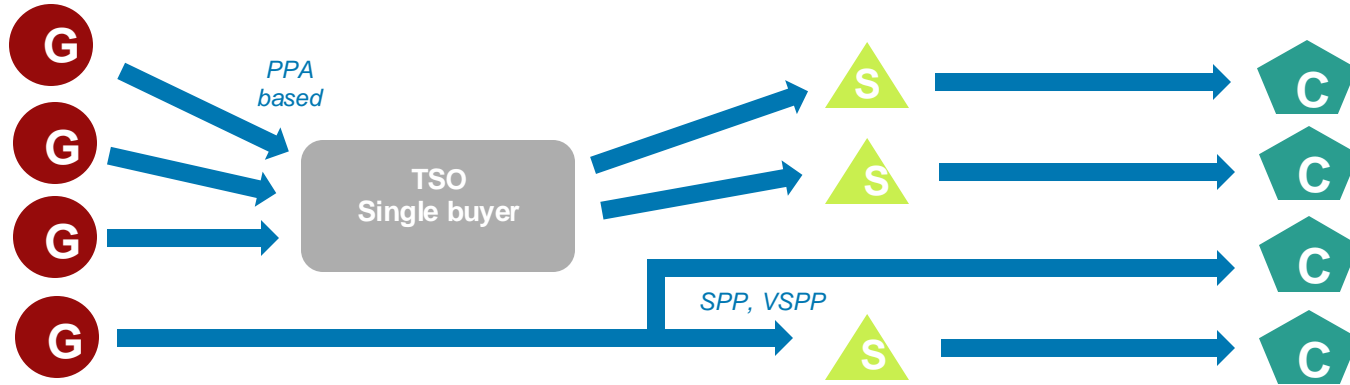
- **Coal:**
 - Lowest level in electricity generation since 1963,
 - March 2024: decommissioning of 7 lignite power plants (3.1 GW),
- **GHG emissions (total):**
 - Reduction of 10%
- **Share of RE in power production:**
 - 50+%



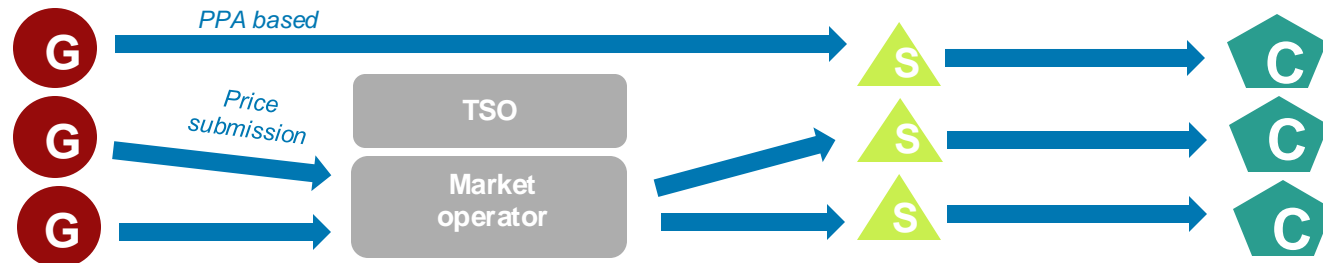
Comparison Between the Thai and German Electricity Markets

Main differences are the presence of EGAT as the off-taker and bidding mechanism

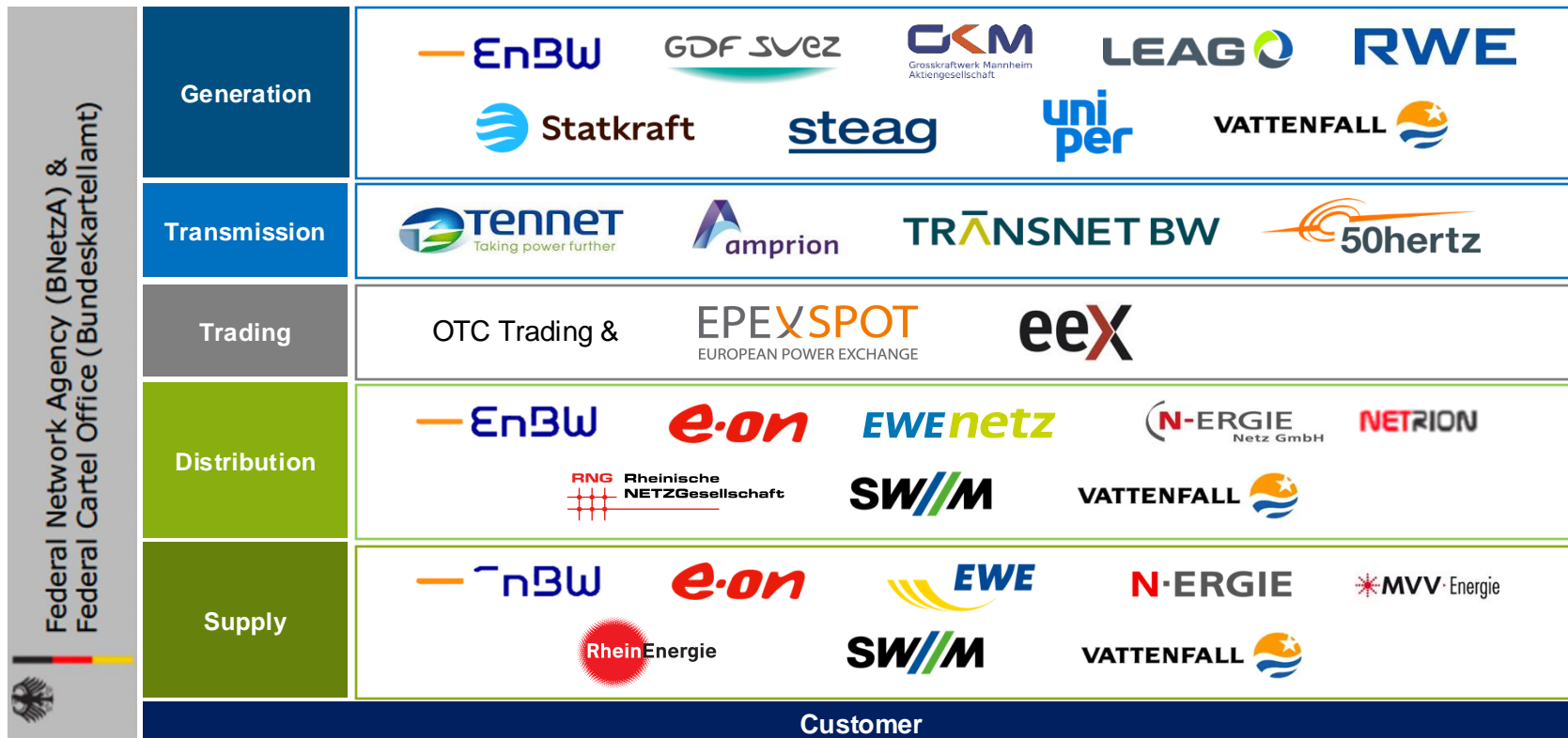
Thailand market structure



Pool-based market structure

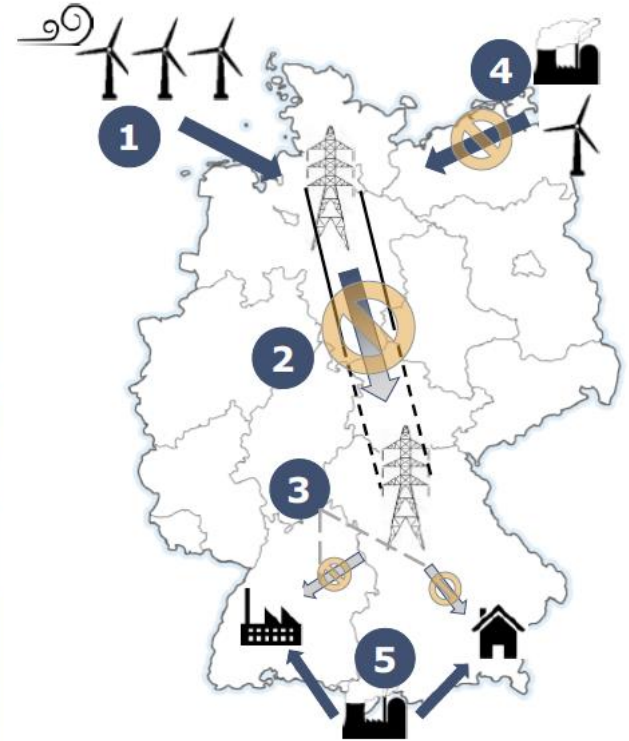
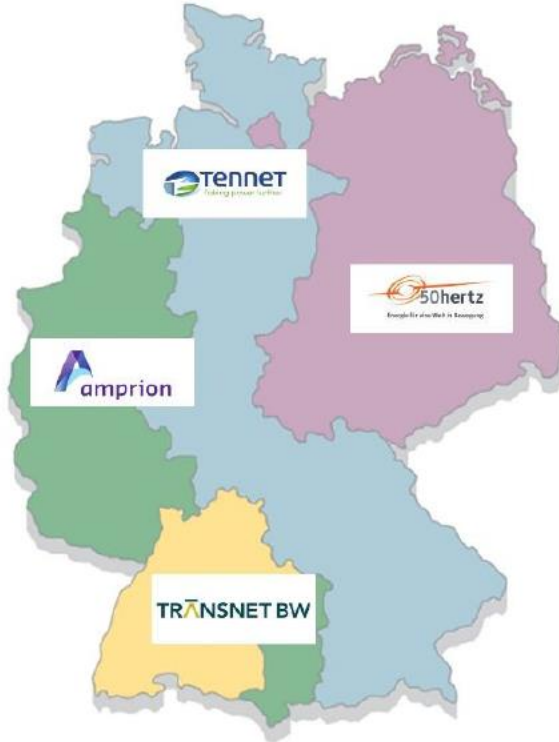


Structure of the German Market



TSO AREAS AND TRANSMISSION NETWORK IN GERMANY

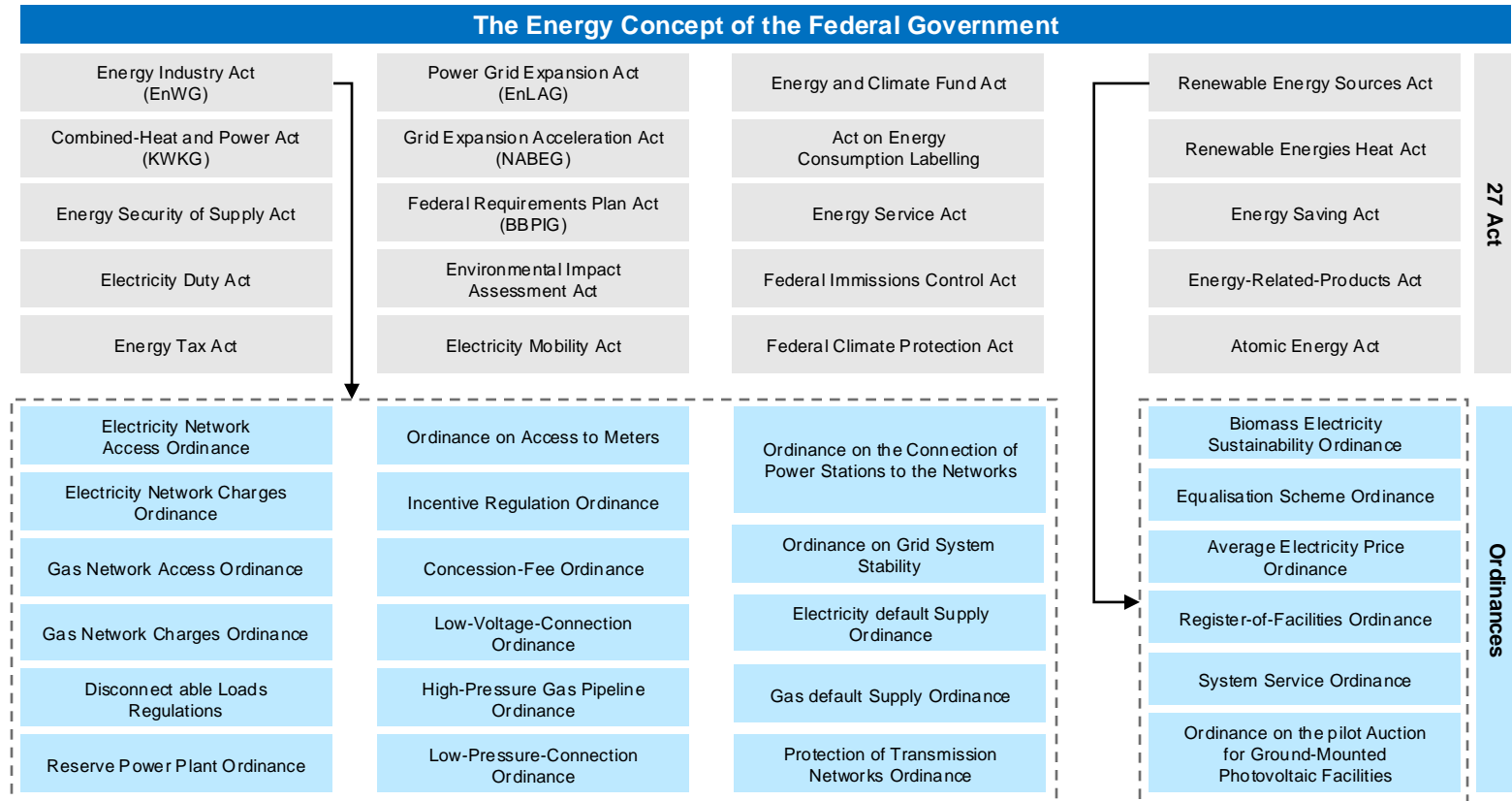
Germany's high voltage grid is operated by 4 TSOs



Source: Verband der Elektrotechnik Elektronik Informationstechnik (VDE), November 2020.

Important measures to support the phase-out of coal

Energy Strategy and Legislation in Germany

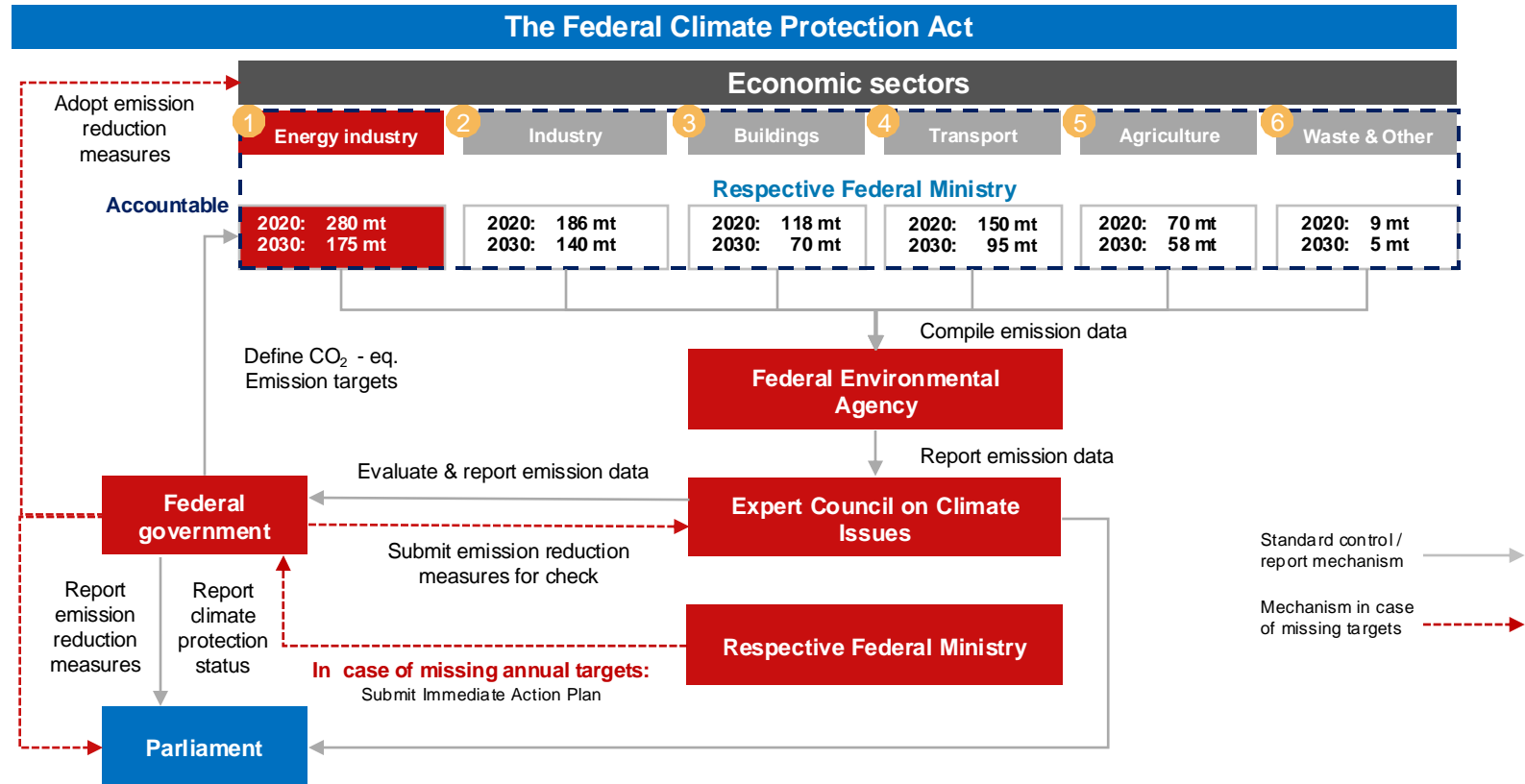


The Climate Protection Program 2030

Climate Protection Program 2030											
Sectoral emission targets and control mechanism					Federal Climate Protection Act (KSG)						
<ul style="list-style-type: none"> • Binding annual CO₂-eq. emission targets for all economic sectors • Assigned accountability for compliance with emission targets to respective ministries • Introduced control mechanism to stay on emission reduction track 					<ul style="list-style-type: none"> • November 2019 						
National emissions trading / CO ₂ - Pricing					Fuel Emissions Trading Act (BEHG)						
<ul style="list-style-type: none"> • Binding annual CO₂-eq. emission targets for all economic sectors • Assigned accountability for compliance with emission targets to respective ministries • Introduced control mechanism to stay on emission reduction track 					<ul style="list-style-type: none"> • November 2019 						
Sectoral measures											
1	Energy industry	2	Industry	3	Buildings	4	Transport	5	Agriculture	6	Waste & Other
	<ul style="list-style-type: none"> • Coal phase-out • 65% RES-e share in 2030 • 20GW offshore wind in 2030 • 67-71GW onshore wind in 2030 • 98GW solar PV in 2030 • Removal of the 52GW support limit for solar PV • Minimum distance of 1km for onshore wind • Promotion of cogeneration 		<ul style="list-style-type: none"> • Investment program for energy efficiency and process heat from renewable energies in the industry • Accelerated implementation of measures from energy management system and energy audits 		<ul style="list-style-type: none"> • Tax incentives for energy efficient building refurbishment • Federal support for efficient building • Investment subsidies and a replacement premium for oil-fired heating systems 		<ul style="list-style-type: none"> • 7-10 mn. EVs until 2030; financial incentives for buying new Evs • 1 mn. charging points until 2030, financial support for building charging infrastructure until 2025 		<ul style="list-style-type: none"> • Further development of the Federal Program for Energy Efficiency in Agriculture and Horticulture and promotion for the use of renewable energy 		<ul style="list-style-type: none"> • Support program for the expansion of landfill aeration and optimization of the gas catchment

Source: Klimaschutzprogramm 2030, BMU, November 2019.

The Federal Climate Protection Act



Source: Bundes-Klimaschutzgesetz, BMU, November 2019.

Important measures to support the phase-out of coal

Measures to accelerate the phase-out of coal:

Financial and Tax Measures:

1. Providing compensation to energy companies to phase out coal earlier than scheduled.
2. Implementing a carbon tax.

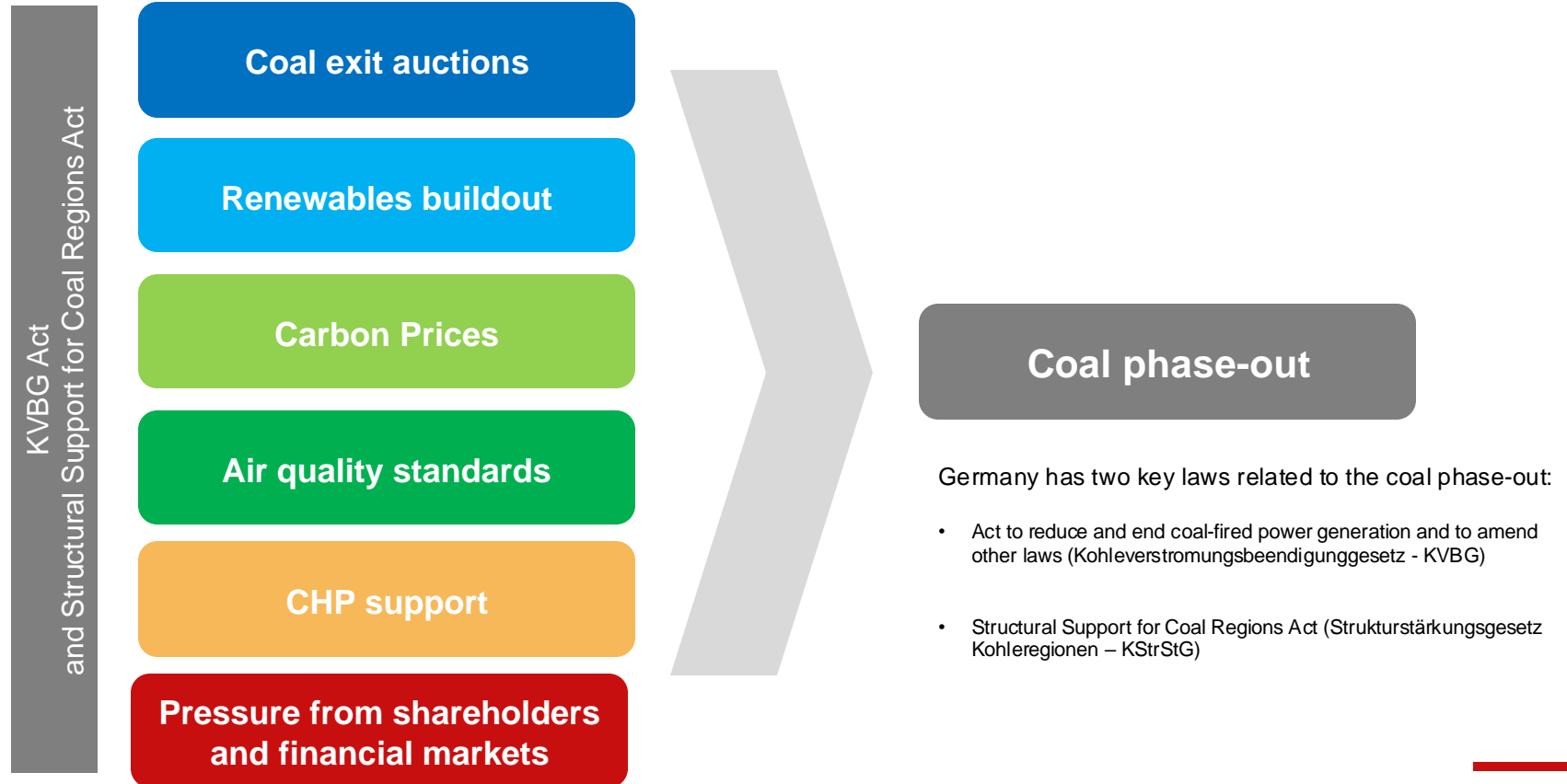
Other Measures (Non-financial and non-tax):

1. Setting clear targets or policies to phase out coal use.
2. Establishing higher air pollution control standards to encourage the adoption of alternative clean technologies instead of coal.

Measures to address the impacts of the coal phase-out:

- Measures to promote the use of renewable energy to replace coal as fuel
- Measures to support a just transition for those affected by the coal phase-out policy

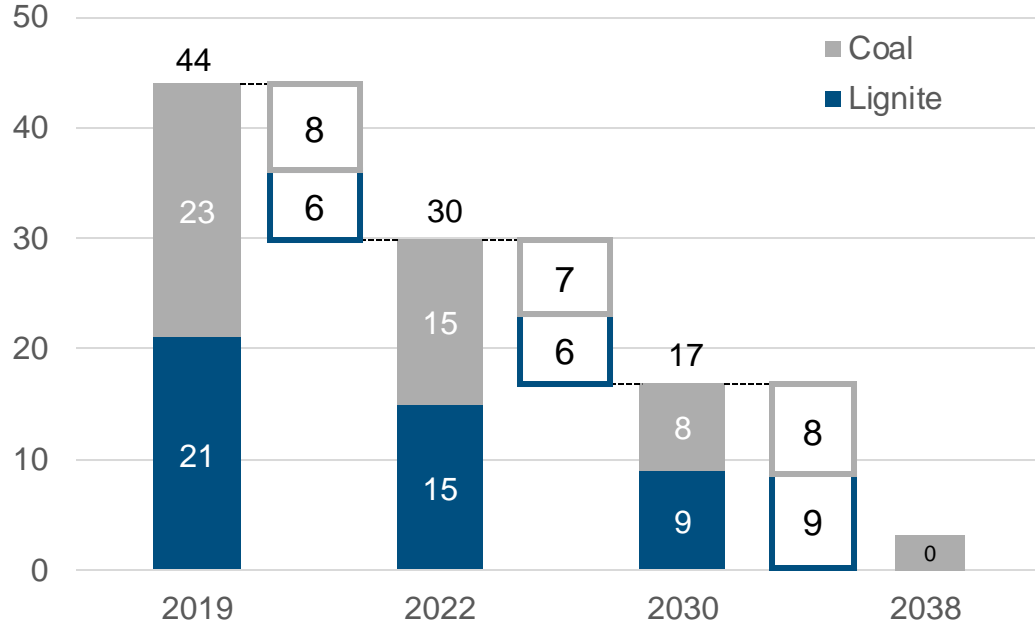
Drivers supporting the coal phase-out in Germany



Coal Phase out plan (GW)

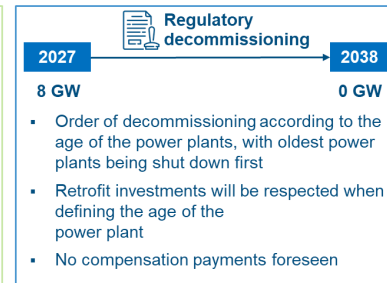
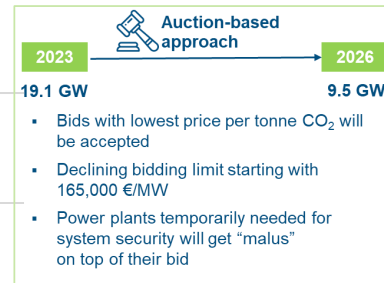
The construction of new coal-fired power plants **is prohibited after August 14, 2020**.
Coal and lignite capacities are intended to gradually close until 2038

GW



The construction of **new coal-fired power plants is prohibited** after August 14, 2020, unless the coal power plant has received construction and operation approval by January 29, 2020.

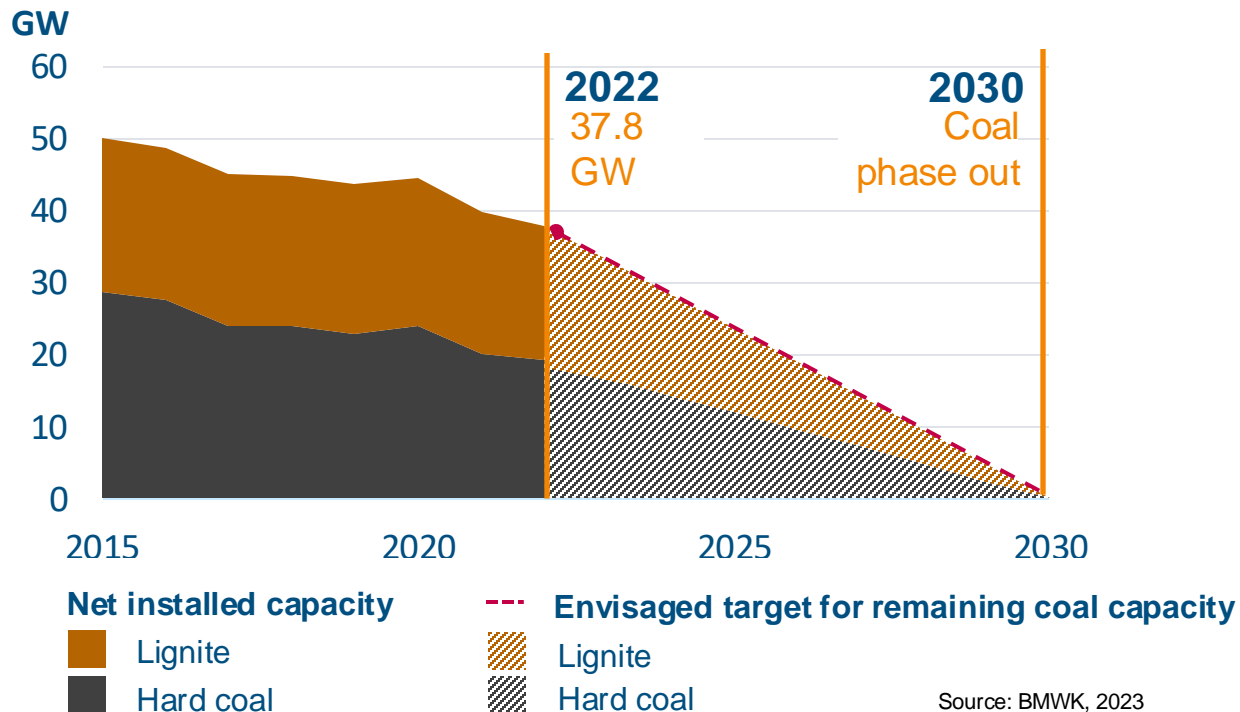
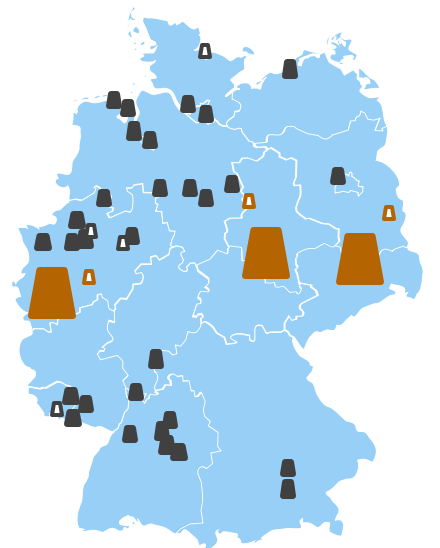
Hard coal:



Source: BMWK, 2023

The Coal Exit Act : phase out by 2038 the latest, ideally by 2030

Act to reduce and end coal-fired power generation and to amend other laws (Kohleverstromungsbeendigungsgesetz - KVVBG)

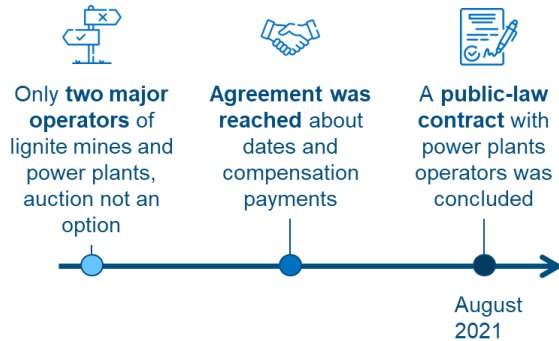


Source: BMWK, 2023

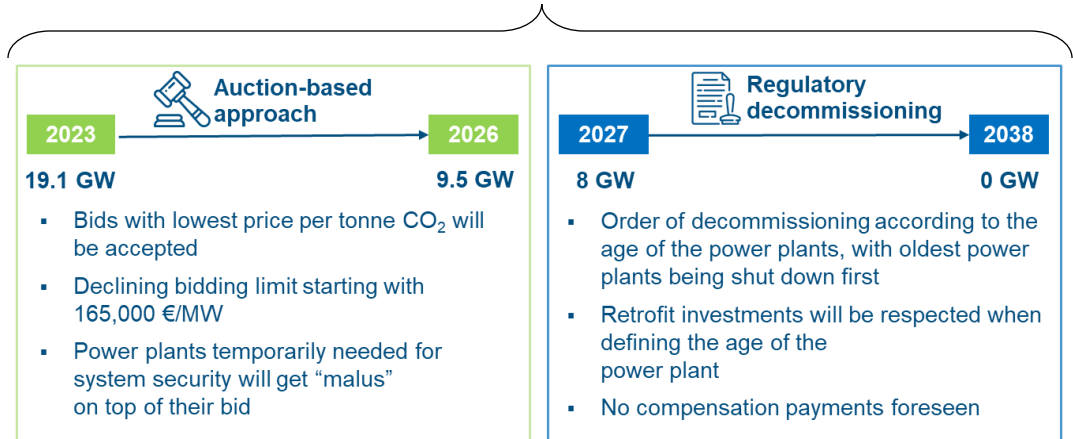
Coal: phase out by 2038 the latest, ideally by 2030

Structural Support for Coal Regions Act (Strukturstärkungsgesetz Kohleregionen – KStrStG)

Lignite:



Hard coal:



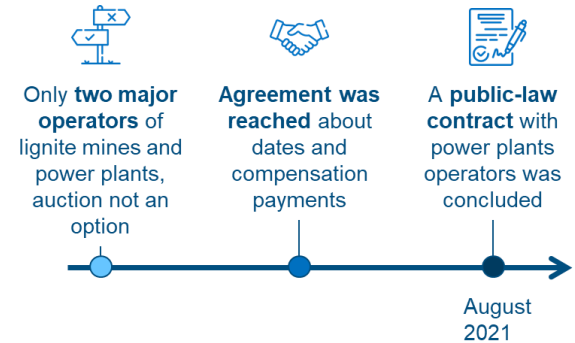
Source: BMWK, 2023

Lignite Plant to be moved into security stand-by

Since October 2019, 2.7GW of lignite have been placed in the security stand-by

Plant name	Capacity (gross)	Latest date for transfer to security stand-by
Buschhaus	352 MW	Since 01.10.2016
Frimmersdorf Unit P	284 MW	Since 01.10.2017
Frimmersdorf Unit Q	278 MW	Since 01.10.2017
Niederaußem Unit E	295 MW	Since 01.10.2018
Niederaußem Unit F	299 MW	Since 01.10.2018
Jänschwalde Unit F	465 MW	Since 01.10.2018
Neurath Unit C	292 MW	Since 01.10.2019
Jänschwalde Unit E	465 MW	Since 01.10.2019
Total	2730 MW	

Source: EnWG and Kraftwerksliste BnetzA.

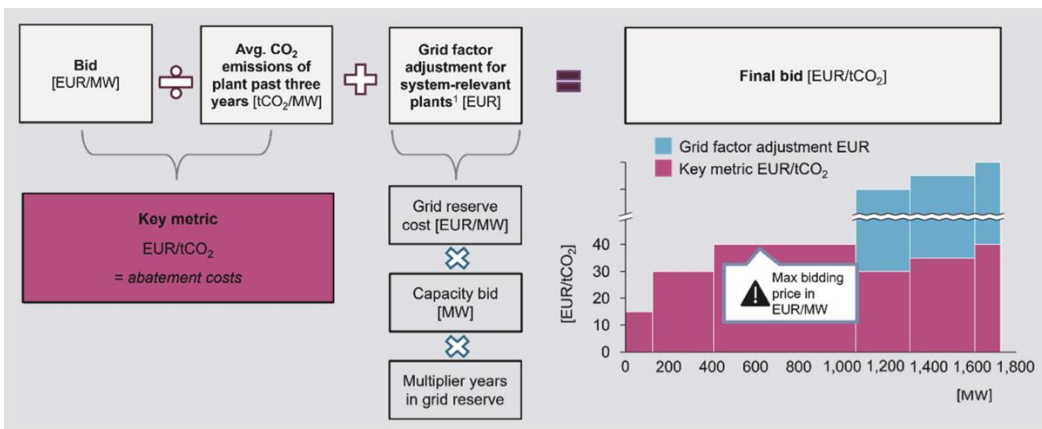


Achieving a consensus plan: The Coal Commission process

→ Propose measures so that the energy industry can meet the 2030 emissions reduction target of 55%.

→ Develop a plan for the gradual reduction and phase-out of coal-fired electricity generation, including a completion date and the necessary legal, economic, social, and structural measures.

Sealed bids submitted by power plant operators are assessed based on the bid's EUR amount and the power plant's emissions

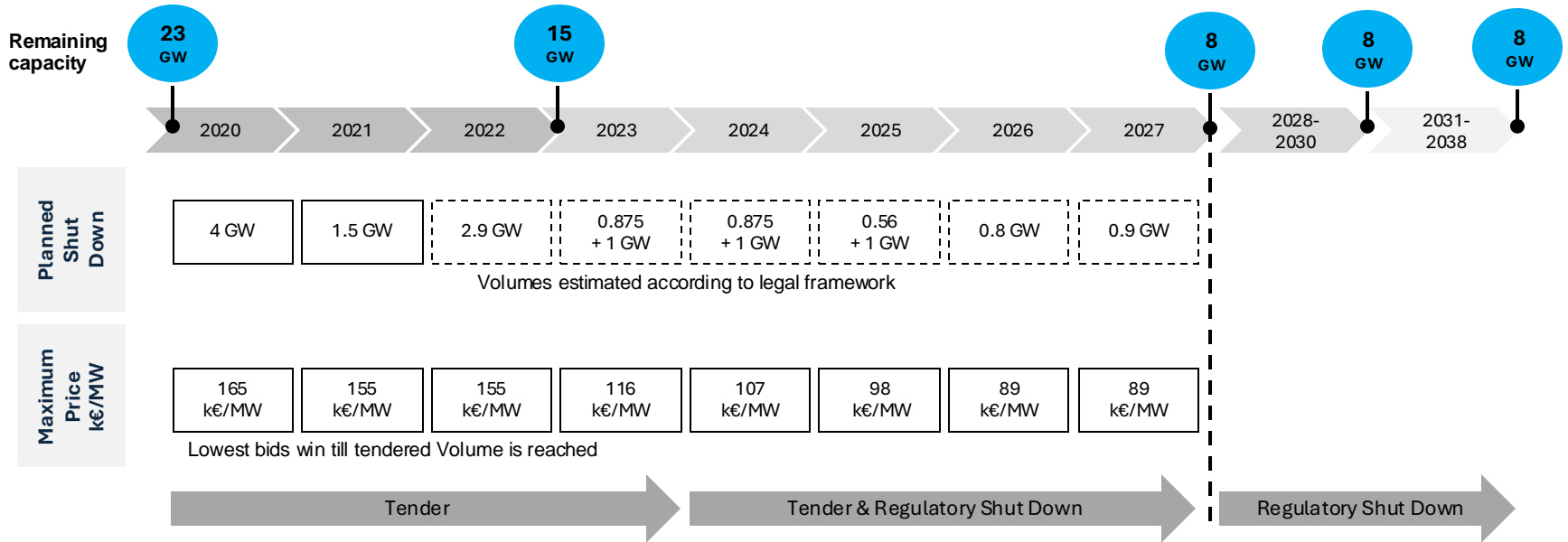


Bundesnetzagentur (2020), Aurora Energy Research (2021)



Volumes (GW) and maximum remuneration (k€/MW) for coal shut-down auctions

Operators must prepare proper bid tactics in foreseeable complex auction



Source: Coal Phase-Out Act (Kohleausstiegsgesetz), BMWi, January 2020

Coal auction bids

Maximum permitted bids by auction round

Auction round (year)	Maximum bid (EUR/MW)	Auctioned capacity (MW)	Decommissioning year
Round 1 (2020)	165 000	4 000	2021
Round 2 (2021)	155 000	1 500	2021
Round 3 (2021)	155 000	2 480	2022
Round 4 (2021)	116 000	433	2023
Round 5 (2022)	107 000	1 222	2024
Round 6 (2022)	98 000	TBA	2025
Round 7 (2023)	89 000	TBA	2026

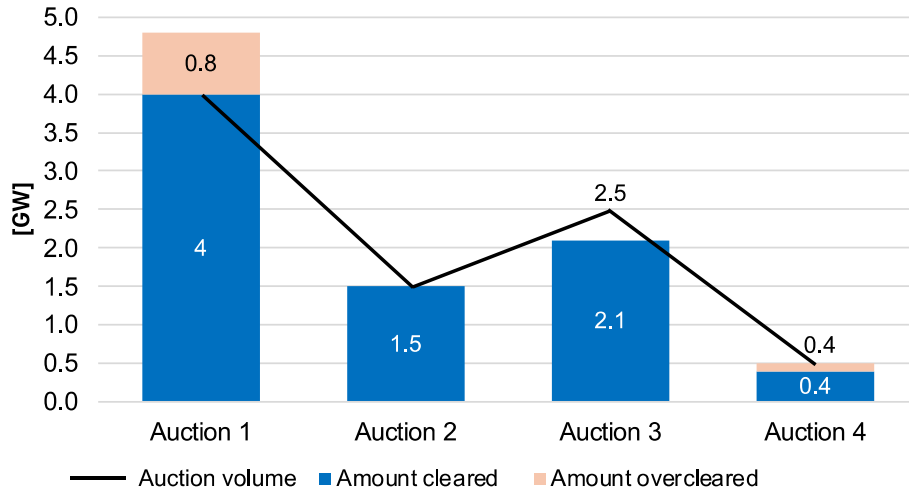
Example: Awarded bids in the first phase-out auction for Coal-fired power plant

Plant operator	Plant name	Awarded capacity	Remuneration
RWE	Kraftwerk Ibbenbüren	794 MW	€150.000/MW
Vattenfall	HKW Moorburg Block A&B	800 MW (each)	n/a
Uniper	Kraftwerk Heyden	875 MW	n/a
Pfeifer & Langen GmbH & Co.KG	HKW Werk Jülich	23 MW	n/a
Infraserv GmbH	Kohleblock HKW	51 MW	n/a
swb AG	Kraftwerk Hafen Block 6	303 MW	n/a
STEAG GmbH	Kraftwerk Walsum 9	370 MW	n/a
RWE	Kraftwerk Westfalen	764 MW	€127.000/MW

Awarded bids in the first phase-out auction for Coal-fired power plant

Source: Bundesnetzagentur (2021)

Three of the four auctions were oversubscribed, with only the third auction undersubscribed



Source: Aurora Energy Research (2021)



Auctions 3 and 4 saw power plants bidding the maximum possible amount cleared

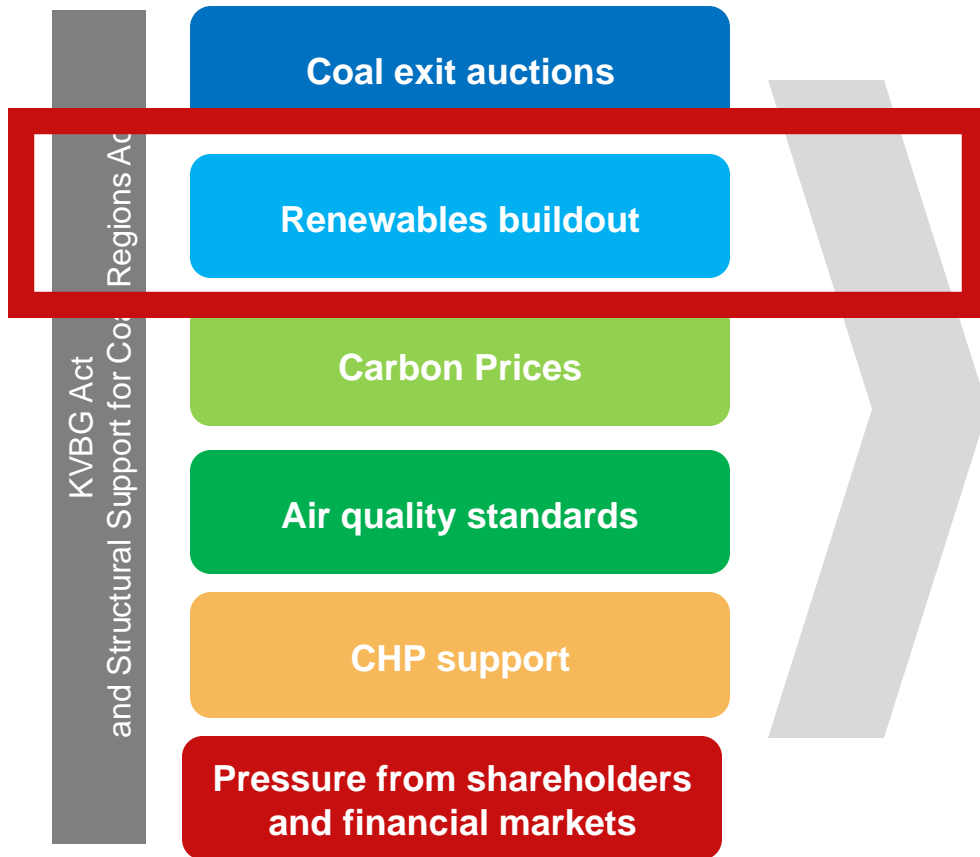
Aspects to consider when designing an auction mechanism

Security of Supply	Policy mix	Financing	Paradox of power plant	Unprofitable power plant	Emission intensity
<p>Sufficient capacity planning (dispatchable capacity to replace coal) and adequate grid planning (locate power plant near large off-take locations) must be provided</p> <p>Alternative flexibility measures in market design for the demand-side and for storage</p>	<p>A “carrot” and “stick” combination (decreasing bid caps, forced closures)</p> <p>Additional regulations and drivers like RES buildout, carbon prices, etc.</p>	<p>Introduction of revenue positive measures such as carbon-price mechanisms (taxes, carbon markets)</p> <p>Look for financial support from financial institutions like development banks or the private sector</p>	<p>Awareness of higher revenues for coal-fired power plants because of longer operation (higher power prices and higher utilization rate)</p> <p>Countering the paradox through complementary policies (carbon pricing) that reduce the profitability of remaining power plants</p>	<p>Awareness of older power plants that are in a loss-making position (pay-out exceeding older power plant’ annual operation and maintenance costs)</p> <p>Incentivise power plant operators to continue running their loss-making power plant</p>	<p>Choose the right emissions intensity of power plants for bidding (tCO₂ /MWh); otherwise newer units will leave earlier than older ones because the former run more hours, which leads to higher emission</p>

Source: Agora Energiewende (2021)

Additional regulatory drivers

Additional drivers supporting the hard/lignite coal phase-out in Germany



Coal phase-out

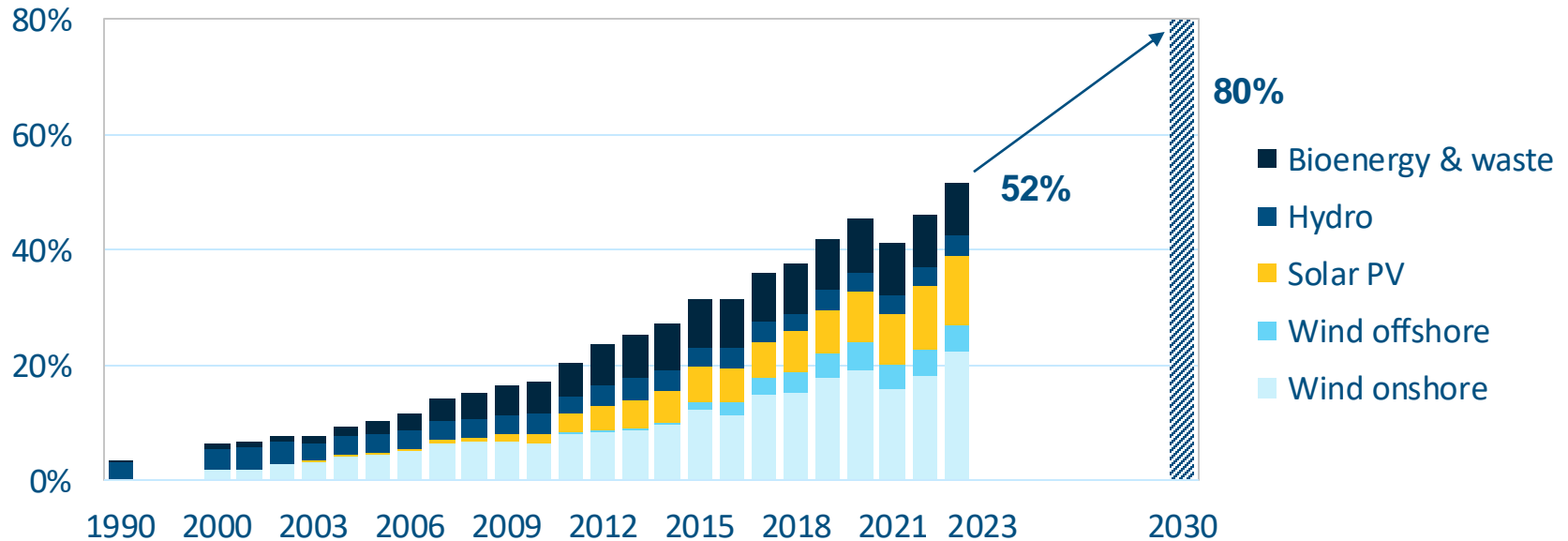
Germany has two key laws related to the coal phase-out:

- Act to reduce and end coal-fired power generation and to amend other laws (Kohleverstromungsbeendigungsgesetz - KVBG)
- Structural Support for Coal Regions Act (Strukturstärkungsgesetz Kohleregionen – KStrStG)

Source: Aurora Energy Research (2021)

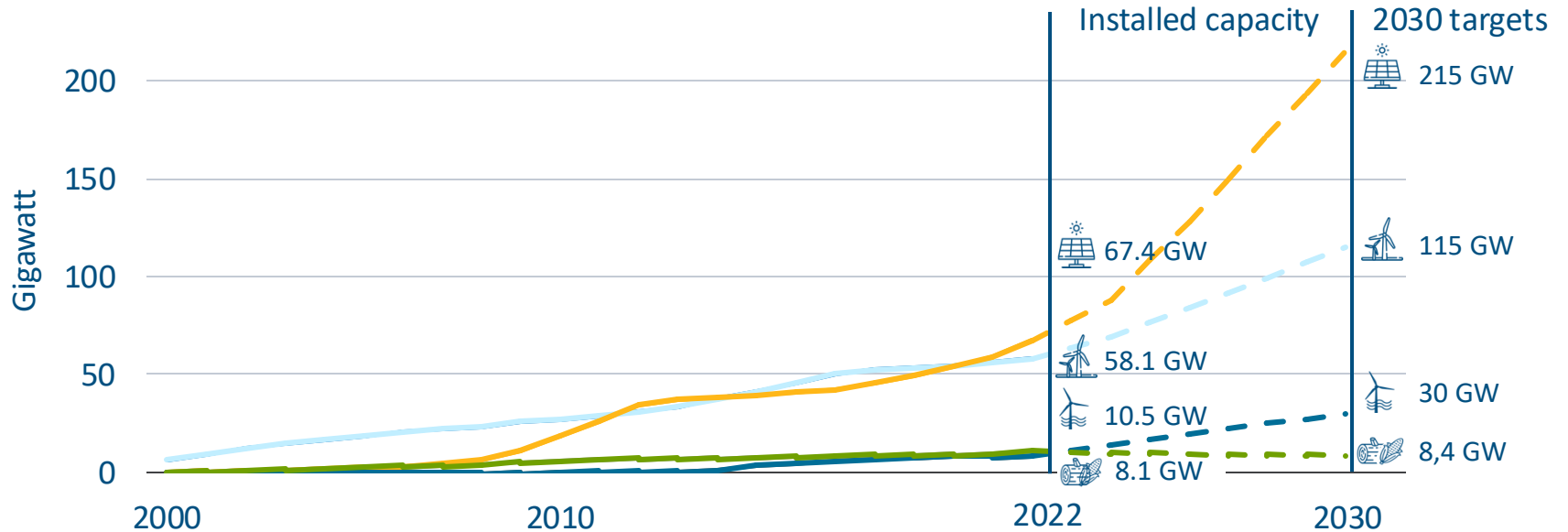
Renewables: 80% by 2030

Share of renewables in gross electricity consumption and target



Source: BMWK, 2023

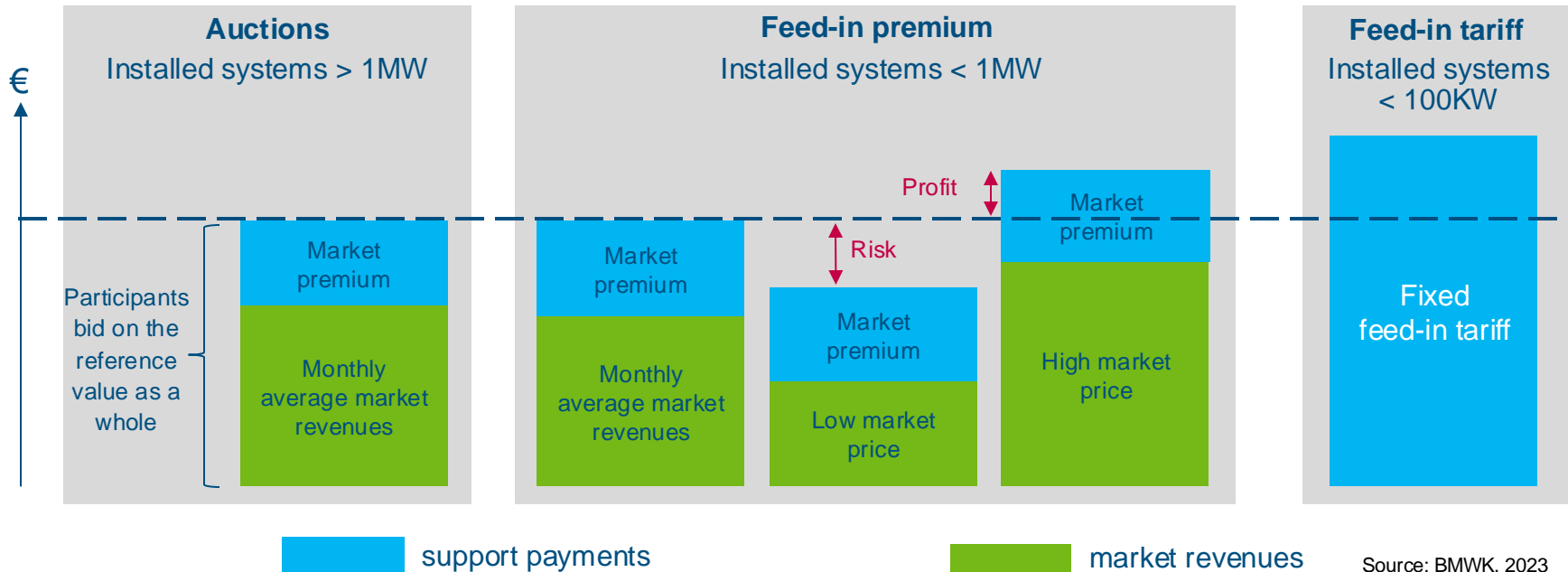
Renewables: technology-specific capacity expansion targets



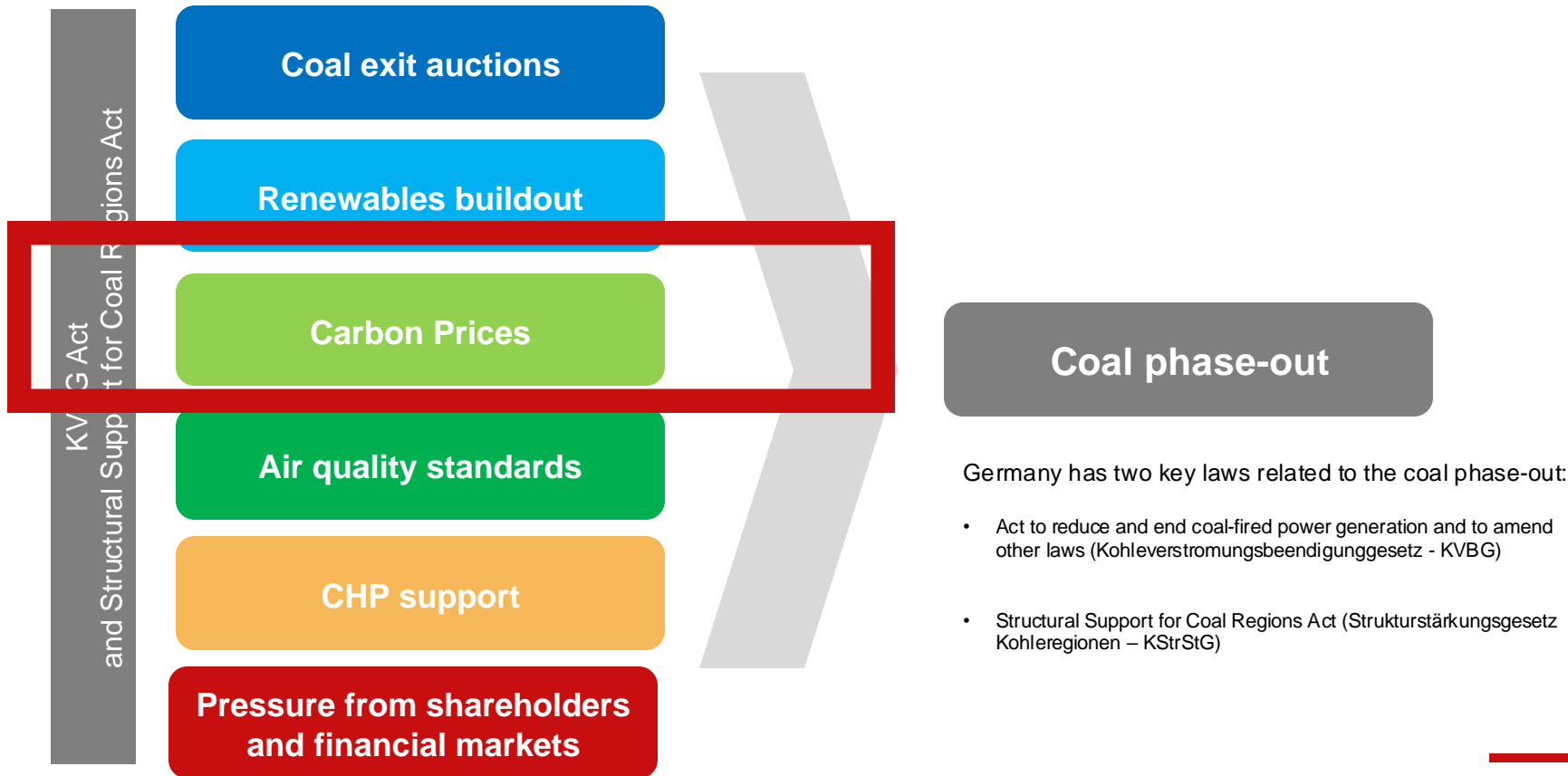
Source: BMWK, 2023

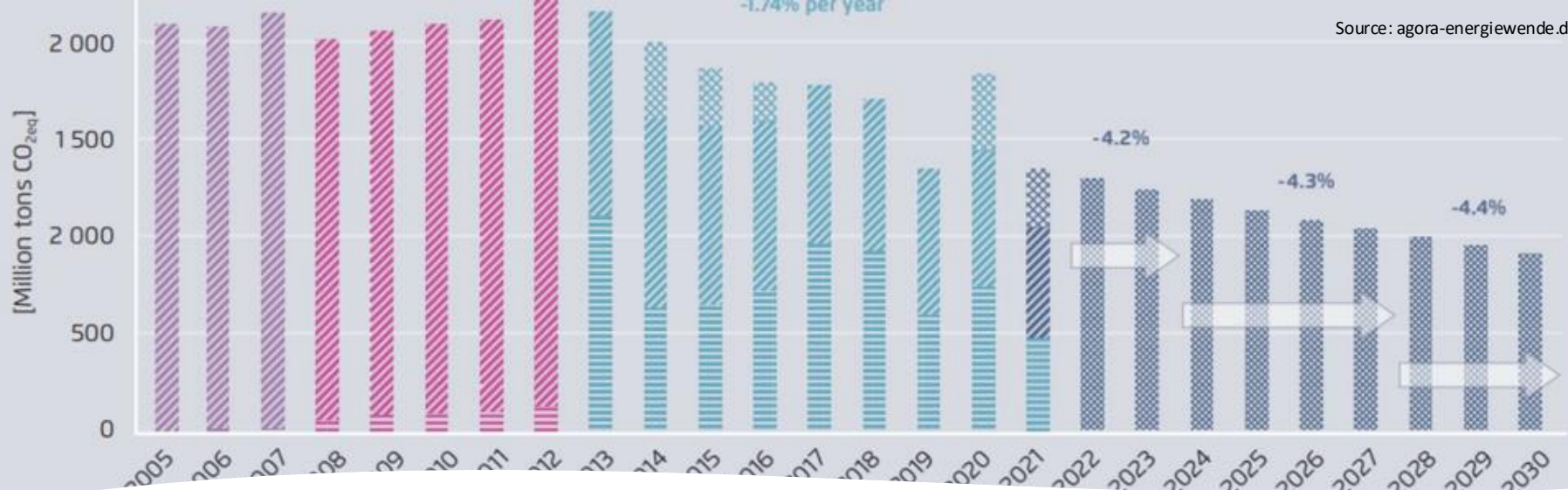
Renewables: various supporting mechanisms

Example: solar PV



Additional drivers supporting the hard/lignite coal phase-out in Germany





EU ETS in more detail

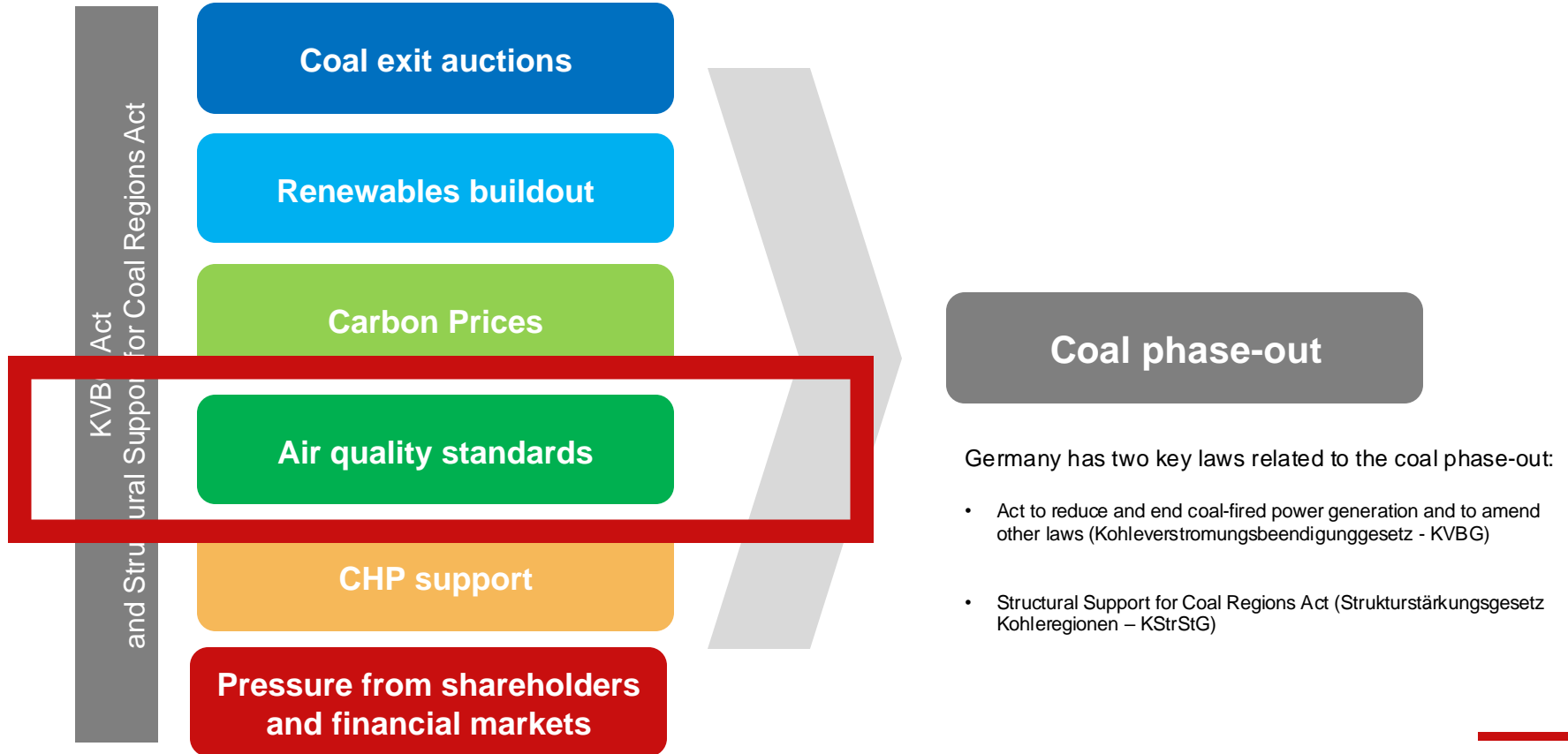
- **How it works:**

- **Cap:** A limit is set on total emissions allowed.
- **Trade:** Companies buy and sell emission allowances.
- **Price:** Scarcity of allowances creates a carbon price.
- **Incentive:** Companies are incentivized to reduce emissions to avoid buying allowances.

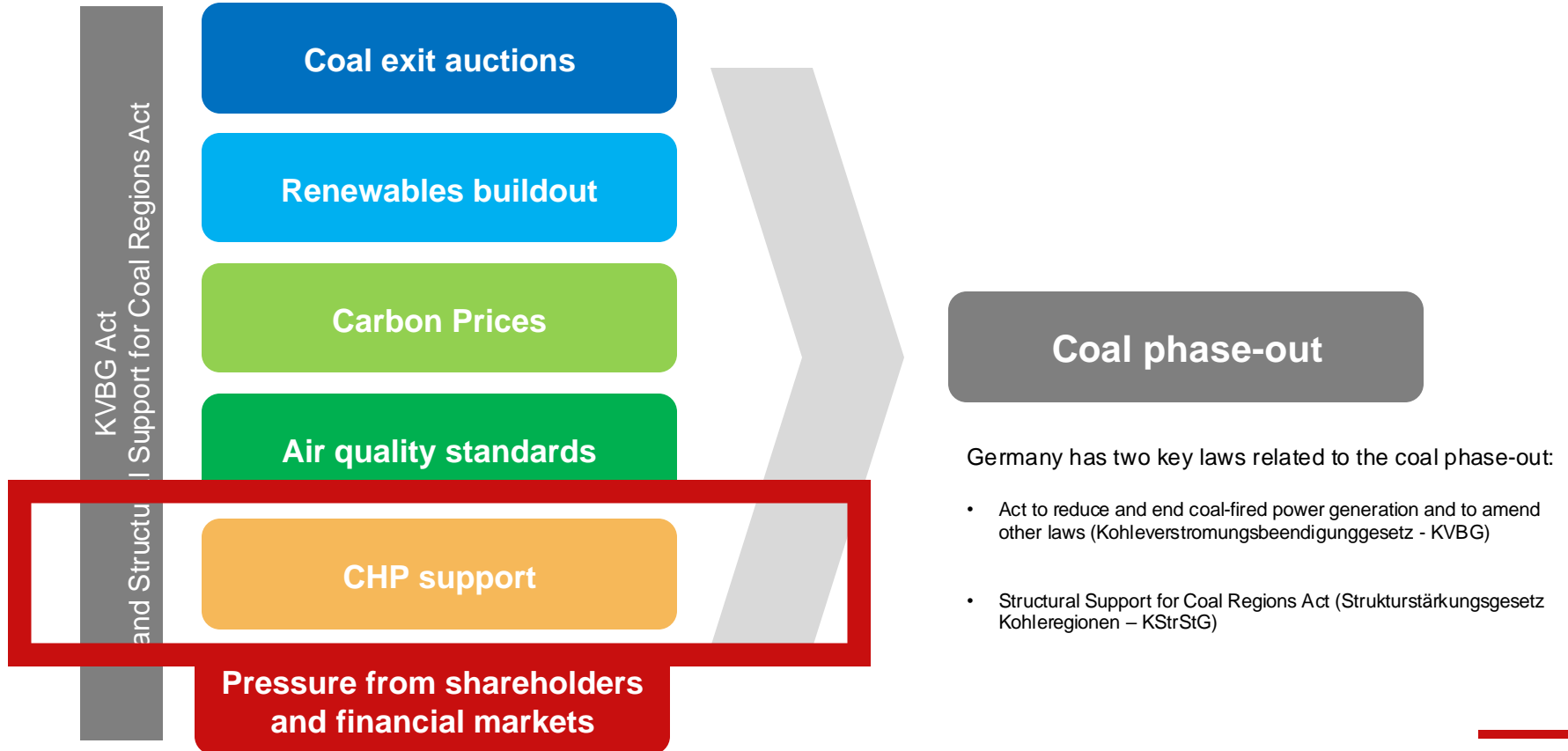
- **What it covers:**

- Power plants,
- Energy-intensive industries (e.g., steel, cement).
- Aviation within the EU.

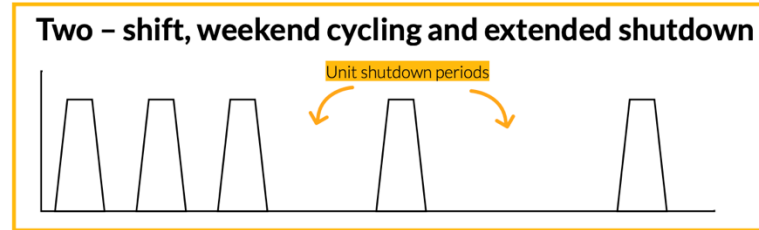
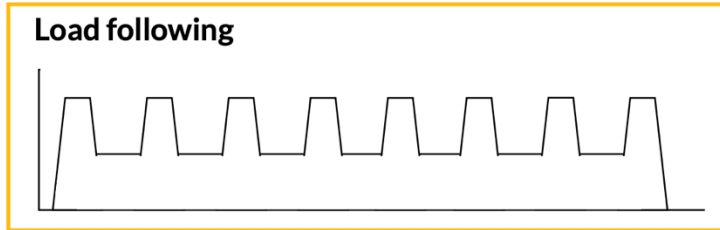
Additional drivers supporting the hard/lignite coal phase-out in Germany



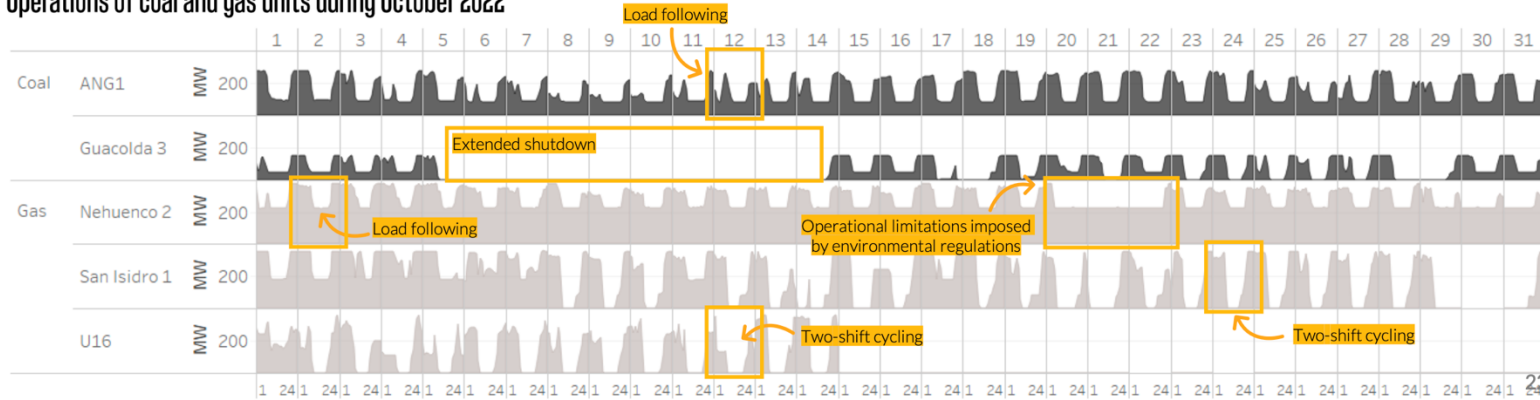
Additional drivers supporting the hard/lignite coal phase-out in Germany



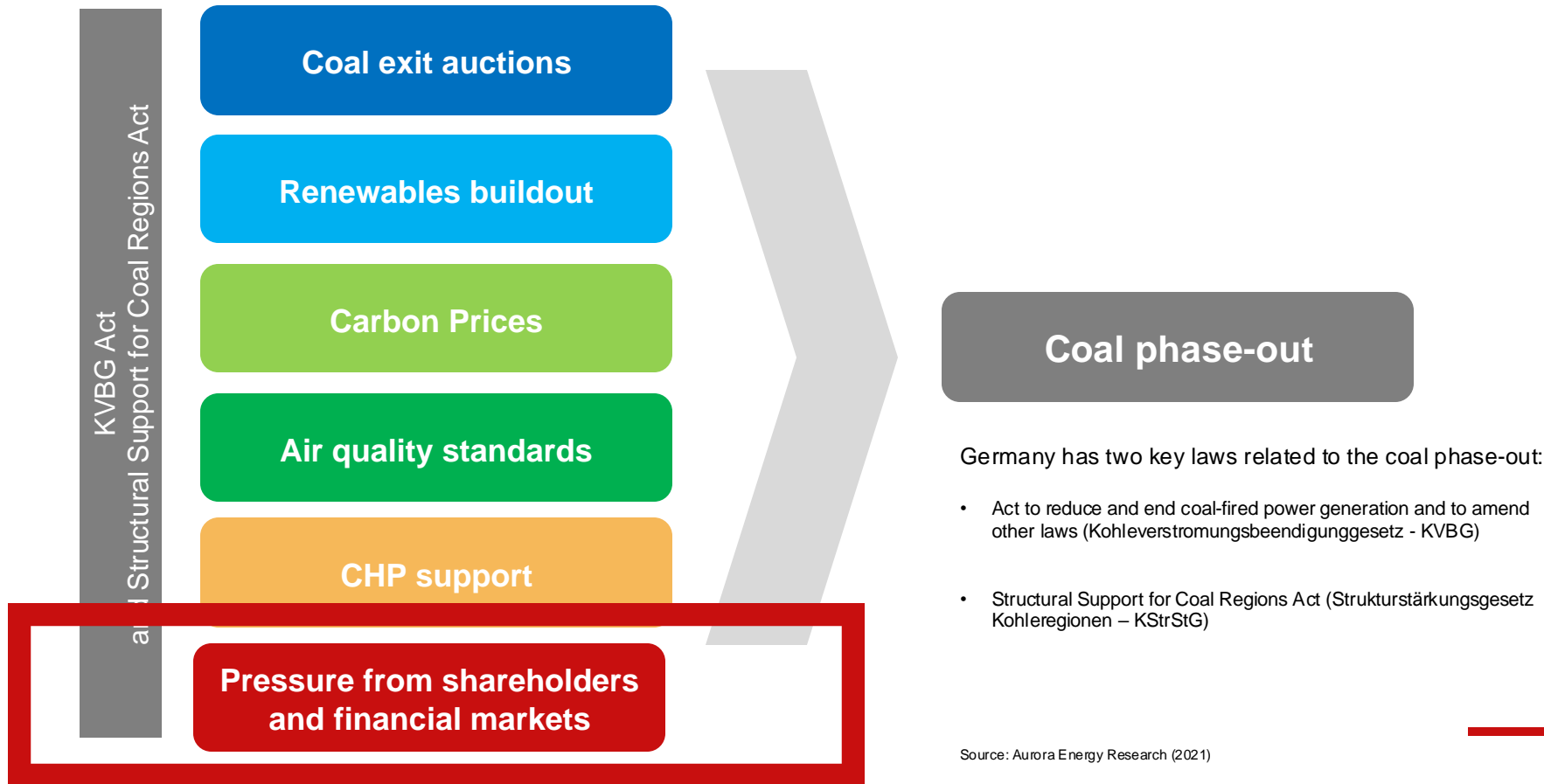
Operations of thermal units have changed



Operations of coal and gas units during October 2022



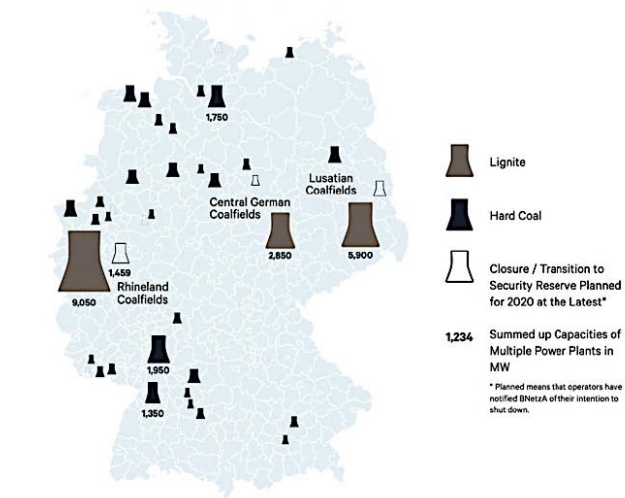
Additional drivers supporting the hard/lignite coal phase-out in Germany



Measures to Support a Just Transition

Financial Assistance for Regions Operating Lignite Coal - Hard Coal

Target Areas for Financial Assistance



Objectives of Financial Support

- Business-related infrastructure
- Transport infrastructure
- Social welfare systems
- Urban planning and city development
- Digital technology adoption
- Tourism infrastructure
- Research and innovation infrastructure
- Environmental protection and climate change adaptation
- Nature conservation and landscape management

Lignite:

Financial Assistance for Regions Operating Lignite Coal

The budget allocated for financial support

The KStrStG law specifies the total budget for providing financial support to regions involved in lignite coal operations from 2020 to 2038, which amounts to 14 billion euros. The budget is allocated over the following periods:

- 2020 – 2026: A total budget of 5.5 billion euros is allocated for support.
- 2027 – 2032: A total budget of 4.5 billion euros is allocated for support.
- 2033 – 2038: A total budget of 4 billion euros is allocated for support.

Hard coal:

Financial Assistance for Regions Operating Hard Coal

The budget allocated for financial support

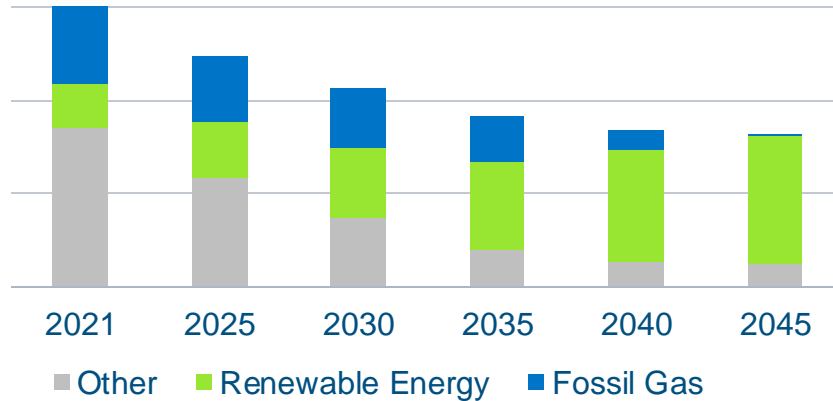
The KStrStG law specifies the budget that each state may receive for the development of economic infrastructure as follows:

- The state of Mecklenburg-Western Pomerania is allocated a budget of up to 52.5 million euros.
- The state of Lower Saxony is allocated a budget of up to 157 million euros.
- The state of North Rhine-Westphalia is allocated a budget of up to 662 million euros.
- The state of Saarland is allocated a budget of up to 128.5 million euros.

What's Next?

Gas: transformation from natural gas to H2

Development of primary energy consumption in Germany

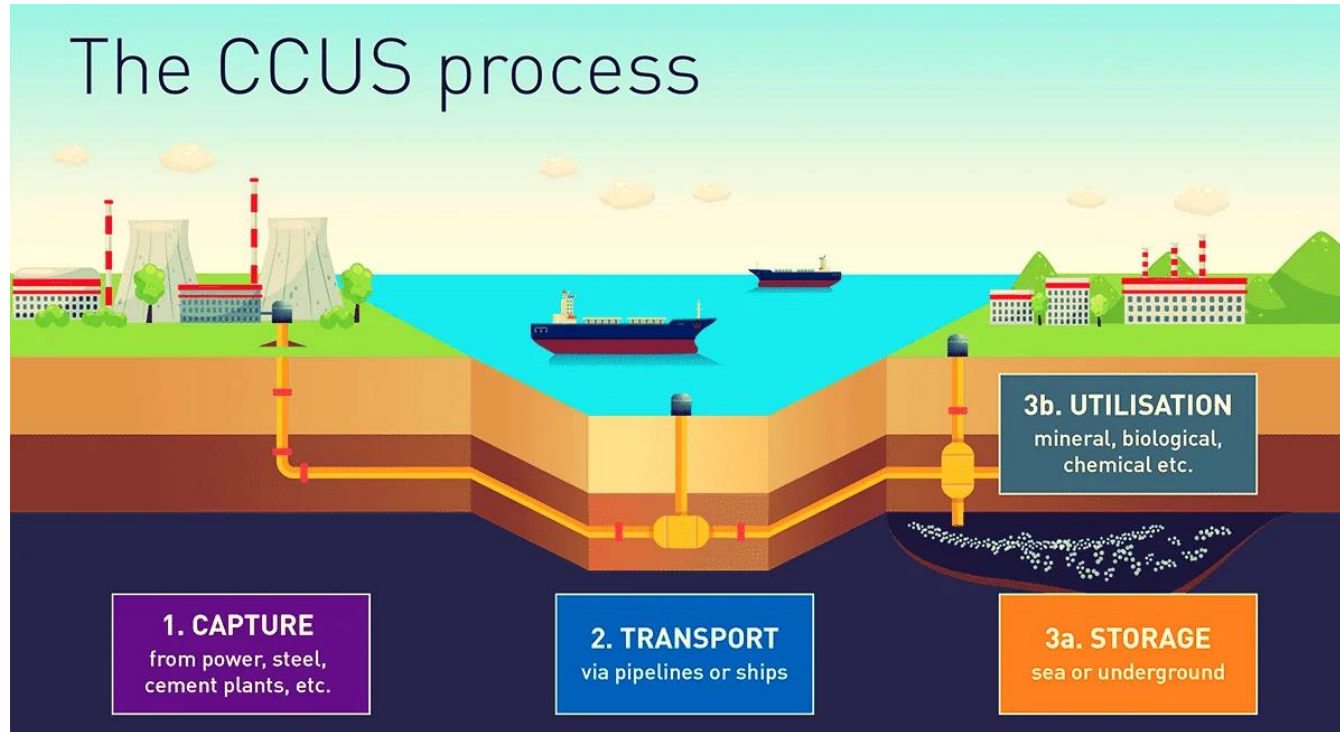


Source: BMWK, 2023



Source: energycentral.com

Carbon capture, utilization, and storage (CCUS)



Source: Carboncredits.com, 2023

Carbon capture, utilization, and storage (CCUS)

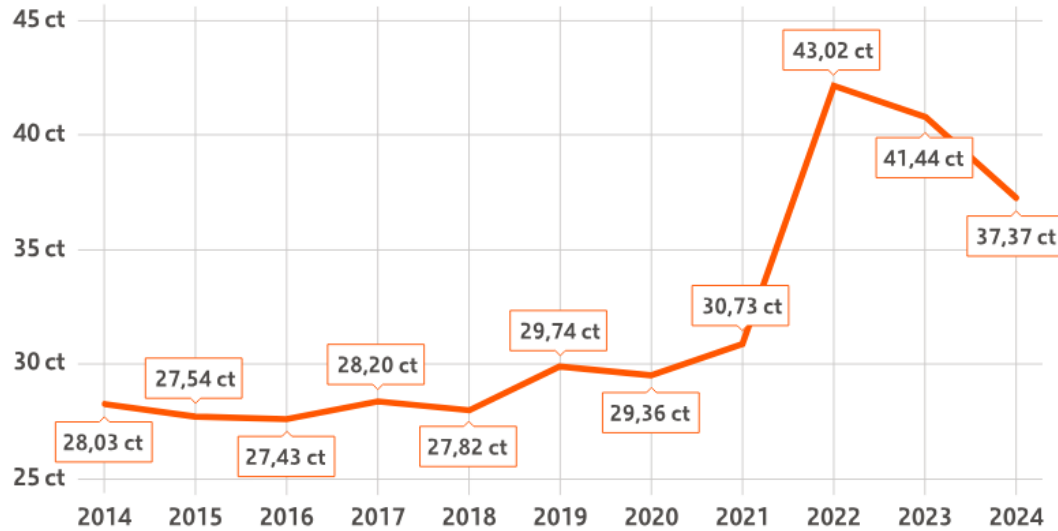
- **“Carbon Management Strategy” (09/2024)**
 - CCUS for “unavoidable” / “hard-to-abate”*
 - Cement production, waste incineration, agriculture
 - Interim solution (when no electrification / hydrogen not yet possible) – chemical production
 - State support, e.g. through EU funding / concessional loans
 - Current legal framework does not allow CCUS
 - Adjust so it allows to store offshore, potentially also onshore
 - Export carbon storage in Norway, Denmark, Netherlands
 - Reasons against CCUS?

*excludes coal power plants,
For gas plants: allowed, but not
eligible for state support





Development of consumer electricity price



Quelle: verivox.de

verivox

Year	Average Electricity Price (EUR cents per kilowatt-hour)	Average Electricity Price (THB per kilowatt-hour)
2014	28.03	10.4
2015	27.54	10.22
2016	27.43	10.17
2017	28.2	10.46
2018	27.82	10.32
2019	29.74	11.02
2020	29.36	10.89
2021	30.73	11.39
2022	43.02	15.96
2023	41.44	15.37
2024	37.37	13.86

Other scenarios ...

1. No nuclear phase-out
2. Greater use of natural gas
3. Slower energy transition
4. Lower taxes and levies

... but:

- consider issues with nuclear,
- energy security and dependencies (geopolitics),
- lock-in of unsustainable technologies,
- (state) funding is needed



Key Takeaway

Coal exit reverse auctions are not a universal solution applicable in all markets.

This analysis identifies the primary drivers that make reverse auctions suitable to facilitate coal phase-out in Germany and review what other jurisdictions should consider when preparing a coal phase-out implementation policy.

Successful implementation of coal-exit reverse auction depends on three key factors.

- **State readiness**

Security of electricity supply is well-planned, and the state has sufficient financial resources to fund compensation for early decommissioning

- **Local context**

The existence of laws for the protection of businesses against expropriation and the fact of political support for coal together make a reverse auction a pragmatic legal solution supported by government, civil society and industry.

- **Auction design**

Creating complementarity between pull and push measures – auction (“carrots”) and forced closure (“sticks”) – incentivizes most power plant operators to seek decommissioning

The right policy mix can increase the likelihood of successful auctions.

Germany has implemented several additional policies, adjacent to the reverse auctions, including renewable buildout and carbon pricing, that have helped to accelerate the phase-out of coal.



**Everything comes at a price.
The question is, are we
willing to pay for a
sustainable future, or just a
short-term fix?**

Contact

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Thank you!



To learn more please visit our website: jetknowledge.org

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