National climate policies and the European Emissions Trading System

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Issues

- What are the prospects for the European carbon market after the 2018 reform of the ETS?
- Are national policies aimed at reducing emissions from the ETS sector ineffective?

Main messages

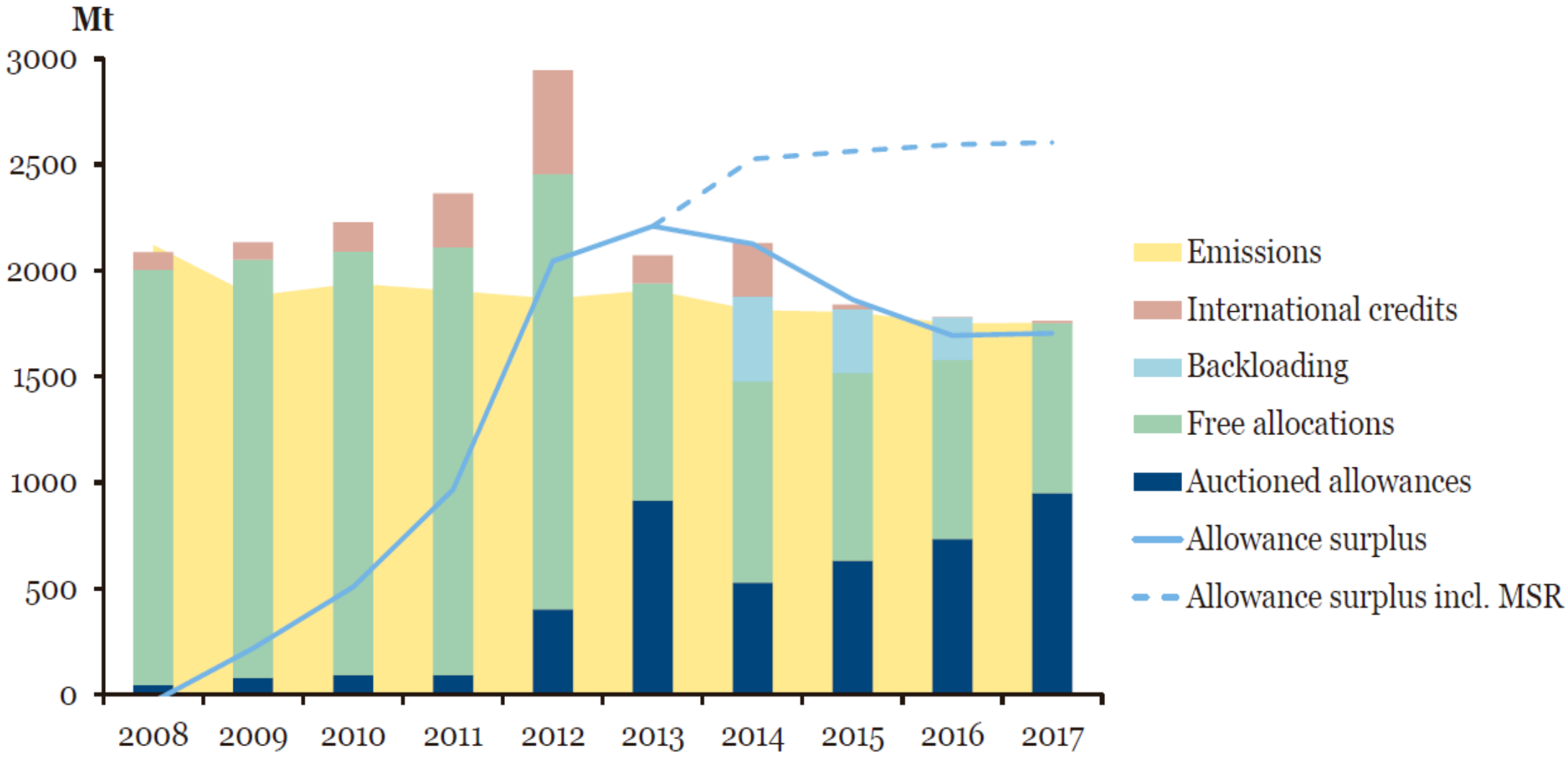
- The surplus of ETS emission allowances is likely to persist for several decades even after the 2018 reform
- The new ***Market Stability Reserve*** fundamentally changes the ETS: National climate policies that reduce the demand for emission allowances may now reduce emissions permanently
- During the next couple of decades, a national policy that promotes renewable energy via subsidies or carbon taxes is more cost-effective than annulment of emission allowances

Background to the recent ETS reform

Rules of the ETS

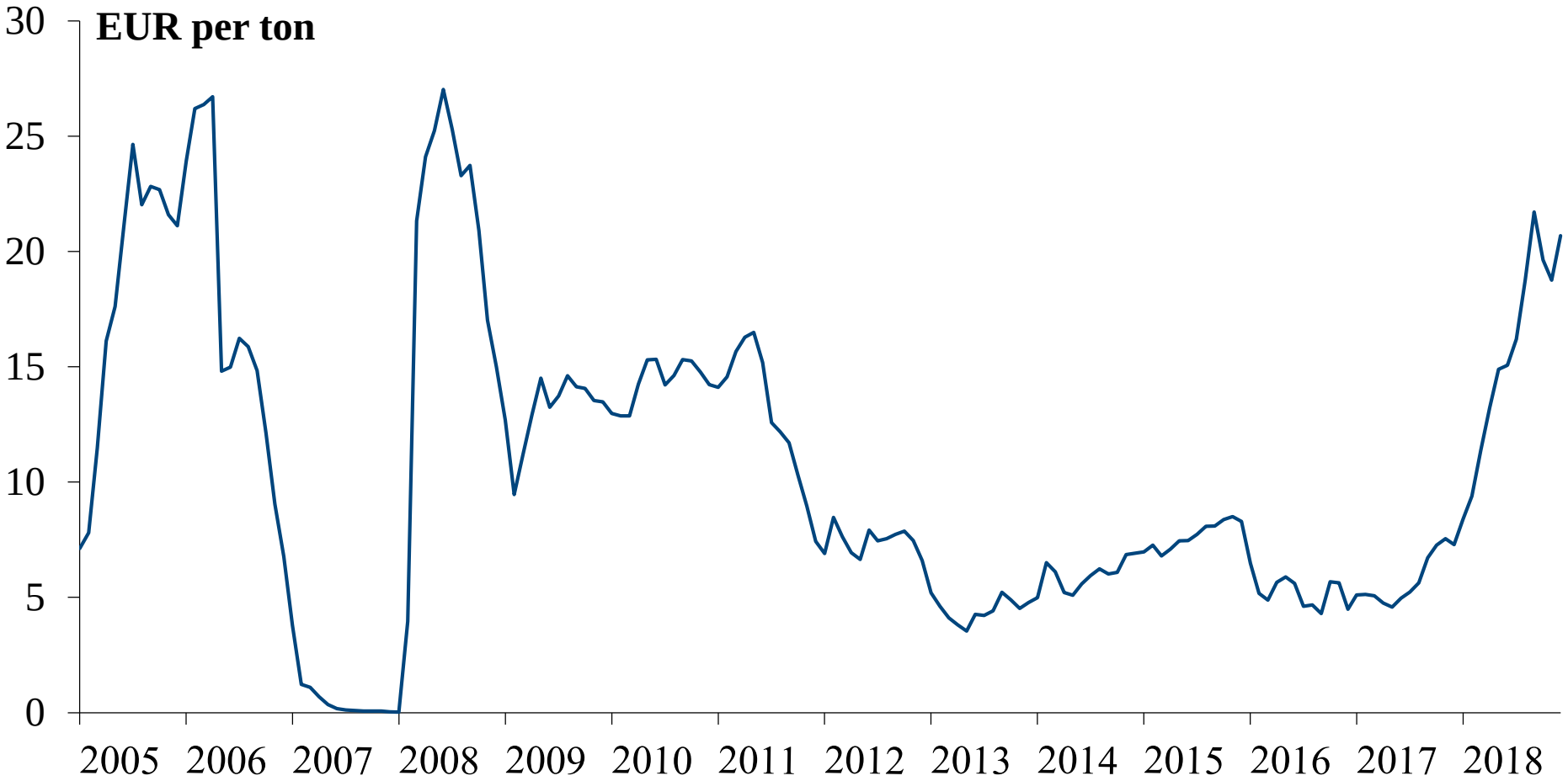
- For every emitted ton of CO_2, an installation within the ETS must surrender an allowance
- Surrendered allowances are cancelled
- New allowances are issued each year at a declining rate
- Some new allowances are auctioned, others are allocated cost-free
- Allowances are tradable and can be banked for later use

Problems: The huge allowance surplus…



...and the unstable allowance price

(Euros per ton of CO_2, monthly averages)



Controversy: Two opposing views on national climate policy

"The supply of allowances in the ETS is fixed. That is, the emissions in the system are also fixed, so national climate policy within the ETS sectors will not help the climate."

The economists

The NGOs

"The ETS does not work. The carbon price is too low and the allowance surplus too big. Without a major ETS reform, we have to rely on national policy."

A sticking point: The waterbed effect

Unilateral Danish support to renewable energy

↓

Demand for allowances declines

↓

The allowance price decreases

↓

Emissions increase somewhere else – now or later

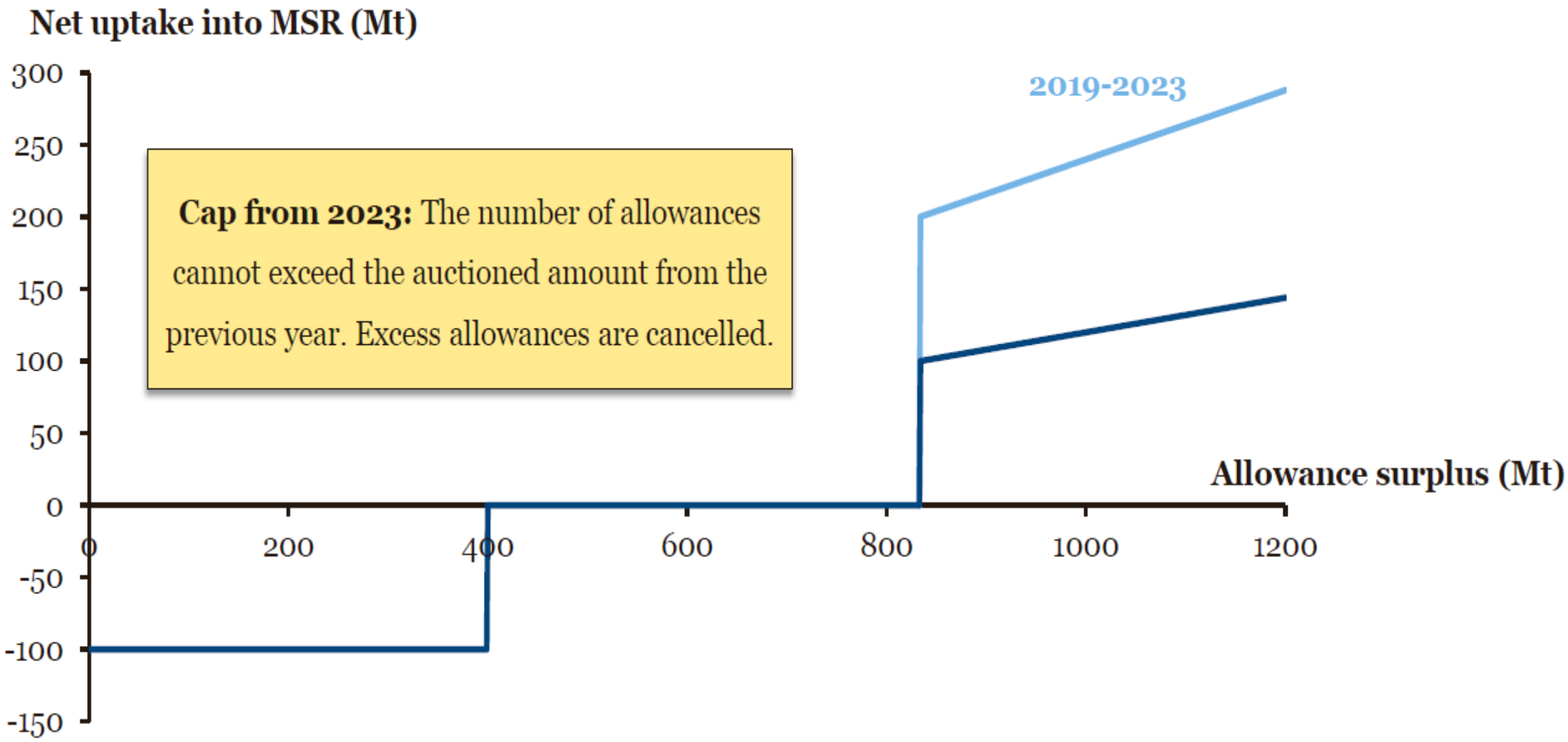
↓

Total European emissions are unaffected

Economists have emphasized the waterbed effect,
but the recent ETS reform has punctured the waterbed

The recent ETS reform

Reform: The Market Stability Reserve (MSR)

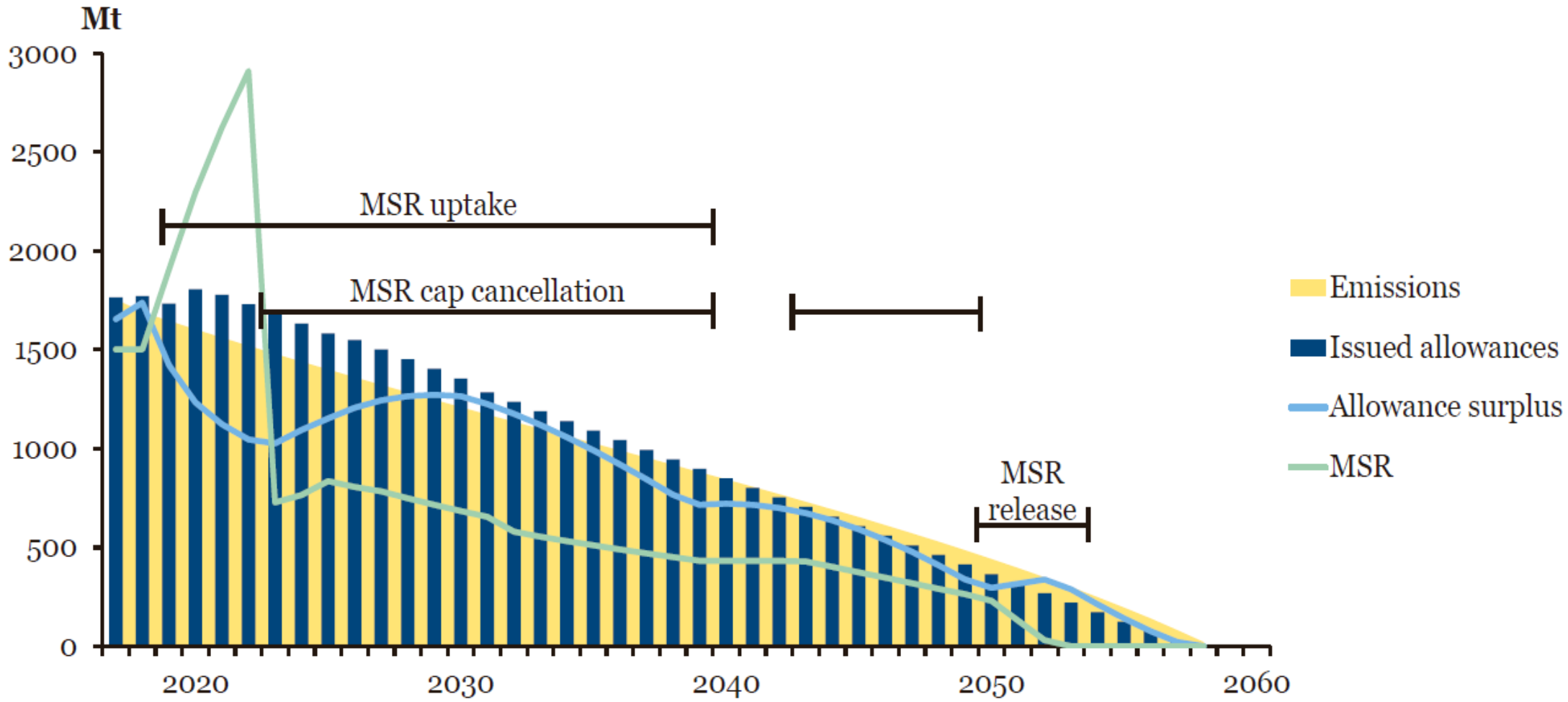


Evaluating the reform: A simple model of the ETS

- A 1 euro rise in the allowance price reduces annual CO_2 emissions by 2.2 million tons (Sandbag)
- For a given allowance price, the demand for emission allowances falls year by year due to progress in green energy technologies
- No one will hold a surplus of allowances unless they expect an increase in the allowance price
- The supply of allowances follows the rules prevailing after the recent ETS reform in all future years
- The model is calibrated to replicate the market situation in 2017-18

Prospects for the ETS after the 2018 reform

Model forecast



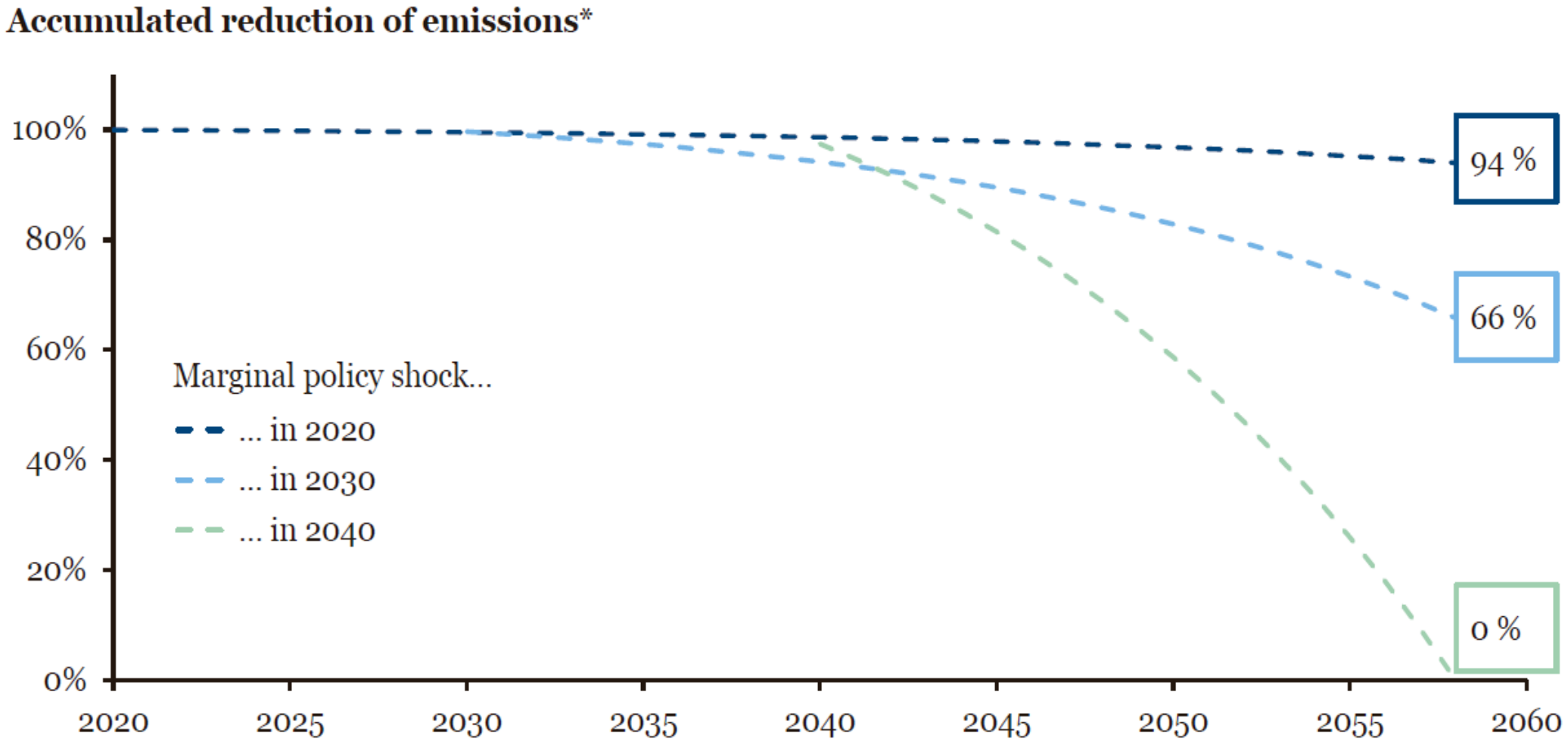
Effects of national climate policies

Alternative national climate policies

- Subsidies to renewable energy and carbon taxes on emissions from the ETS sector reduce the *demand* for emission allowances

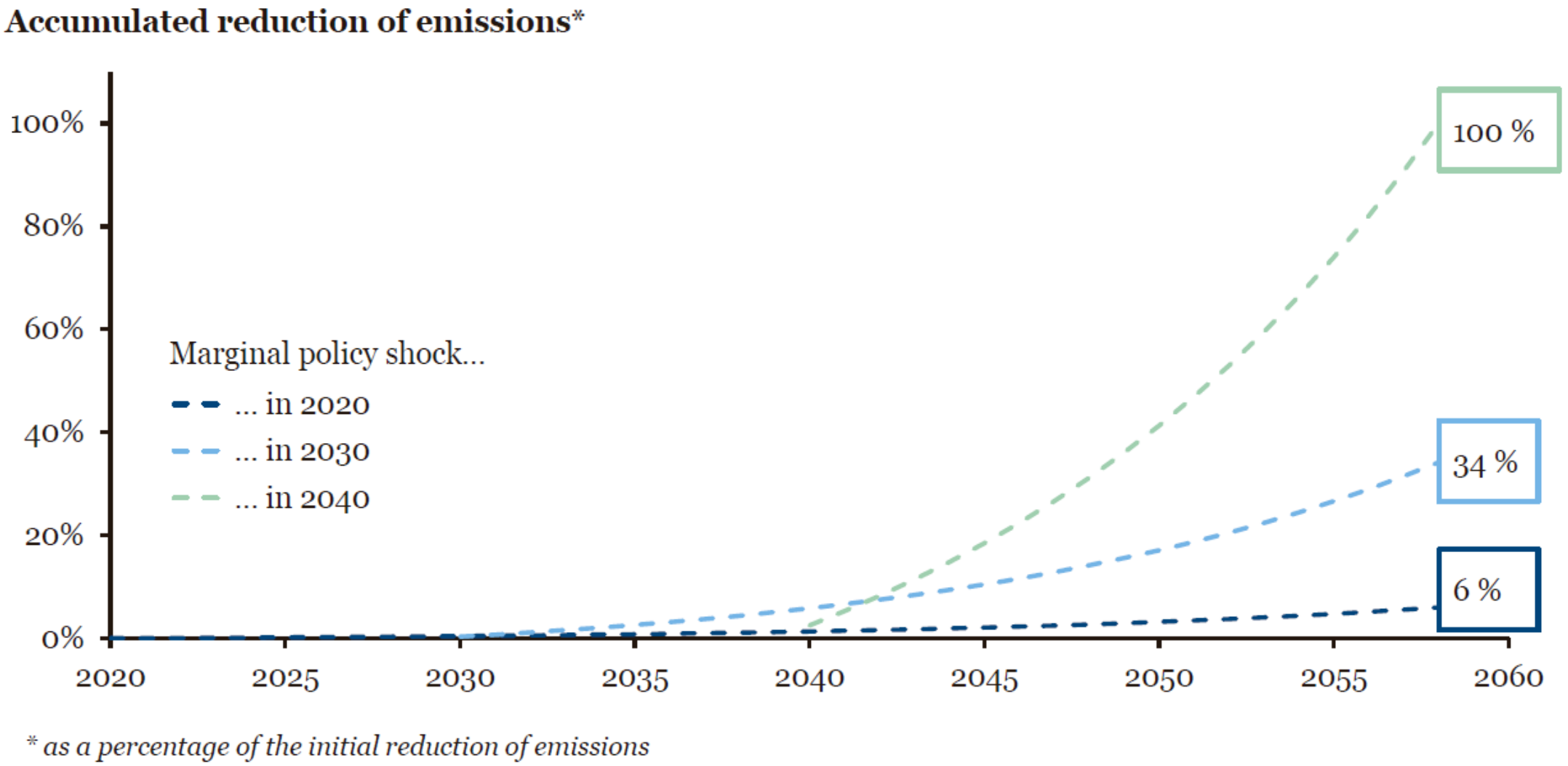
- Annulment of emission allowances (e.g. via a cut in auctioned allowances) reduces the *supply* of emission allowances

Effects of a national expansion of renewable energy



** as a percentage of the initial reduction of emissions*

Effects of a national annulment of allowances



* *as a percentage of the initial reduction of emissions*