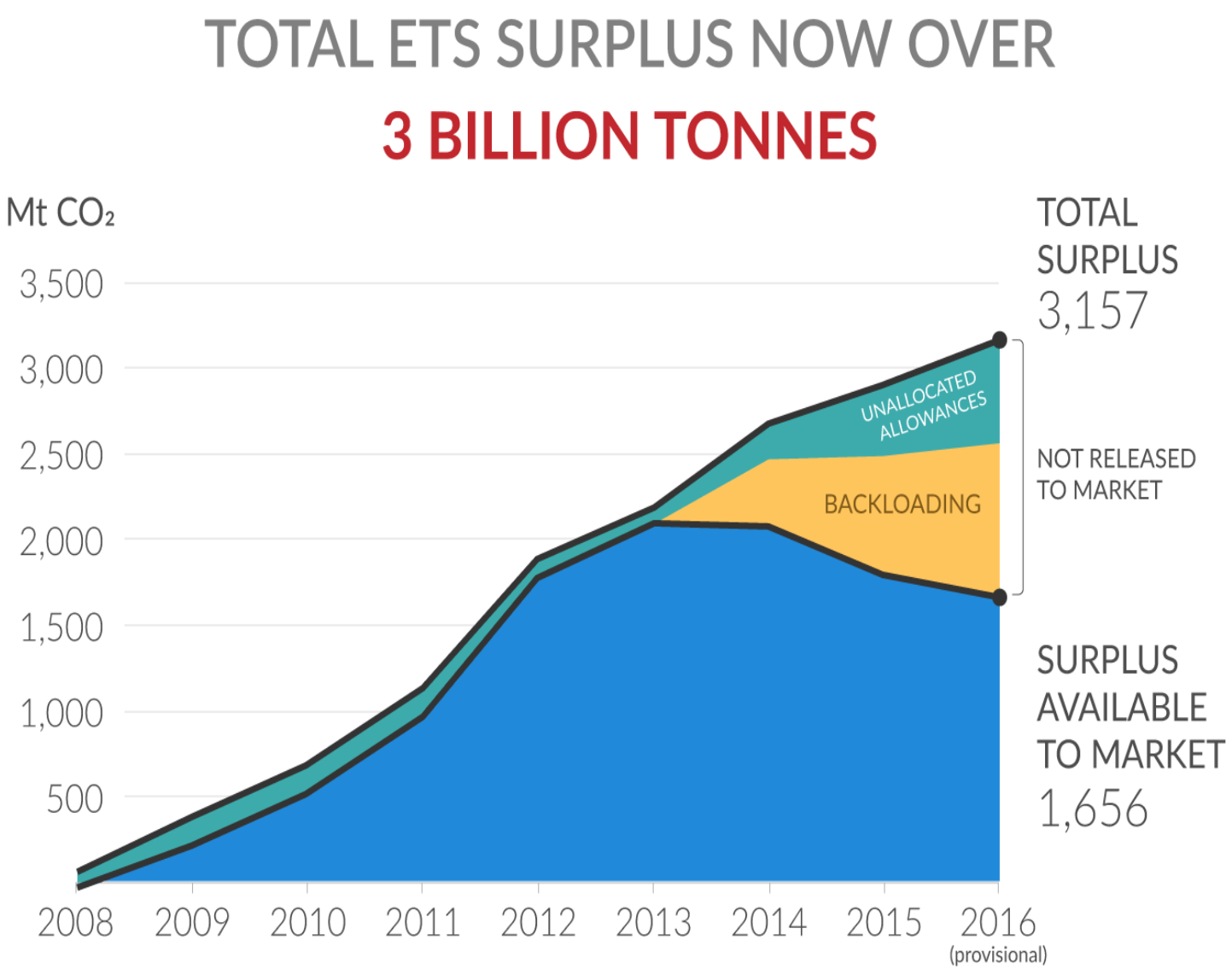
The Three Billion Tonne Problem

ENVI's proposal alone won't fix the ETS



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sandbag

In a nutshell

Sandbag's new analysis of European emissions in 2016 reveals that the **EU ETS has hit a new record of 3 billion tonnes of surplus EUAs**, including both volumes available to the market and those destined for the MSR. This record surplus and accompanying low carbon prices mean that the EU ETS has failed as a policy, for those that expected the system to:

- drive the transition to a prosperous low-carbon economy in Europe; and/or
- guide continuous year-on-year emission reductions in the industrial economy under the EU's headline commitments from October 2014.

The Environment, Food, Health and Safety Committee (ENVI) December report fails to address the surplus problem. To deliver meaningful reform, the European Parliament and the Member States need to support the policy option of re-basing the EU ETS cap in line with emissions in 2020, or find other options that remove an equivalent amount of surplus from the market.

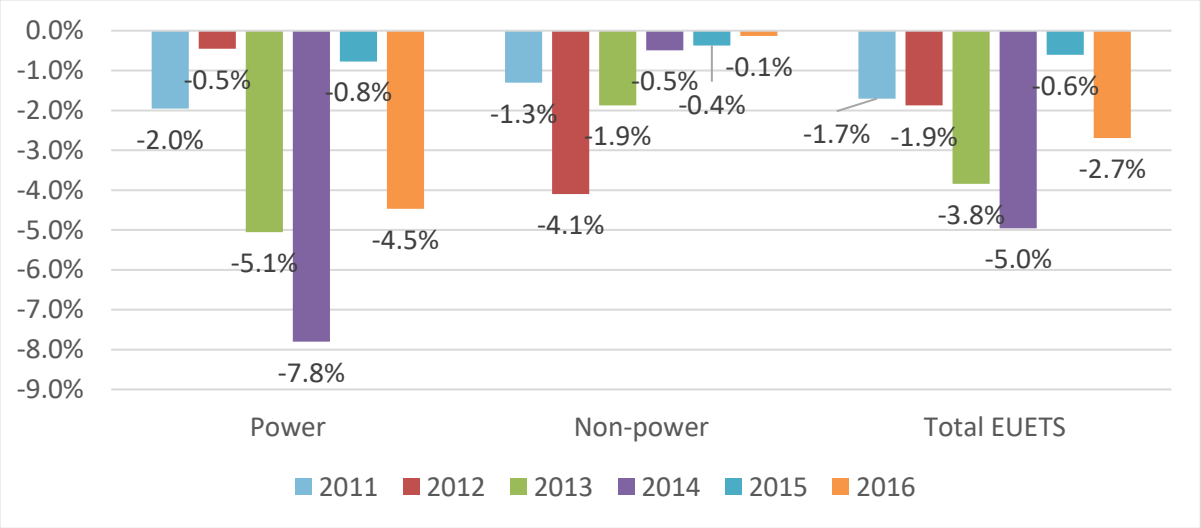
1 Power sector grows surplus by driving emission reductions in the ETS

2016 registered a massive one year drop of 4.5% in EU ETS power sector emissions. As a result we estimate that emissions covered by ETS fell by 2.7% in 2016, from 1803 million tonnes to 1754 million tonnes, to bring the cumulative surplus above 3 billion tonnes.

At the same time, industry is struggling to decarbonise under the ETS. In 2016 we estimate non-power ETS emissions dipped by just 0.1%. This assumes that industry continues to show little structural abatement, and that the massive 30% fall in UK steel production is offset by rising cement production reported in Germany and Greece.

This relationship is an old one. In the last four years, ETS emissions have fallen at an average of 3.0% per year, but again with a big difference between the power sector and non-power sector. The power sector fell by 4.5% per year, and the non-power sector fell by 0.7% per year (see fig. 1).

Fig. 1 Change in ETS emissions (stationary sources) 2011–2016

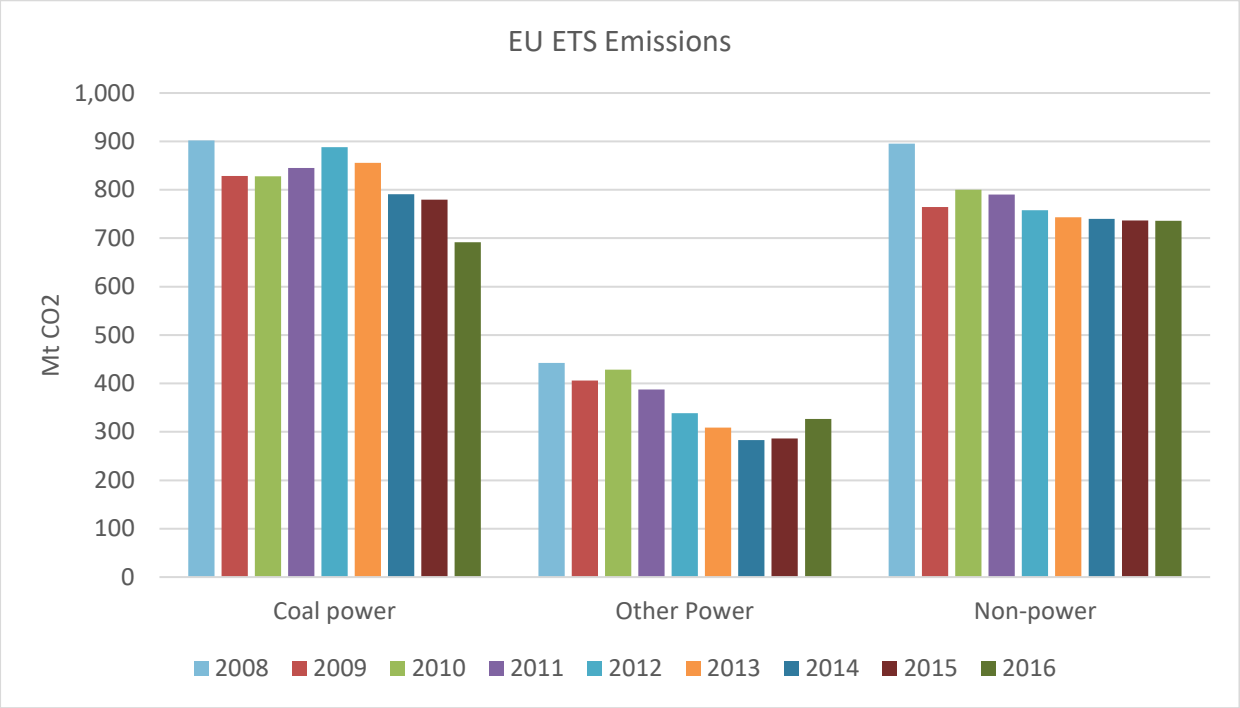


In fact, **the ETS may be shielding non-power industrial sectors from the potential effect of more effective climate regulations**, which we identified to be the case in the cement sector in our briefing Cement Exposed from October 2016.

2 The surplus will continue to grow due to overlapping policies

In 2016 the main reason for the fall in power sector emissions was changes in coal generation, which will still make up 40% of all EU ETS emissions. We detected a large coal-gas switch, half of which has come from closures of 8 Gigawatt of old coal plant, mostly in the UK, and permanent coal-gas switching due to the UK's carbon price support.

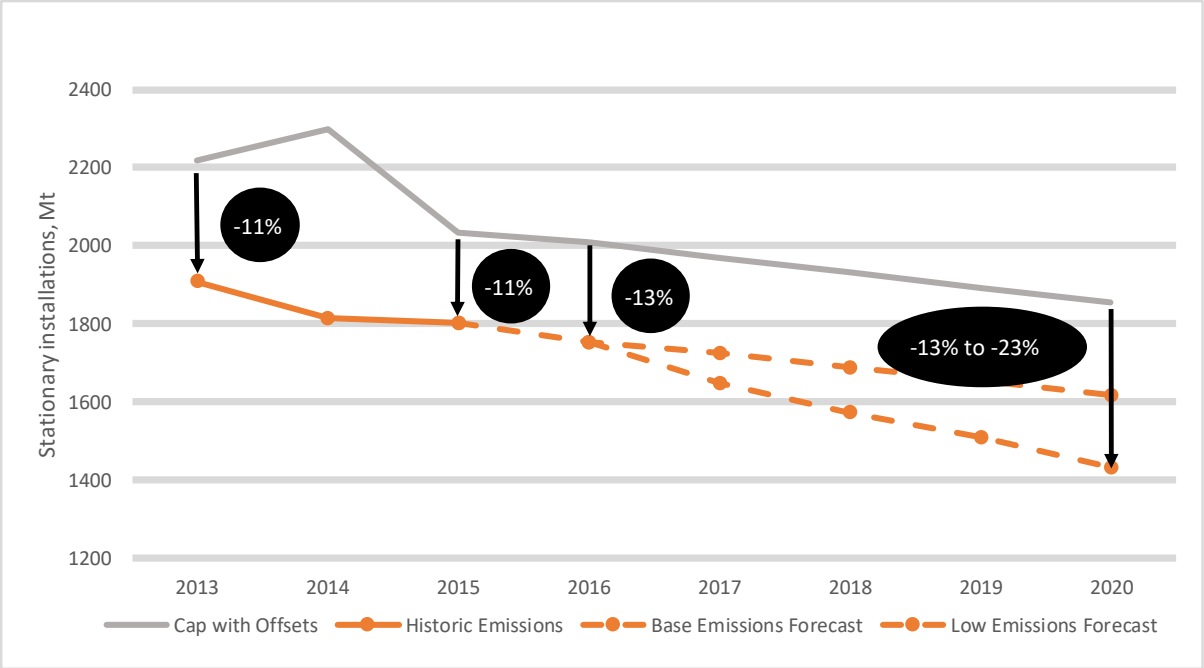
Fig. 2 ETS emissions from coal, other power and non-power sectors 2008–2016



After the past avalanche of offset credits and the economic downturn of 2008, in recent years the driver for growth in the surplus allowances is the impact of changes in coal generation (see fig. 2).

Additional measures targeting coal generation are gaining traction in other European countries, and we provided an overview of those in our 2016 October report "Puncturing the waterbed myth". We expect the surplus to be between 3.8 - 4.4 billion tonnes in 2020 **(see fig. 3).**

Fig. 3 Gap between ETS cap and emissions



Our emissions forecasts for 2017 and beyond shown by the low emissions case are unchanged. Our forecasts for 2014 and 2015 were the most accurate of any analyst and we again are seeing a significant fall this year - as previously predicted - because of large falls in coal generation in the UK and Netherlands. Further, we foresee coal generation continuing to fall in subsequent years not due to the EU carbon price but primarily because we expect renewables to begin to substantially displace coal instead of gas.

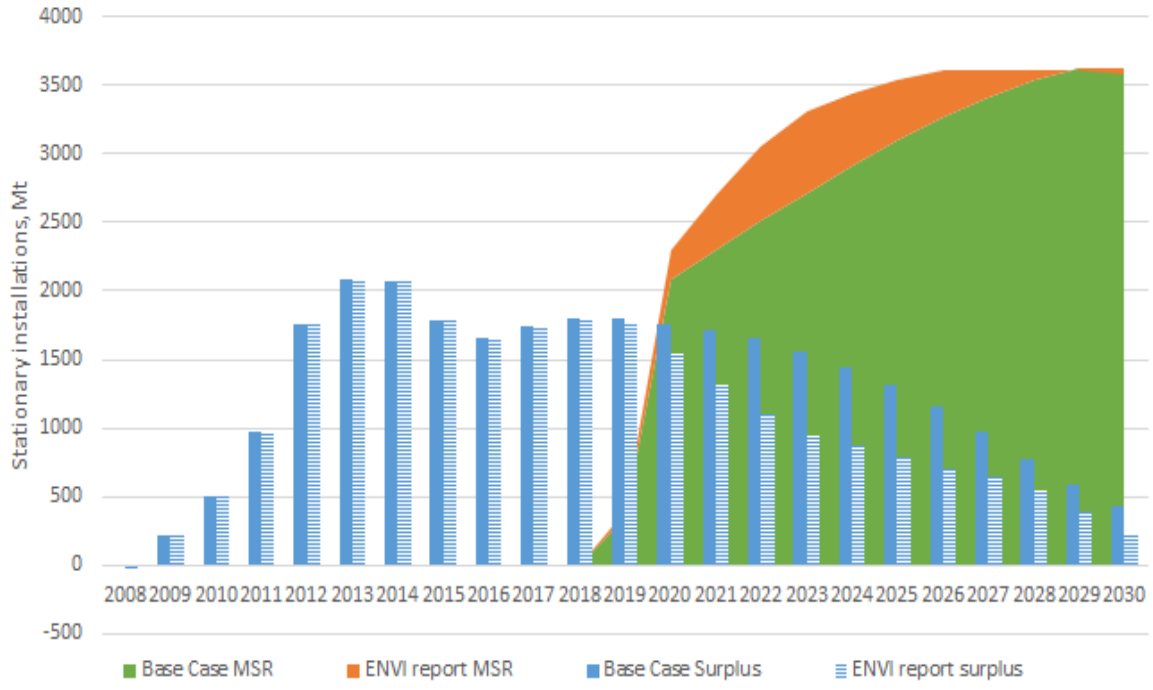
Coal emissions were 42% of total EU ETS emissions in 2015, and coal generation is highly volatile, so understanding coal emissions is critical of forecasting ETS emissions. We have included a further, more moderate fall in emissions to show that many of the problems associated with a continuation of the ETS cap are still present, even if emission falls over the next 5 years are less than those included in the low emissions case.

3 The Commission and Parliament have not addressed the EU ETS surplus

The Commission's EU ETS Directive proposal did not address the surplus, and neither did the long awaited ENVI Committee December report. Under our base emissions scenario, **the total surplus will be reduced by just 242Mt (to 3.8 billion tonnes) by measures proposed in the ENVI report**.

The only effect the proposed changes to the operation of the MSR will achieve is to move 211Mt of the surplus available to market into MSR. Over 1.5Bt will remain on the market, driving prices down (Fig. 4).

Fig. 4 ENVI report's impact on the surplus of allowances available at the market post-2020



Further, the cancellation from the MSR will not have an impact on the market until 2030 because the MSR will contain 3.7–5.4Bt by 2030 and it only returns 100Mt/yr. The effect of the cancellation will be felt only in 30 years' time, by which time the world will likely have passed the 1.5C temperature increase the Paris agreement was designed to avoid.

Increasing the Linear Reduction Factor (LRF) to 2.4% also has only a minor impact on the market before 2030: a surplus decrease of 242Mt during Phase 4. In 2030, the cap difference is only 44Mt.

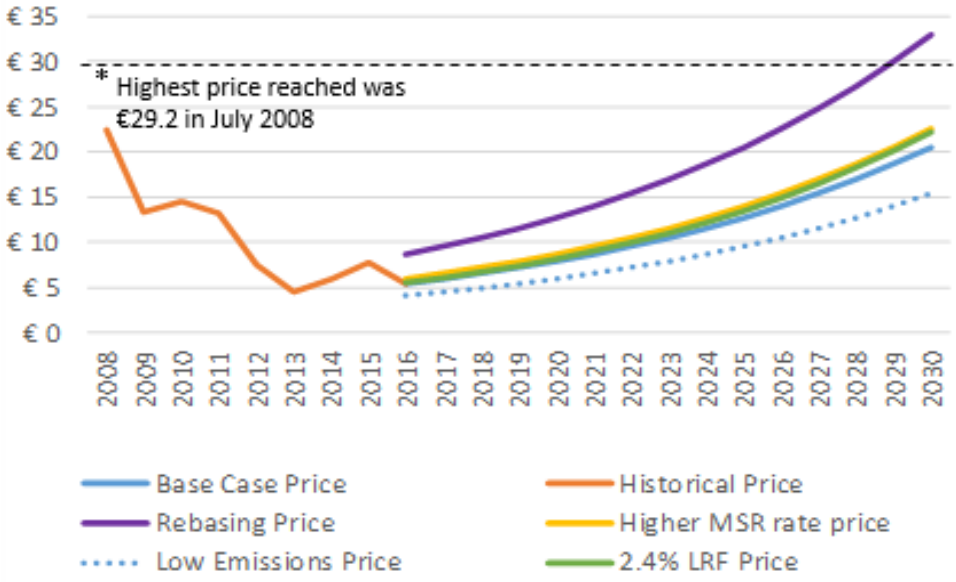
4 A simple solution is available: Re-basing the ETS cap in line with emissions

There is a clear need to further amend the current proposal and ensure that there is a realistic constraint that would allow the EU ETS to drive actual emission reductions. A truly reformed EU ETS is a system without surplus, with a market tight enough to discover the real cost of decarbonisation and to drive investment.

We argue that the price needs to rise to a moderate but meaningful level, rather than ~€5 as it is at present. The carbon price required would make industrial investment in emissions efficiency economically viable and allow for additional and systemic changes in power generation across Europe, rather than one-off or temporary changes that are only subject to commodity prices.

This can easily be achieved by re-basing the EU ETS cap in line with emissions, by modifying the starting point of the trajectory implied by the LRF at the beginning of Phase 4 to actual emission levels[1]. This option will be retabled for the European Parliament plenary vote on the 15th February 2017.

Fig. 5 Indicative impact of different EU ETS reform options on carbon price trajectories[2]



Allowances resulting from the re-basing could be cancelled or placed into the MSR – making this reform a real fix to the mechanism. In the second case, there will be no need to change in the cap and any political considerations such a decision would entail can be avoided.

[1] We have previously explored different options to select the new starting point. In light of the annual variations in emissions (for example due to weather patterns) a 3-year average such as 2017-2019 emissions seems most suitable.

[2] The indicative price trajectories above represent relative changes in the supply and demand balance of the EU ETS, assuming a market clearing price of €30 and an escalation rate of 10% p.a.

5 Unless the surplus is addressed the EU ETS allows for growth in emissions after 2020

The EU ETS needs to deliver continuous year-on-year emission reductions under the cap if we want to hit our headline commitments from the 2014 October Council Conclusions.

Council's 2014 Conclusions on the EU ETS clearly state that emissions from sectors covered by the System must be at least 43% below 2005 levels in 2030. There is no provision in the Conclusions for flexibility mechanisms to allow emissions to rise above this level. However, the current circumstances of the EU ETS imply that, contrary to the Conclusions, emissions may be above target (See fig. 6).

The cap is set at -43%, but both the use of banked allowances from the current surplus and potentially allowances returning from the MSR may allow additional emissions above the level of the cap.

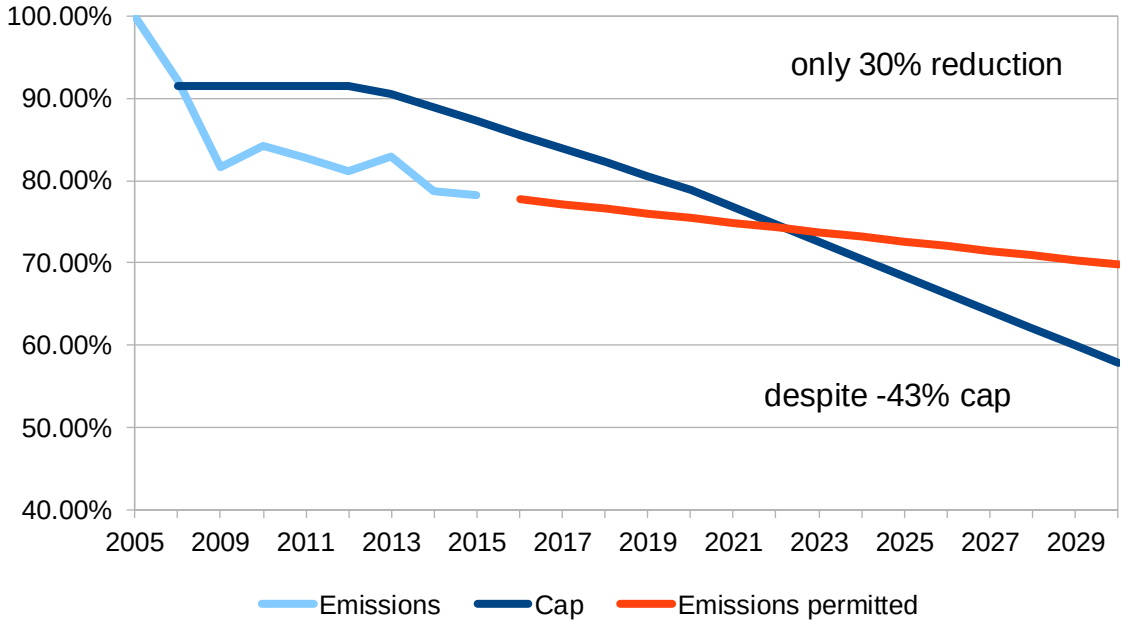


Fig. 6 The EU ETS budget under the -43% headline target in 2030

To ensure that the target is met, or at least greatly reduce the risk that it will be missed, additional reductions in the supply of allowances are needed. Re-basing the cap in line with emissions after 2020 to start at actual emissions in 2021 would ensure emissions cannot grow in Phase 4 and make it much more likely that the 2030 headline target will be met.

6 About this briefing

We are grateful to European Climate Foundation for helping to fund this work. Full information on Sandbag and our funding is available on our website (www.sandbag.org.uk).

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