



Cap Setting in the EU ETS



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E 2.3 – Economic Aspects of Emissions Trading, Monitoring, Evaluation

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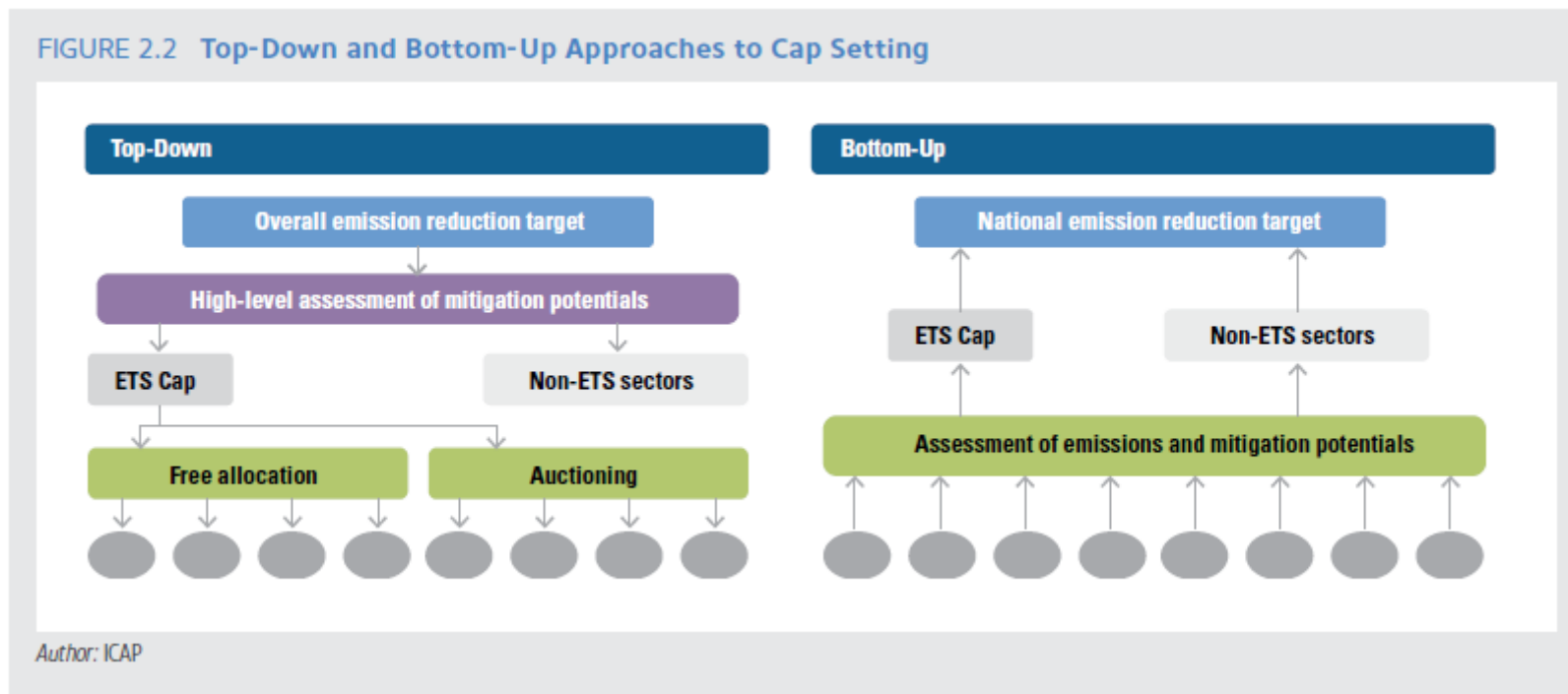
Guiding Questions

- What are the key considerations in determining the stringency of the cap?
- For how many years is the EU ETS cap set in advance? How does this compare with other jurisdictions?
- How do you best balance the need to provide certainty to market participants surrounding the cap, with the flexibility to adjust the system to unforeseen circumstances? How is this balance reflected in EU ETS design?
- How is the EU ETS cap defined? How is it adjusted?

What are the key considerations in determining the stringency of the cap?

General Approaches to Cap Setting

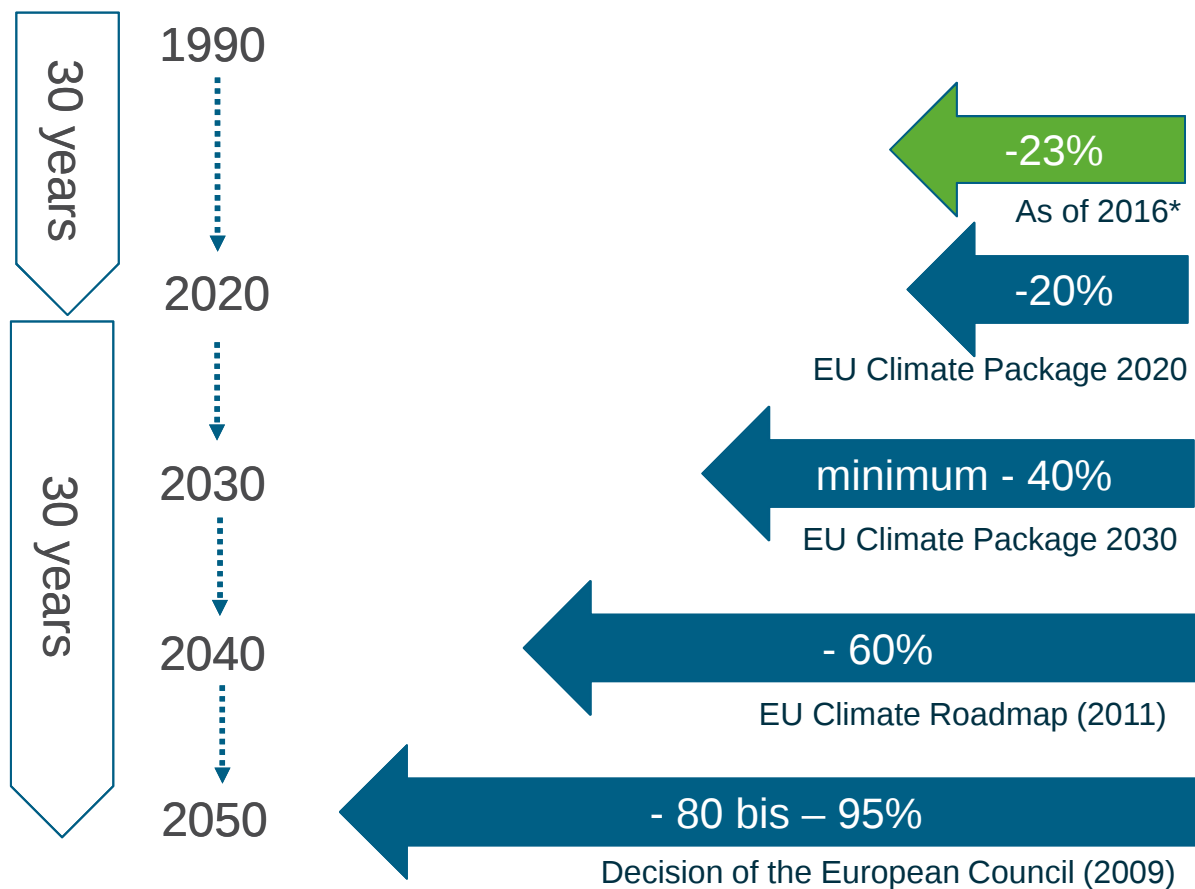
In practice, a combination of approaches seems to be useful



ICAP/PMR 2017 (Handbook on Emissions Trading)

European Climate Change Mitigation Targets

Emission reductions compared to 1990



*preliminary estimates

Economy-wide and Sectoral Targets

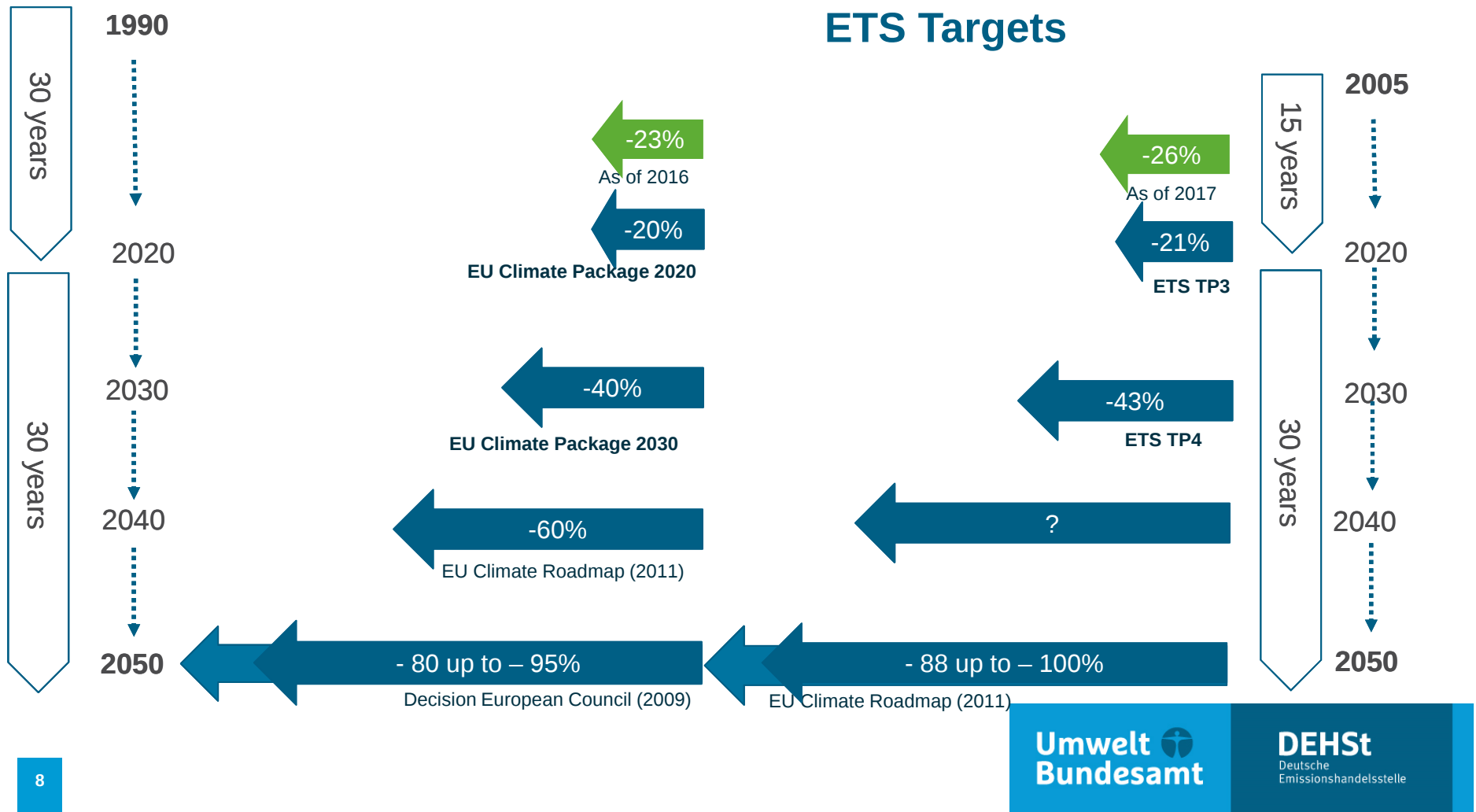
Balance between ambition, mitigation potentials and cost

- Stringency = Baseline Emissions – Cap
- Knowing the mitigation potentials and cost is important for balancing environmental ambition against possible economic impacts
- Generation of this information is complex and might not be possible in the short-term (e.g. MAC curves derived from economic modelling)
- Interaction with other climate and energy policies is important as they influence the demand side of the market

➔ **Raise ambition gradually and review the cap periodically!**

Economy Wide Climate Targets and ETS Targets

Economy wide Targets



Data Collection is the Basis of the Cap

Historical Emissions are Key Information

- Know all entities that will be covered by the ETS
 - Data from national inventories are usually not sufficient. Inventory doesn't deliver installation specific data in every case.
-
- ➔ Install mandatory GHG monitoring (installations, companies) **before** setting the cap!
 - ➔ Use data **verified** by independent third parties (to avoid exaggerated data)
- Alternative**: Start a pilot phase, no significant price signal to be expected, (see phase 1 of EU ETS)

Drafting a NAP for TP 2

Verified emissions data are the basis of a NAP

- Maximum allowed annual average cap
=
verified emissions 2005 x GDP growth trend x carbon intensity trend
+ additional emissions for extended scope

In TP2, COM checked GDP growth and carbon intensity trends as well as plausibility of planned measures in NETS sectors (to achieve Kyoto targets) and corrected overall cap if necessary

- ➔ Ensure consistency with Kyoto targets and national climate change programmes
- ➔ Ensure that total quantity of allowances is not more than is likely to be needed
- ➔ Treat all allowances as part of the cap, not as add-on

Interaction of ETS with other Climate and Energy Policy Instruments

Different instruments can co-exist, but impacts must be considered in the cap

- Caps must take mitigation impacts of other policies into account
 - ➔ proper analysis with economic modelling needed
 - ➔ set the cap after assessing the impacts of interaction

(this was missed in EU – ETS unfortunately)
- Be careful with linking different types of instruments (e.g. clean energy certificates with emission allowances);
- Coexistence of carbon tax and ETS offers some chances if impacts are considered in the cap (UK Carbon Price Floor helped to phase out coal)

For how many years is the EU ETS cap set in advance?

How does this compare with other jurisdictions?

Flexibility and Adjustments to the Cap

Length of compliance period

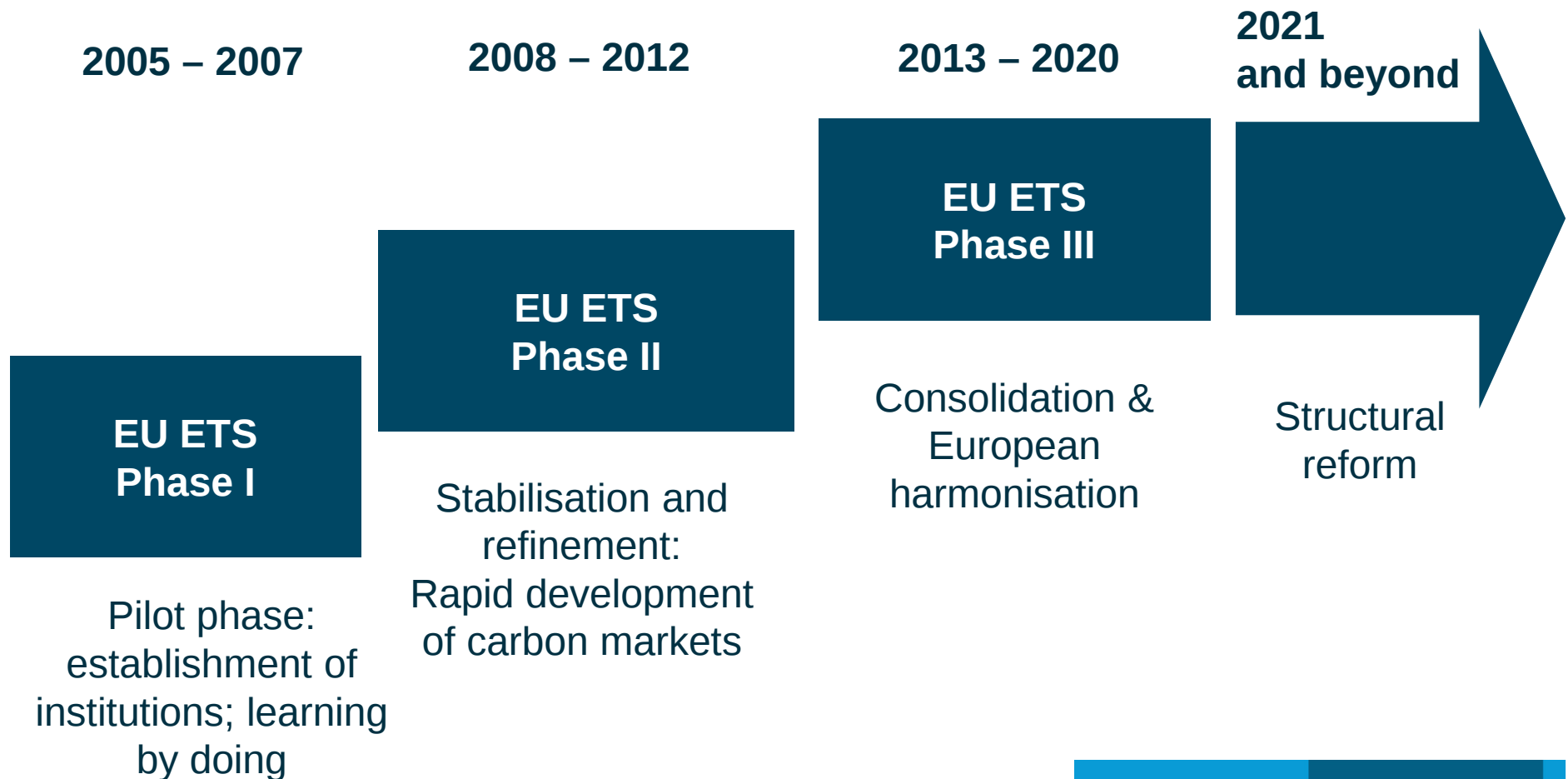
- Cap is usually defined for a certain period (more than 1 year)
- Should be aligned with other climate policy cycles (e.g. ambition raising cycle of Paris agreement)

Longer cap periods: more predictability from the stakeholders' perspective

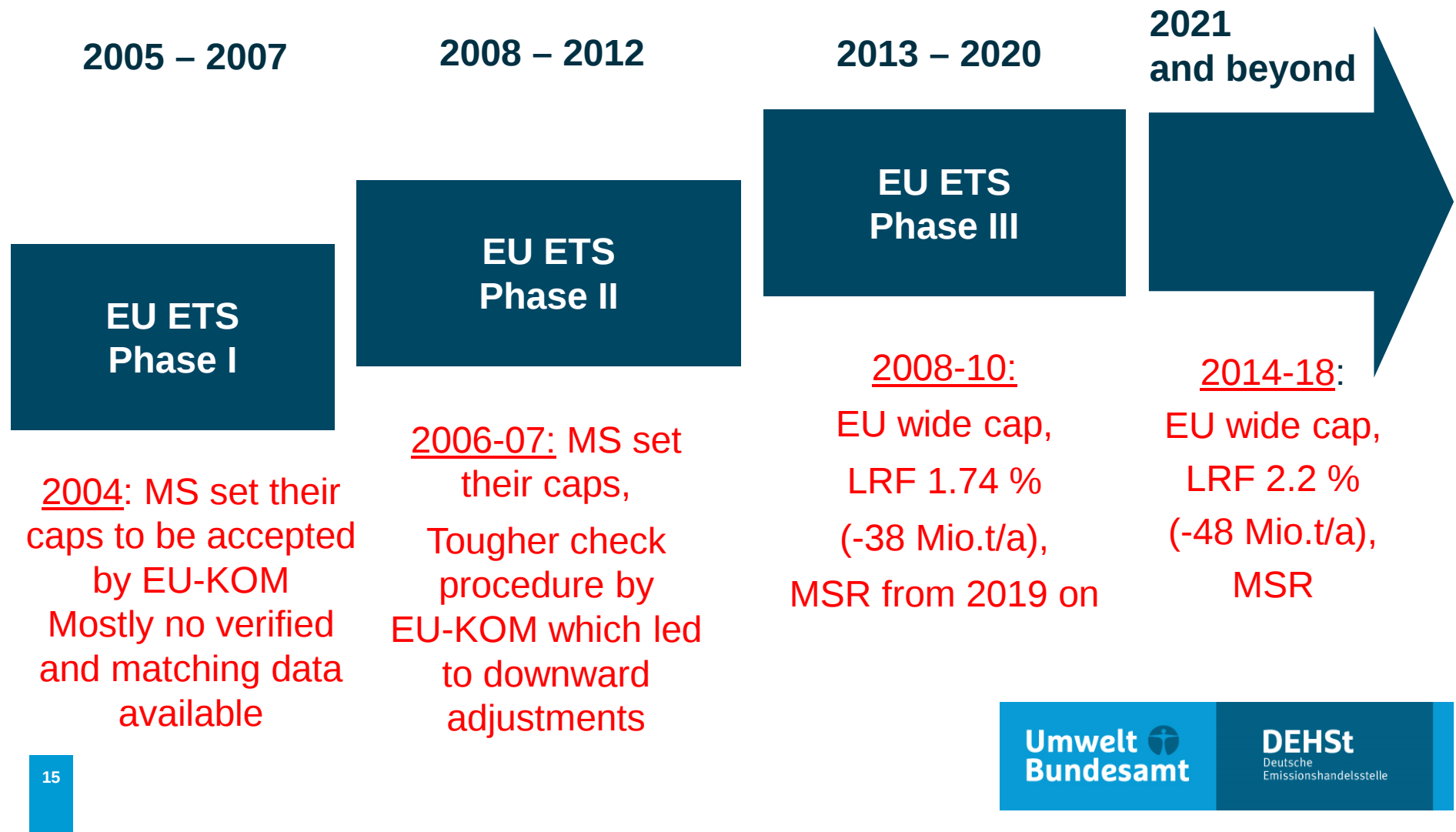
Shorter cap periods: easier to adjust the cap (in case of data mistakes, wrong assumptions, unexpected changes in production levels, fuel prices etc.)

New in TP4 of EU-ETS: Cap is set for the length of the trading period (2021-2030) but must be reviewed after Global Stocktake

Steps within EU ETS



Steps within EU ETS – Changes in Cap Setting



Drafting a NAP for the pilot phase in Germany

A really challenging time schedule

- October 2003: Final Decision of EU-ETS Directive
- Only 14,5 Month time period to implement the ETS on European and national level.

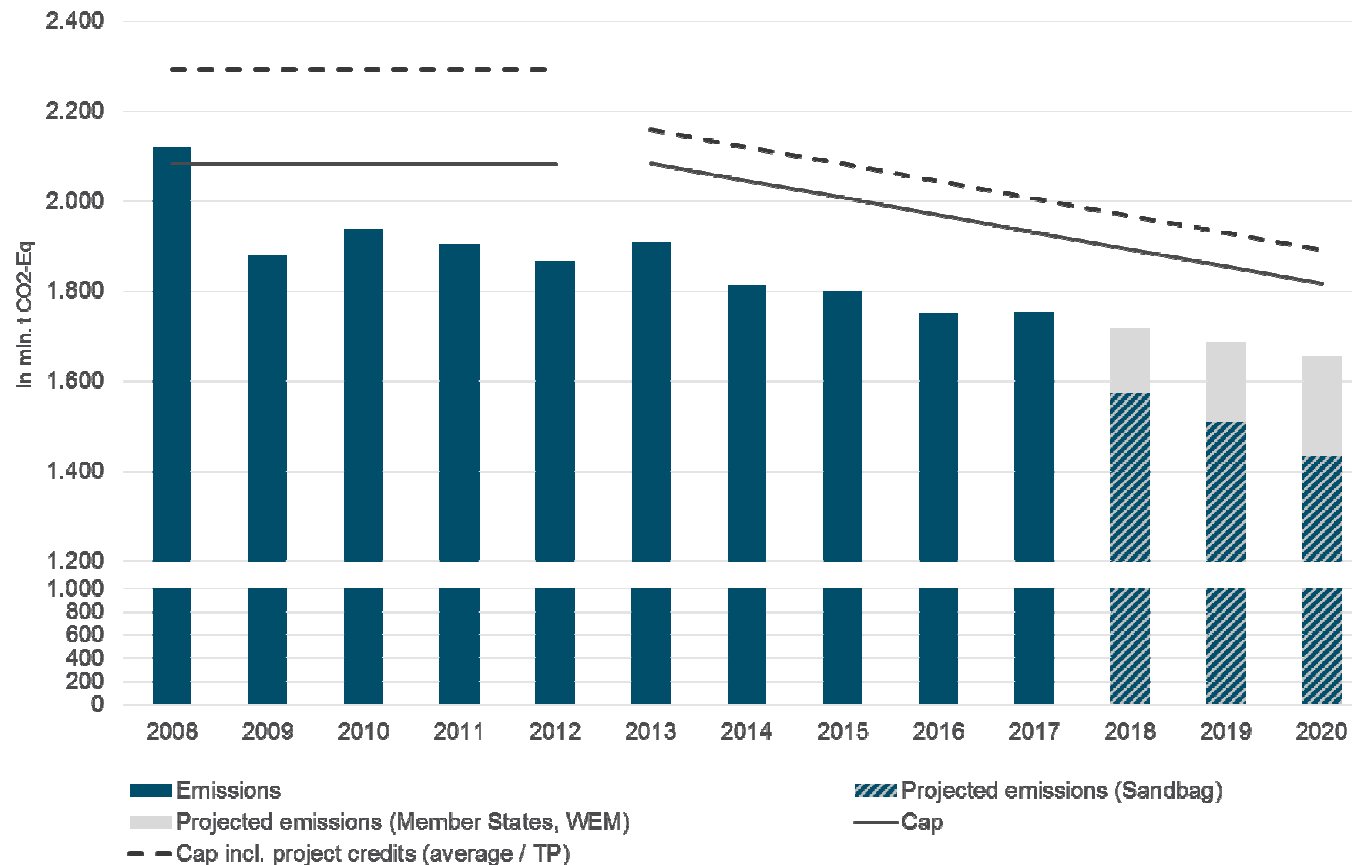
National level: a lot of things has to be done in parallel

- Creation of a national legal framework
 - National allocation law, allocation ordinance, National Emissions Trading Act
- Collecting Data from national inventory, energy statistics and operators (no verified and scope matching data available)
- Decision about the cap
- Establishment of an national administration, which had to organize the application procedure for free allocation
- Registry

How do you best balance the need to provide certainty to market participants surrounding the cap, with the flexibility to adjust the system to unforeseen circumstances?

How is this balance reflected in EU ETS design?

Structural Imbalance of Supply and Demand in EU ETS



Structural surplus
end of 2017:
~ 3.1 bln. EUA

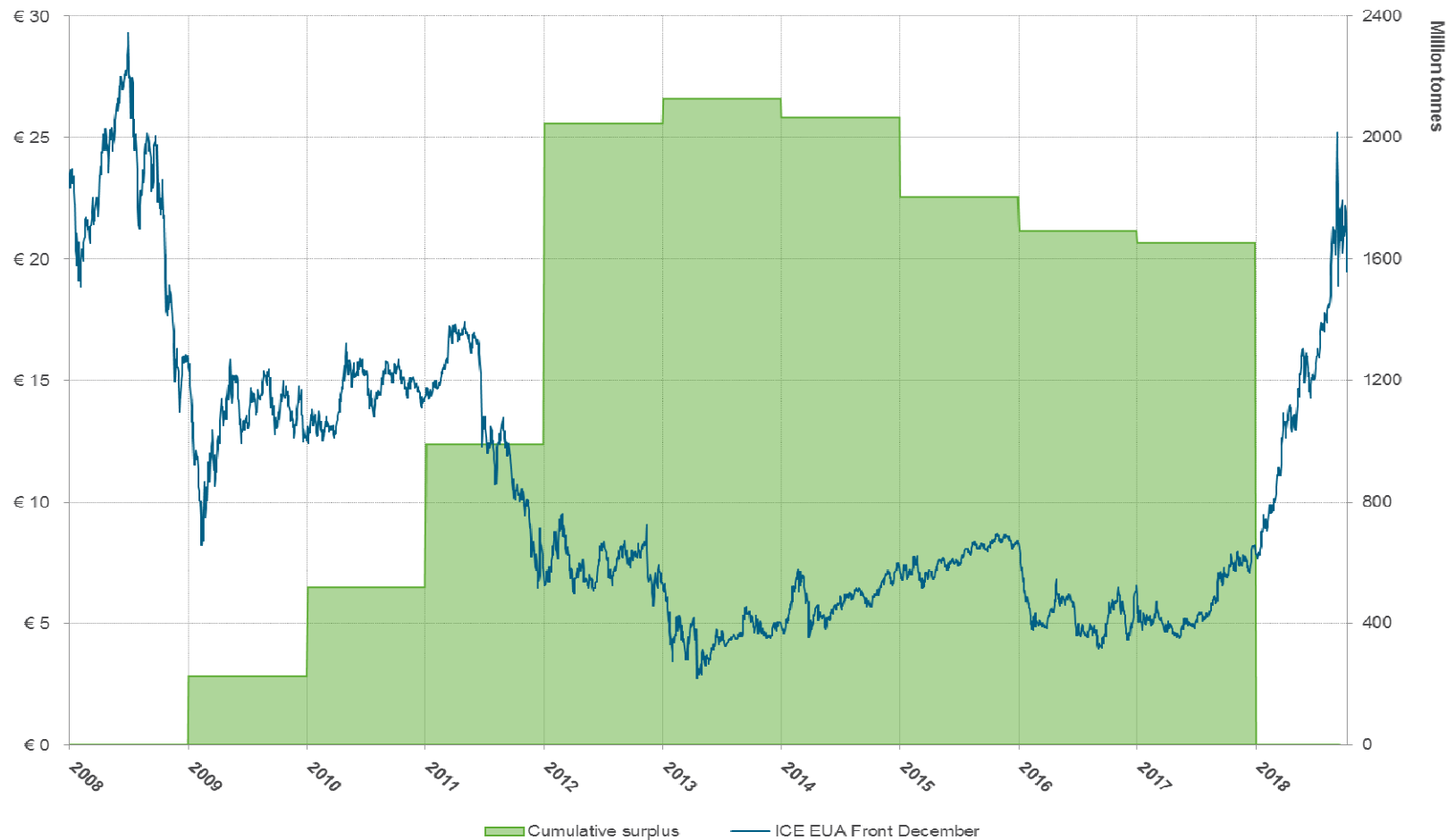
Causes:

- Economic crisis
- Non-ambitious caps
- High inflow of credits
- Lack of policy coordination

Source: DEHSt calculation based on data from the European Environmental Agency (EEA), the European Commission, Member States projections WEM = with existing measures (EEA 2017), Sandbag (2016)

As of: May 2018

EUA-price and surplus development in the EU-ETS



Source: Own calculations based on data from Thomson Reuters Eikon, ICE, EU COM.

As of: 10/10/2018

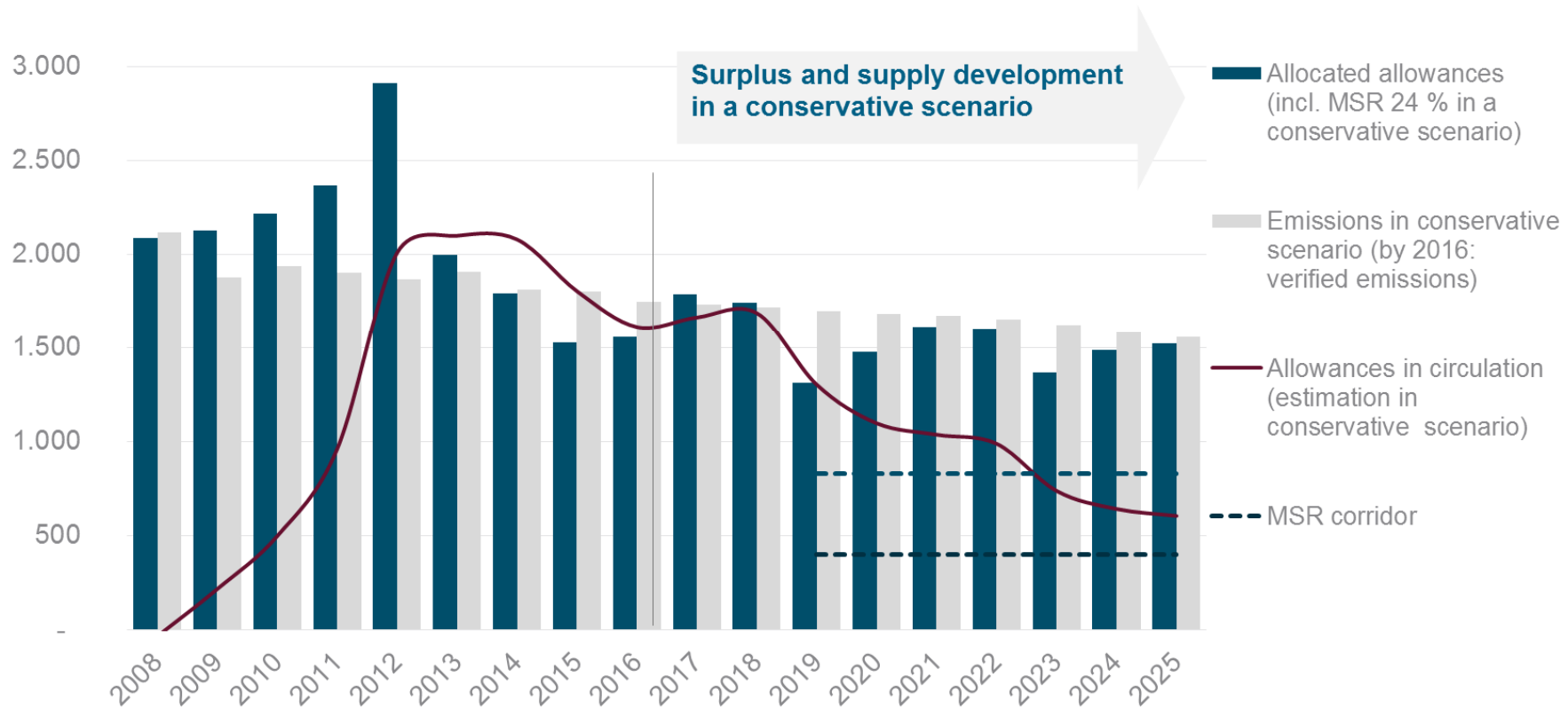
Structural Reform of the EU ETS

Market Stability Reserve will be implemented from 2019 on

- **Two main goals** of the MSR:
 - Deal with the current oversupply (in the short and medium run)
 - Stabilize the market balance (in the long run)
- **Rule based** mechanism for adjustment of annual auction volumes:
 - No intervention if surplus is between 400 and 833 million EUA
 - Reduction of auction volumes by 24 % (from 2024 on: 12 %) of the surplus if the surplus > 833 million EUA (MSR inflow)
 - Increase of auction volumes by 200 (100) million EUA if the surplus is < 400 million EUA (MSR outflow)

MSR is a step into the right direction

If future emissions decrease only gradually, MSR will reduce surplus in the next 5-6 years below the upper threshold (833 mln).



DEHSt calculation based on EEA Data, including estimation for scope enlargements between trading periods.

ETS phase IV (2021-2030): Outcome of Reform (2018)

- ✓ Domestic action: no more credits on top of the Cap
- ✓ Strengthening of MSR (24 % instead of 12 % intake rate)
- ✓ Cancellation of allowances from the MSR (approx. 2.3 – 2.7 bln EUA)
- ✓ Voluntary allowance cancellation to compensate for closure of coal power facilities
- Cap Linear Reduction Factor 2.2 % $\neq$ long-term decarbonisation goal: minus 80 to 95 % by 2050 (economy wide)
- Interactions with other energy and climate policies (RE, EE, coal phase out) not adequately assessed

Conclusion

- **EU ETS functions well**

- Given reduction target for 2020 (- 21 % in relation to 2005) will be reached
- Liquid market, well performing auctions
- Compliance circle also well known and accepted

- **EU ETS does not tap the full potential**

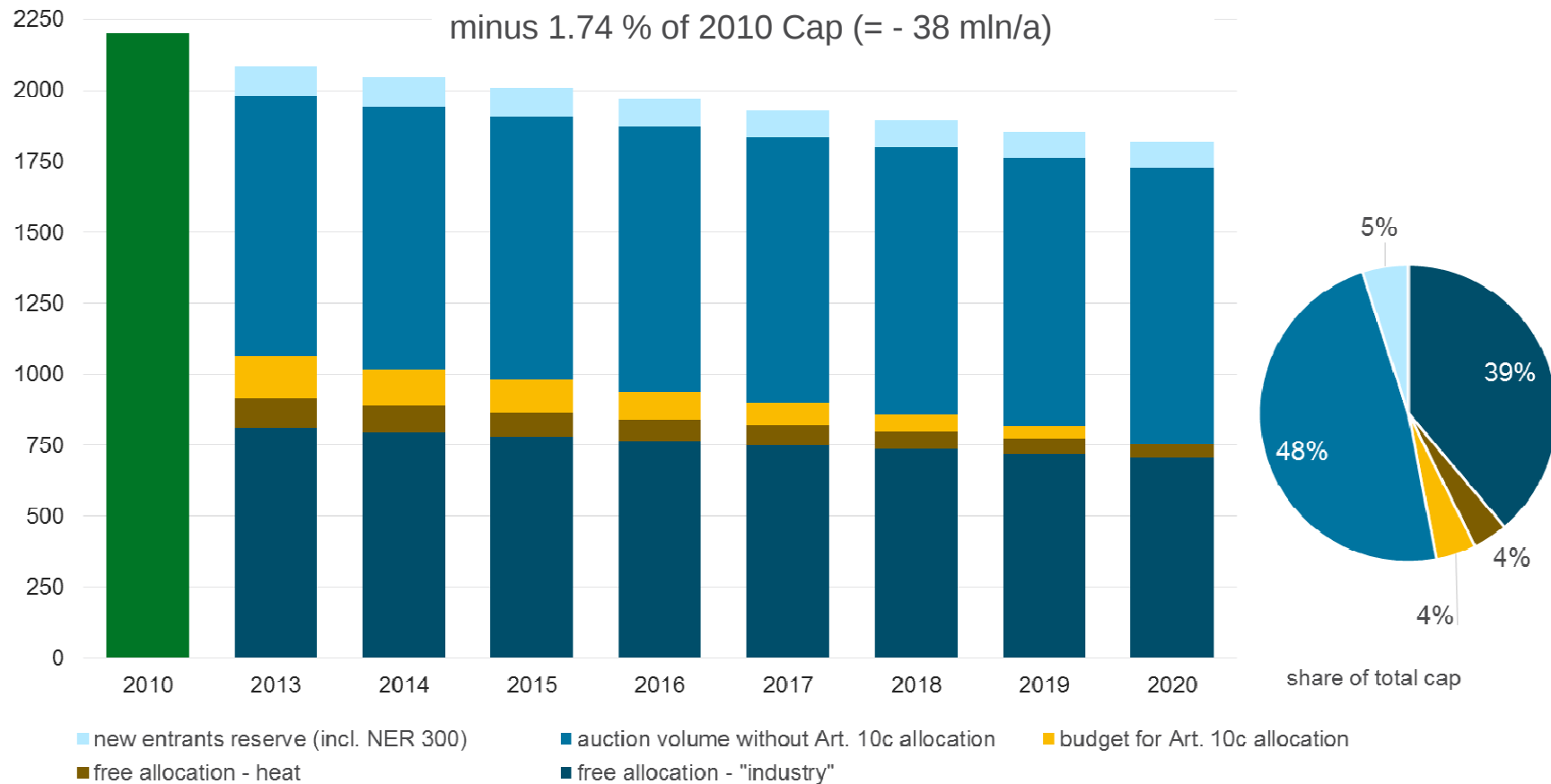
- low CO₂-price during almost 10 years ⇒ poor incentives for investments in mitigation measures
- Not in line with long term reduction target 2050 ⇒ necessary investments postponed ⇒ investments are getting more expensive in the future

- **Reform of EU ETS Directive brings back confidence**

- Price increase of more than 200 percent since autumn 2017

How is the EU ETS cap distributed? How is it adjusted?

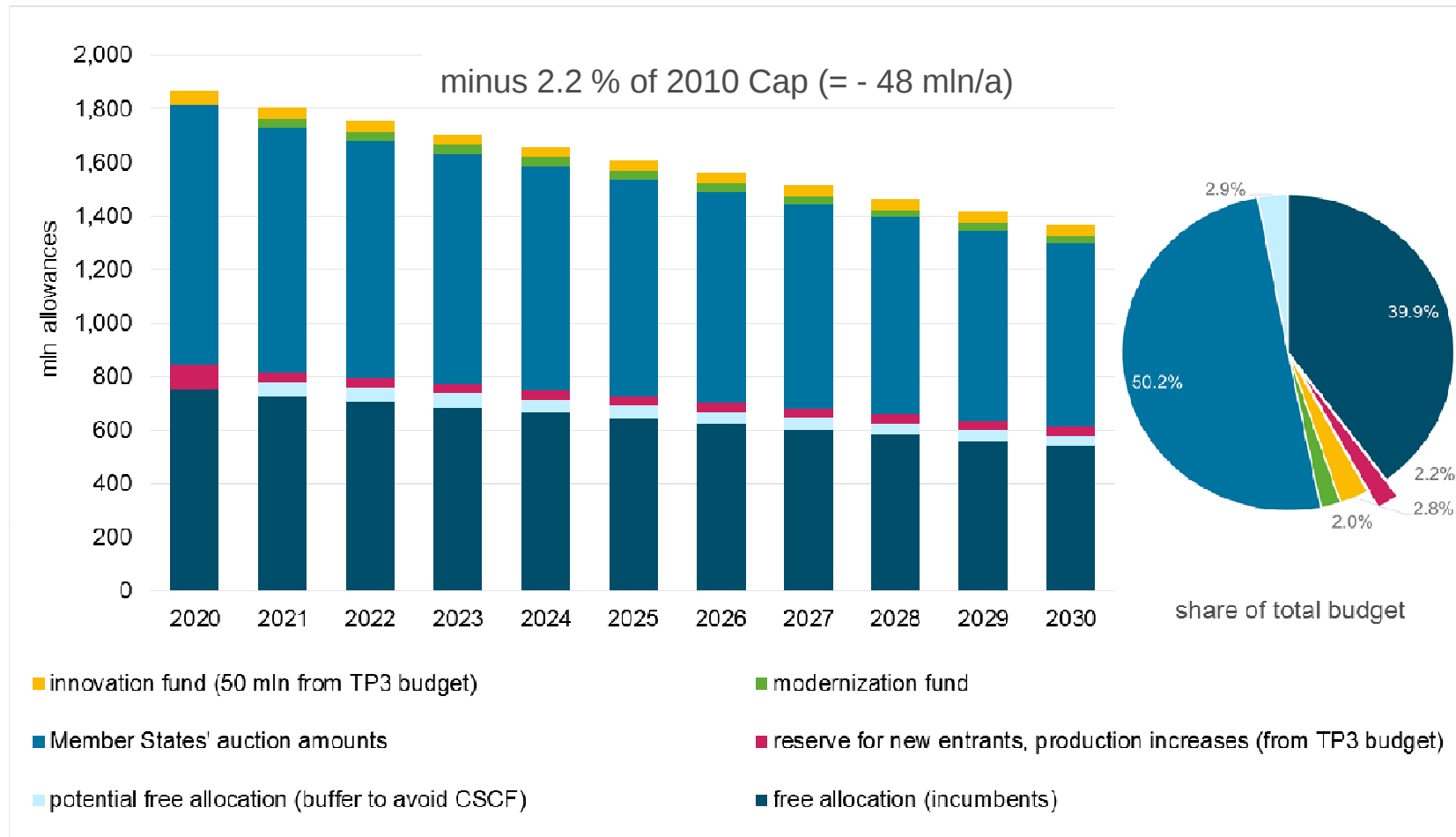
Composition of the Cap in the 3rd Trading Period



Source: DEHSt calculations based on data from the NIMs-Decision of the European Commission

As of: September 5th, 2013

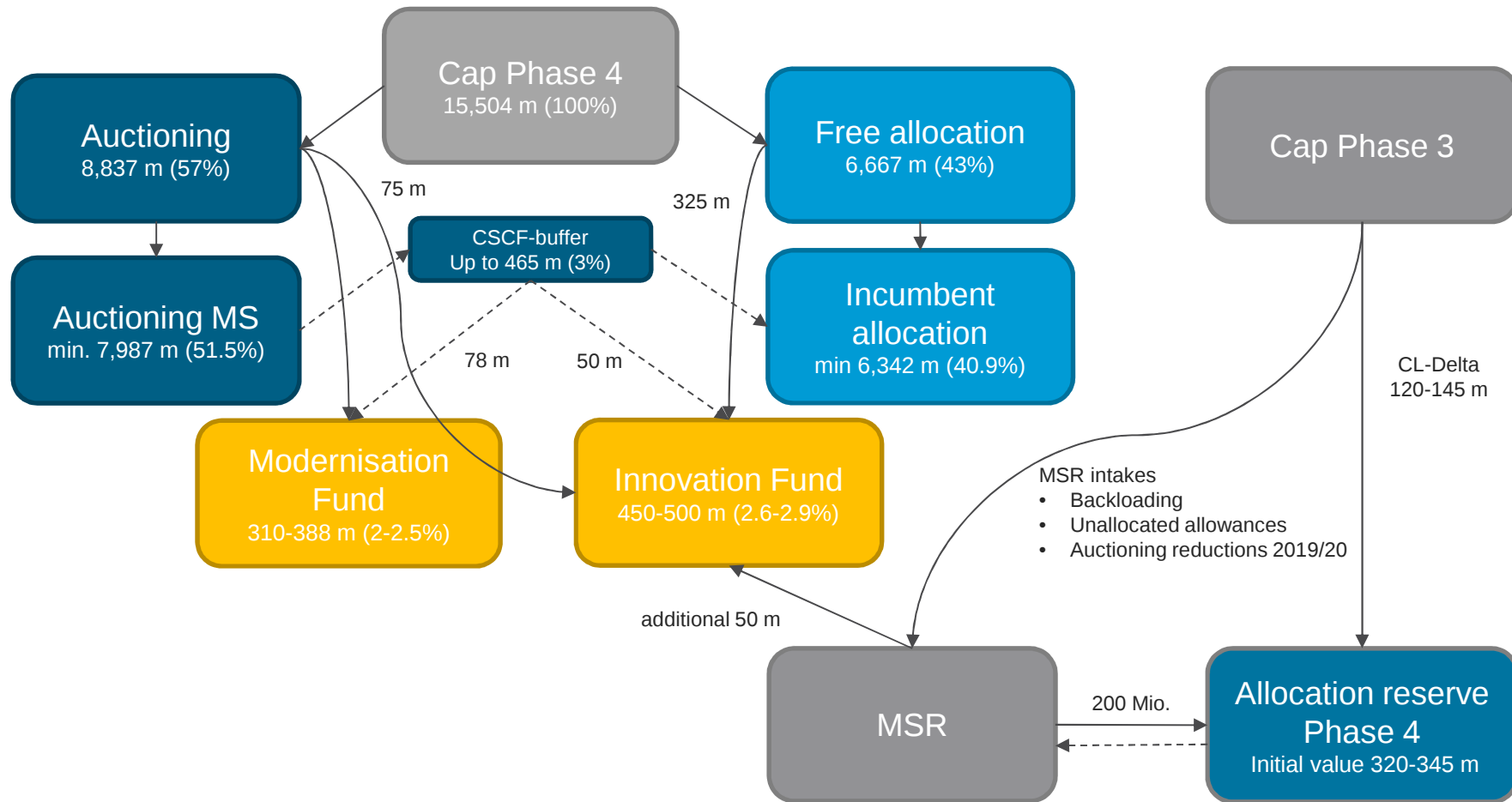
Composition of the Cap in the 4th Trading Period



Source: DEHSt calculations based on data from the new ETS Directive (November 22, 2017)

As of: November 22, 2017

ETS budgets in Phase 4 (in EUA)



Thank you for your attention!

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