

ERCST

European Roundtable on
Climate Change and
Sustainable Transition

Preparing the Review of the MSR

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(1)

Preparing the review of the MSR – outline

1. Background

- i. ERCST work on the MSR
- ii. Overview of the MSR

2. Structuring the 2021 review

- i. Introduction to the MSR review
- ii. Analysing the MSR performance
- iii. Evaluation of the MSR parameters
- iv. Potential new goals of the MSR

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Recent ERCST work on the MSR

- October 2018 – meeting on the impact of the new Clean Energy Package targets on the EU ETS
- February 2019 – conference call on the Market Stability Reserve
- March 2019 – meeting on the 2021 MSR review

- ERCST has more meetings planned for 2019:
 - **June 12, 2019**
 - **September 19, 2019**
 - **Launch of ERCST paper on the MSR review: November 2019**

- Goal: produce a paper on the MSR review through discussions with stakeholders

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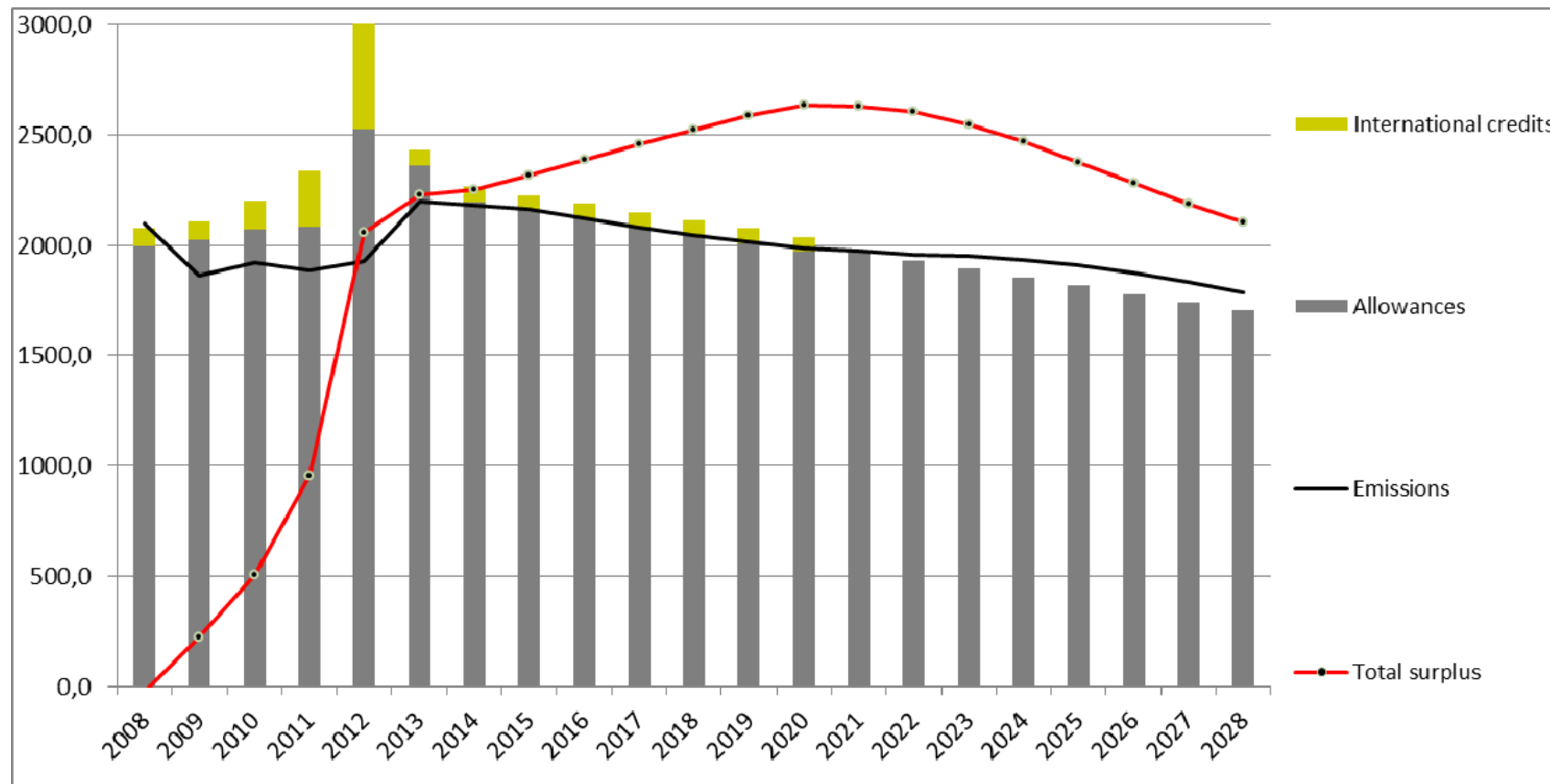
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Overview of the MSR

- The functioning of the EU ETS has long been impacted by a structural surplus of emission allowances
- 2014-2016: **backloading** of 900 million EUAs (temporary measure)
- The impact assessment accompanying the MSR Decision indicated that the surplus would not go away, and without further measures it would remain at around **2 billion allowances throughout Phase 4**
- **As a long-term solution to fix the EU ETS demand-supply imbalance, a Market Stability Reserve (MSR) was adopted in 2015, to start operating in January 2019**

Why was the MSR necessary?

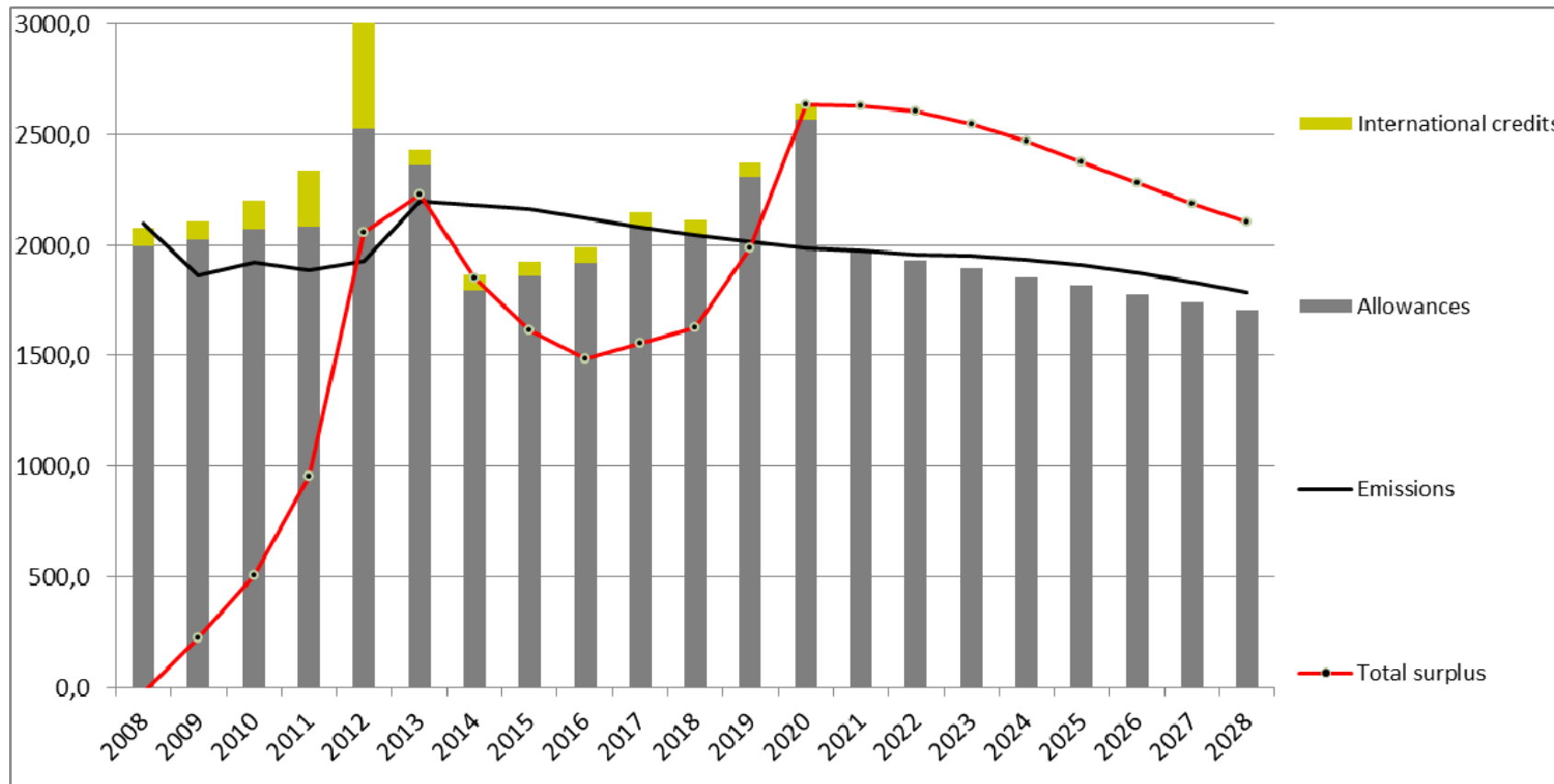
Projected surplus without additional measures



Source: EC, MSR impact assessment (2014)

Why was the MSR necessary?

Projected surplus with backloading



Source: EC, MSR impact assessment (2014)

Overview of the MSR

How does the MSR works?

- Unallocated allowances due to backloading have been transferred to the MSR
- **MSR designed to release/absorb allowances to/from the market according to some pre-set thresholds:**
 1. 100 million allowances to be released from the MSR if the total number of allowances in circulation (TNAC) is below 400 million EUAs;
 2. fixed percentage of TNAC to be placed in MSR if TNAC is above 833 million EUAs (intake rate of 24% until 2023, 12% afterwards).
- **From 2023, yearly invalidation of allowances** above the number of allowances auctioned the year before, to cancel part of the cumulative surplus of EUAs held in the MSR

What are the goals of the MSR?

Mentioned in the Preambles of the MSR Decision

Preamble (4):

- *“The report from the Commission to the European Parliament and to the Council on the state of the European carbon market in 2012 identified the need for measures in order to **tackle structural supply-demand imbalances**”.*

Preamble (5):

- *“In order to address that problem and **to make the EU ETS more resilient in relation to supply-demand imbalances**, so as to enable the EU ETS to function in an orderly market, a market stability reserve (the ‘reserve’) should be established in 2018 and it should be operational as of 2019. The reserve will also **enhance synergy with other climate and energy policies**”.*

What are the goals of the MSR?

Two goals:

- 1. Eliminate the historical structural supply-demand 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 (RES/EE targets, hedging strategies, economic trends etc.)**

Measure of success for the MSR:

- Under goal 1, eliminating the historical structural surplus within a reasonable amount of time
- Under goal 2, making the EU ETS more resilient by eliminating any new supply-demand imbalance which might emerge in the future, within a reasonable amount of time. This includes, but is not limited to, surpluses caused by the effects of policy overlaps

Two goals of the MSR:

Goal 1 – eliminate the historical structural imbalance within a reasonable amount of time

Interpreting Goal 1

What is the “historical structural imbalance”?

- Tentative definition: *the inherited surplus that **could not be dealt with by the market itself within a reasonable amount of time***
- Measure of success for the MSR: *a reduction of the historical surplus which takes place at a faster pace than the market dynamic without the MSR*

Problem with the interpretation:

- **What is a reasonable amount of time?** What reduction pace do we judge to be sufficiently fast?

Two goals of the MSR:

Goal 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

Interpreting Goal 2:

- The MSR should bring the TNAC back within range of the thresholds in case of **imbalances emerging as a result of new events**
- If the MSR design assumptions change significantly (RES/EE targets, hedging, economic assumptions etc.) then the MSR parameters would need to be adjusted accordingly
- This second goal includes a sub-goal of the MSR, which is to *“enhance the EU ETS synergy with other climate and energy policy”*

The role of the MSR in tackling future surpluses seems to be indicated also by the EC:

- According to the EC’s website, the MSR should
 - (1) “address the **current surplus** of allowances; and
 - (2) **improve the system’s resilience to major shocks** by adjusting the supply of allowances to be auctioned”

Problem with the interpretation: again, definition of *reasonable amount of time*

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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

- The MSR Decision highlights **2 goals of the MSR**:
 1. *eliminate the historical structural imbalance;*
 2. *bring the TNAC within range of the MSR thresholds in case of new events, 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 target** for the review mentioned in Article 3: *assessing the impact on competitiveness*

A third target 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

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

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Analysing the MSR performance

Finding the right indicators

- List of potential indicators to assess each of the 3 goals
- **Why?** To provide a deeper analysis than simply looking at the trajectory of the TNAC: the analysis of the TNAC does not tell us the origin of the potential sources of imbalance
- *Points to be discussed:* ways for operationalising the indicators, i.e. how to practically assess the MSR performance
- **The intention is to have a list of indicators to monitor towards 2021**

Goal 1: Eliminate the historical structural imbalance

Indicator 1.A

Evolution of the total number of allowances in circulation (TNAC) for the period 2019-2021, i.e. since the start of the MSR

- *Assessment: if the TNAC value has declined, this should reveal the correct functioning of the MSR and a reduction of the surplus of allowances on the market*

Indicator 1.B

Compare the evolution of the TNAC 2019-2021 with the estimate of the TNAC for the previous years of Phase 3

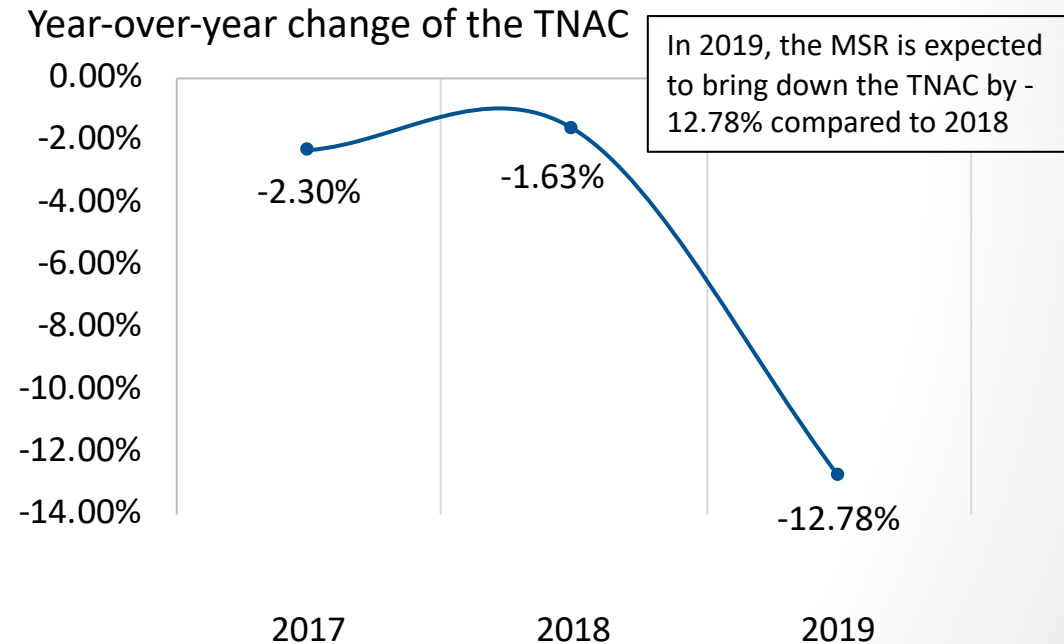
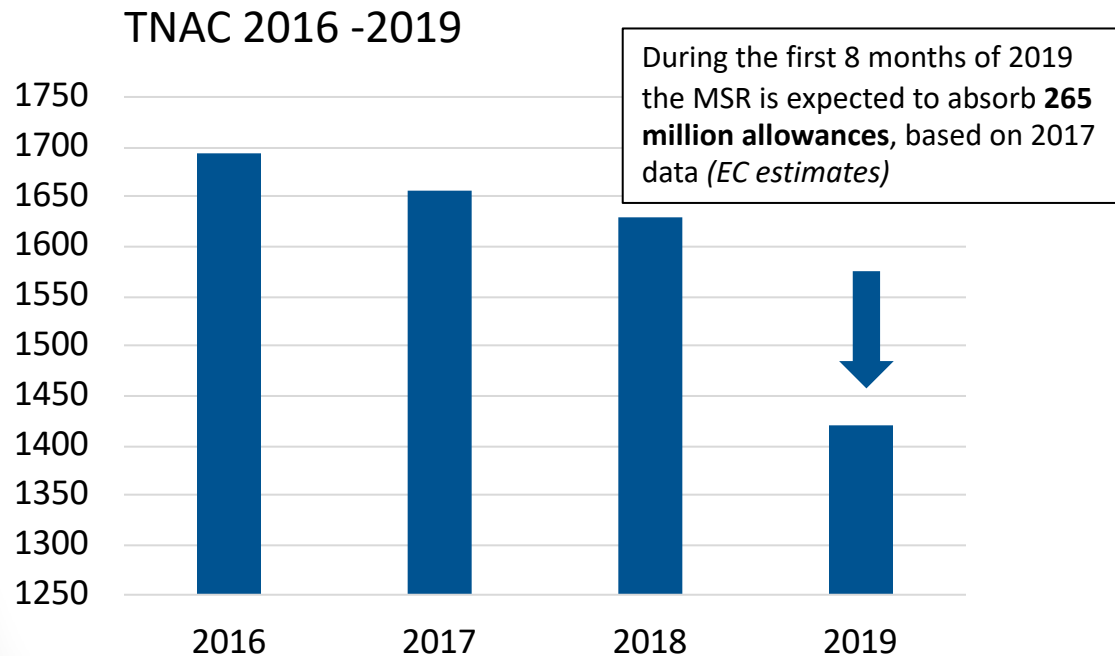
- *Assessment: Comparison of the trajectory of the surplus before and after the MSR. If the reduction of the surplus **accelerated** in the years 2019-2021, this would show a positive impact of the MSR on the market imbalance. The assessment of indicator 1.B should focus on the pace of reduction*

Goal 1: Eliminate the historical structural imbalance

$$\text{TNAC} = \text{Supply} - (\text{Demand} + \text{allowances in the MSR})$$

Year	2016	2017	2018*	2019*
TNAC	1'694	1'655	1'628	1'420

* 2018 and 2019 are estimates



Source: ERCST elaborations on projection by the EC (in-depth analysis of 'a clean planet for all', PRIMES 2018) and modelling by the Wegener Centre (2019).

Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events

Indicator 2.A

Number of years it would take the MSR (given the intake rate) to absorb the potential variation of emissions in EU ETS sectors caused by **RES/EE achievements until 2020** – comparison of the EU 2020 targets for RES/EE with the actual achievements of MS in 2020 (overachievement = oversupply)

- Assessment: *Compare the period needed for the MSR to absorb the potential imbalance caused by RES/EE achievements in 2020 with the definition of “reasonable amount of time”*

Indicator 2.B

Number of years it would take the MSR (given the intake rate) to absorb the potential variation of emissions in EU ETS sectors caused by **new RES/EE targets towards 2030**. This could be done through a stress test, checking the resilience of the MSR against the new targets

- Assessment: *Compare the period needed for the MSR to absorb the potential imbalance caused by 2030 RES/EE targets with the definition of “reasonable amount of time”*

Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events

Indicator 2.C

Implications of **MS policies** with an impact on EU ETS sectors — **the example of coal phase-outs:**

Number of years it would take the MSR (given the intake rate) to absorb the potential variation of emissions in EU ETS sectors caused by **MS coal phase-outs until 2021**, as opposed to announced phase-outs at the time of the MSR design

Assessment: Compare the period needed for the MSR to absorb the potential imbalance caused by additional coal phase-outs until 2021 with the definition of “reasonable amount of time”

Indicator 2.D

Number of years it would take the MSR (given the intake rate) to absorb the potential variation of emissions in EU ETS sectors caused by **newly announced coal phase outs towards 2030**. This could be done through a stress test, checking the resilience of the MSR against new phase-out plans

Assessment: Compare the period needed for the MSR to absorb the potential imbalance caused by newly announced phase-outs towards 2030 with the definition of “reasonable amount of time”

Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events

Indicator 2.E

Number of years it would take the MSR (given the intake rate) to absorb the potential variation of emissions in EU ETS sectors caused by **variations in economic growth until 2021** – comparison of the actual GDP growth rate between 2019 and 2021 with the GDP forecasts made by the EC in the MSR impact assessment

Assessment: Compare the period needed for the MSR to absorb the potential imbalance caused by variations in economic growth until 2021 with the definition of “reasonable amount of time”

Indicator 2.F

Number of years it would take the MSR (given the intake rate) to absorb the **cumulative impact of the 5 previous indicators** (2.A to 2.E) on emissions in EU ETS sectors

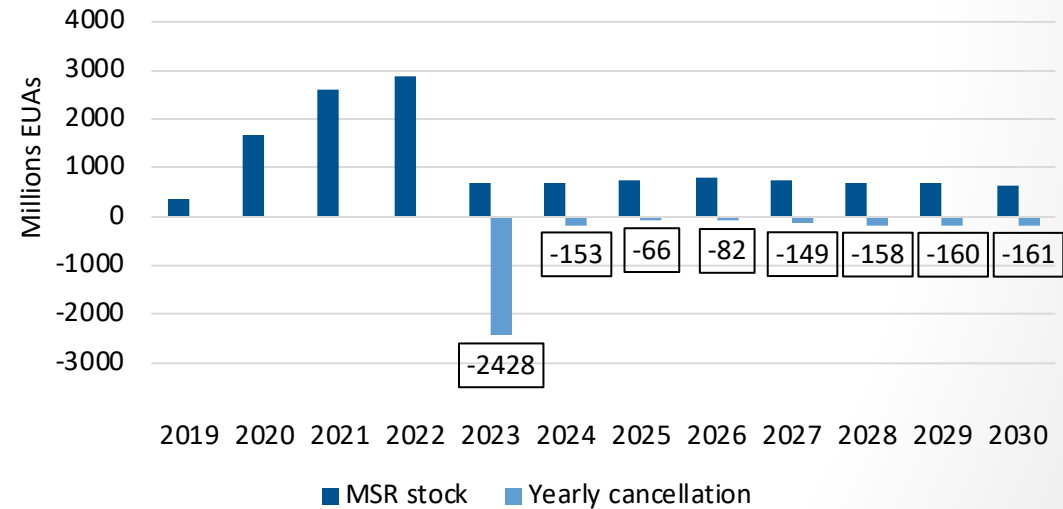
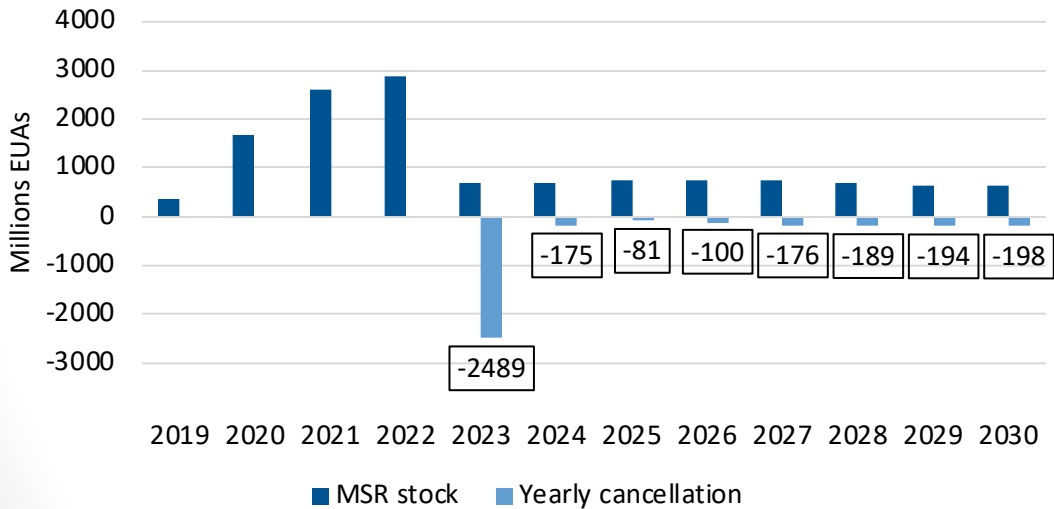
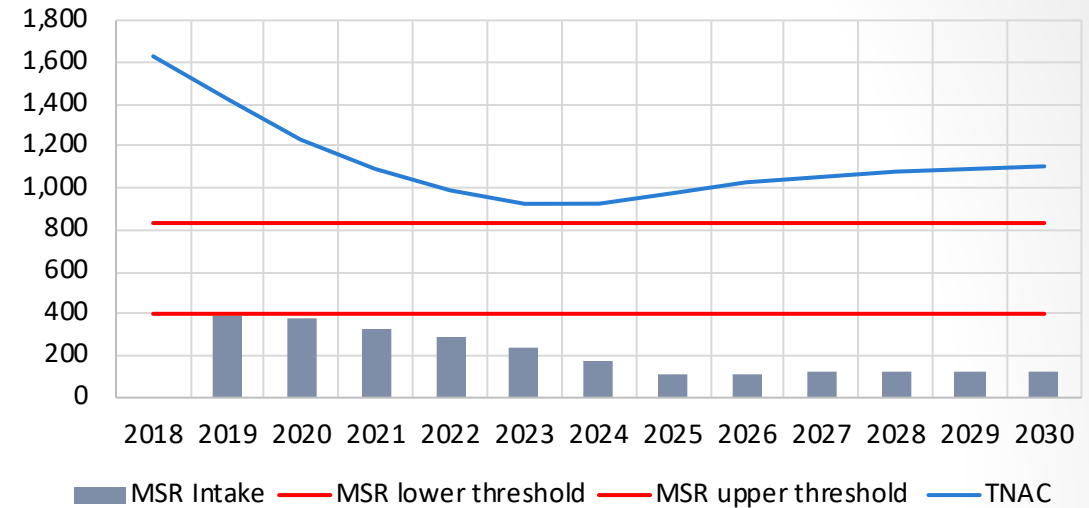
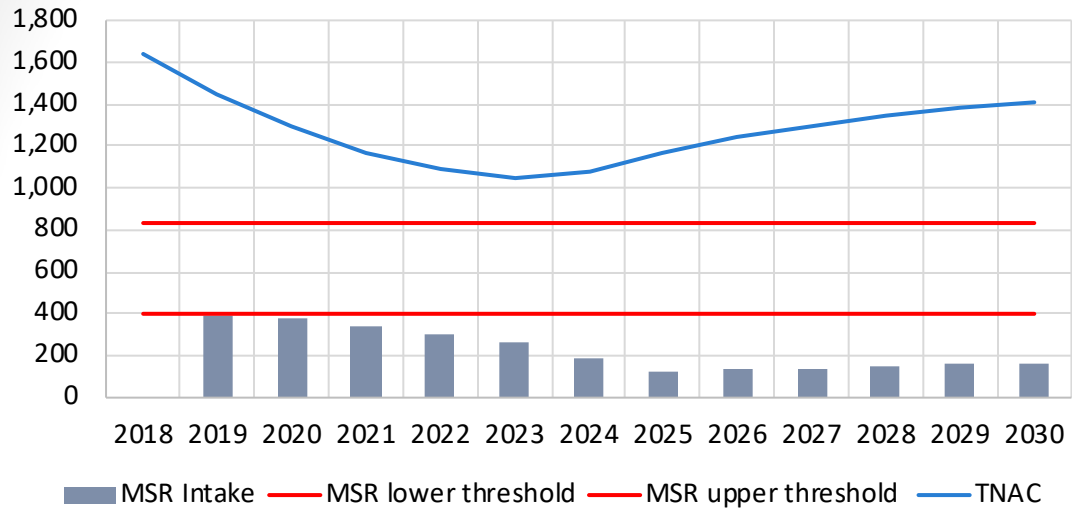
- *Assessment: Compare the period needed for the MSR to absorb the potential imbalance caused by sources other than the historical surplus with the definition of “reasonable amount of time”*

Indicator 2.E

Analysis of the **hedging strategies** of industrial and power companies in EU ETS sectors, via the use of proxies like the open interest on future/forward contracts and quarterly reports from utilities and large industries

- *Assessment: identify if the MSR thresholds are still aligned with the hedging patterns of market players*

Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events



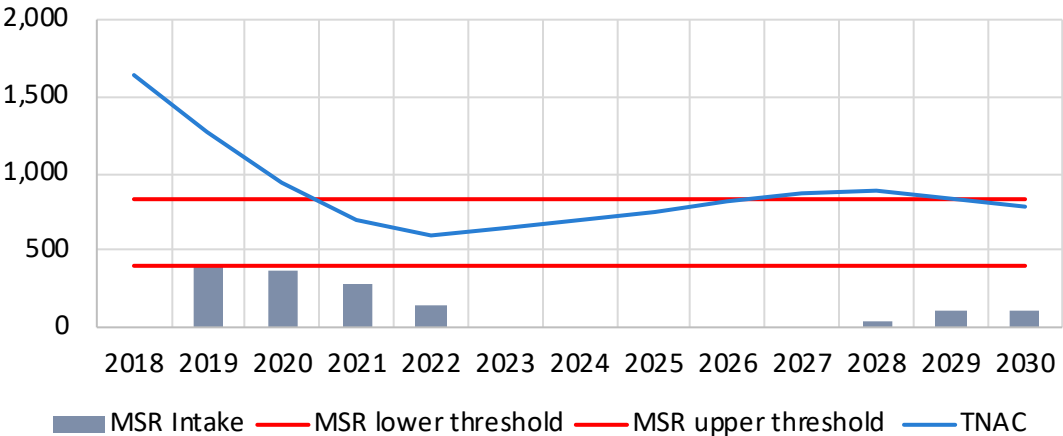
Source: ERCST elaborations on data and modelling by the Wegener Centre (2019)

Source: ERCST elaborations on projection by the EC (in-depth analysis of 'a clean planet for all', PRIMES 2018) and modelling by the Wegener Centre (2019)

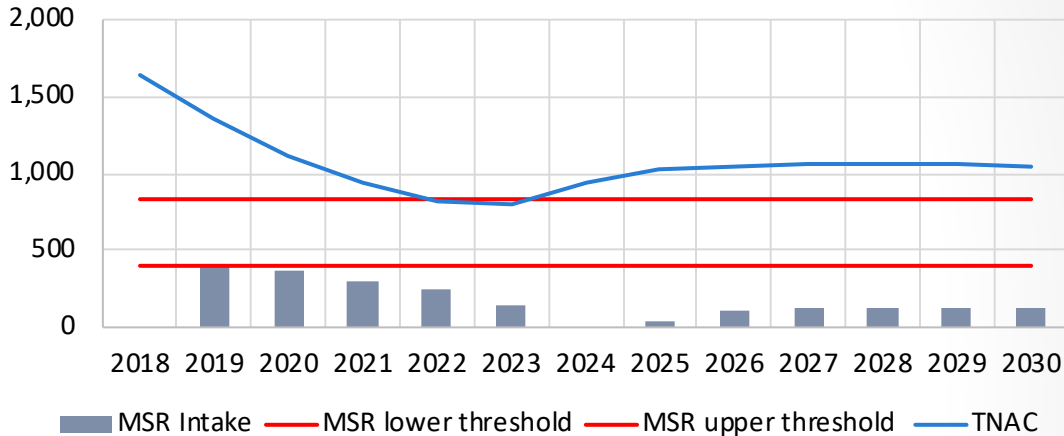
Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events

The amount of allowances put on the market has critical implications on the TNAC and the MSR functioning

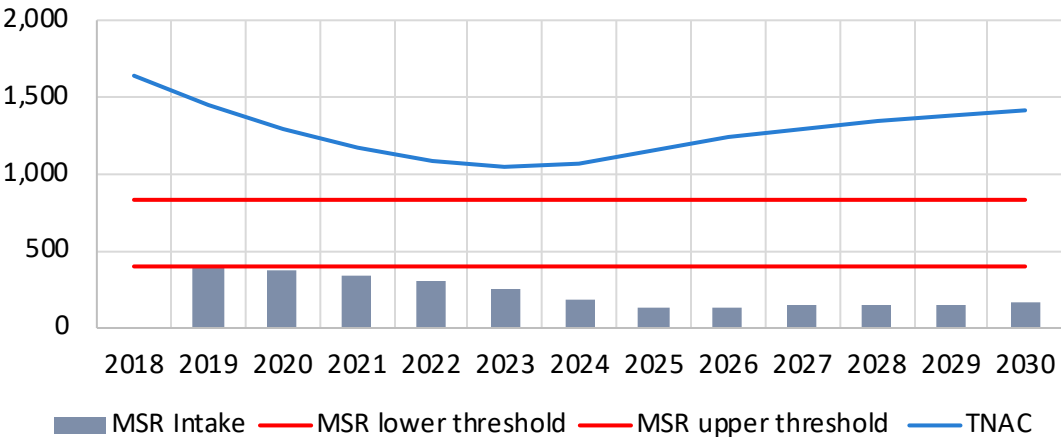
Supply at 90% of the cap



Supply at 95% of the cap



Supply at 100% of the cap



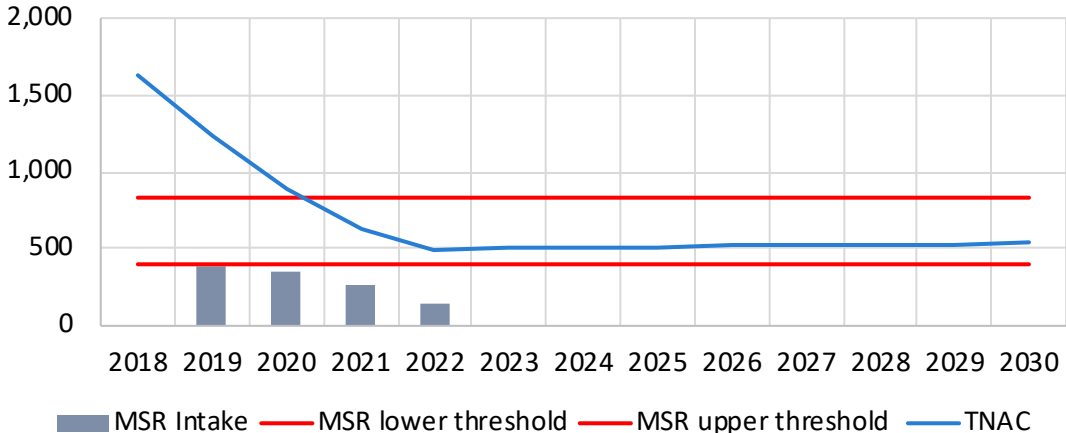
• **Supply in 2015-2016-2017 was at ca. 90% of the cap, according to EEA data (backloading not included)**

Source: ERCST elaborations on data and modelling by the Wegener Centre (2019)

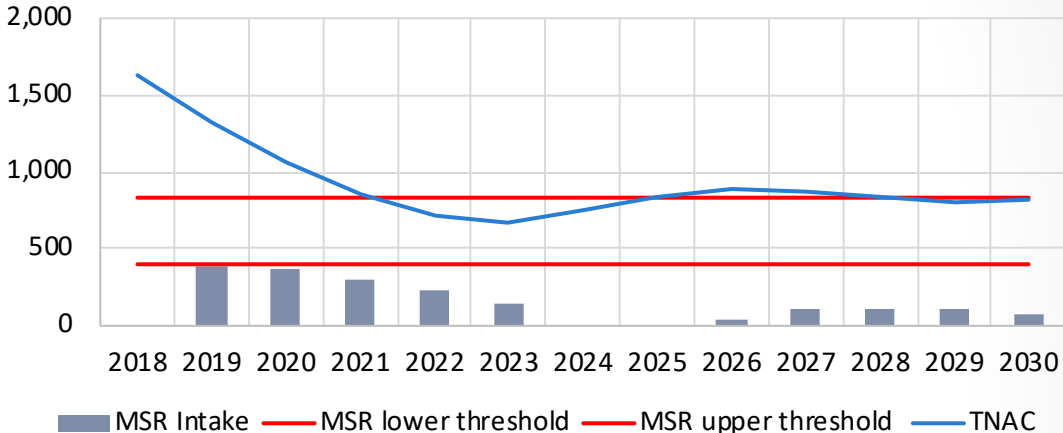
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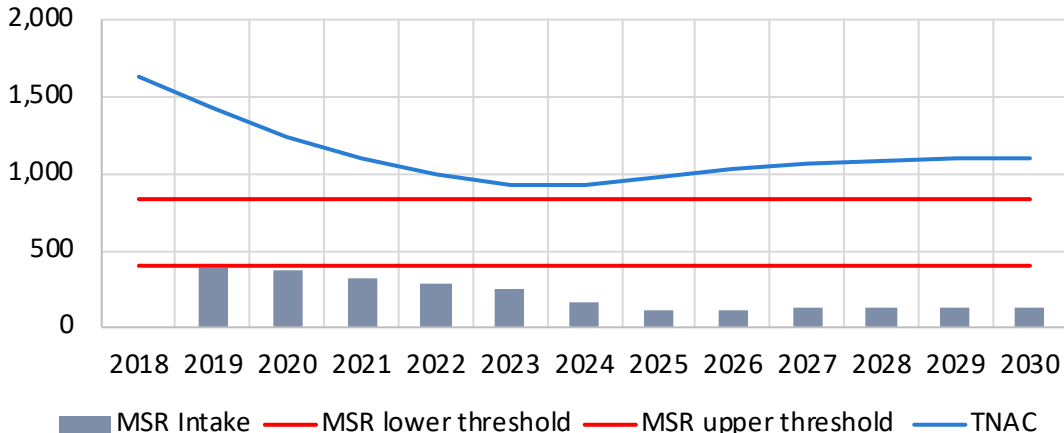
Supply at 90% of the cap



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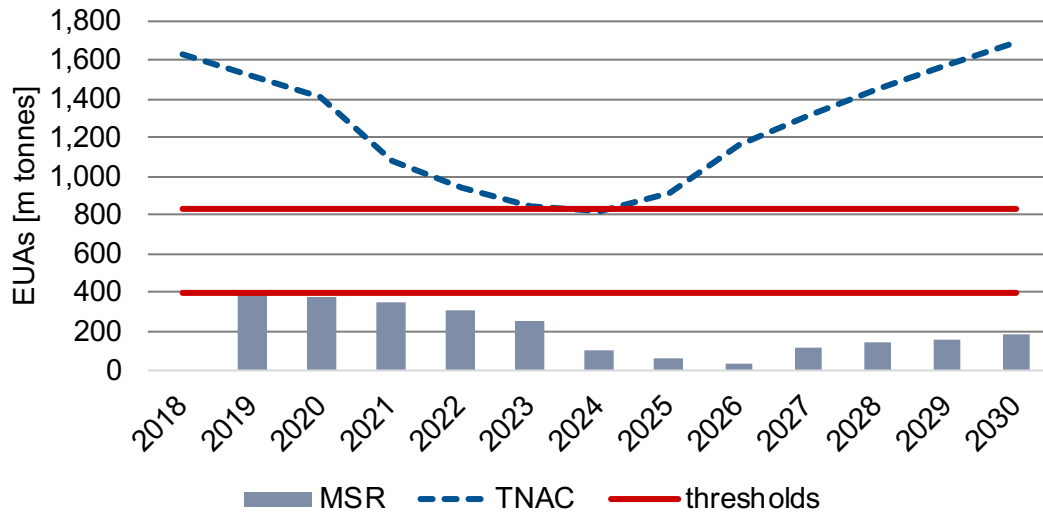


• Supply in 2015-2016-2017 was at ca. 90% of the cap, according to EEA data (backloading not included)

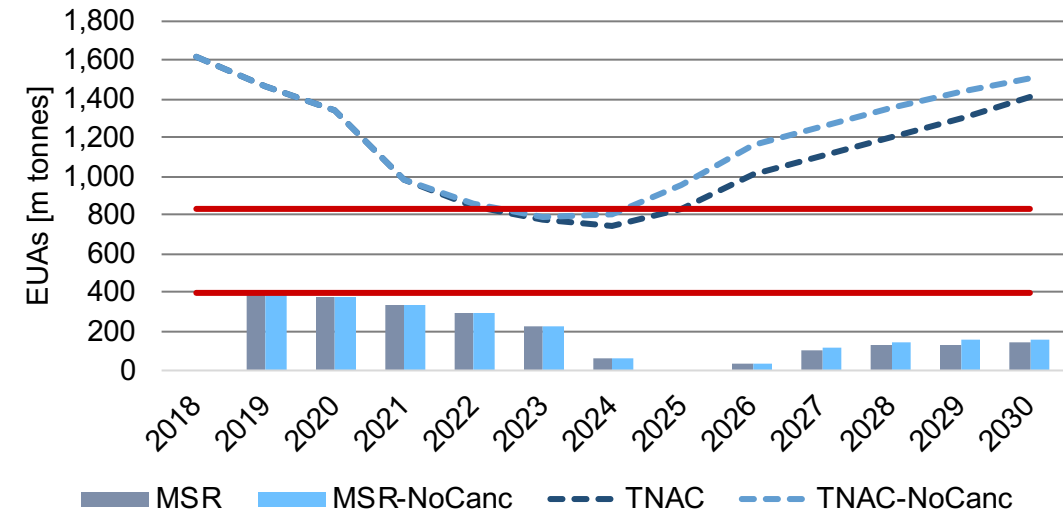
Source: ERCST elaborations on projection by the EC (in-depth analysis of 'a clean planet for all', PRIMES 2018) and modelling by the Wegener Centre (2019)

Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events

Icis baseline scenario



ICIS German Coal phase out with/without cancelation

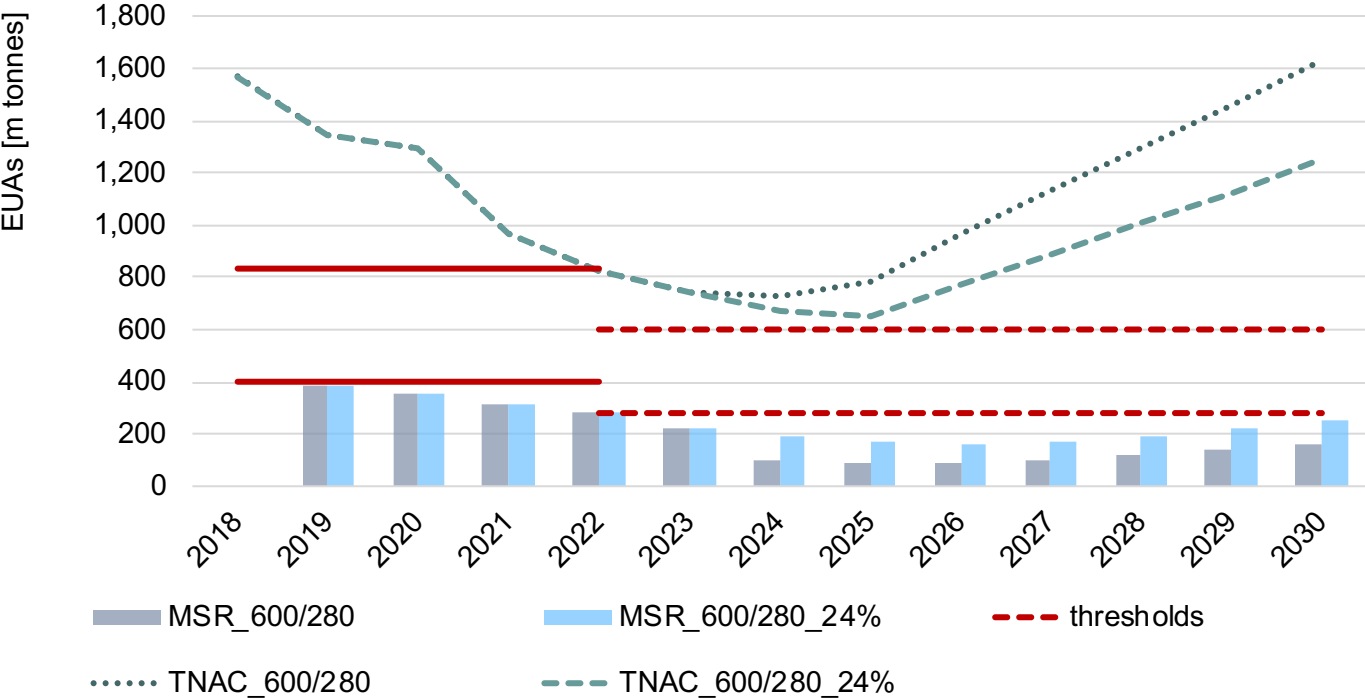


- Market to be squeezed significantly in early TP4
- This will trigger significant emission reductions in power and industry
- MSR goes back to 12% and demand decreasing (lower base emissions)
- In the current setting, the MSR is not able to cope with the surplus that will be generated by the abatement

- Basics
- A total reduction of -13.4GW of hard-coal over 2019-2030
 - lignite capacity is reduced by -9.1GW in total
 - 50% back-filled by gas, rest by RES, oil in peak times and import
 - Roughly 465m tonnes emission cuts between 2021 and 2030
 - The market impact depends on whether and how much the effect gets compensated by cancelling EUAs
 - The surplus varies according to the amount of EUAs cancelled
 - The MSR will hardly be able to cope with a German coal phase out
 - Prices will be more pressured and tend lower

Goal 2: Bring the TNAC within range of the MSR thresholds in case of new events

ICIS MSR parameters revision



Two potential scenarios

- Reduce thresholds (600, 280 Mt)
- Remain on 24% withdrawal rate
 - MSR continues to trigger allowances during all years
 - MSR withdraws 790m allowances more compared to old thresholds and 12% rate
 - TNAC remains on lower pathway

Source: ICIS (2019)

Goal 3: monitor the impact of the MSR on competitiveness

Indicator 3.A

Calculate ETS related costs for industries and power companies, to see the evolution of their expenditure on emission allowances, keeping in mind the carbon leakage protection measures – comparison of the actual **EUA price** registered between 2019 and 2021 with a basket of price forecasts developed by market analysts and the EC at the time of the MSR design

- *Assessment: If the prices have been significantly higher than the forecasts, this could negatively impact the competitiveness of EU stakeholders*

Indicator 3.B

Reduced auction revenues for MS due to the MSR functioning

- *Assessment: the amount of allowances taken out of the market by the MSR results in less auction revenues for MS. This can be seen as a cost for MS, with potential implications on competitiveness*

Indicator 3.C

- Relationship of the MSR with the **innovation and modernisation funds** (?)

Summary of the indicators

Goal 1

- TNAC for 2019-2021
- Estimated TNAC for Phase 3 compared to TNAC for 2019-2021

Goal 2

- RES/EE achievements of MS in 2020
- RES/EE targets towards 2030
- Overlapping MS policies (e.g. coal phase outs)
- Variations in economic growth
- Cumulative impact of indicators 2.A to 2.E
- Hedging strategies of industrial and power companies

Goal 3

- EUA price
- Reduced auction revenues for MS
- Implications of the MSR functioning on the innovation and modernisation funds

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Evaluation of the MSR parameters

- Gather findings from the analysis of the indicators used to assess the 3 identified goals
- Indicate which MSR parameters could/should be modified, if any:
 - lower and upper thresholds;
 - cancellation mechanisms;
 - intake rate.

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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?