



Federal Ministry
for Economic Affairs
and Climate Action

Electricity market reform in Germany

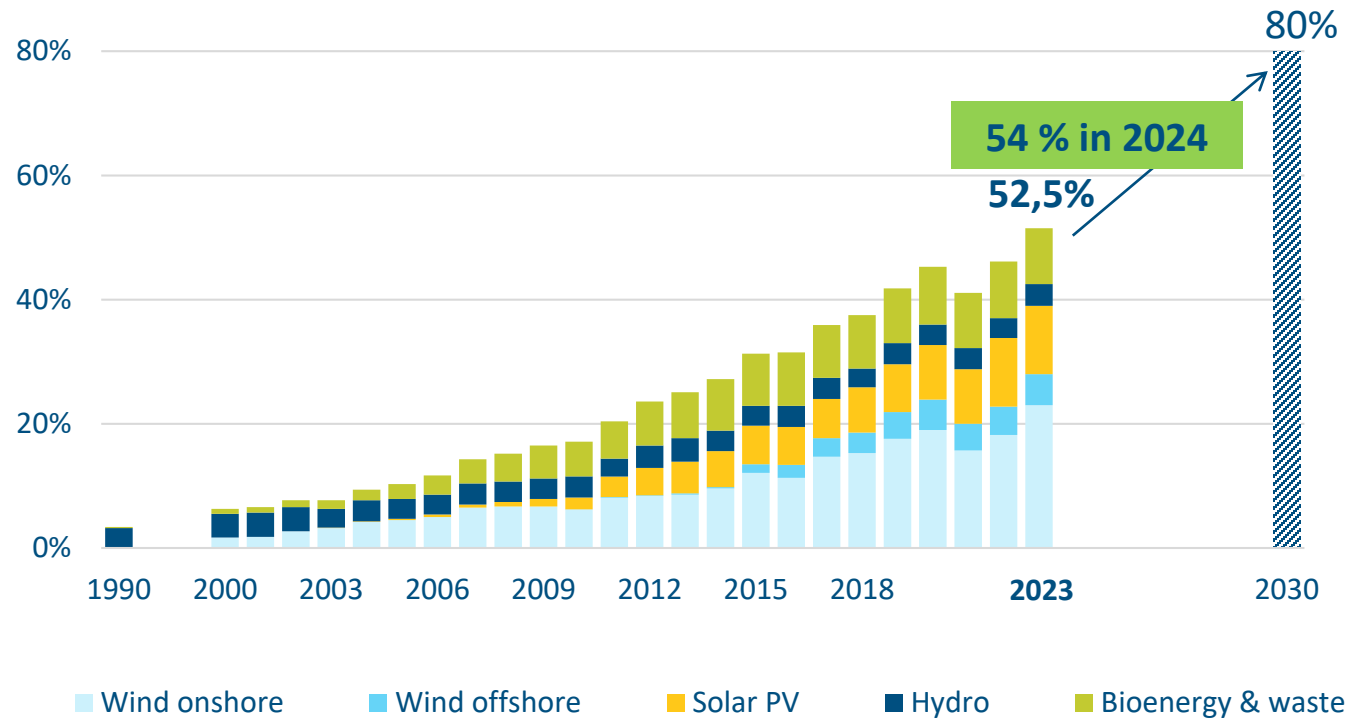
22.01.2025 – André Poschmann, Deputy Director General, BMWK

Agenda

1. Status Quo in Germany: Facts and Figures + reform debate
2. EU Electricity Market Reform: Assessment and Implementation
3. Future Electricity Market Design
4. Flexibility: Spot Lights and FR-GER Cooperation

RES-E share over 50% in 2024

Share of renewables in gross electricity consumption and target



Key EEG measures 2022-24

Increased targets and tender volumes for wind (115GW) and solar (215 GW)

Key measure: **Acceleration of permitting** plus 2% site target for wind

abolition of the EEG surcharge

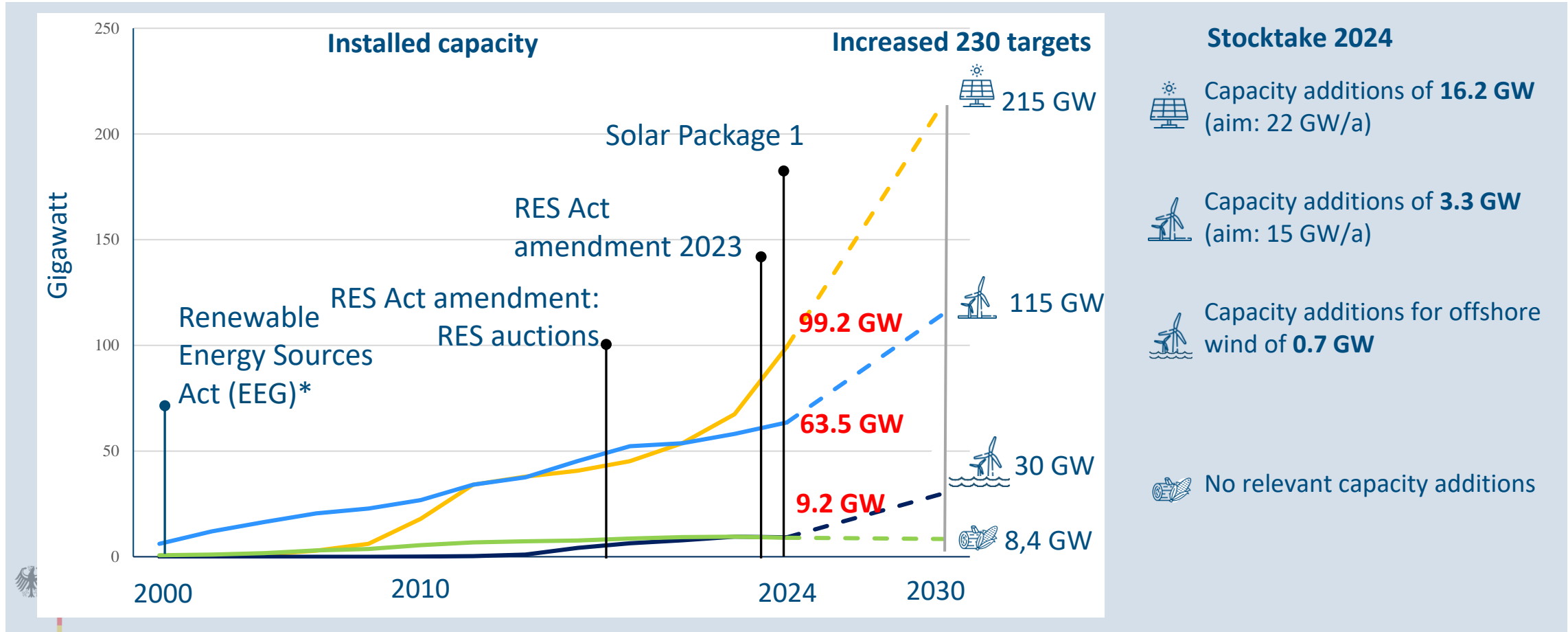
Financial participation of municipalities in solar and wind projects

Solar package (Improvements for ground mounted and roof top PV; increased premium)

Offshore law: enlarging available areas plus new tender design

Uptake of increased capacity, particularly for PV

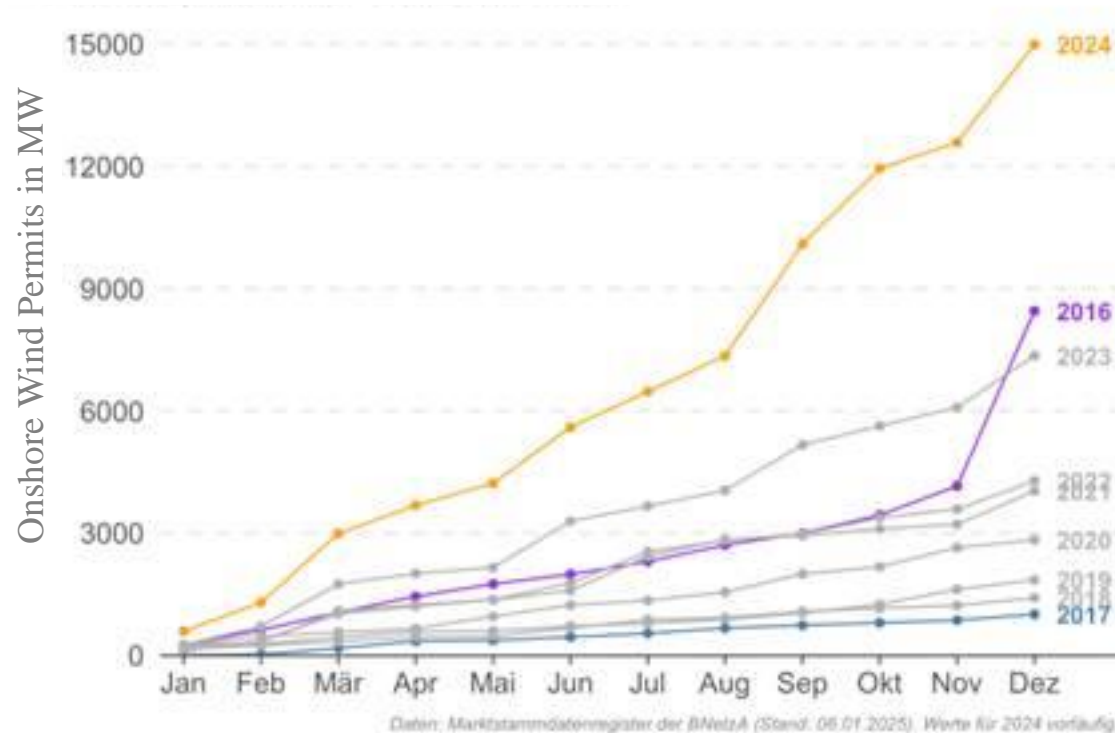
Renewable energy installed capacity 2000-2023 and capacity targets for 2030 per technology



Source: Guidehouse, June 2024, based on UBA 2024, BMWK 2024 & UBA 2023; Icons from flaticon.com

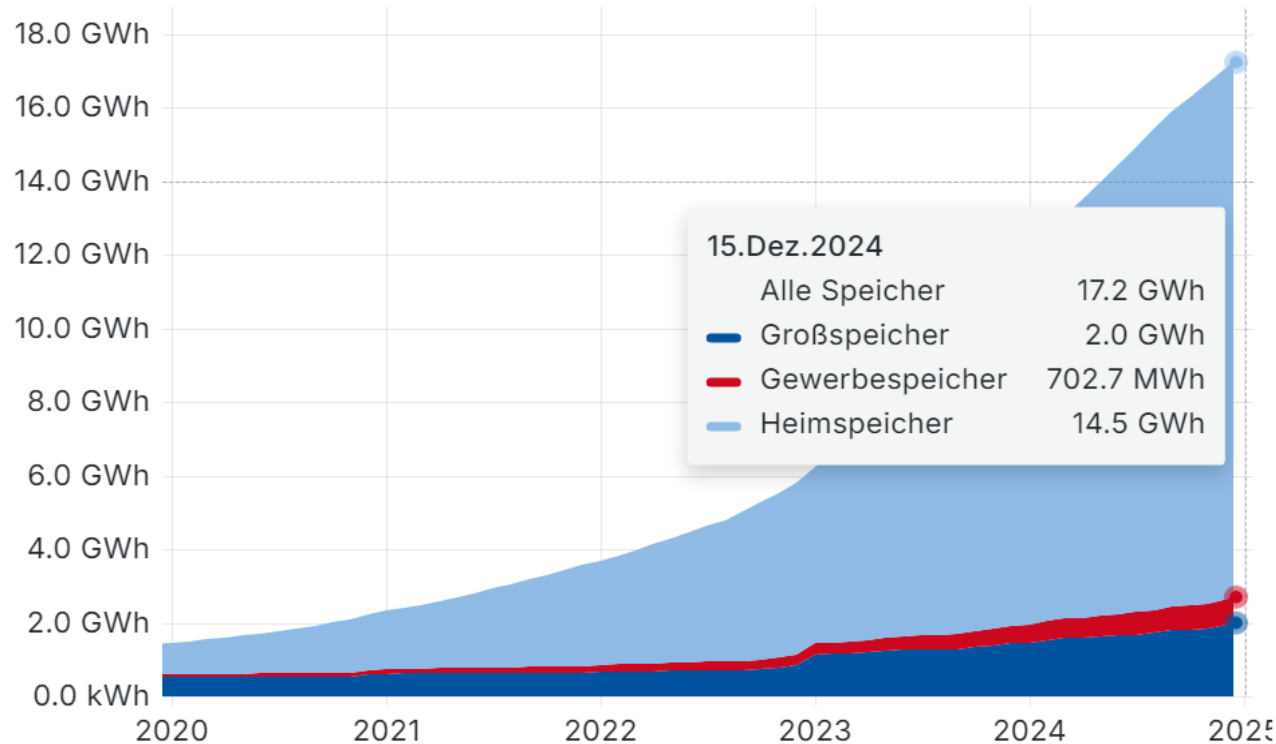
Acceleration of planning and approval procedures

Permits for Onshore Wind Installations



- Tripling in permits for onshore wind installation (15 GW in 2024)
- 2022 EU emergency regulation great success
- Need to perpetuate it's main drivers to further accelerate permitting

Electricity storage



- 230 GW new grid connection application
- If only realistic fraction of these projects are realised = Next level energy transition

Measures:

- Storage strategy: remove market barriers
- RES innovation pilots (combination)
- Outlook: technology neutral CRM

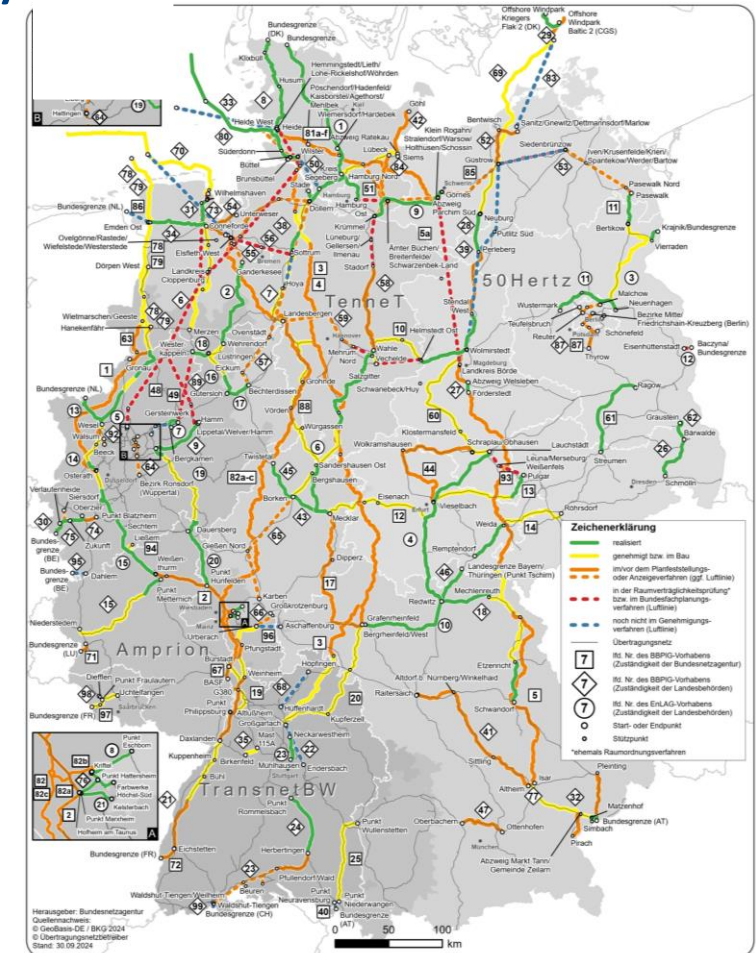
Significant electricity grid expansion under way

In 2024: 1700 km were approved – 5 times as many km as in 2021

Germany is currently developing 128 grid expansion projects

- 15,896 km prioritised and in the planning process
- 2,472 km realized
- 3,763 km under construction
- A major investment, also for Europe and the internal market

- In operation
- Approved or in construction
- Project pending/undergoing planning approval procedure
- - - Project undergoing regional planning procedure or federal planning procedure
- - - Project not yet undergoing approval procedure



Comprehensive discussion on future electricity market design



- **Platform Climate neutral electricity system** (1 year, all stakeholders)
- Tackled 4 key areas: future framework for
 - Investment in RES
 - Investment in dispatchable capacity
 - Flexibility
 - Locational signals
- **BMWK Option Paper on Electricity Market Design** (published on August 2nd, 2024)
- Consulted with neighbors
- First step: power plant strategy plus CRM
- Next steps: new invest framework for RES, Flex Roadmap, combination of options for locational prices

Future electricity market design - options

Areas of Action	Options			
Renewable energy	Supplementing the current support scheme with a claw-back mechanism	Two-way production-based contracts for difference	Two-way non-production-based contracts for difference	Capacity-based investment support with a non-production-based contribution
Dispatchable capacities	Capacity safeguarding mechanism through peak price hedging (CMP)	Decentralised capacity market (DCM)	Central capacity market (CeCM)	Combined capacity market (CoCM), including elements of DCM and CeCM
Locational signals	Temporally/regionally differentiated grid fees	Geographical differentiation in funding programmes	Integration of certain consumers in redispatch	
Flexibilisation of demand	Dynamic + innovative tariff models	Amendment of grid fee structure	Further developing individual grid fees for industry	

→ **combination of different measures needed**

System Stability Roadmap started

- **secure and robust system operation with 100% RE increasingly important**
- **Close coordination with system operators**
- **Need also EU coordination (e.g. on the most critical 200 hours)**

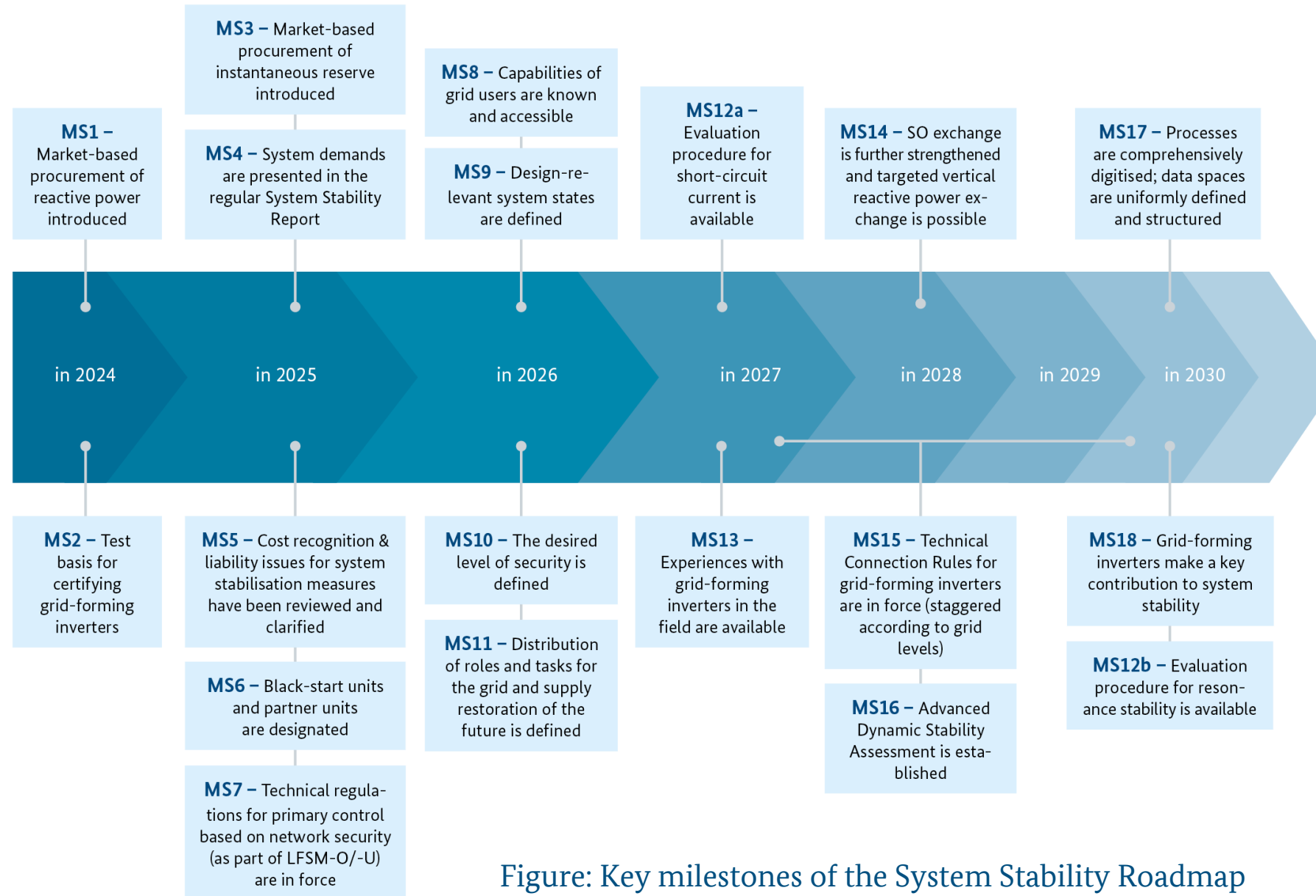


Figure: Key milestones of the System Stability Roadmap

Temporary PV spikes

- PV spikes increasing → system challenge
- Reasons: temporary production surplus; no match of demand and supply → comprehensive set of measures needed on supply and demand side

More market integration of PV

No RES remuneration during **negative prices**

Simplification and expansion of **direct marketing** for new RES installations

Modernisation of RE marketing by the TSO

More intelligence through digitalisation

Accelerating the rollout of intelligent metering systems ('**smart meters**') and control technology for RES, improving the economic efficiency of the rollout

Temporary **limitation of feed-in to 60%** for new RES installations (2-100 kW) until installation of smart metering system (storage incentive)

Ability to control systems by grid operators with annual tests

More storage and flex

Less bureaucracy for storage systems on rooftop PV systems

Simplification of the grid connection for storage systems on ground-mounted systems as part of the co-use of grid connections



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2. EU Electricity Market Reform: Assessment and Implementation

EU Electricity Market Reform – DE perspective

General:

- Many regulations were introduced to shield consumers from high prices; some will support the energy transition long-term, while others may require future adjustment

Important improvements have been achieved:

- **Energy Sharing:** Households (and SMEs) have the right to share energy
- **PPAs:** Reduction of barriers and strengthening of market-driven renewable energy expansion
- **Strengthening Renewable Energy Expansion:** Introduction of a top-up renewable energy auction mechanism (aligned with the 45% RES-target)
- **Enhancing Intraday Trading:** Cross-border trading up to 30 minutes before delivery.
- **Flexibility:** EU Flexibility Roadmap; report and indicative target

EU Electricity Market Reform - Implementation

- Depending on the regulation, the **implementation periods** are **between six months and two years**
- **Rapid implementation** was originally planned – **Cabinet decision 13/11/24** as part of a comprehensive package (amendment to the Energy Industry Act)
 - Hedging strategies for suppliers regarding electricity supplies to household customers against significant price increases
 - Energy sharing
 - Fixed-price contracts
 - Flexible grid connection agreements
 - Dynamic electricity tariffs
 - Protection (of vulnerable household customers affected by energy poverty) against electricity supply interruptions
 - Transparency regarding available grid connection capacities
 - Digital submission of grid connection requests
- Due to **early elections 23/02/25**, **the package will not pass the parliament. Implementation, probably in September 2025** under the new government

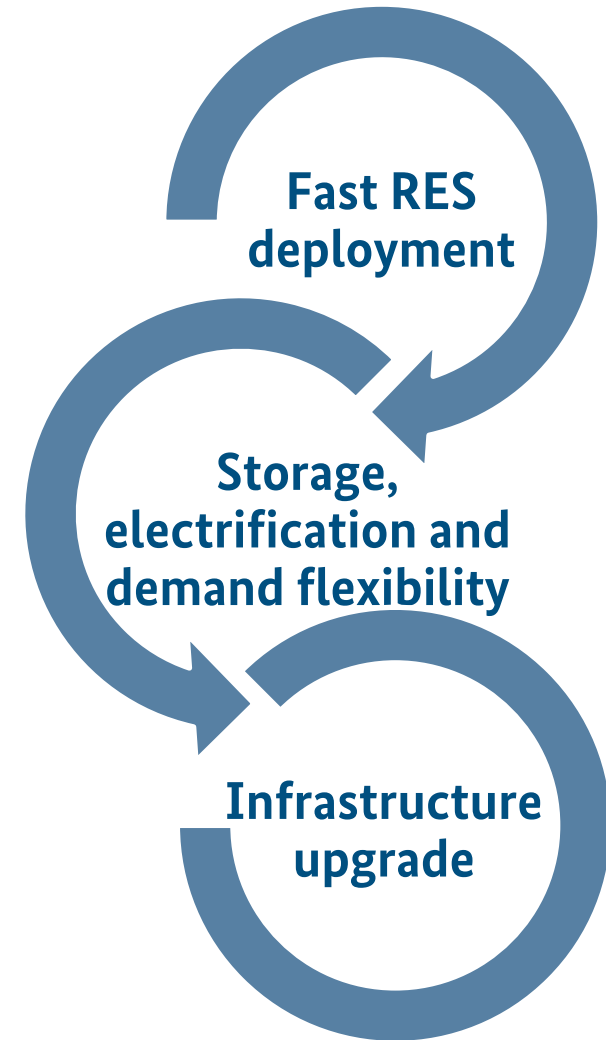


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3. The view ahead: Future Electricity Market Design

Electricity Market: Outlook

- The **Green Deal** and **EU emergency measures** have enabled Europe to **reduce energy prices** after 2022: 2023 installation of 56 GW of new solar and 16 GW new wind while gas demand declined by 18% between August 2022 and May 2024
- Despite those achievements, **significant challenges persist**: the European economy is under pressure, and **affordable energy** is urgently needed to regain **competitiveness**, to enable sector coupling and to sustain strong support for the transformation
- Need to **leave the crisis mode** of short-term market interventions, need structural changes → **focus on three pillars**



EU solutions for hours of high system stress

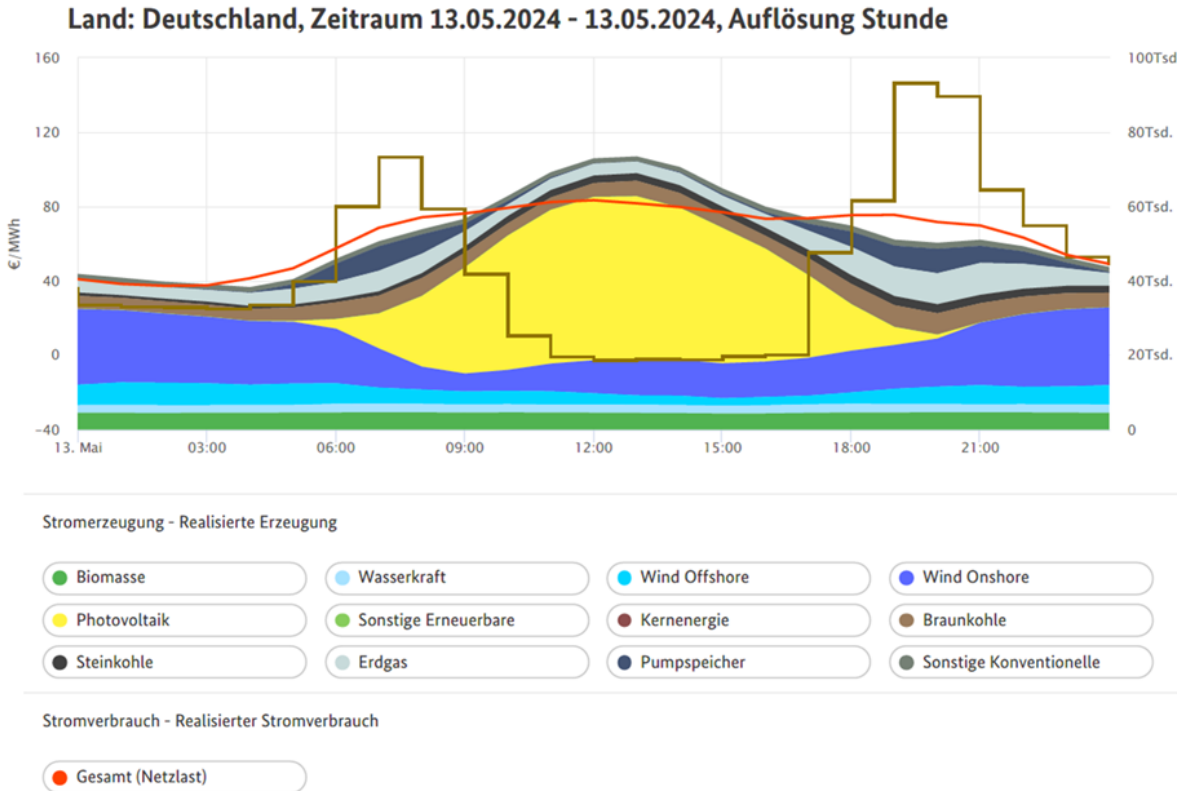
- Temporary production surpluses, increasing (trade) flows and flexibility needs lead to increasing signs of system stress in grid operation, in particular in the 100-200 most critical hours
- **Solution:** Strengthen the European cooperation on system operation and cross-border redispatch:
 - Enlarge **TSOs and DSOs' abilities to redispatch** and control the output of more generation capacities
 - Focus on the implementation of **ROSC: no further delay**
 - Maintain national exemption rights from (inefficient) local flexibility markets
 - Establish a European debate/process on **system stability**
- **system security and stability more priority** when developing the EU framework further



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4. Flexibility: Spot Lights and French-German Cooperation

Outlook: Flexibilisation



- Structural change: huge opportunity for low prices/ future competitiveness
- Don't underestimate role of decentralised flex! → future CRM need to exploit decentralised flex!

Flexibility report (Art. 19e Elec. Regulation)



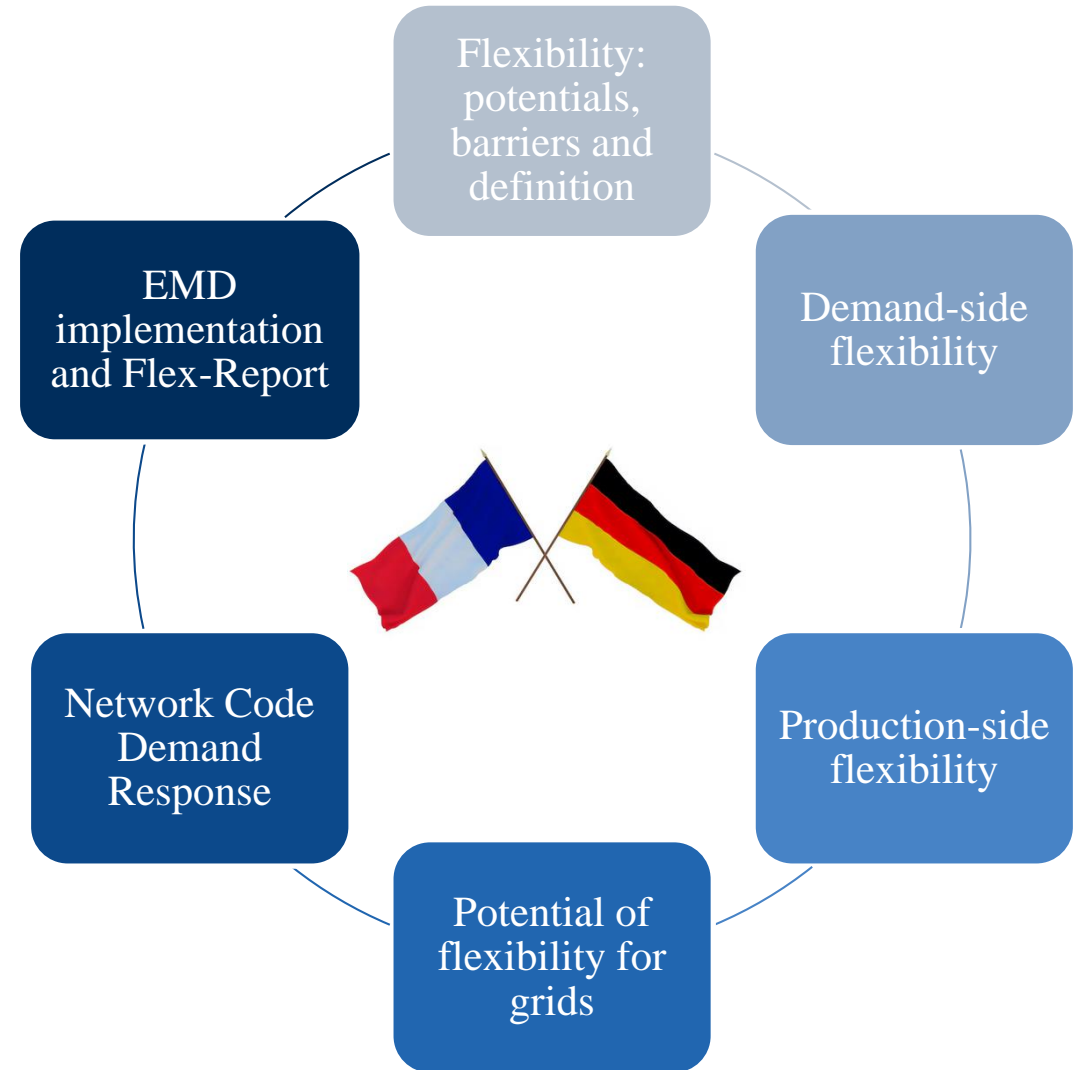
Methods and focus:

- **Removing barriers** has priority: Focus should be an enabling market framework, as subsidizing flexibility against market barriers is costly and inefficient
- **Curtailement can be efficient:** RES curtailment is no useful indicator for promoting flexibility
- Monitoring should **prioritize underrepresented** needs (e.g. intra-period imbalances)
- Strive for a **uniform European methodology** to quantify short-term flexibility needs to dimensioning balancing reserves
- **Fix targets** like “X GW of flexibility” risk seeking quick wins over systemic improvements

Outlook: We should focus on **shorter settlement periods** to handle residual load ramps within balancing periods (otherwise need for very large reserves and inefficient market results)

Flexibility: FR-DE Cooperation

- Different starting points/needs: Cooperation even more important
 - Common understanding:
 - Enabling market framework for demand response
 - Priority is to overcome barriers
- Continue our good cooperation
- Expand to Penta: thank you for the initiative
- Use the momentum to create basis for a European Flexibility Roadmap





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Thank you for your attention!

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