

# Introduction, status-quo and future role of the EU ETS

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European Federation  
of Energy Traders  
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# Agenda

1. Scope of EU ETS
2. Allocation of Emission Allowances
3. Market Dynamics
4. Green Deal

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1. Scope of EU ETS

2. Allocation of Emission Allowances

3. Market Dynamics

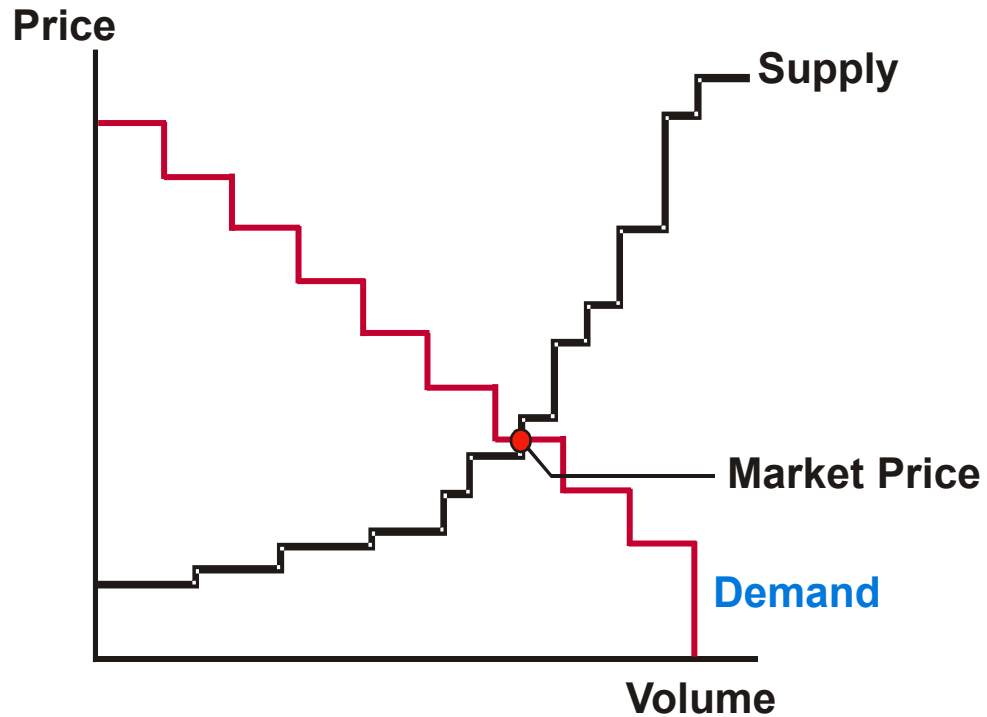
4. Green Deal

# EU ETS is the flagship of EU climate policy

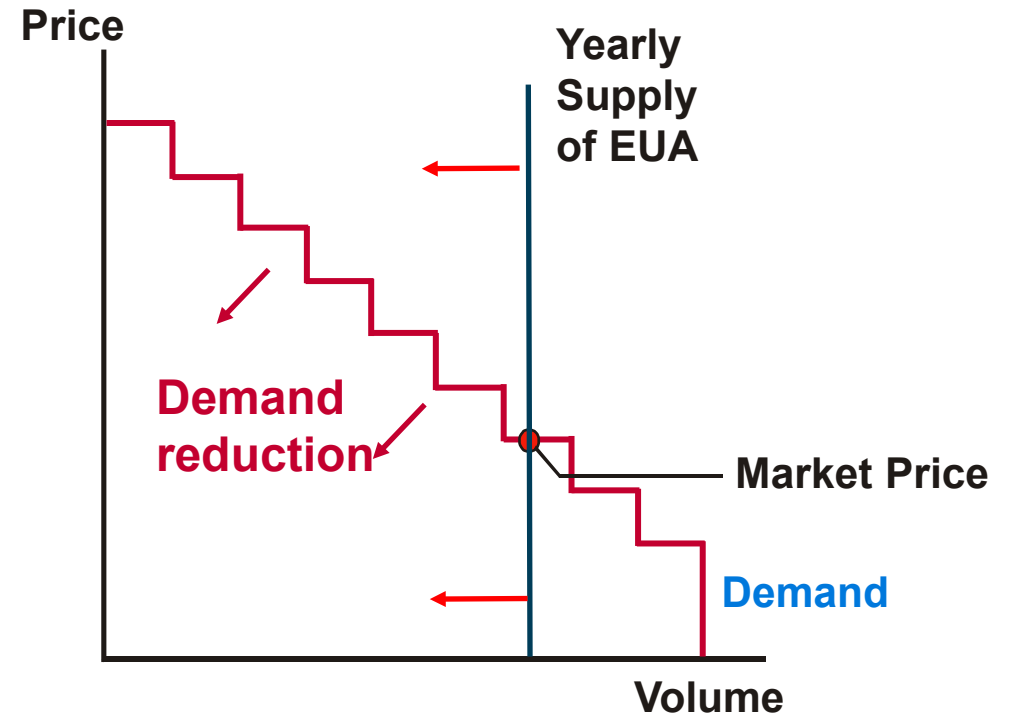
- **Cap and Trade** system, that limits the overall volume of greenhouse gases that can be emitted each year
- Installed in 2005 to comply with commitments of Kyoto Treaty, the EU ETS entered into the 4th Trading Period in 2021.
- Operates in 31 countries (EU+EFTA+N.Ireland) and regulates GHG-emissions<sup>1</sup> from 11,000+ installations and all intra-EU aviation. It represents 45% of all EU GHG-emissions
- Market value of ~130 bn in 2020 (25 mn EUA traded daily at €25/t)
- Green Deal will further increase the relevance of the EU ETS

# Fundamental principle of EU ETS

Guiding Principle



ETS Principle

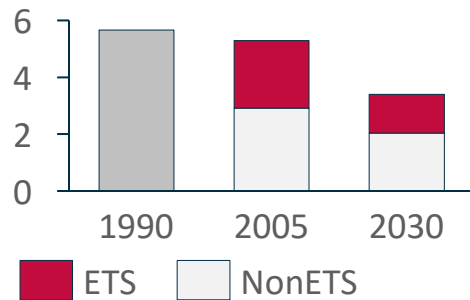


# EU ETS is flagship of EU climate policy but policies overlap

## Emissions

**40%** Reduction of GHG emissions vs. 1990<sup>1</sup>

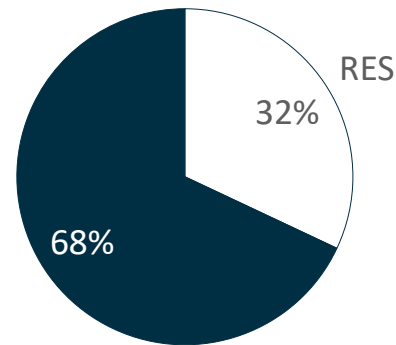
Bn tonnes



- Overall (EU-28) Target is **40% GHG emission reduction in 2030** vs. 1990
- This is to be reached by **43% reduction in ETS** Sector and **30% in Non-ETS** Sector (measured vs. 2005)
- Cap to be reviewed in 2023 and 2028, MSR to be reviewed in 2021 and 2026

## Renewable Share

**32%** Renewable energy share in final energy consumption

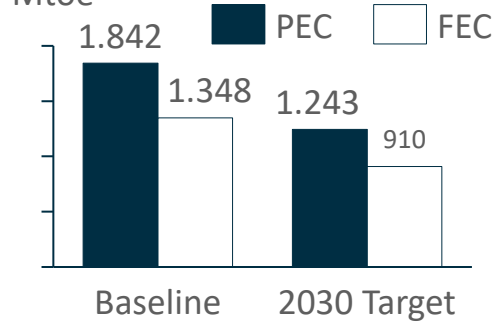


- Renewable Energy must comprise at **least 32% across of final energy consumption** (across all sectors)
- **Implementation uncertain**, as no targets set on national level
- Directive includes upward revision clause by 2023

## Energy Efficiency

**32.5%** Less energy consumption than in Base Case

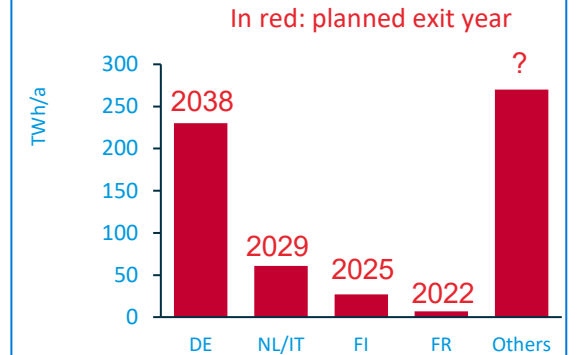
Mtoe



- Target is to be reached either in terms of **Primary Energy Consumption (PEC) or Final Energy Consumption (FEC)** (vs. baseline scenario)
- Directive includes upward revision clause by 2023

## Coal Exit

**600 TWh** EU coal-fired generation (2019)



- Some MS already agreed to exit from coal-fired generation. These commitments cover **>50% of EU's coal-fired generation**

# EU ETS scope: Main greenhouse gases of power generation, industry and aviation in EU and EFTA

## Greenhouse gases in scope

Emission of greenhouse gases<sup>1)</sup> (GHG), measured in tCO<sub>2</sub>e

CO<sub>2</sub>

N<sub>2</sub>O

PFC<sup>1)</sup>

## Geographical scope

EU



+ EFTA<sup>2)</sup>



## Activities in scope

### Stationary installations

#### Power & heat



Thermal input > 20MW

#### Industry processes



Oil refining; coke production; metals; cement; lime; glass; ceramics; pulp; paper; chemicals

### Aviation



Flights inside ETS area

# EU ETS was established 15 years ago



## Test Phase

- Covered only CO<sub>2</sub> from power generators and large industries
- Low penalties for non-compliance
- Price turns zero at the end of 2007 as banking was not allowed

## Mandatory Participation

- Constant cap (6.5% below 2007)
- Mainly free allocation of certificates based on grandfathering rules
- International credits allowed (~1.4 bn transferred)
- Aviation brought into the system per 1.1.2012

## Shift towards auctioning

- Full auctioning for the power sector
- Gradual increase of auctioning for manufacturing sector
- 1.74% reduction of cap every year
- But high surplus from TP2 puts pressure on prices

## Meaningful carbon price!

- Increased yearly reduction of 2.2% p.a. (LRF)
- Set-aside certificates as reserve to reduce surplus
- Cancellation of certificates in 2024
- Stricter rules for free allocation to industry



# Agenda

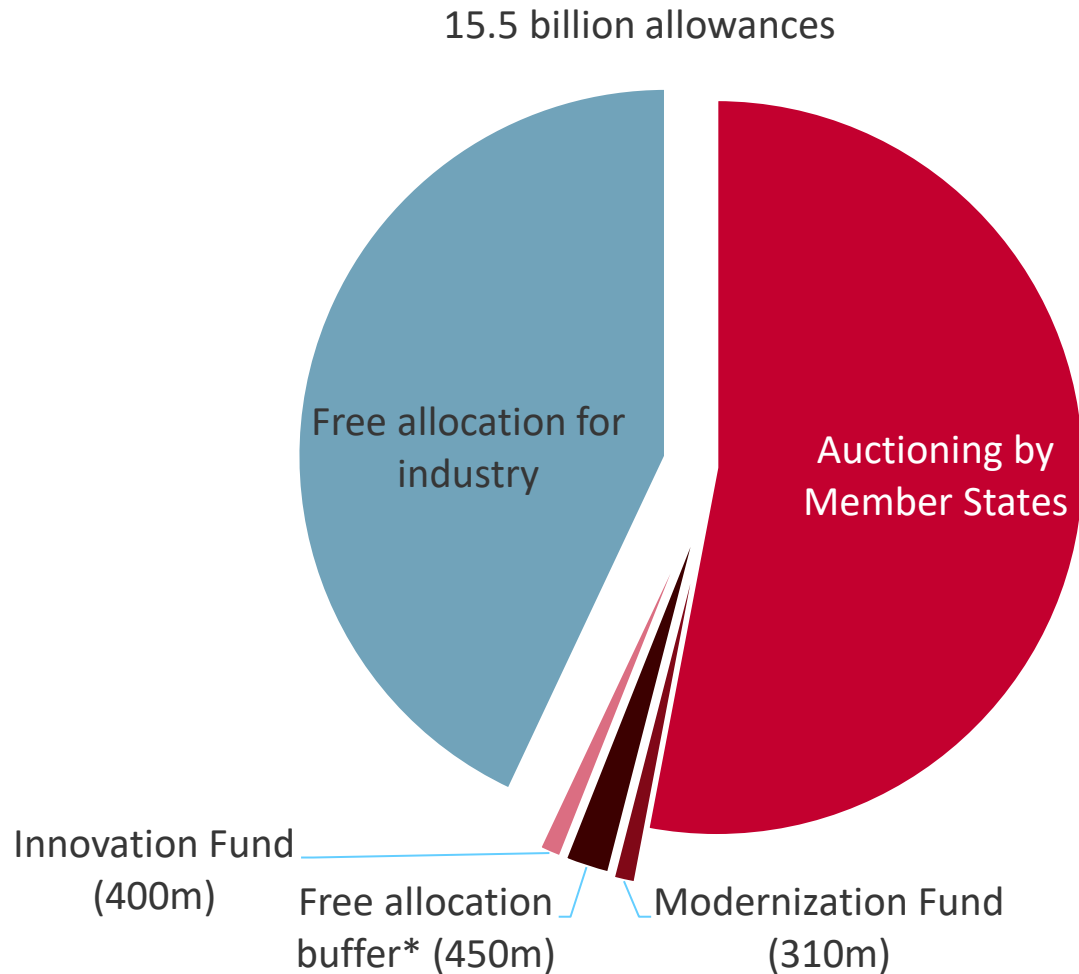
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# Structure of the EU ETS in Phase 4

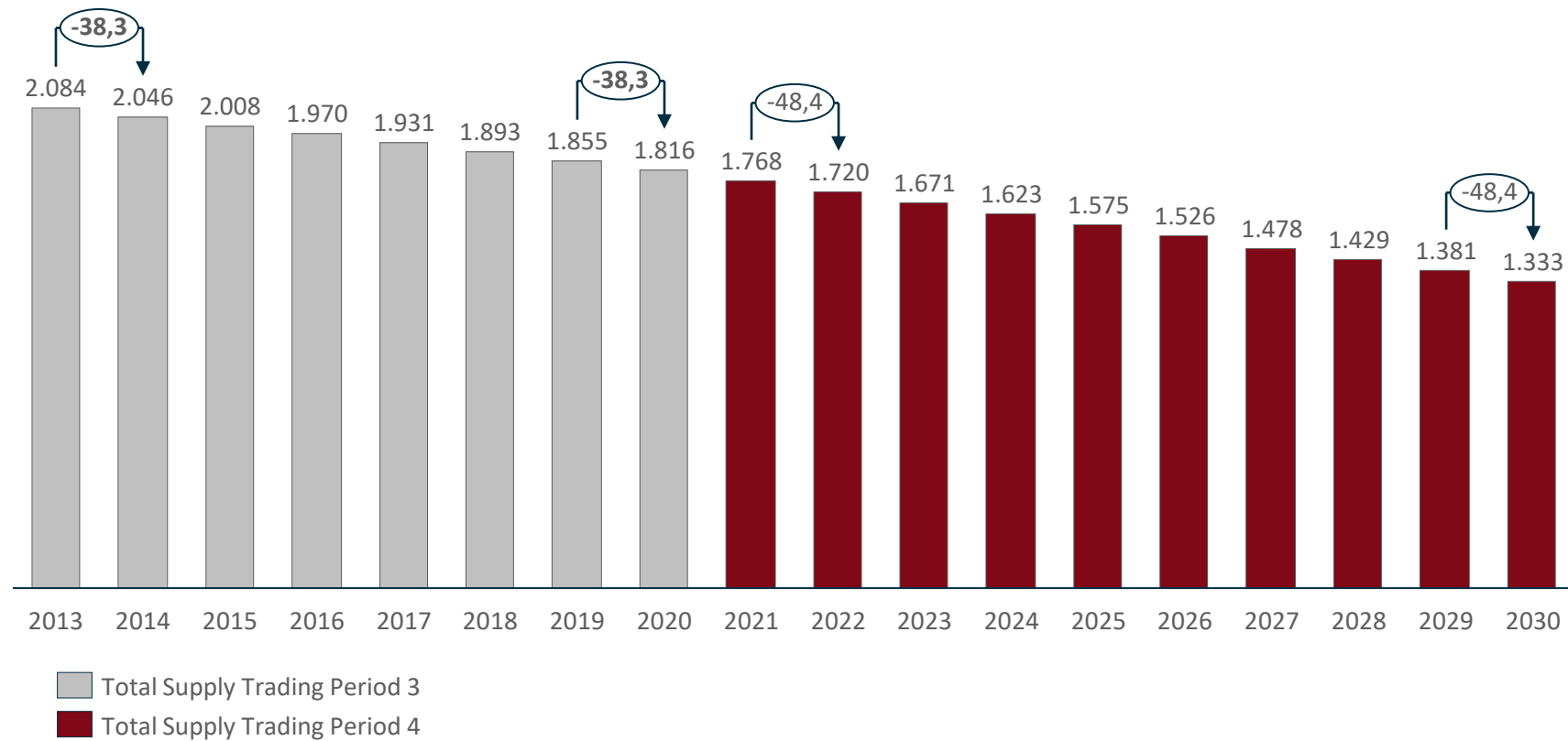


## Strengthening of the EU ETS

- **Market stability reserve (MSR):** Withdrawal rate of 24% for 2019-2023, 12% thereafter (under review)
- **Invalidation of allowances:** As from 2023 allowances held in the reserve above the total number of allowances auctioned during the previous year should no longer be valid
- **Linear Reduction Factor:** Annual cap reduction of 2.2% per year (currently: 1.74%)
- **Voluntary cancellation of allowances to account for national measures:** Member States can cancel allowances to account for domestic policy measures (e.g. coal phase-out).

# Supply of Allowances over time

Total ETS Supply in Trading Periods 3 and 4<sup>1</sup>

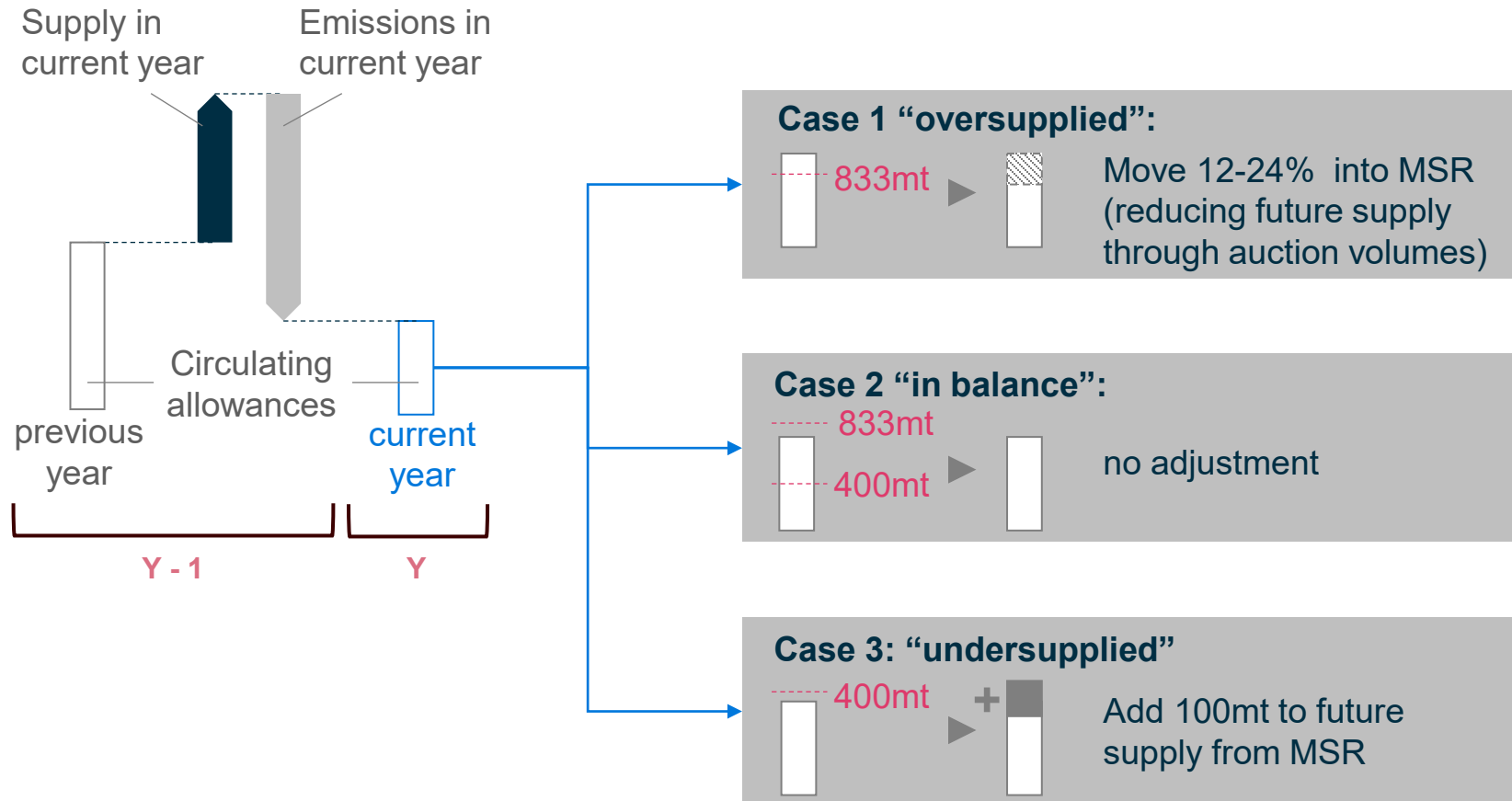


# Free allocation to industry based on benchmarks

Free allocation for sectors at genuine risk of carbon leakage	Free allocation adjusted to activity level	Cross-sectoral correction factor (CSCF)	New Entrants Reserve (NER)
<ul style="list-style-type: none"><li>• Product of emission intensity * trade intensity with 3<sup>rd</sup> countries &gt;0.2: 100% free allocation of benchmark value</li><li>• &gt;0.15: Qualitative assessment</li><li>• If less exposed: Decrease from 30% after 2026 to reach 0% in 2030</li><li>• Free allocation to district heating adjusted by LRF</li></ul>	<ul style="list-style-type: none"><li>• Free allocation to an installation is adjusted, when operations change by more than 15% using a two-year rolling average</li><li>• Two benchmark phases (2021-25 / 2026-30)</li></ul>	<ul style="list-style-type: none"><li>• Uniform application, if demand for free allocation exceeds supply</li><li>• To prevent CSCF, allowances have been set aside. If not utilized, these allowances will be used for the Innovation Fund and the Modernization Fund.</li></ul>	<ul style="list-style-type: none"><li>• NER with starting value of approximately 350m allowances</li><li>• Adaptation of the level of free allocation due to production increase or increase shall be carried out with allowances taken from or added to the NER.</li></ul>

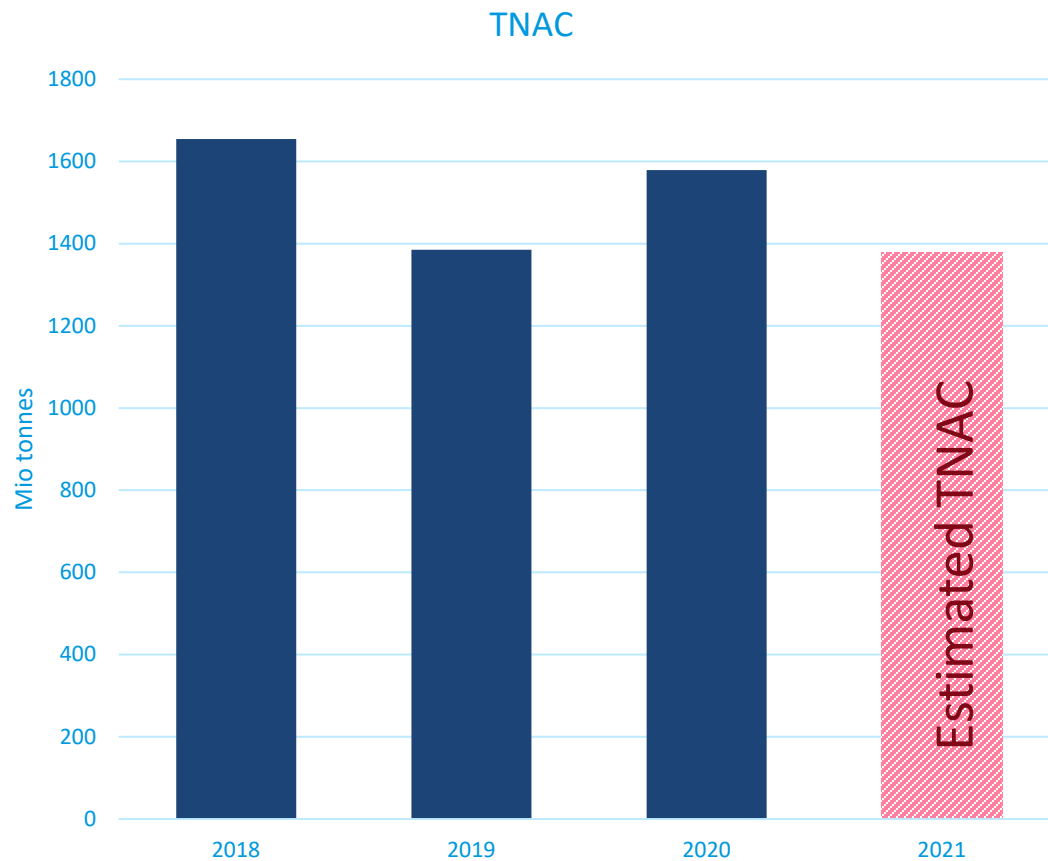
# Market Stability Reserve (MSR) aims to balance oversupply

**From 2019 onwards:** adjustment of number of “circulating allowances” (TNAC) at end of each year



# TNAC is due to MSR on a downward trend

## TNAC since 2018







## Comments

- Excess of allowances by the end of 2020 was 1.57 Bn tonnes. It is estimated that ca 1 Bn tonnes of the total excess have been locked in utilities' hedges and ca 450 Mio tonnes on industrial accounts and the remaining 120 Mt for other purposes.
- In 2021, 322mt EUA were transferred into the MSR. For this reason, demand is expected to exceed supply by 120-150Mt, therefore some of the excess needs to be used -> the market is scarce.
- In times of scarcity, the effective market is supposed to balance shortages by triggering the cheapest decarbonisation option.

# For the energy industry auctioning rules are key

- The EU Auctioning Regulation ensures that all participants have harmonized, non-discriminatory and cost-efficient access to the European primary market for emission allowances.
- All over the EU, auctions take place only on trading platforms that are part of a regulated market (EEX and ICE).
- High predictability due to publication of detailed auctioning calendar

Week 10	Call Trading Period	Product Code	Trading Period	Volume		Auction Name
Monday 07-Mar-22	09.00 am - 11.00 am	T3PA	4th Period	2.449.000		Spot Market - EU Primary Auction CAP3 - EUA
Tuesday 08-Mar-22	09.00 am - 11.00 am	T3PA	4th Period	2.449.000		Spot Market - EU Primary Auction CAP3 - EUA
Wednesday 09-Mar-22						
Thursday 10-Mar-22	09.00 am - 11.00 am	T3PA	4th Period	2.449.000		Spot Market - EU Primary Auction CAP3 - EUA
Friday 11-Mar-22	09.00 am - 11.00 am	T3PA	4th Period	1.944.000		Spot Market - German Primary Auction - EUA

- Auction Regulation needs to establish transparent notification procedure so that there is clarity on the auction volumes of the MS concerned (in this respect future option to cancel allowances very important) .

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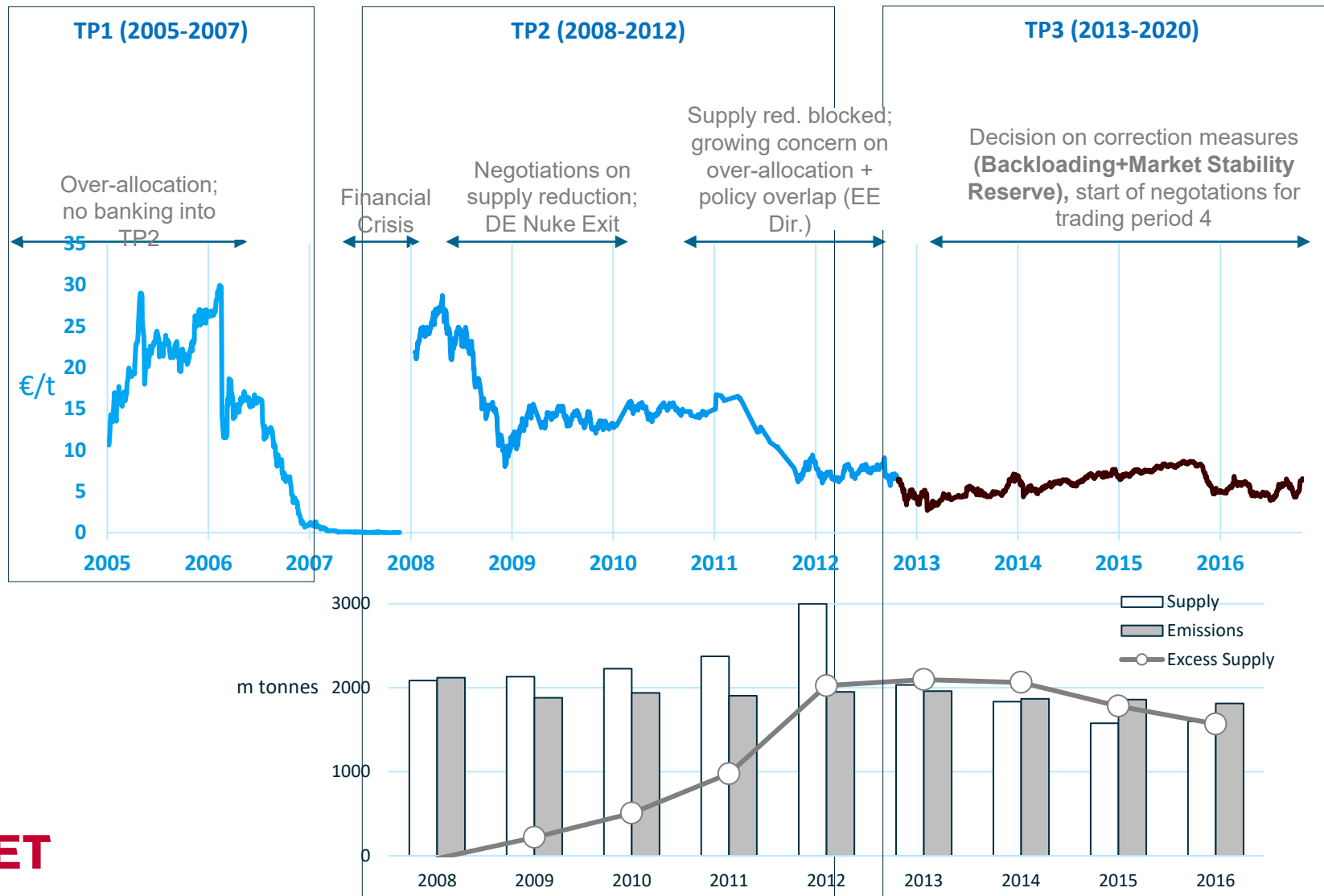
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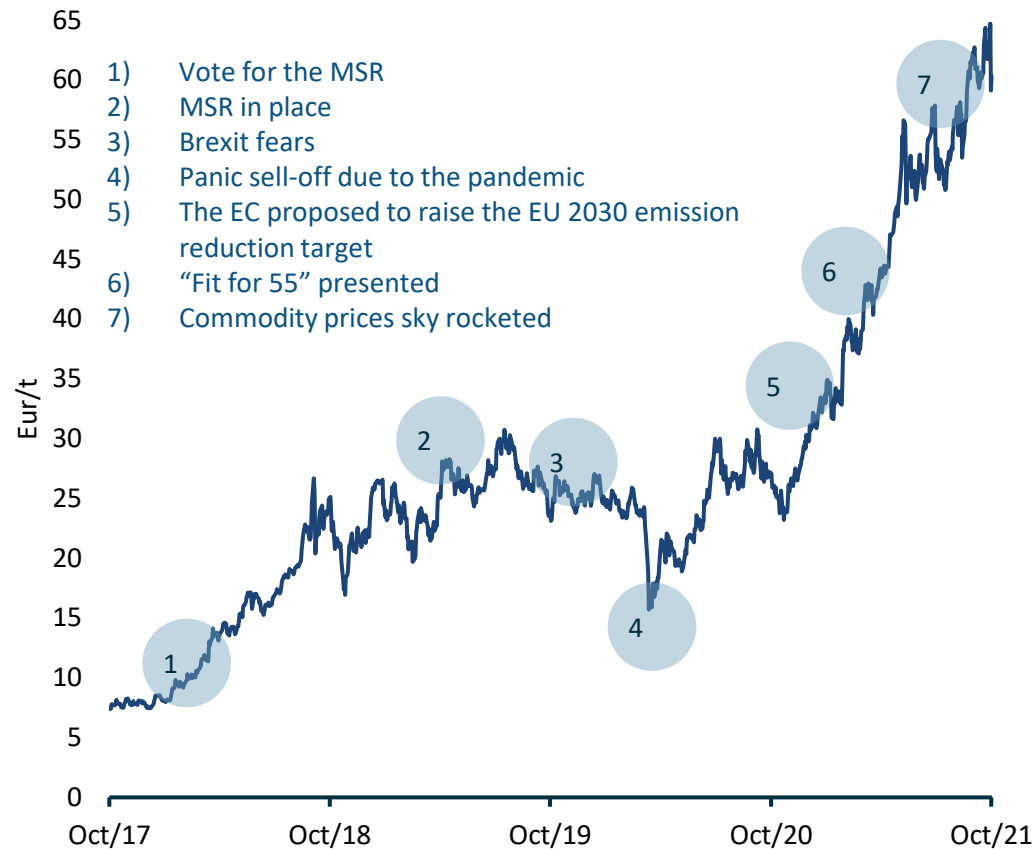
# Price development until 2017: Excess supply pulled down carbon price



- ... but decision to **backload 900m** certificates helped to stabilize the market
  - 2014: - 400mt
  - 2015: - 300mt
  - 2016: - 200mt
- And these certificates from backloading have been transferred into the **Market Stability Reserve**

# Reform of the EU ETS setting rules for Phase 4 substantially supported price development

## EUA price development



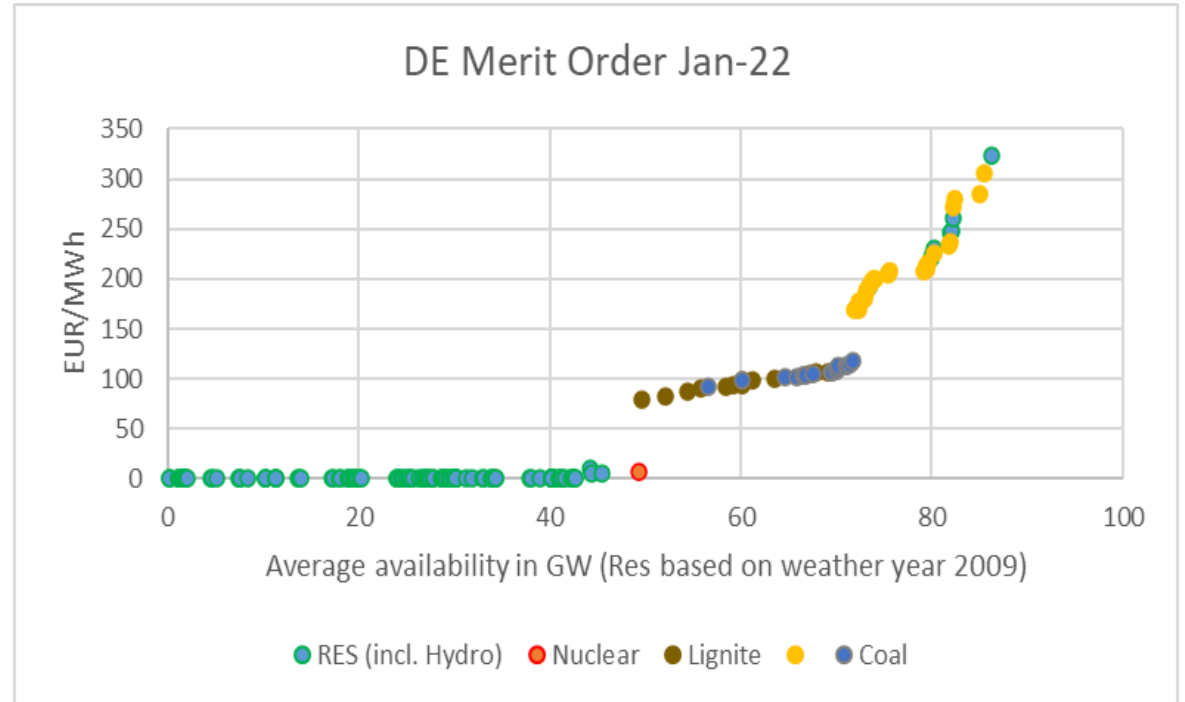
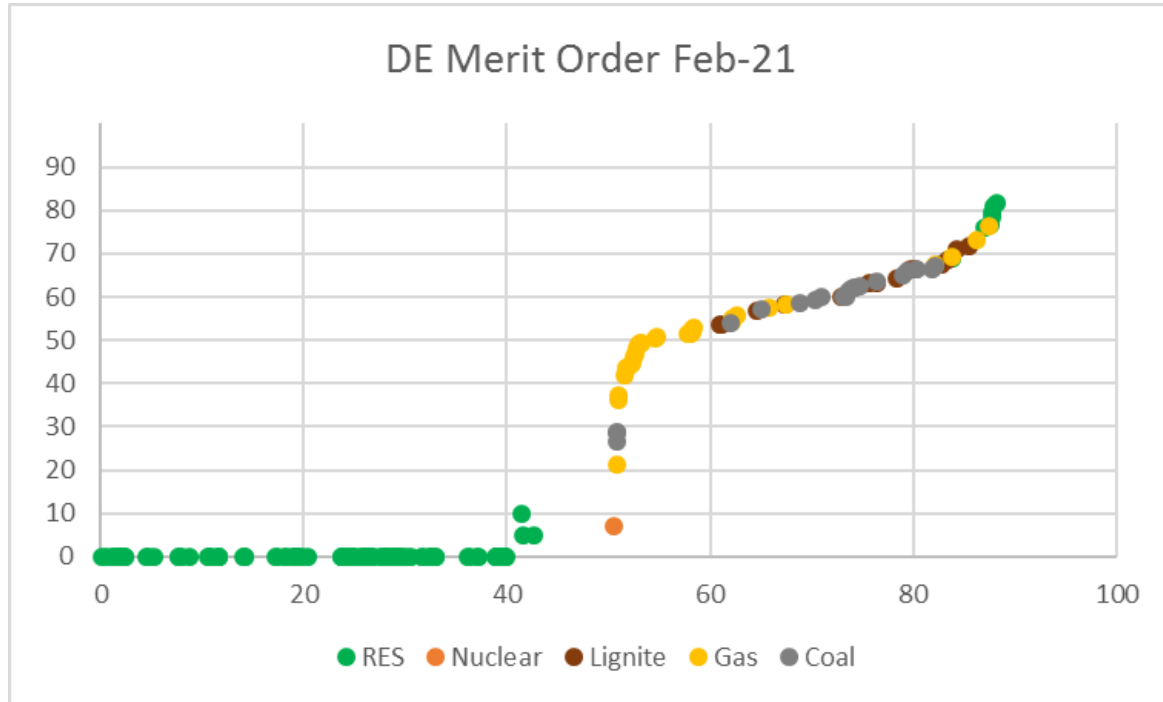
## Comments

- The idea behind the EU ETS is to give an explicit price to carbon to trigger energy transition;
- Since the market suffered lower prices and was criticized as not effective, regulators decided to introduce the Market Stability Reserve – a mechanism that is supposed to tackle the system’s largest issue: a massive oversupply;
- Since the vote, carbon prices have been generally in a rising streak, mostly due to the changed behavior of the market participants due to expectation of tightening the market.

# CO<sub>2</sub> emissions have become a key driver of variable costs of fossil power generation

Plant Type	Lignite	Hard Coal	Natural Gas
<b>Carbon Intensity</b> [t/MWh thermal input]	0.40	0.33	0.20
<b>Exemplary Plant Efficiency</b> [%]	35%	39%	55%
<b>Emissions per Unit Output</b> [t/MWh]	1.14	0.85	0.36
<b>Emission-related costs at ETS allowance price of 60 €/t</b> [€/MWh]	68.40	51.00	21.60

# Fundamental changes in the power sector in 2021



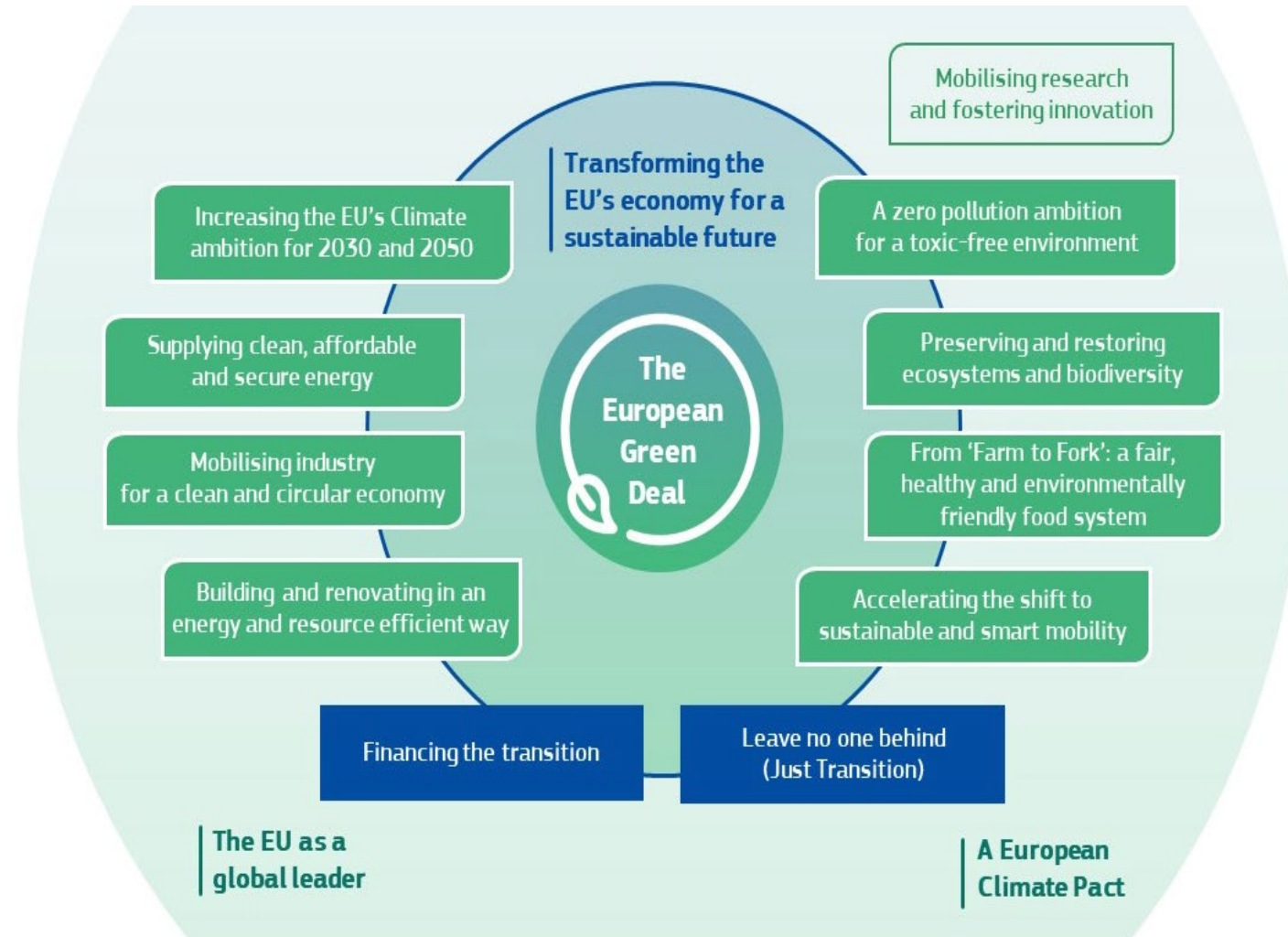
- Over the medium term, emissions in the EU ETS - stimulated by the price - must fall (as supply also falls)
- In 2021, the opposite has happened in the power sector so far: Fuel/CO<sub>2</sub> price movements have led to emission-intensive power plants becoming relatively more competitive and, as a result, emissions from the power sector are significantly higher than expected at the beginning of the year.

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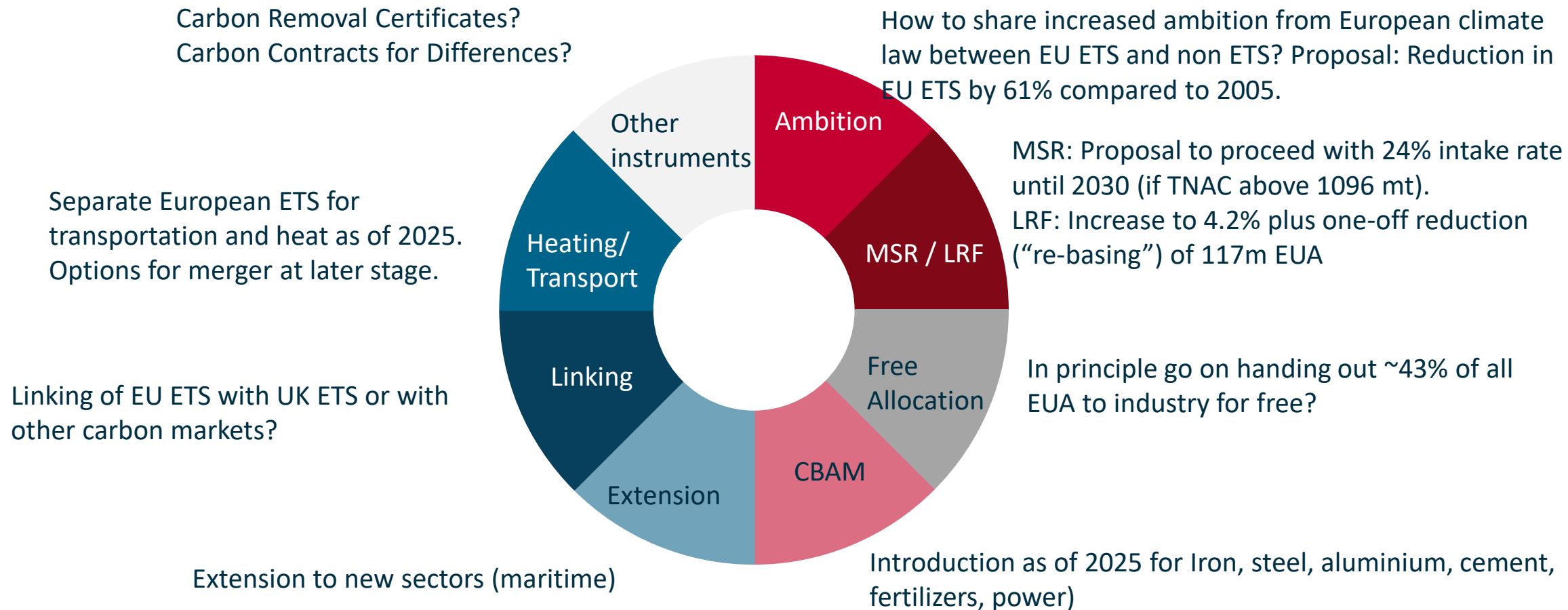
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# “European Green Deal” to increase climate ambition

- First European Climate Law, enshrining the 2050 climate-neutrality target into legislation
- Increasing the EU’s 2030 greenhouse gas emission reduction target from the current 40% to 55%
- Adopting various changes to many EU Directives in light of increased emission reduction targets (RED, EED, Taxation etc.)
- **In July 2021, EU KOM published draft proposals for reformed EU ETS Directive, which are currently under discussion**



# What will the reformed EU ETS Directive in the end look like?



# Key Aspects of EU ETS reform going forward



The nature of the EU ETS is that it **ensures** reaching set climate goals. Broadening the EU ETS with the extension of the EU ETS to other sectors (e.g. maritime) will further support this goal.



However, carbon leakage is an issue for European industry. Therefore, setting up a second ETS for transportation and heating sector makes sense to first gather experience with these sectors. Both ETSs could be merged at a later point of time.



EU ETS is the largest carbon market in the world. Linking with other markets would create a level playing field for industries and further increases the liquidity of the market.



CBAM could be an instrument to support extension of the EU ETS but potentially also to reduce free allocation.



EU should take into account overlap with other policies (RED/EED).



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