ERCST

European Roundtable on Climate Change and Sustainable Transition

Preparing the Review of the MSR

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Brussels – July 2, 2019

Preparing the review of the MSR – July 2nd meeting

- Agenda
  i. Overview of ERCST work on the MSR
  ii. Proposed outline of ERCST 'MSR review' paper
  iii. Key issues which emerged during last meeting and ERCST reflections
  iv. Analysis of the EC publication on the TNAC

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Recent ERCST work on the MSR

Meetings:

- October 2018 – implications of the Clean Energy Package targets
- February 2019 – conference call on the Market Stability Reserve
- March 2019 – stakeholder meeting “Preparing the review of the MSR”
- July 2019 – stakeholder discussion on the TNAC publication and the MSR

ERCST has more meetings planned for 2019:

- **October 8, 2019 – Presentation of ERCST draft paper on the MSR review**
- **November 19, 2019 – Launch of ERCST paper on the MSR review**

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Proposed outline of ERCST 'MSR review' paper

- Legal basis of the review: Article 3 of the MSR Decision
- Proposed structure of the MSR review, according to the goals of the MSR
- List of potential indicators to assess the performance of the MSR
- Evaluation of the MSR parameters taking into account the indicators' performance
- Analysis of potential new goals/functions of the MSR, if any

The legal basis for the MSR review

- **Article 3** of the MSR Decision (2015/1814):

The Commission shall monitor the functioning of the reserve in the context of the report provided for in Article 10(5) of Directive 2003/87/EC. That report should consider relevant effects on competitiveness, in particular in the industrial sector, including in relation to GDP, employment and investment indicators. ***Within three years of the start of the operation of the reserve and at five-year intervals thereafter, the Commission shall****, on the basis of an analysis of the orderly functioning of the European carbon market,* ***review the reserve and submit a proposal, where appropriate, to the European Parliament and to the Council.***

Each review shall pay particular attention to the percentage figure for the determination of the number of allowances to be placed in the reserve *pursuant to Article 1(5) of this Decision, as well as* ***the numerical value of the threshold for the total number of allowances in circulation and the number of allowances to be released from the reserve*** *pursuant to Article 1(6) or (7) of this Decision.*

In its review, the Commission shall also ***look into the impact of the reserve on growth, jobs, the Union's industrial competitiveness and on the risk of carbon leakage****.*

Structuring the 2021 review

Two goals of the MSR: addressing historical and new imbalances

- The MSR Decision highlights **2 goals of the MSR**:

  1. *eliminate the historical structural imbalance within a reasonable amount of time;*
  2. *bring the TNAC within range of the MSR thresholds in case of new events, within a reasonable amount of time and taking into account the MSR design assumptions*

- The review should analyse the effectiveness of the MSR in achieving these two goals

- Additionally, there is a **third goal** for the review mentioned in Article 3: *assessing the impact of the MSR on competitiveness*

Structuring the 2021 review
A third goal of the review: competitiveness

- **Not a goal of the MSR, but rather a goal of the MSR review**

- Reference to competitiveness in Article 3 of the MSR Decision:

"In its review, the Commission shall also look into the impact of the reserve on growth, jobs, the Union's industrial competitiveness and on the risk of carbon leakage."

- Competitiveness concerns also mentioned in Preamble (10):

"That report [… the Carbon Market Report] *should consider relevant effects on competitiveness, in particular in the industrial sector, including in relation to GDP, employment and investment indicators. The review should also look into the impact of the reserve on growth, jobs, the Union's industrial competitiveness and on the risk of carbon leakage."*

Structuring the 2021 review

Proposed structure of the review in 3 parts:

1. Effectiveness of the MSR in achieving the three **goals**, to be assessed through **indicators** for each goal
2. Evaluation of the current MSR **parameters** (intake rate; threshold levels; cancellation of allowances) based on the performance of the **indicators**
3. Assessing potential new **goals** of the MSR, if any

1. List of indicators to assess the MSR performance

Goal 1 – Eliminate the historical structural imbalance	**Goal 2 – Bring the TNAC within range of the MSR thresholds in case of new events**	**Goal 3 – Monitor the impact of the MSR on competitiveness**
Indicators for Goal 1: • TNAC for 2019-2021 • Estimated TNAC for Phase 3 compared to TNAC for 2019-2021	Indicators for Goal 2: • RES/EE achievements of MS in 2020 vs. 2020 targets • Yrs to absorb variation caused by RES/EE targets towards 2030 • Yrs to absorb variation caused by overlapping MS policies (e.g. coal phase outs) • Yrs to absorb variation caused by changes in economic growth • Cumulative impact of all the previous indicators for Goal 2 • Alignment of hedging strategies to MSR thresholds	Indicators for Goal 3: • Carbon leakage impact of EUA price (both direct and indirect costs) • Change in auction revenues for MS caused by the MSR • Implications of the MSR functioning on the innovation and modernisation funds

Source: ERCST, 2019

2. Performance of MSR according to the indicators

- **Under Goal 1**:
  - Assess if the TNAC declines at a sufficient pace, and if the reduction of the surplus accelerates in the years of the MSR operations (2019 to 2021) – absolute decline vs. pace of reduction

- **Under Goal 2**:
  - Compare the period needed for the MSR to absorb (future) imbalances caused by different sources (e.g. RES/EE targets, coal phase-outs, etc.), with the definition of "reasonable amount of time"

- **Under Goal 3**:
  - Assess the impact of EUA prices and of ETS-related costs on competitiveness, considering both negative and positive impacts

Potential new goals of the MSR

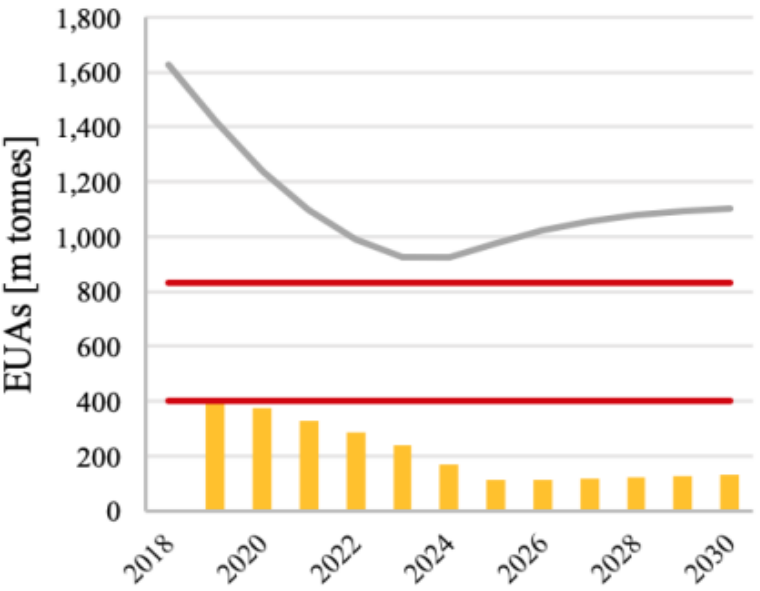
- The review should also discuss potential new functions and goals for the MSR, to assess the future-proofing of the MSR beyond 2021

- **Potential new goals/functions to be considered**:
  - New triggers for the MSR to start absorbing/releasing allowances, e.g. implementing price-based triggers instead of only volume-based ones?

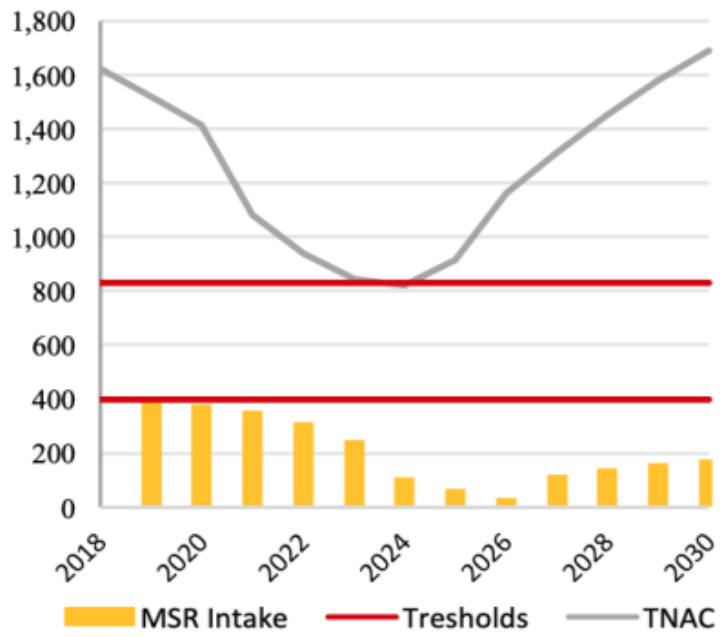
Preliminary remarks

- The MSR is expected to tackle the historical surplus on the market. Should the MSR also be resilient to every new source of imbalance?
- Reasonable to expect that the MSR shields the EU ETS from the effects of policies set at the EU level (e.g. RES/EE targets); more questionable if it should also absorb surpluses resulting from national policies (e.g. coal phase outs)

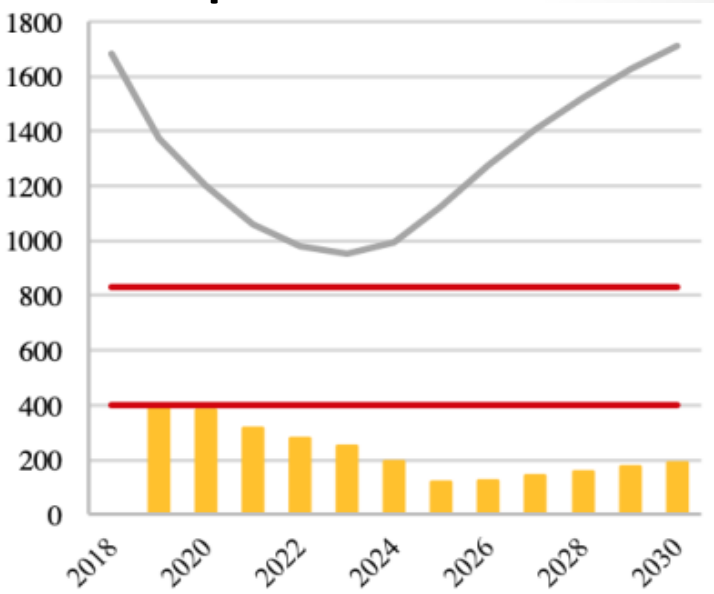
- **Different scenarios indicate that the TNAC will not be within thresholds up to 2030**:



Source: ERCST elaborations on the European Commission, 2018; and modelling by the Wegener Center, 2019



Source: ICIS, 2019



Source: ERCST assumptions and Sandbag modelling, 2019

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Key issues which emerged during last meeting

1. Definition of market balance
2. Definition of *reasonable amount of time* for the MSR to deal with market imbalances
3. Intertemporal efficiency of the EU ETS
4. Implications of the MSR on prices
5. Governance of the EU ETS: review and assessment clauses
6. Potential to include aviation demand in the TNAC
7. Role of cancellation mechanisms

Definition of market balance

- If the MSR is to make the EU ETS more resilient in relation to supply-demand imbalances, what is the definition of market balance?

- Market balance should be defined according to two elements:

  1. The **TNAC** being **within thresholds**, as defined by the MSR Decision
  2. Having a level of **market scarcity** in the EU ETS, both short-term and long-term, **to guarantee a price incentive** for ETS-sectors **to decarbonise**

  - Other definitions?

Definition of market balance: short-term vs long-term

- When talking about market balance, it is also important to consider the **difference between market scarcity in the short/medium-term, compared to market scarcity in the longer-term** (i.e. market balance in 2030 and thereafter)

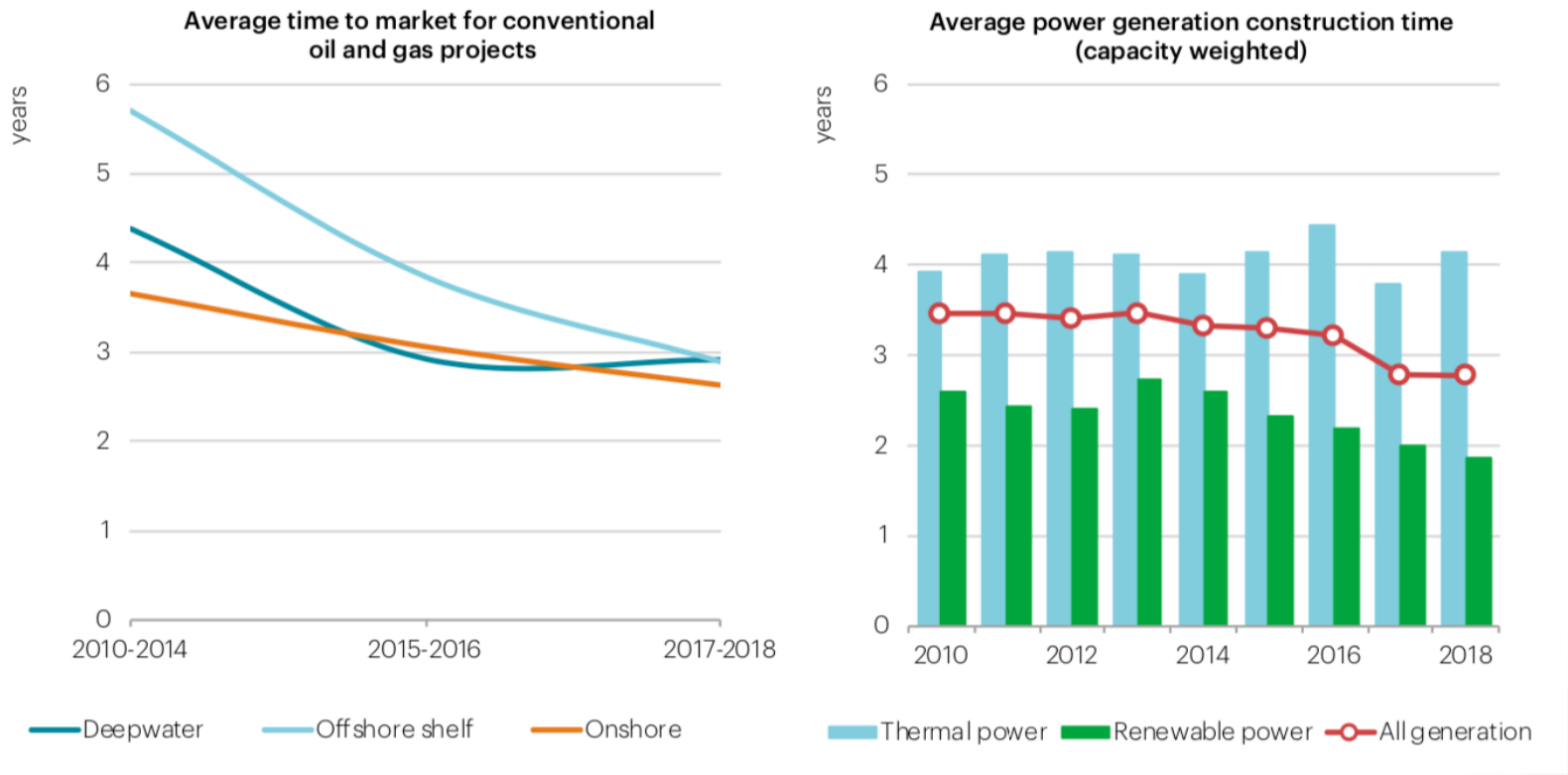
- The **recent ramp up in prices seem to have been driven primarily by short/medium-term expectations on the MSR functioning**: the combination of the MSR yearly intake rate and the cancellation of allowances starting from 2023 has an influence on the expectations of market participants, as well as on their hedging strategies

- **Expectations of increased market scarcity up to 2024 drives the recent increase in EUA prices, contributing to improved market balance in the short/medium term** *(according to the definition given)*

- However, **longer-term market balance towards 2030 remains uncertain**, as shown by some price forecasts which indicate a depression of EUA prices towards 2030 (e.g. ICIS, 2019), as well as by models indicating a significant increase of the TNAC towards 2030

Definition of reasonable amount of time

- **What is the 'reasonable amount of time' for the MSR to deal with market imbalances?**
  - **3-5 years**, i.e. average time for businesses to take investment decisions.
  - This is confirmed by the 2019 'World Energy Investment' Report by the IEA:



Definition of reasonable amount of time

- In the past decade, there has been a **shift towards energy projects with shorter lead times**
- Companies are investing in projects delivering results faster, **to reduce exposure to long-term uncertainties and limit capital risks**
- The MSR should be able to respond to this changing environment, reacting in a timely manner to market imbalances, both historical and new ones: **the MSR should meet its goals fast enough (3-5 years max.), in order to always provide the correct price signal for final investment decisions**

Does the MSR improve the intertemporal efficiency of the EU ETS?

- At the time of its design, one of the intentions of the legislators was for the MSR to improve the EU ETS intertemporal efficiency: *striking the right balance between current and future use of permits, limiting excessive banking of permits*

- This is (theoretically) done thanks to the role of the MSR in:
  1. **Increasing price credibility**, both today and in the future, compared to a scenario with no MSR in place – reducing the cumulated cap, raising EUA prices, and incentivising early on investments to cut emissions
  2. **Improving the responsiveness of the EU ETS to changing economic and market circumstances**, making it more reactive to different sources of imbalance

Does the MSR improve the intertemporal efficiency of the EU ETS?

… and in practice?

- Actors under the EU-ETS behave consistently with intertemporal cost minimisation (Quemin, Trotignon, 2019), with an impact on investment patterns
- **As the MSR resulted in higher prices, it could incentivise in low-carbon investments: positive impact on the EU ETS intertemporal efficiency**, given that low costs of compliance during earlier trading periods led stakeholders to partially postpone investments on CO2 abatement
- However, some models signal the possibility for the MSR to *paradoxically* decrease the EU ETS intertemporal efficiency (Rosendahl): in case future additional abatement policies are announced, this could create expectations of a less tight market in the future, decreasing incentives to bank allowances, and leading market participants to increase emissions today
- Furthermore, the MSR role in improving the EU ETS responsiveness to new shocks seems limited: **the MSR will curb past excess supply, yet it is expected to have little effect on future permit demand shocks** (e.g. new recession, fast-paced renewable deployment, etc.)

Implications of the MSR on prices

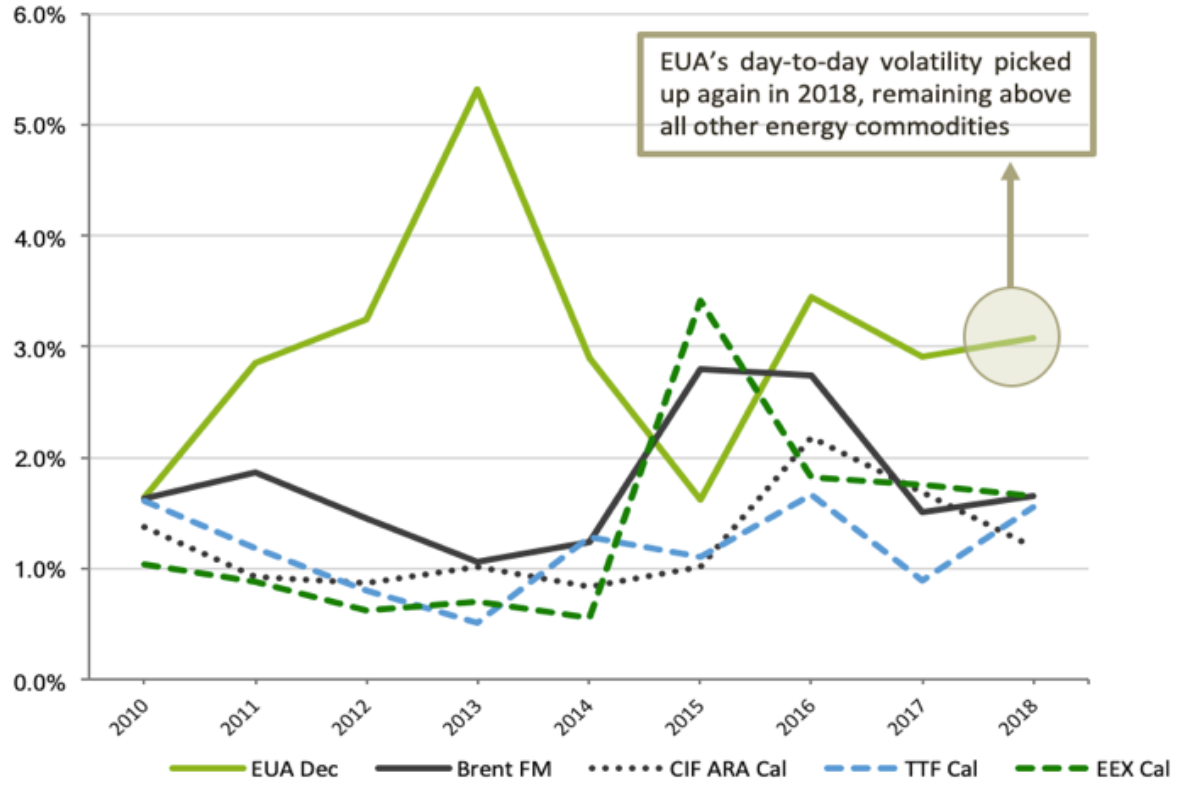
What implications of the MSR on EUA prices have we seen recently?

1. **Increase of price volatility**, due to the expectation among market players that a smaller cushion of surplus supply will make prices more sensitive to demand-side changes (S&P Platts, 2019)
2. **Increase of price levels** to well above €20/t, enabling the EU ETS to contribute to coal-to-gas switching as well as providing a stronger incentive for stakeholders to decarbonise

- Other aspects worth analysing?

Implications of the MSR on prices: volatility

- In 2018, volatility remained high compared to other commodities, picking up after a decrease between 2016-17: this can be a disincentive for some stakeholders who need stable price signals to finalise FDIs on future projects.



Source: ICIS elaborations on ICE, Platts and EEX, 2019

Implications of the MSR on prices: volatility

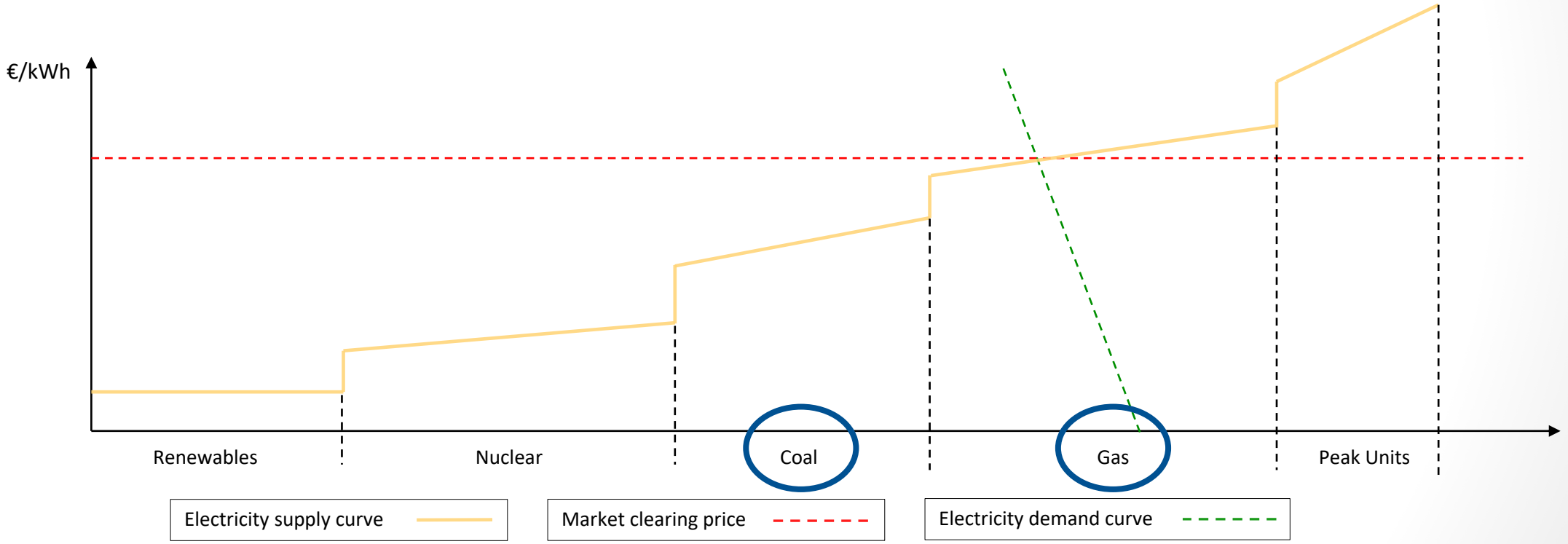
- **Is the MSR affecting price volatility? How?**

- Aspects worth considering:
  - **The MSR acts with a time lag, does this influence volatility?** Due to the design of the 'MSR calendar', the withdrawal rate for the first 8 months of the current year is based on the TNAC value of two years before (e.g.: withdrawal rate for January-August 2019 is based on the TNAC in 2017)
  - **Do changing hedging strategies influence volatility?** The MSR is a volume-based instrument, and its thresholds were set according to expectations on future hedging strategies at the time of the MSR Decision (2015)
  - **Does the increase in market scarcity caused by the MSR lead to more speculation?** Expectations on the market functioning with the MSR have repercussions on the behaviour of market players

Other aspects to consider?

Implications of the MSR on prices:
Changing the merit order curve for power prices

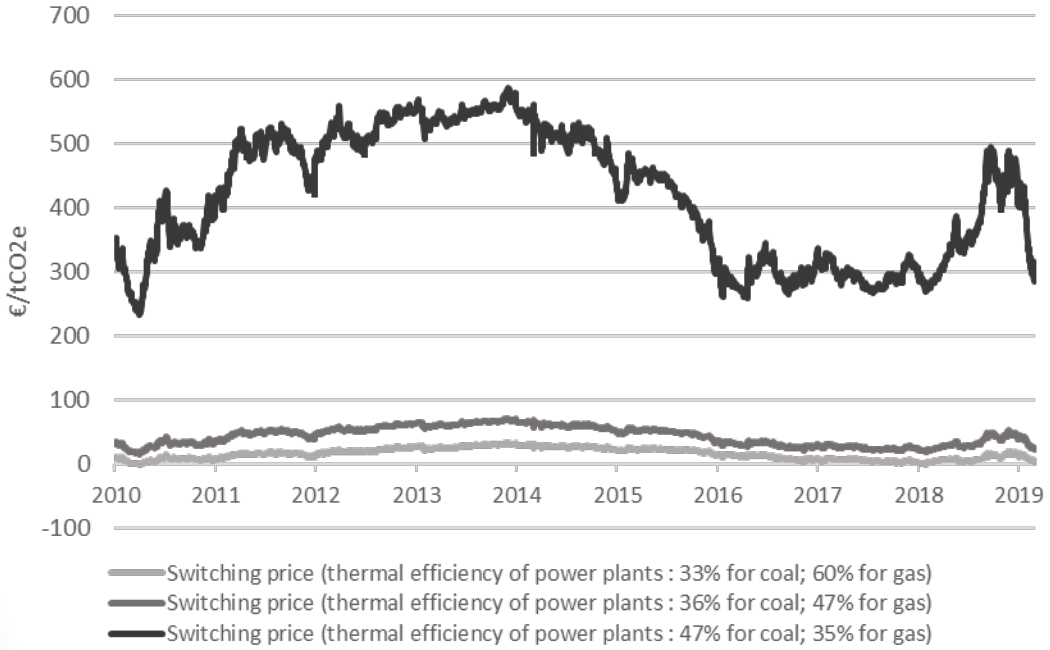
- Hypothetical merit order curve with **EUA prices below coal-to-gas switching price** (Country example: Belgium)
- *Efficiency of coal and gas plants not taken into account for visual representation*

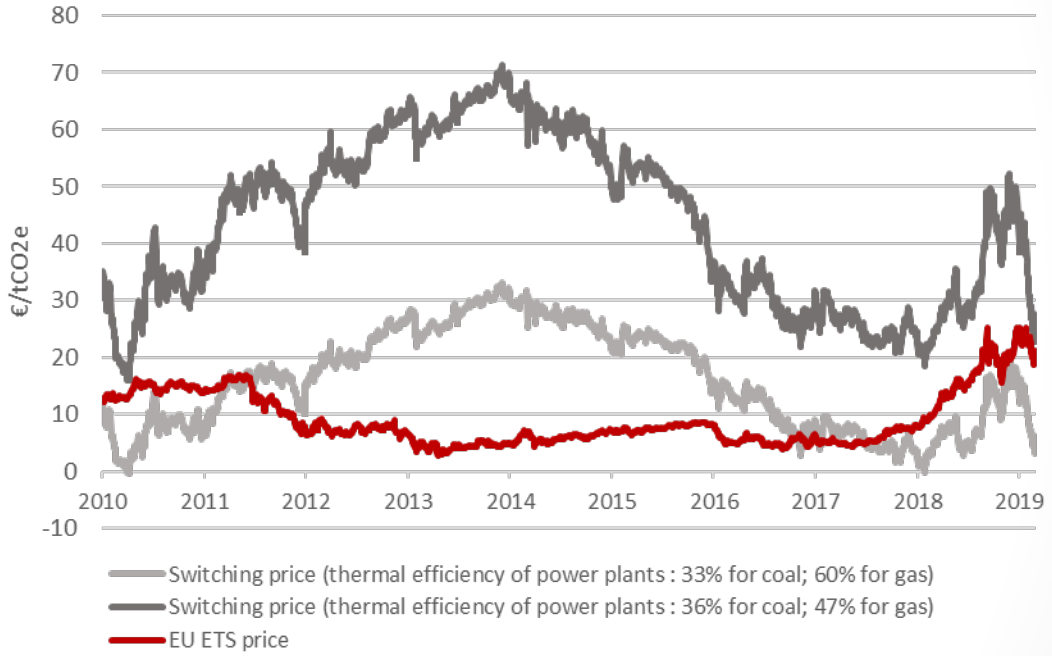


Source : ERCST elaborations based on Next Kraftwerke (Belgium)

Implications of the MSR on prices:
Changing the merit order curve for power prices

- CO_2 switching price for different coal and gas power plants efficiencies, in comparison with EU ETS price





In 2018, the EU ETS price was above **minimum switching price levels** **100%** of the time*
In 2017 and 2016, this proportion was respectively **53%** and **5%**

Source : I4CE, with data provided by ICIS (EU ETS prices, CIF ARA API2 prices, and TTF prices). Other data sources are : Banque de France for the conversion dollars/euros, IPCC Guidelines and Eurostat for the CO_2 content of gas and coal used for power generation in the EU. Average efficiencies of power plants are based on WEC database of energy efficiency indicators, minimum and maximum values on JRC study.

** Calculated over working days*

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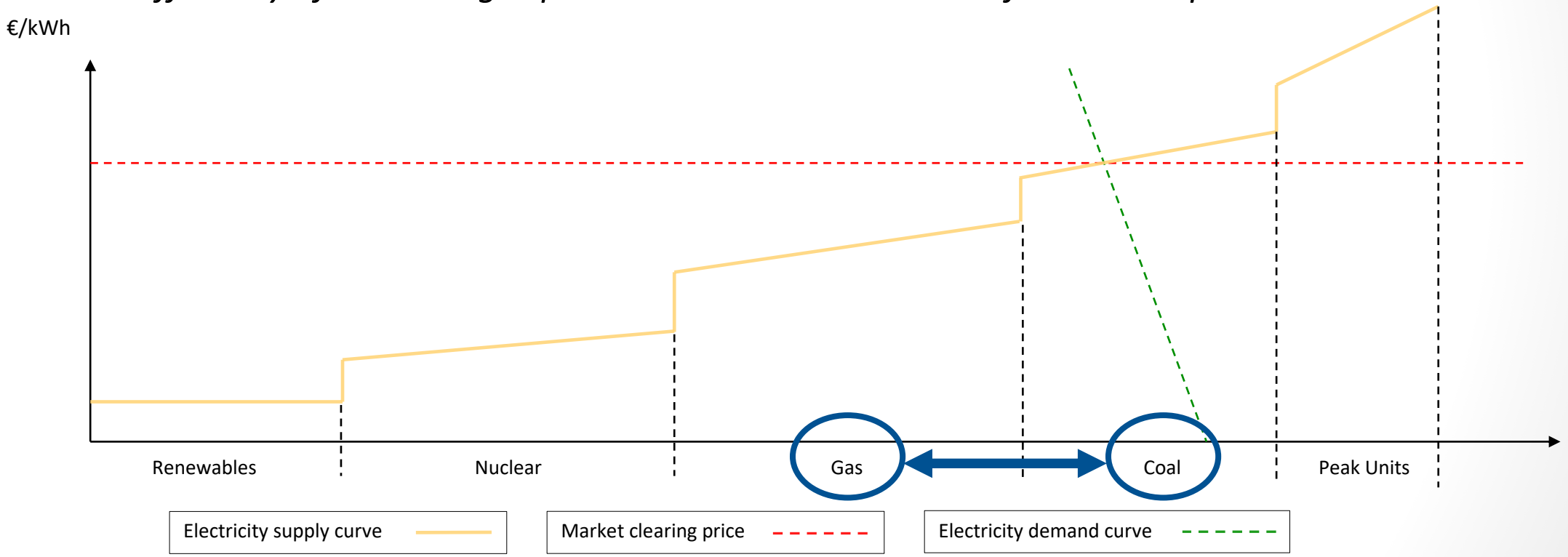


Source : ERCST elaborations based on Next Kraftwerke (Belgium)

Governance of the EU ETS: review and assessment clauses

Apart from the MSR reviews in 2021 and 2026, **what are the governance mechanisms to adjust the EU ETS in the coming years?**

- **Article 30, EU ETS directive** – review clause:

> *The Commission shall report to the European Parliament and to the Council in the context of each global stocktake agreed under the Paris Agreement, in particular with regard to the need for additional Union policies and measures in view of necessary greenhouse gas reductions by the Union and its Member States, including in relation to the linear factor referred to in Article 9. The Commission may make proposals to the European Parliament and to the Council to amend this Directive where appropriate.*

- Global Stocktakes under the PA during the EU ETS Phase 4: **2023 and 2028**

Governance of the EU ETS: review and assessment clauses

- **Article 29, Governance of the Energy Union regulation** – assessment clause

  By 31 October 2021 and every two years thereafter, the Commission shall assess …: the overall impact of the policies and measures included in the integrated national energy and climate plans on the operation of the European Union's emission trading system (EU ETS) and on the supply-demand balance of allowances in the European carbon market.

- Assessment requirements under Article 29, throughout EU ETS Phase 4: **2021, 2023, 2025, 2027, 2029**

- To conclude: there are **many opportunities to adjust the EU ETS framework**, by proposing changes to either the LRF, the cap, or the MSR design parameters
- **However, such changes would still require interinstitutional negotiations:** no existing governance mechanism allows for automatic adjustments of the EU ETS framework

Potential to include aviation in the calculation of the TNAC

- Aviation emissions are currently not considered in the calculation of the TNAC
- According to preliminary data available, in 2018 allocated allowances for aviation amounted to 29,188,790 allowances, whereas the sector had verified emissions for 62,474,269 allowances: net deficit of **- 33,285,479 allowances** (EU, TL 2019)
- Intra-EEA flights airlines' emissions increased by 5.7 % in 2018, compared to 2017 levels
- **Including aviation emissions in the TNAC?**
  1. The inclusion of aviation emissions in the calculation of the TNAC could help increasing market stringency only from a statistical viewpoint
  2. However, this could send a signal that the sector is no longer seen as being "separate" from other ETS-sectors

Managing policy overlaps with auction cancellation by MS

- Unilateral actions by Member States under a cap-and-trade system could potentially undermine the effectives of the system itself:
  - more mitigation in one jurisdiction might lead to less mitigation in other jurisdictions (risk of intra-EU leakage, and so-called **waterbed effect**)
  - price of allowances could collapse (e.g. due to closure of coal power plants, reducing demand for permits), damaging the confidence of stakeholders in the system

- To avoid these negative effects, it is important that the **impact of overlapping policies on the market** is duly taken into account.
- This is the aim of **Article 12.4 of the EU ETS Directive**:

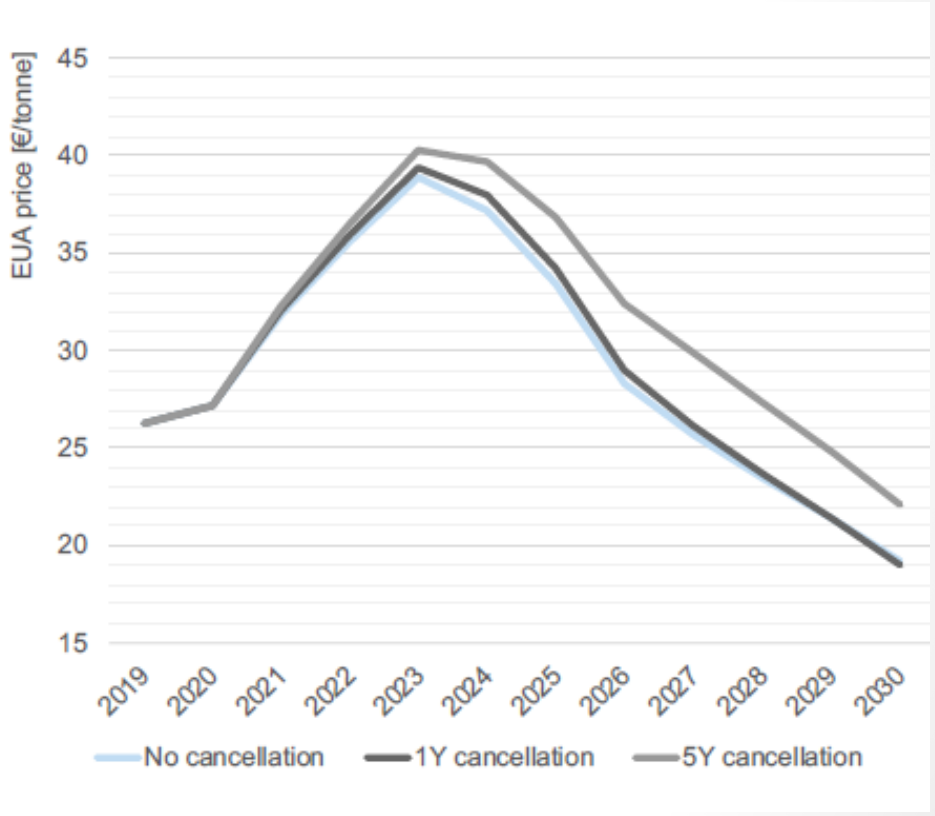
" In the event of closure of electricity generation capacity in their territory due to additional national measures, Member States may cancel allowances from the total quantity of allowances to be auctioned by them referred to in Article 10(2) up to an amount corresponding to the average verified emissions of the installation concerned over a period of five years preceding the closure."

Managing policy overlaps with auction cancellation by MS

- Article 12.4 foresees the **cancellation of allowances** to be auctioned **as a voluntary decision by MS**
- In the coming years, clarifications about the amount and timing of cancellation decided by MS will be needed, to estimate the potential impact of overlapping policies on the EU ETS

- Example: the case of the German coal phase-out, the EU ETS impact will depend on whether and how much the effect gets compensated (ICIS, 2019) :
  - None or very limited cancellations of the coal phase-out effect would have a impact on EUA prices with a decrease of €3-5/tonne
  - A scenario assuming a five year cancellation have a more limited impact on EUA prices

Scenarios around the German coal phase-out – cancellation



Source: ICIS, 2019

Preliminary remarks

- **The MSR is working in the short/medium term**, improving the market balance, the EU ETS intertemporal efficiency (at least compared to a scenario with no-MSR in place), and the short/medium term price credibility of the EU carbon market

- Many open questions remain when looking at the longer-term: **existing modelling scenarios agree that the MSR will not bring the TNAC within thresholds towards 2030**

- Towards the MSR review in 2021, it needs to be understood **what is feasible to expect from the MSR and what not: should the MSR be seen as the EU ETS silver bullet?**

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European Commission annual publication of the TNAC – what news?

- The TNAC for 2018 is: **1,654,909,824** allowances. This is a slight increase from 2017, when the TNAC was 1,654,574,598 allowances (EC data)

- The TNAC for 2018 is higher than most analysts' expectations, probably reflecting the sharp drop in emissions which occurred last year (- 4%)

- In line with the MSR design rules, the MSR will reduce auctioning by **397,178,358** allowances over a 12-month period (from 1 September 2019 to 31 August 2020) – also a higher reduction than most analysts' expectations (Carbon Pulse)

European Commission annual publication of the TNAC – what news?

- *Why is supply consistently below the cap?*
- Supply in 2015-2016-2017 was at ca. 90% of the cap, according to EEA data (**backloading not included**)
- The year-to-year increase of the TNAC between 2017 and 2018 amounted to 335,226 allowances. However, **supply was still significantly below the cap also in 2018, reaching approximately 88% of the cap**
- **With supply at 100% of the cap, the TNAC increase in 2018 would have been even larger** (ca. 217 million allowances more – *ERCST estimate based on EC data*)
- Reasons for this? What is the actual use of the different reserves? What are the assumptions on supply in the different modelling scenarios?

Thank you for your attention

1. List of indicators to assess the MSR performance

Goal 1 – Eliminate the historical structural imbalance	**Goal 2 – Bring the TNAC within range of the MSR thresholds in case of new events**	**Goal 3 – Monitor the impact of the MSR on competitiveness**
Indicators for Goal 1: • TNAC for 2019-2021 • Estimated TNAC for Phase 3 compared to TNAC for 2019-2021	Indicators for Goal 2: • RES/EE achievements of MS in 2020 vs. 2020 targets • Yrs to absorb variation caused by RES/EE targets towards 2030 • Yrs to absorb variation caused by overlapping MS policies (e.g. coal phase outs) • Yrs to absorb variation caused by changes in economic growth • Cumulative impact of all the previous indicators for Goal 2 • Alignment of hedging strategies to MSR thresholds	Indicators for Goal 3: • Carbon leakage impact of EUA price (both direct and indirect costs) • Change in auction revenues for MS caused by the MSR • Implications of the MSR functioning on the innovation and modernisation funds

Source: ERCST, 2019

List of key issues

1. Definition of market balance
2. Definition of *reasonable amount of time* for the MSR to deal with market imbalances
3. Intertemporal efficiency of the EU ETS
4. Implications of the MSR on prices
5. Governance of the EU ETS: review and assessment clauses
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7. Role of cancellation mechanisms