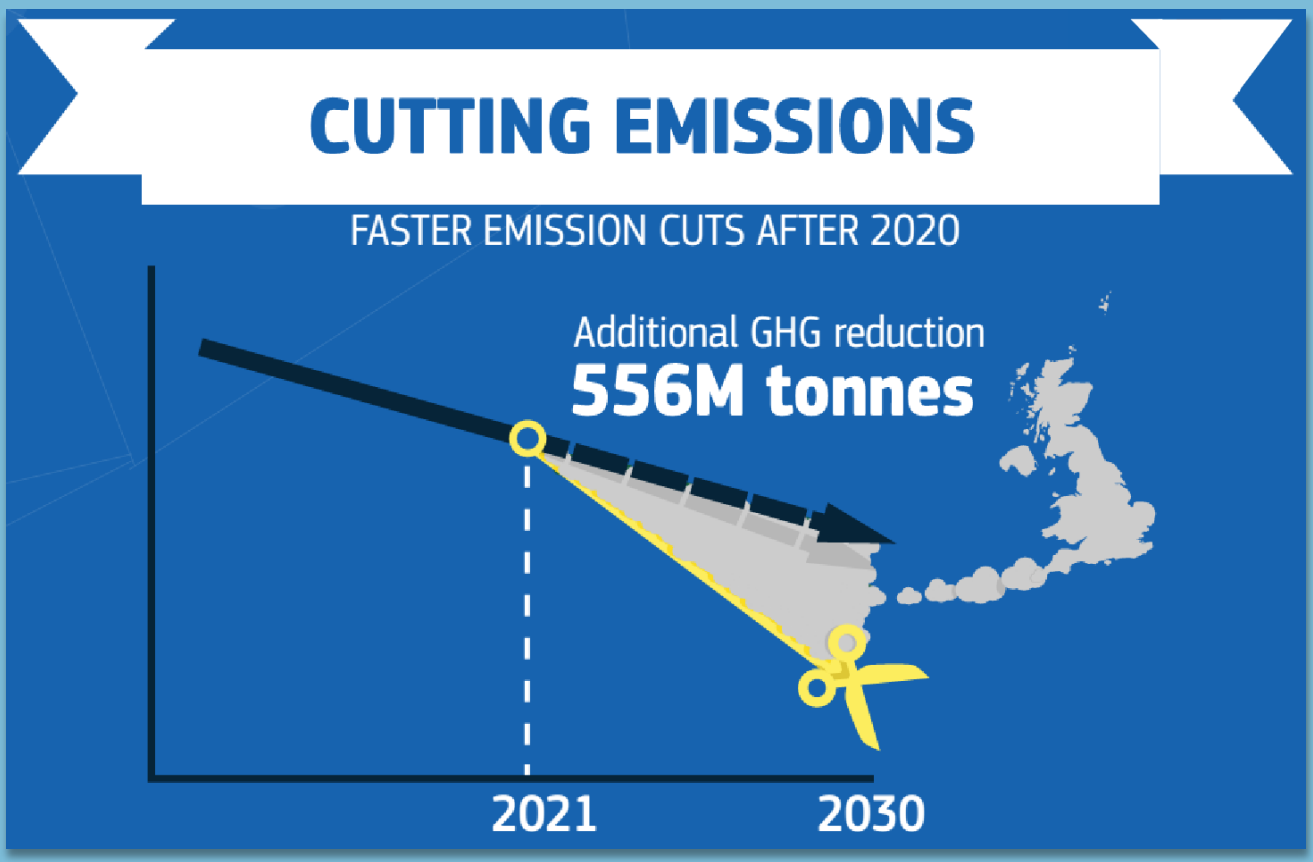
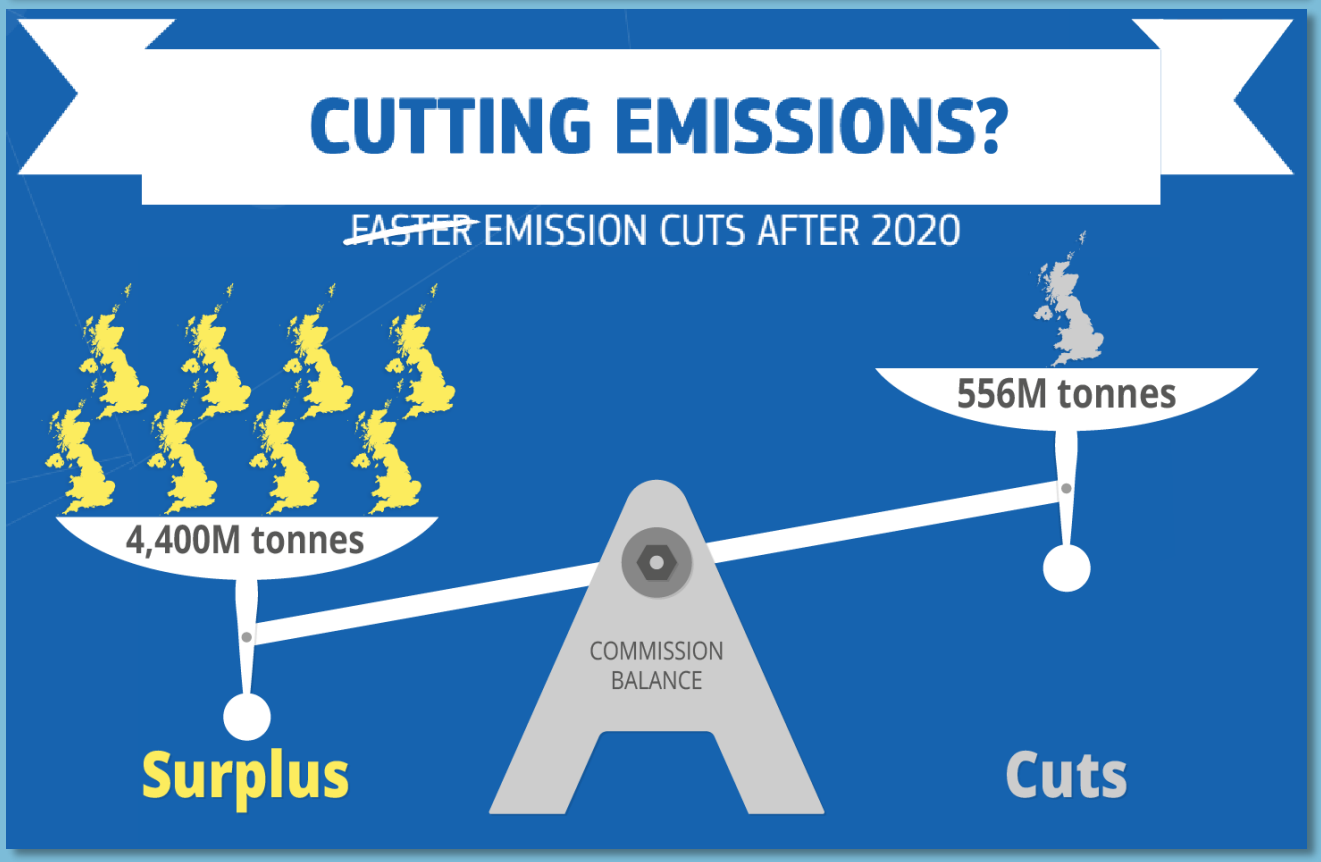
sandbag

Harder, better, faster, stronger

The easy route to increased EU climate ambition





August 2015

About Sandbag

Sandbag is a UK based not-for-profit research and campaigning organisation focused on effective European climate policy. We recognise that if emissions trading can be implemented correctly it has the potential to help affordably deliver the deep cuts in carbon emissions the world requires to prevent the worst impacts of climate change.

Through rigorous but accessible analysis we make emissions trading more transparent and understandable to a wider audience. In particular, we hope to shed light on the challenges the EU Emissions Trading System (ETS) faces in becoming a truly effective system for cutting emissions, and to advocate for the solutions that can help it to work better.

We are grateful for funding for this research from the **European Climate Foundation,** the **Esmée Fairbairn Foundation,** and for donations from members of the public.

About this Report

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The findings from this report are based primarily around information publically available from the European Commission supplemented with our own research.

Cover image by European Commission and adapted by Sandbag. Original Commission image can be found here: http://europa.eu/rapid/attachment/MEMO-15-5352/en/ETS%20revision.pdf

The Commission's ETS proposal reduces emissions by 556 million tonnes across 2030, but this will be outweighed by the 4.4 billion tonnes surplus Sandbag estimates will accumulate by 2020 and be banked into the new trading period.

Report title with apologies to Daft Punk.

We invite questions and feedback on this report over the summer. Please send queries and comments to damien@sandbag.org.uk and alex@sandbag.org.uk or call us on (+44) 0207 1486377.

Sandbag Climate Campaign is a not-for-profit enterprise and is in registered as a Community Interest Company under UK Company Law. Co. No. 671444

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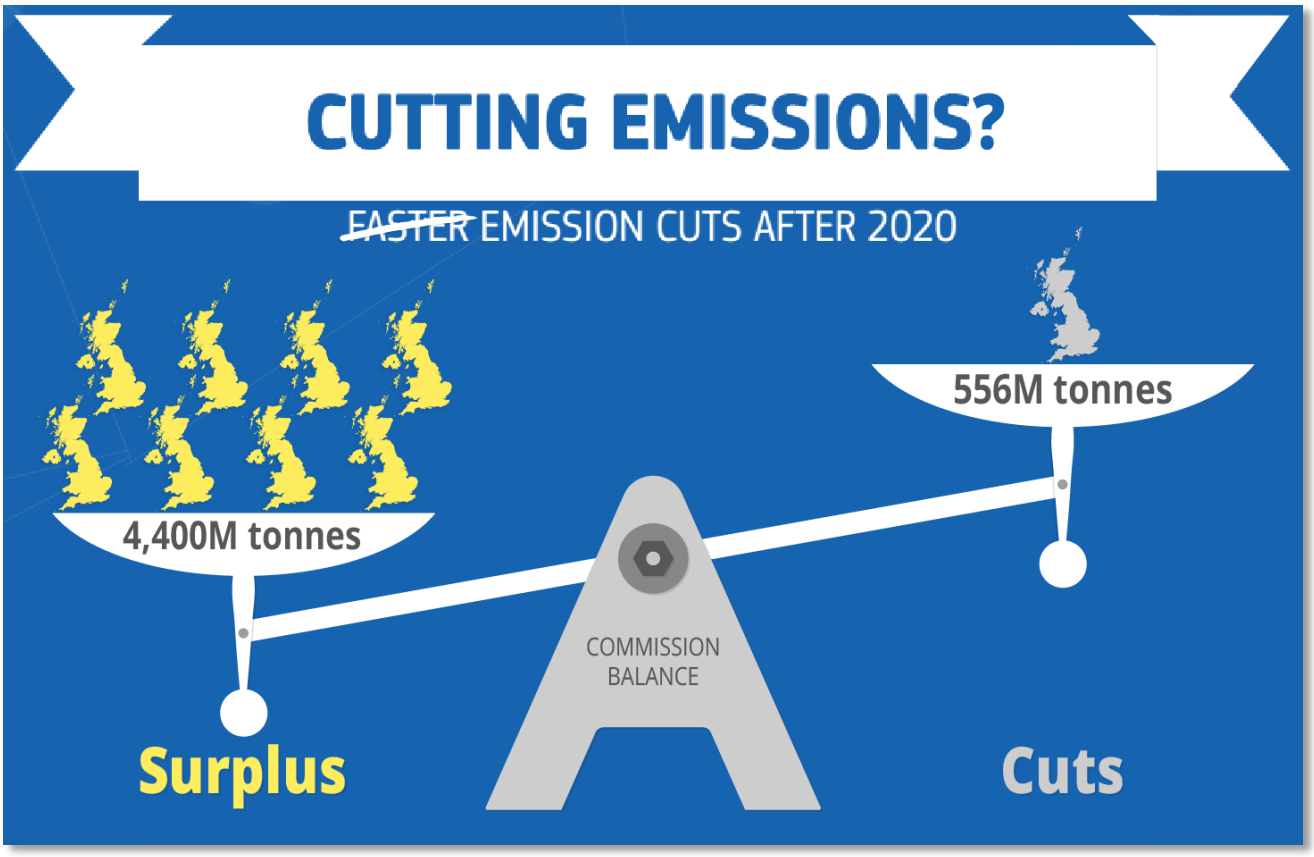
Introduction



In some quarters there is a sense that the question of environmental ambition in the 2030 climate and energy package has already been answered. It most definitively has not been. With the eyes of the world on Paris, looking to see if rich nations' will shoulder their responsibility to avoid dangerous climate change, there can and there should still be an active debate about how the EU can make good on its climate commitments.

Last October the European Council endorsed "a binding EU target of at least 40% domestic reductions by 2030" in line with the Commission's recommendations. The "at least" part of Europe's climate offer was an important inclusion – there must now be an open debate about what it means and how to operationalize it.

Claims by Commissioner Cañete and others that the 40% target in 2030 represents the cost-effective trajectory to Europe's long term goal are not strictly accurate or complete.[1] The Commission's official Low Carbon Roadmap specifies that a 25% domestic target in 2020 is also required, and independent analysis suggests that even more aggressive reductions are required in both 2020 and 2030.[2]

In this context the two implementing Directives that enforce Europe's climate targets – the Effort Sharing Decision (ESD) and the Emissions Trading Scheme (ETS) – are under review. Both of the carbon budgets created by these Directives are significantly over-allocated but with different rules applying in each. Thankfully, there is currently no provision to bank forward the spare allowances accumulated in the ESD. By contrast, the ETS is carrying forward substantial volumes of 'hot air' which it can use to meet future targets. 2.1 billion surplus allowances have accumulated in the ETS to date, and we forecast that this will grow to 4.4 billion by 2020 with around 2.1 billion of this stored in the Market Stability Reserve.[3] This surplus will reduce

[1] See http://ec.europa.eu/clima/news/articles/news_2015030601_en.htm
[2] https://www.pik-potsdam.de/members/knopf/publications/Knopf_EMF28_overview_final.pdf
[3] See Sandbag's 2020 surplus forecast (October 2014): https://sandbag.org.uk/reports/2020-surplus-projection/

the effort required to meet the 2030 target and stall progress towards Europe's long term climate goals. The modelling being used by the Commission to determine future targets and cap trajectories is in our view completely out of step with reality, creating a false impression and obscuring the ease with which tighter carbon budgets can now be met. EU decision makers can and must use the process of review of both Directives to revisit the degree of climate ambition and the means of complying with that ambition. Sandbag's recommendations on how to integrate both carbon budgets to achieve more ambition under the 2030 package are given in our response to the Commission's consultation on the EU Effort Sharing Decision.[4] A more harmonised system of overall carbon budget management that protects environmental integrity but allows for more flexibility is needed to enable higher levels of ambition to be adopted with confidence.

Important changes will also needed to protect economic competitiveness in the EU and we have issued specific recommendations on this in our recent report 'Discharging a political storm'.[5] With the caps progressively tightening over Europe's industrial sectors we must see a fairer approach to carbon leakage adopted. A far more comprehensive and effective strategy also needs to be devised for delivering investment in deep decarbonisation of industrial sectors.

These important changes must, however, be viewed in the context of increasing ambition. In this pivotal year, when we hope for a new global climate agreement to be reached, we cannot afford to let the debate over policy revision get bogged down in a petty turf war between industry and Member States over the allocation of free allowances.

In this briefing we propose several options by which the EU could step up its economy-wide climate targets through increased effort primarily in the ETS. We note that increased ambition should not be purchased at any price, and have sought to make pragmatic proposals that limit costs and are responsive to changing circumstances.

We have three main recommendations:

- Adopt a 25% target in 2020 target by cancelling allowances from the Market Stability Reserve
- Adopt a 50% target in 2030 through a tighter ETS cap and state-level offsets with a special safety-valve mechanism
- Keep all unallocated allowances in the Market Stability Reserve

We also recommend three additional measures to help EU increase its ambition over time:

- Introduce five year budget periods for the ETS (and the ESD)
- Introducing an automatic ratchet on ambition over time by establishing an expiry date on EUAs in the MSR
- Granting Member States the ability to cancel their own allowances from auction

We discuss these in more detail below.

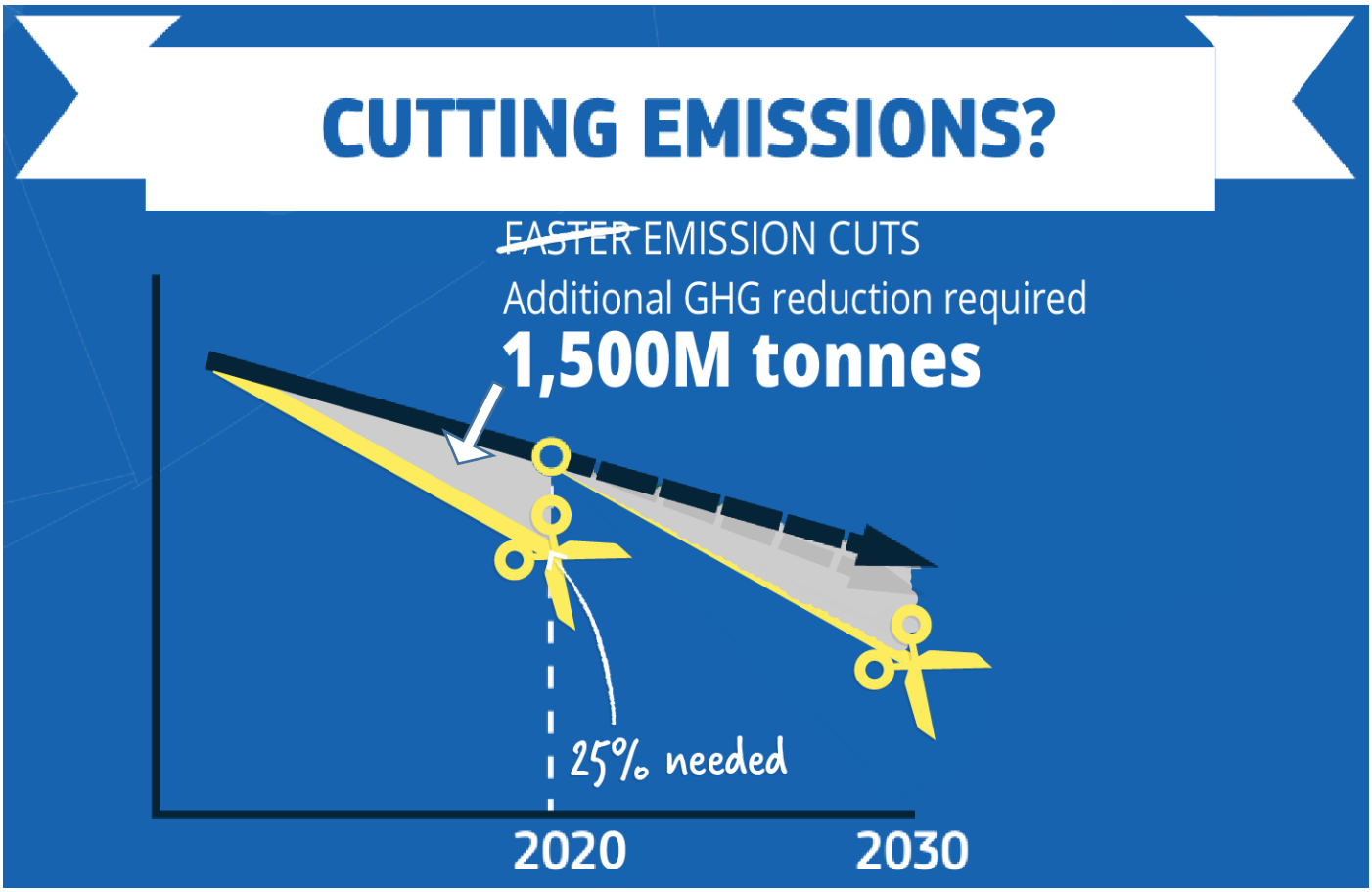
We have since issued a short update in April 2015: https://sandbag.org.uk/reports/the-eternal-surplus-of-the-spineless-market/ and will be issuing a new update shortly.

[4] https://sandbag.org.uk/reports/consultation-response-the-esd-the-2030-package/

[5] https://sandbag.org.uk/reports/discharging-a-political-storm-supporting-eu-competitiveness-and-innovation-in-the-ets/

Increasing Europe's climate ambition via the EU ETS

1. Adopt a 25% target in 2020 by cancelling allowances from the MSR



Europe's current 20% target in 2020 is neither an equitable contribution from Europe nor a cost-effective milestone to its long term climate goals:

- **In terms of equity:** Europe's long term goal of cutting emissions by 80-95% in 2050 relative to 1990 levels was taken from Box 13.7 in the IPCC's 4th Assessment Report.[6] The same box specifies that emissions reductions of 25-40% were required in 2020.
- **In terms of cost-effectiveness:** Europe has failed to adjust its 2020 targets in line with the milestones of the Low Carbon Roadmap, which required domestic emissions to be cut by 25% relative to 1990 levels. Third party, studies find that even larger emissions reductions are needed by 2020 to affordably meet the long term goal. [7]

Clearly, then, the current 2020 target is not consistent with the official sources used by the Community to determine a trajectory compatible with science. Article 1 of the ETS Directive mentions provisions to increase the caps in line with what is considered "scientifically necessary to avoid dangerous climate change", but these are not currently fleshed out.

Furthermore, Europe's climate targets have been outpaced by actual emissions reductions. As of 2014, emissions from Europe's power stations and factories have already fallen below their 2020 target in the

[6] p.776 of the IPCC 4AR WG3 report http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4_wg3_full_report.pdf
[7] p.26 https://www.pik-potsdam.de/members/knopf/publications/Knopf_EMF28_overview_final.pdf

traded sector.[8] Economy wide, Europe's emissions had already fallen 18% below 1990 levels in 2012, before the 2020 package had even come into force.[9] We project that, under current policies, domestic economy-wide emissions could easily fall as much as 29% below 1990 levels by 2020, largely driven by falls in electricity consumption.[10] In the ETS this overachievement will lead to large surpluses that could potentially stall progress in the 2020s and keep Europe off the cost-effective path, despite the adoption of a Market Stability Reserve.

In its 2010 Communication "Analysis of Options for Moving Beyond 20%"[11] the Commission examined how a 30% "flexible" target (25% domestic and 5% offsets) could be most painlessly achieved. The main option explored to increase the ambition in the traded sector was to cancel a significant volume of allowances from auction over the Phase III budget. The advantage of cancelling allowances rather than changing the overall trajectory of the cap, was that a change to the Linear Reduction Factor had several knock on effects that needless disrupted the regulatory framework in the middle of the period (e.g. would change the supply of free allowances available to industry, and reduce the allowances in the New Entrants Reserve).

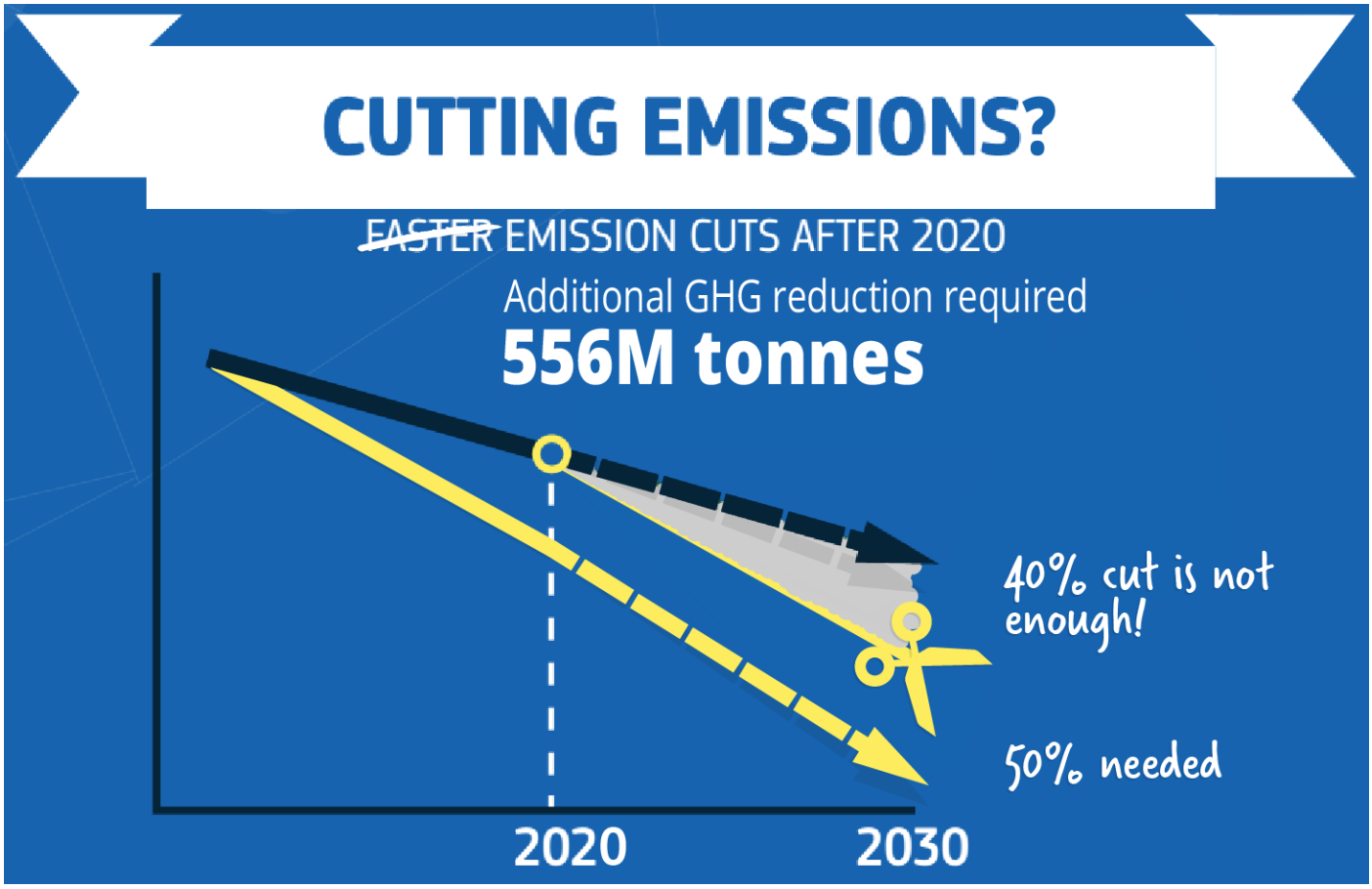
While policymakers have so far been slow to take up this suggestion from the Commission, the adoption of a Market Stability Reserve has made this option even more attractive. When first suggested, cancelling allowances direct from auction represented a more or less immediate forfeiture of revenues by governments. By contrast, allowances placed into the Market Stability Reserve represent a distant and uncertain prospect of future revenue, and cancellation of these should therefore be a more appealing prospect to Member States.

Sandbag calculates that 1.5 billion allowances would need to be cancelled from Phase III to deliver 5% of additional effort, bringing the EU to a 25% target. [12] While this would not be sufficient in itself to deliver the 25% *domestic* target required by the Low Carbon Roadmap, significant over-delivery of emissions reductions in the non-traded sector is expected against the Effort Sharing Decision budgets[13]. So long as spare allowances in the Effort Sharing Decision are allowed to expire (rather than being banked forward), this might be sufficient to ensure a 25% domestic target is reached, and could also bring Europe within reach of a 30% *overall* target after international offset use is taken into consideration.

Sandbag currently expects over 2.1 billion allowances to have accumulated in the ETS by 2020 under the MSR agreed in Trialogue and expect the MSR to continue accumulate allowances through most if not all of Phase IV. Retiring 1.5 billion in 2020 would still leave a buffer of roughly 600 million allowances to return to market if allowances on the market started to become scarce. The 1.5 billion Phase III allowances cancelled from the Market Stability Reserve should be divided between Member States based on their share of Phase III auctions.

[8] https://sandbag.org.uk/blog/2015/apr/1/emissions-europes-carbon-market-reach-2020-target-/
[9] p.7 http://ec.europa.eu/clima/policies/g-gas/docs/kyoto_progress_2014_en.pdf
[10] https://sandbag.org.uk/blog/2014/oct/28/europes-new-climate-target-walk-park/
[11] http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52010DC0265
[12] We calculate the EU's 1990 emissions baseline as 5.8 billion after adjusting latest UNFCCC data for the global warming potentials in the 2006 IPPC Guidelines (where possible). A 5% increase in the 2020 target would therefore require a reduction of 290 million tonnes in 2020. This would require removing a wedge of 1.6 billion allowances over the decade. While the Phase 3 cap is drawn from 2010, it only commences in 2013. This leaves just 1.5 billion to correct.
[13] The European Environment Agency estimates that the cumulative surplus in the ESD could reach between 700 and 1,200 million allowances. (See p.49 http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2014)

2. Adopt a 50% target for 2030 via the ETS and offsets with a safety valve mechanism



As well as increasing our 2020 target, lawmakers should also increase Europe's 2030 offer in Paris as its contribution to closing the gap between the existing pledges and what is considered necessary to have a chance of meeting the 2 degree goal.

We recommend that Europe cut emissions a further 10% by 2030 relative to 1990 levels. Effort sharing analysis published by both Ecofys and the UK government[14] indicate that a 50% target would be a more equitable contribution from Europe towards a 2 degree climate target. Independent analysis from the Potsdam Institute also suggest that domestic emissions reductions of 47% by 2030 would be a more cost-effective milestone to Europe's long term climate goal of cutting emissions by 80-95% by 2050 than the 40% domestic target proposed by the Commission.[15]

To deliver a 10% increase in ambition at lowest cost we recommend that

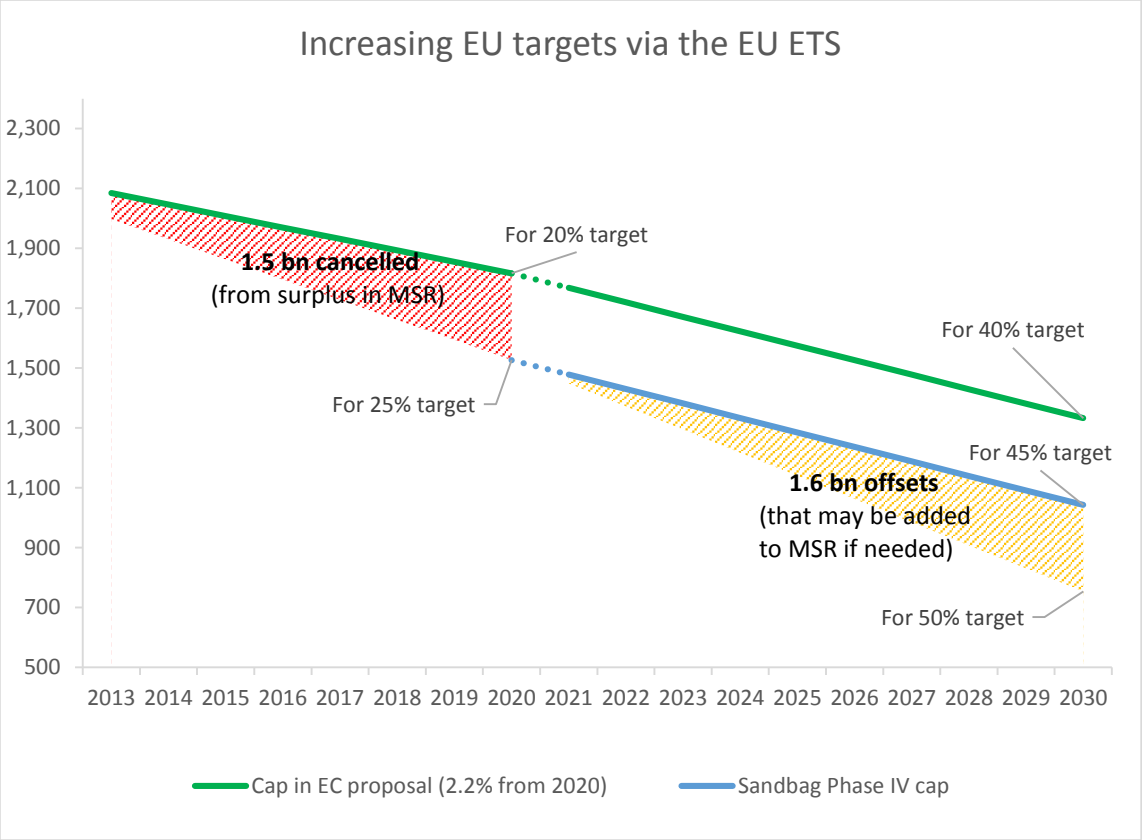
- **5% of additional effort be delivered *domestically* by changing the trajectory of the ETS cap,**
- **5% be delivered through a centrally co-ordinated purchases of *international* offset credits by EU Member States, and that**
- **Offsets be used as a cost containment measure in the ETS if the MSR is emptied before 2030, reducing the level of domestic abatement if necessary.**

[14] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253209/UK_Analysis_of_EU_2030_GHG_Targets_FINAL_TO_WEBSITE.pdf and http://www.ecofys.com/en/blog/what-is-a-fair-contribution-of-the-eu-to-the-2c-limit

[15] p.26 https://www.pik-potsdam.de/members/knopf/publications/Knopf_EMF28_overview_final.pdf

If, as we propose, a -25% target is adopted in 2020, this should also be reflected by starting the Phase IV cap some 290 million tonnes lower in 2021. If the Commission's proposed 2.2% Linear Reduction Factor (48 million tonnes p.a.) continues from this lower starting point it would automatically lead to a 2030 target that is 45% below 1990 levels on a completely domestic basis. [16]

In addition, we recommend that the EU achieve an additional 5% emissions reductions by purchasing international offset credits. We estimate that this would require the purchase of 1.6 billion credits over 2021-2030.[17] This purchase should be centrally co-ordinated on behalf of EU Member States in ten instalments of 160 million offsets spread across the ten years of the trading period. We advise that the burden share for purchasing these offsets should be the same as the division of Member State's Phase IV auctions.



In addition to contributing an additional 5% of ambition, these international offsets could also act as a cost-containment measure if the additional 5% domestic effort results in high carbon costs. For example, if high demand for ETS allowances forces the Market Stability Reserve to empty before 2030 and prices start to rise, a central repository of international offsets could be used to supplement the reserve and step in to supply allowances for auction. In times of low market supply, 100 million offsets could be exchanged for ETS allowances and directly top up annual Member State auctions. This provision would terminate in 2030.

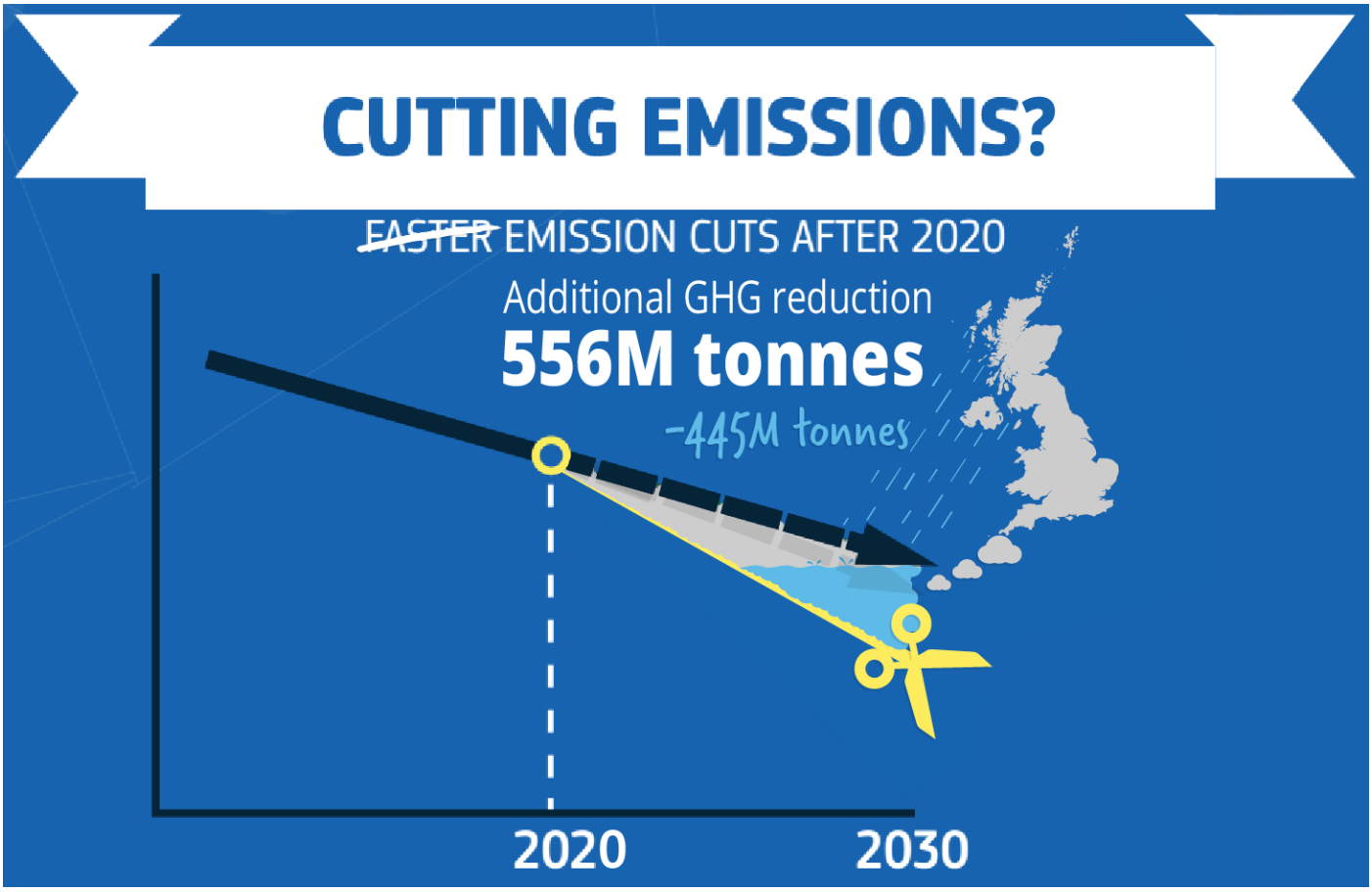
[16] Alternatively, if a -25% target is not adopted, a stronger Linear Reduction Factor would need to be agreed to deliver a 5% deeper 2030 target domestically. By our calculations that would require an LRF of 3.52% (i.e. 77 million p.a.)

[17] The 1990 baseline is 5.8 billion. A 5% reduction in the 2020 carbon budget implies lowering the carbon budget by roughly 290 million in 2030. This implies a wedge of cumulative increments of 29 million across the ten year period (1.6 billion altogether).

If all 1.6 billion offsets were required to "refuel" the market for use against domestic emissions, this would negate the 5% additional domestic reductions contributed by cancelling EUAs, leading to a 45% target for 2030 (40% domestic/5% international).[18] Sandbag's emissions forecasts suggest that such a demand for allowances is unlikely to take place, and that 50% reductions can be achieved at very limited cost to private entities covered by the EU ETS.

Learning the lessons from the use of offsets in Phases II and III we strongly recommend that any future use of offsets uses a positive list of countries and methodologies that may be purchased. We also recommend exploring the use of discounting credits (e.g. by 50%) so that some of the abatement delivered by such investments remains with the host country and counts towards its INDC. The cost of purchasing any discounted offsets should count towards the EU's contribution to the $100bn in climate finance agreed in Copenhagen, as they would constitute additional contribution to global abatement.

3. Keep unallocated allowances in the MSR



When the European Commission published its ETS Revision, it proudly announced that a stronger new trajectory for the EU ETS would cut emissions by 556 million tonne, an amount roughly equivalent to the annual emissions of the UK. Unfortunately, in the same proposal, the Commission has undermined 80% of this emissions cut by introducing 445 million in additional supply via other routes.

[18] Note that Member States would effectively be topping up their own auctions with offsets they purchased themselves.

This 445 million consists of unallocated allowances that should have been captured by the Market Stability Reserve and be safely off the market. These include:

- 50 million unallocated allowances released from the MSR to provide additional innovation funding.
- 250 million unallocated allowances removed from the MSR to fund the Phase IV New Entrants Reserve.
- 145 million other unallocated Phase III allowances used to also fund the Phase IV New Entrants Reserve.

Like many participants in the Market Stability Reserve debate, we were shocked to discover that a third category of unallocated allowances had escaped capture by the Market Stability Reserve under the specific legislation of the Trialogue agreement. Environmentally progressive stakeholders have a right to feel cheated in this regard.

While we support the need for additional innovation funding and a well-stocked New Entrants Reserve, we believe dedicated allowances from the Phase IV cap should have been dedicated to this purpose, rather than substituting in unallocated allowances from the previous period.

Measures to increase Europe's environmental ambition over time

1. Five year budget periods

A recurring and fundamental threat to the integrity of the EU ETS carbon budgets has been the obsolescence of the cap. Ten years and three budget periods into the policy, lawmakers have repeatedly misjudged business-as-usual emissions and over-estimated the cost of emissions reductions. This has led to loose carbon budgets that fail to confine emissions and instead lead to the accumulation of vast surpluses of spare carbon allowances. The ETS is currently in surplus by roughly 2.1 billion allowances, and by 2020 Sandbag forecasts there will be 4.4 billion spare allowances under the ETS cap.[19]

Instead of learning from past mistakes the EU has taken longer and longer gambles on the accuracy of official emissions forecasts, increasing the length of trading periods from 3 years to 5 years to 8 years, and now potentially to 10 years. While the Market Stability Reserve will partly serve to maintain some scarcity in the market despite a lack of appropriate scarcity in the actual cap, lawmakers need to take responsibility for making the total legal supply of allowances credible again.

It is unacceptable that policymakers have only one opportunity each decade to review the level of environmental ambition in the policy or adjust its design to deal with new information and circumstances. This is especially true, given the hostility industrial sectors have expressed to regulatory change *within* budget periods.

We therefore strongly recommend the EU ETS should return to the 5 year budget periods as last seen in Phase II.

In a recent set of draft Council Conclusions the European Council proposes "that the Paris Agreement […] contain a dynamic five-yearly ambition review mechanism starting in 2020 in order to stay below 2°C", and

[19] Roughly 2.1 billion of these will be in the MSR by that time.

"contain simplified procedures for the renewal and upward adjustment of mitigation commitments".[20] It would be hypocritical for the European Union to demand this of other parties to the UNFCCC and not maintain similar provisions within the Community.

Finally, the ETS directive contains explicit provisions to increase the ambition of the ETS cap in order to "contribute to the levels of reductions that are considered scientifically necessary to avoid dangerous climate change" (Article 1) or in the event of an ambitious international climate agreement (Article 1, Article 28). These review provisions should be updated, extended and enhanced as part of the ETS revision, to ensure that the ETS can respond to new developments in science, technology, or international politics. In particular, the provisions in Article 28 should be updated to express the procedure by which the Commission not only increase its 2020 climate target under an international agreement, but also how it might increase its 2030 offer in light of an ambitious global deal.

2. Introducing an automatic ratchet on ambition going forward

While one of the advantages of the EU ETS is that it creates temporal flexibility for the EU to achieve its climate targets, the current banking rules risk stretching this flexibility beyond credibility. It is unacceptable that billions of spare carbon allowances accumulated over 2008-2012 as a result of unambitious caps, unnecessary offset use, and economic downturn, should return to weaken Europe's emissions reductions obligations in the 2030s or 2040s.

There are several ways in which the Market Stability Reserve can be modified to prevent excess carbon allowances from providing an unlimited right to pollute in the future.

- **Prevent more than a full year's worth of spare ETS allowances from accumulating in the reserve.** It is neither credible nor appropriate that the traded sector should need to hold more allowance in reserve than are needed to cover a full year's worth of emissions. The size of the MSR should be limited to the volume of stationary emissions reported in the previous compliance year, with any volumes beyond that ceiling to be retired permanently. In 2014 emissions for stationary installations stood at 1,815 Mt.[21] It would take at least eighteen years for an equivalent volume of emissions allowances to exit the Market Stability Reserve.[22] Eighteen years of back up supply seems more than sufficient as a buffer against future scarcity. Hitching the ceiling to stationary emissions allows it to ratchet down over time, as the ETS approaches its longer term carbon targets.

- **Introducing expiry dates for ETS allowances placed in the Market Stability Reserve.** An alternative means of limiting the validity of ETS allowances placed in the reserve is to time-limit them. Different burden shares for auctions between trading phases imply that the ETS allowances placed into the Market Stability Reserve will be tagged with an assigned national owner and a phase of origin. Any allowances not used by the trading period after their original submission could be removed permanently, while ensuring a fair division between Member State allowances in the reserve.[23]

3. Granting Member States more autonomy to increase their climate ambition

Currently, the ETS Directive specifies that all allowances that are not issued as free allowances must be auctioned. This obliges Member States to auction allowances they may otherwise wish to cancel. Cancelling national allowances held in the market stability reserve, which represent a distant and uncertain revenue

[20] Brussels, 15 June 2015 (OR. en) 9888/15 LIMITE

[21] EUTL accessed on 28/4/2015. By contrast, Sandbag expects 2.1 billion allowances to accumulate in the MSR by 2020 and to continue growing for several years.

[22] The MSR is designed to reissue allowances at 100 Mt year if supply on the market falls below 400 million

[23] This assumes trading periods of ten year's length. If five year trading periods were introduced as we propose, allowances could reasonably remain valid for two successive periods.

prospect, is a clear way for Member States to go further in terms of climate mitigation effort. **A small change (highlighted below) to the Article 10 (1) of the ETS directive (highlighted below) would make this possible:**

Current text	Proposed change
1. From 2013 onwards, Member States ***shall*** auction all allowances which are not allocated free of charge in accordance with Article 10a and 10c. By 31 December 2010, the Commission shall determine and publish the estimated amount of allowances ***to be*** auctioned.	1. From 2013 onwards, Member States ***may*** auction all allowances which are not allocated free of charge in accordance with Article 10a and 10c. By 31 December 2010, the Commission shall determine and publish the estimated amount of allowances ***that may be*** auctioned.

Conclusion

The Commission's own sources indicate that a stronger 2020 target is necessary, and rapidly falling emissions combined with a huge and growing surpluses in the ETS mean that we can readily go further in 2020 and 2030 without incurring huge costs.

The provisions outlined above demonstrate options for how we can get back on track to an equitable and cost-effective emissions pathway with minimum pain to companies under the ETS, e.g. by cancelling surplus allowances that are already out of circulation, or allowing offset credits to flow back into the market if a tighter cap proves unexpectedly costly.

We hope that these suggestions will re-ignite the debate on Europe's contribution in Paris and help put ambition at the front and centre of the debate on the ETS review.

sandbag

Sandbag is a UK-based not-for-profit think tank conducting research and campaigning for environmentally effective climate policies.

Our research focus includes the phase-out of old coal in Europe; deep decarbonisation of industry through technologies including Carbon Capture Utilisation & Storage; reform of the EU Emissions Trading Scheme; and increasing ambition in the EU 2020 and 2030 climate & energy packages.

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