

Buckle Up!

Tighten the cap and avoid the carbon crash



The 2011 Environmental Outlook for the EU ETS

About Sandbag

Sandbag is a UK based not-for-profit campaigning organisation dedicated to achieving real action to tackle climate change and focused on the issue of emissions trading. Our view is that if emissions trading can be implemented correctly, it has the potential to help deliver the deep cuts in carbon emissions the world so badly needs to prevent the worst impacts of climate change

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

About this report

Buckle Up! is Sandbag's 3rd annual report on the Environmental Outlook for the EU ETS – following on from *ETS S.O.S.* in 2009, and *Cap or Trap?* in 2010. This report again looks in detail at how the ETS is performing on the ground and makes recommendations for urgent reforms. The report uses emissions data for 2010 released in May 2011. 2010 is the mid-point year of the current 5 year trading phase.

We have made a number of changes to the methodologies used in this report particularly in relation to how we define our 'shadow' or recalibrated carbon budget for the next trading phase beginning in 2013. We have also found that previous estimates of waste gas transfers in the steel sector were likely to be overly generous and have instead used figures provided by steel companies after requesting this information in direct correspondence.

We are always interested to receive feedback on our work and would welcome any reactions, comments or corrections. Please email us at info@sandbag.org.uk.

July 2011

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Buckle Up in numbers

77%

of total installations in the ETS are currently in surplus

855Mt 1.2Gt

excess carbon permits accruing to industry by end of Phase 2 of which 672Mt will carry forward to Phase 3

additional permits in Phase 3 due to industrial surpluses pushing up the historical baseline

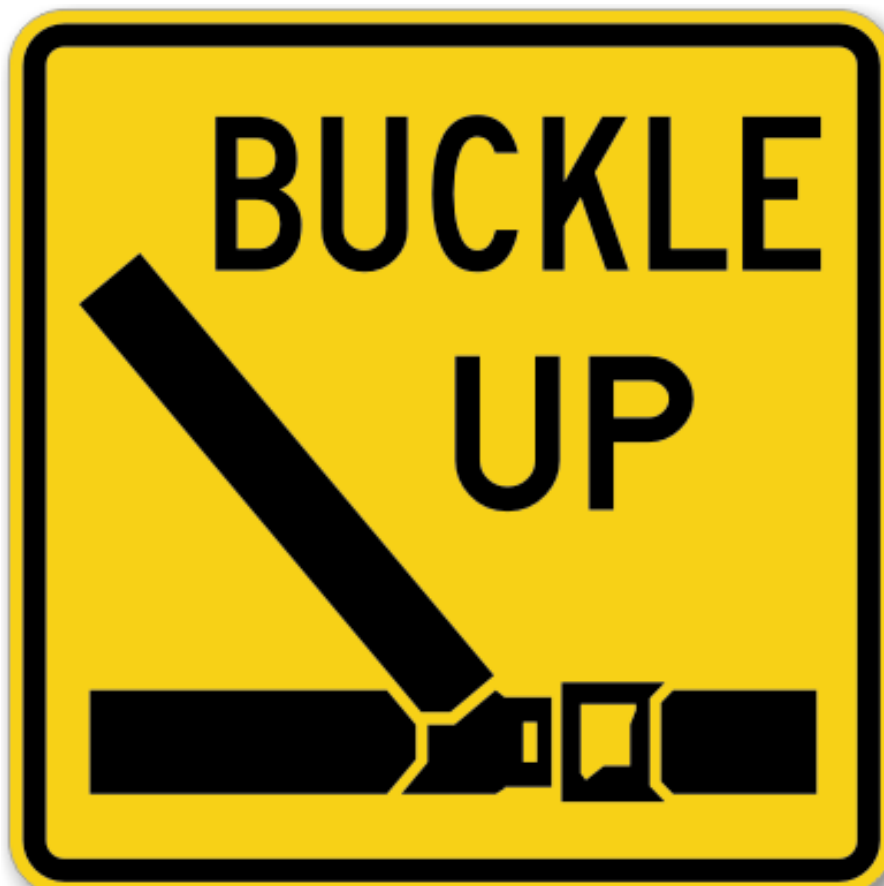
52%

of offsets are surrendered for profit by installations holding a surplus

1.7Gt 4.6Gt

Sandbag's recommended set-aside to correct for the full effects of oversupply in Phase 2

would be saved against business-as-usual 2008-2020 emissions if Sandbag's recommended set-aside is permanently cancelled



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Executive Summary

The EU ETS was established with broad political support as the preferred “flagship” climate policy to deliver reliable and cost-efficient abatement. However, midway through its second carbon budget, we find the system very likely to be oversupplied with permits for the second period running while the effects of complementary policies threaten to leave it oversupplied for a third. Loose caps in the first phase of the system caused prices to crash. Since then prices have been held afloat by the capacity to bank carbon permits forward, but with the prospects of carbon scarcity retreating ever further into the future and of new permits flooding the market, prices are again tumbling, falling by over 20% in the last fortnight, and the market is threatened by a repeat crash: analysis cited in a draft Impact Assessment for the Energy Services Directive predicts the carbon price could collapse to €0.¹

Meanwhile, as the evidence mounts that the cap has been set too high, the European Commission’s proposals for adjustment have become increasingly timid. It is time for the broad political base that first established the ETS to rally together to fix the system so it can work as it was originally intended.

Just as loosely fitted seatbelts are useless in preventing injury, a cap sitting above the emissions of the majority of the participants is also useless. It is time for the EU to buckle up and create an ETS that is fit for purpose. It is also time for those industries currently blocking progress to stop complaining and accept that regulation in the public interest is necessary and beneficial.

At its current level of ambition the ETS is doing very little to drive abatement in Europe, generating low carbon prices which scarcely reduce business-as-usual emissions. If low prices were a result of investment delivering cheaper than anticipated emissions reductions this in itself would not be a problem. However, as this report shows the low prices reflect a huge gulf between allocations and the actual level of emissions over the last three years owing principally to the impacts of the recession.

Direct and indirect effects of the oversupply to industrial installations in Phase 2 are likely to push the Phase 3 cap up some **1.9Gt** higher than it should have been roughly equivalent to a year’s worth of emissions in the traded sector. To correct for this we propose the Commission set aside **1.7Gt** of Phase 3 permits, guided by a “shadow allocation” derived from the historical emissions of the industrial sectors since 2005. We also propose that the Commission reopen the Directive by 2015 at the latest with a view to cancelling this set-aside, principally by adjusting the declination in the ETS trajectory to **2.4%** placing it more in-line with the 2050 targets in the Low Carbon Roadmap.²

Findings

Phase 2 industrial oversupply and effects on Phase 3

The net surplus in Phase 2 to date (2008-2010) is roughly 200Mt but a shortfall of **530Mt** in the power sector masks surpluses of roughly the same amount in industry-related sectors. At a minimum, this finds

¹ http://www.sandbag.org.uk/site_media/uploads/20110505_Impact_Assessment_Energy_Efficiency_Directive.pdf
p.30

² IDDRI and Climate Strategies calculate this will deliver an ETS cap 96% below 2005 levels by 2050 – see Emmanuel Guerin & Thomas Spencer, *Strengthening the European Union Climate and Energy Package*. (<http://www.climatestrategies.org/research/our-reports/category/57/326.html>).

power consumers purchasing **183Mt³** of permits from industry, cross subsidizing industry to the tune of **€2.9 Euros**.

Industrial surpluses threaten to grow to **855Mt** by the end of 2012. As permits from Phase 2 can be banked forward into future phases, the majority of this (subtracting the 183Mt needed for power sector compliance) will likely carry forward swelling and weakening the Phase 3 budget by **672Mt**. **In other words, the ETS would be stronger policy mechanism if Phase 2 had never existed.**

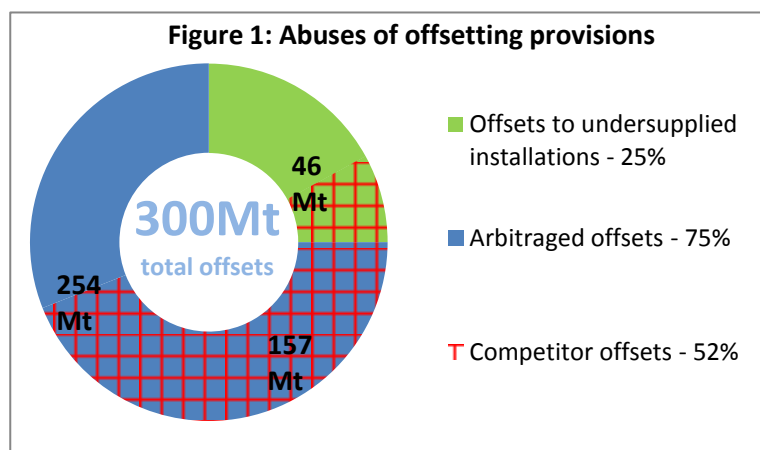
In addition this oversupply pushes up the Phase 3 baseline making it environmentally obsolete. In Phase 2, the overall ETS cap was derived bottom up from allocations distributed by EU Member States. In Phase 3, the cap is set top-down in reference to the Phase 2 average allocation, contracting by 1.74% each year. With the Phase 2 cap carrying **855Mt** in superfluous industrial permits, this inflates the baselines used to set the Phase 3 cap, enlarging the budget by a further **1.2 billion permits**. If we add this to the 672Mt of carryover identified above, we estimate that caps for the period 2013-20 are **1.9Gt** too loose. This is a conservative estimate that ignores the effects of large volumes of additional surpluses concealed within the net position.⁴

Fat cat sectors: steel and cement

The steel sector has accumulated surplus EUAs of **165Mt** and the cement sector **143Mt** over 2008-2010, worth **€2.6 billion** and **€2.3 billion** respectively. They have at the same time been amongst the most active lobbyists against stronger unilateral European climate targets, ambitious benchmarked allocations or a Phase 3 set-aside. What is more, the steel sector is taking advantage of uncertainty around the quantities of waste gases it transfers to combustion installations in order to downplay and camouflage this surplus.

Abuses of international offsets

Installations in the traded sector are able to surrender international offsets against their emissions as a means of keeping their compliance obligations affordable; however, some **2,912 installations**, or **28%** of those currently active within the system have surrendered offsets despite holding a surplus of free allocations. Together they have surrendered some **157Mt** of offsets they did not need in order to expand their surplus even further, pocketing some **€628 million** from the higher asset value of the



carbon permits released in this way.⁵ Alarming, this “offset arbitrage” accounts for more than **half** of the 300Mt offsets surrendered into the system so far (see red grid in Figure 1).

³ After taking into account of surrendered offsets and permits available at auction

⁴ If we filter for *all* installations currently in surplus, this covers some 7,908 installations or 77% of all active installations. Together they account for surpluses of 950Mt to date growing to 1.6Gt by 2012. This would indirectly push up the Phase 3 budget by 2.3Gt.

⁵ For this report we value EUAs at €16 and CERs/EUAs at €12. These prices derived from recent trends in carbon prices as recorded in www.bluenext.eu on 16/6/2011. Recent political events and the forward sale of Phase 3 NER300 permits have seen prices fall dramatically.

We also find some **254Mt** in offsets representing **85%** of the total surrendered into the system to date are subsidizing Europe's industrial competitors in emerging economies. Lastly, **131Mt**, or **44%** of all offsets surrendered were *both* bought by oversupplied installations and purchased from Europe's industrial competitors (see overlap between blue fill and red grid in Figure 1).

Recommendations

This is a critical juncture for the ETS: a reluctance to increase its ambition threatens to either derail it completely or pitch it against other climate policies including industrial energy efficiency regulations. Meanwhile, the window is rapidly closing to introduce a set-aside before Phase 3 gets underway in 2013. For the last eight years, market-sceptics on the left and climate sceptics on the right have dominated comment on the system; now the broad political base which first established the ETS must come forward to defend and reform the policy. The excessive politicization of the European trading system has become a distorting lens through which its imperfections have been perceived, turning each technical or environmental challenge it faces into a call for its termination. These challenges should instead be perceived as opportunities for constructive engagement and reform with what is, fundamentally, a powerful policy whose major fault is that it lacks sufficient ambition. We need a coalition of political centrists from the public, private and third sectors to demand a strong cap that drives flexible and hence affordable abatement while actively discouraging lock-in to fossil-intensive infrastructure. Fortunately this is starting to happen with MEPs, household brands, power companies, NGOs and think-tanks making clear demands for tighter carbon budgets. We welcome and encourage this development, and invite them to comment on and share in the recommendations outlined below.

Recommendation 1: Adjust the ETS independent of Europe's 2020 targets

Tighter caps in the ETS can greatly facilitate more ambitious economy wide climate targets for Europe. A lack of movement in the 2020 targets need not prevent more ambition within the system. A reduction in the supply of auctioned permits is necessary to adjust for the direct and indirect effects of oversupplying Phase 2. This will, as a *co-benefit* better align the ETS with the Renewables and Energy Efficiency Directives, and prepare the ETS for more ambitious European targets if and when they are agreed.

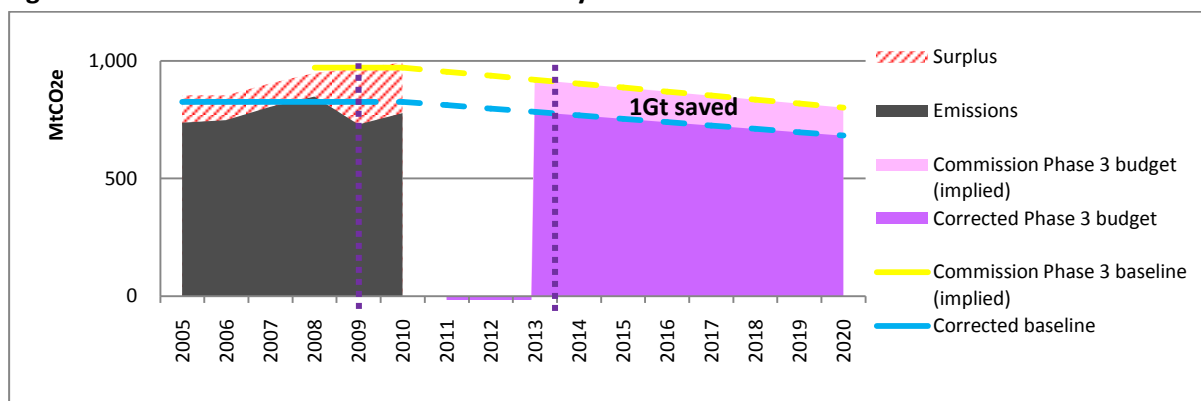
Recommendation 2: Set-aside at least 1.7Gt from the Phase 3 budget by 2013

A set-aside of **672Mt** would correct for that portion of the oversupply we expect to carry forward from oversupplied installations in Phase 2, but this is not sufficient to correct for the *indirect* effects this oversupply had in driving up the baseline from which Phase 3 budget was drawn. In Figure 2 we show how Phase 3 caps were inflated by surplus free allocations to the industrial sectors (yellow line).

To account for this, Sandbag recommends establishing a further set-aside of **1Gt**. We acquire this figure from a revised Phase 3 baseline derived from current power allocations combined with industry *emissions*. We have used average industry emissions from 2005 as a concession to some active abatement which may have taken place in these sectors. Taken together, this **1.7Gt** set-aside should be introduced before Phase 3 gets underway in 2013. There is nothing in the Directive to prohibit such a set-aside of auctioned permits.⁶

⁶ Client Earth *Setting the ETS Cap – The Set Aside of ETS Allowances (May 2011)*
<http://www.clientearth.org/reports/clientearth-legal-briefing-ets-cap-and-set-aside.pdf>

Figure 2: Phase 3 shadow allocation for industry-related installations



Recommendation 3: Reopen the ETS Directive by 2015

At the very latest, the directive should be reformed by 2015 to respond to the state of the science as published in the IPCC 5th Assessment Report, whose final instalment will be released in September 2014. A review of the reductions mandated by the system based on emerging science is implied by Article 1 of the Directive.

An opportunity might well arise before that date as the political appetite for climate ambition appears to be growing. Within the European Parliament, recent votes from both the Industry, Research and Energy Committee and the Environment, Public Health and Food Safety committee have come out strongly in support of stronger economy-wide targets and a 1.4 billion permit set-aside in the ETS.⁷ A crucial test of this Parliamentary support will be a plenary vote due to take place shortly after this report goes to press. Ambition also appears to be growing in the European Council, with Environment Ministers from 7 EU Member States signing a joint letter in March supporting a 30% 2020 target⁸, and on June 21st all Environment Ministers apart from Poland's supported the targets outlined in the 2050 Roadmap⁹. Outside of the EU institutions, a growing number of corporate supporters have joined the call for greater ambition, including several prominent energy companies.¹⁰

Recommendation 4: Prioritize the following changes to the ETS directive

At such a point as circumstances allow for a review of the Directive, we feel the following changes should be prioritized:

i. Permanently cancel the set-aside

Any permits set aside from Phase 3 risk returning to haunt the system in 2020 or in future trading periods unless they are permanently cancelled. This cancellation of the set-aside could be imposed on the basis of the following two recommendations:

ii. Increase ambition within the ETS with a steeper declining trajectory

The Directive currently calls for a review of the trajectory of the cap to be underway by 2020 and in force by 2025. But it is already clear that the current 1.74% annual reduction from average Phase 2 allocations,

⁷ European Parliament Committee on the Environment, Public Health and Food Safety, *Report on the analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage*. (<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2011-0219+0+DOC+PDF+V0//EN&language=EN>). 1 June 2011.

⁸ http://www.decc.gov.uk/en/content/cms/news/chrish_eulett/chrish_eulett.aspx

⁹ <http://www.wbj.pl/article-55093-poland-sparks-controversy-on-eu-environment-policy.html>

¹⁰ http://www.theclimategroup.org/_assets/files/business_declaration_june_15_2011.pdf

fails to deliver the abatement in the traded sector implied by the 2050 Roadmap. Research by Climate Strategies shows that a 2.4% trajectory is far better aligned. We call for this target to be reviewed by 2015 and for a **2.4%** trajectory to be implemented by the following year. This would cancel some 553Mt of any outstanding set-aside by 2020.

iii. Create an ongoing cancellation mechanism to account for oversupply

The ETS currently has two legal mechanisms to prevent low supplies of carbon permits in the system from pushing up prices: generous international offsetting provisions, which allow compliance installations to purchase cheap abatement overseas towards half of their mandated reductions; and also a provision to bring forward permits from future auctions or unused New Entrants Reserve under specific criteria. There is currently only one provision, the banking of permits into future trading periods, to account for the opposite and prevailing problem, weak demand for permits and low carbon prices. To better account for this we recommend an Article 29b be established to create a clear basis for the Commission to intervene to permanently lower the supply of permits coming to the market under a predictable set of conditions (i.e. pre-specified drops in the production index, or drastic reductions in the carbon price). This would prevent a re-enactment of the problems that afflicted Phase 2.

iv. Introduce a reserve price for auctioned permits

Alternatively, or as a complement to the above cancellation mechanism, we recommend an amended directive introduce a reserve price for auctioned EUAs, whereby any permits not purchased at routine centralised auctions are permanently cancelled from the market. This would generate a reliable minimum price-signal for investors while maintaining the link between price and supply, turning the ETS from a quantity instrument into a hybrid quantity-price instrument.

v. Keep offsetting limited in volume and type

The offset provisions in the Directive for Phase 3 are currently much more limited than in Phase 2. They are linked to the overall level of ambition in the system. Under a 20% target, the cap on the volume of offsets is whatever remains unused of the 1.6bn tonnes allowed in Phase 2. No new industrial gas credits, which made up the bulk of the market, will be eligible from 2013 and new project credits can only be originated in Least Developed Countries or through bilateral agreement between countries. However, with the recession drastically reducing domestic emissions, offsets still potentially represent much more than half of the *active abatement* driven by the ETS. We feel this violates the spirit of the Directive.

An additional problem is that access to offsets is set as a proportion of allocations of allowances. This means that those who need them most, i.e. the underallocated power sector, are forced to buy swapped out allowances from others sectors that often have equal access to offsets but little need for them since they hold surpluses of allowances.

As highlighted in this report, there are examples of companies who complain about the impact of the ETS on their competitiveness while actively subsidising their competitors through purchasing emissions credits. This suggests that competitiveness concerns are being over-played, but also that the EU would do well to consider restricting eligibility further to prevent credits generated from competitive sectors such as iron and steel being surrendered.

We also recommend that even under a more ambitious target the restrictions of offsetting should remain in place. In light of the abuses of the offsetting provisions highlighted in this report, we urgently recommend the Commission:

- prohibit companies from purchasing offsets until their total emissions exceed their free allocations since 2008;
- limit access to offsets that subsidise Europe’s industrial competitors as a first recourse to address carbon-leakage concerns before limiting ambition within the system or imposing border-adjustments.

vi. Change rules to enable a whole economy trading system

The current Directive enables direct regulation of greenhouse gases from large point sources of emissions. This leaves around half of Europe’s emissions outside of the traded sector making the meeting of more ambitious climate targets more difficult to guarantee and potentially more expensive to meet. Other trading systems such as the New Zealand Emissions Trading System and the West Coast Initiative in the US enable economy-wide emissions to be traded by including the emissions from fossil fuels sold in the heat and transport sectors. These are regulated at the point of entry into the market e.g. the refinery. To create more demand in the system from sectors not directly exposed to international competition and to remain compatible with other international trading systems, the EU should either introduce a complementary Directive enabling the trading of indirect emissions in heat and transport sectors or amend the current Directive to make this possible.

Recommendation 5: Increase the transparency of the ETS

Several of the above recommendations rely on additional information about compliant installations and their activities being available to the Commission, to participants and, ideally to outside observers. We recommend the following installation level information be mandatorily reported to the Commission and published on the Community Independent Transaction Log (CITL)¹¹:

- Precise annual information on free waste gas EUA transfers between installations.
- Latest information on the largest legal entity owning a majority share in an installation.
- Complete “NACE code” information on the activity of each installation refined to 4-digit level.

This information will help to disaggregate electricity generators from other combustion installations, will allow better monitoring of the environmental performance of economic sectors against their annual output, and will provide policymakers, participant companies and observers better tools to evaluate the claims made by companies about the pressures they face under the system. Furthermore this information is required to implement our recommendations to prevent offset arbitrage, and to clarify the appropriate scale of a set-aside to correct for the effects of oversupplied industrial installations on Phase 3 budget baseline.

As a final note, we observe that the current presentation of the CITL is very piecemeal and makes it difficult to determine the aggregate performance of the system, or particular sectors and countries within it. We therefore recommend that the Commission develop a user-friendly and queryable data viewer, similar to the data tools that Sandbag has developed in their absence¹², and lastly to allow site visitors to download the latest CITL database as CSV files.

¹¹ As well as the European Union Transaction Log (EUTL) that will replace CITL in Phase 3.

¹² www.sandbag.org.uk/data contact info@sandbag.org.uk to enquire about gaining access.

Introduction

The EU adopted the Emissions Trading System (ETS) as the primary policy through which it would affordably and effectively mitigate its greenhouse gas emissions, a seatbelt to restrain Europe's dangerous climate trajectory. But this seatbelt is currently too slack to afford us any real protection. As Europe adopts other policies to increase the energy derived from renewables and curb its energy demand, this seatbelt threatens to grow slacker still. It is time for the EU to buckle up and tighten the system to make it work the way it was intended.

It is our view that the ETS should retain its status as Europe's flagship climate policy and should be the primary mechanism through which Europe meets its climate targets. In this report we present arguments for why emissions trading can be very effective if correctly implemented and provide updated analysis in support of a reduction in the Phase 3 cap of around **1.7 billion tonnes**.

In our 2009 Environmental Outlook report, *ETS S.O.S*, we warned that Phase 2 risked redundancy as the recession threatened to overwhelm it with "hot air" surpluses just as "hot air" AAUs swamped the Kyoto market. Our 2010 report, *Cap or Trap?* explored how this legacy of surpluses from Phase 2 might not only make the ETS environmentally redundant, but actually counterproductive, insofar as emissions reductions resulting from the financial crisis were banked forward for use in Phase 3. New data in this report confirms those suspicions and observes that Phase 2's legacy combined with complementary policies threatens to dilute effort in future Phases well beyond 2020.

"The Commission will continue to ensure that the EU ETS remains a key instrument to drive low carbon investments in a cost-efficient manner."

- 2050 Roadmap

Also new to this year's report is a detailed examination of the role of waste gas transfers in camouflaging steel sector surpluses and an analysis of the exploitation of offset provisions by surplus-holding installations.

The last section contains our recommendations for decision makers.

Europe's climate seatbelt

In this section we explore some of the key reasons why the ETS should be reformed to preserve its status as the primary mechanism through which Europe decarbonises its economy.

Political benefits of the EU ETS

The EU Emissions Trading System was adopted as Europe's chief mechanism for achieving greenhouse gas reductions because of several features that made it attractive to a broad political base:

- The centre-left found emissions trading attractive from a **social justice perspective**. As a cost-efficient abatement mechanism, emissions trading minimises the financial burden of avoiding dangerous climate change, prevents this from unduly exacerbating problems like fuel poverty, and ensures the costs of meeting climate change principally fall upon the largest energy consumers.
- The centre-right found emissions trading attractive in that it represents **minimal interference from the state**, allowing the private sector freedom to reach the politically (and scientifically) determined emissions cap as it sees fit. Furthermore the revenues from auctioning emissions permits can help to alleviate income taxation, and if hypothecated can reduce government spending.

Since its establishment, though, public comment on the system has been hijacked by market-sceptics and climate-sceptics at the radical ends of the political spectrum, who are calling aggressively for it to be dismantled for opposite reasons:

- The far-left has rejected the ETS because it is a market mechanism, participating in the corrupt capitalist framework that “created the problem in the first place”. They have attacked it as an “act of enclosure” for awarding (transitional) free allocations to polluters, and have tagged it as a “dangerous distraction” from less-efficient, more expensive centrist policies like carbon taxes, public spending and direct regulation even though these often provide less assurance of meeting climate targets whilst increasing the financial burden on the ordinary taxpayer and consumer.
- Partly in reaction to the left's early appropriation of climate change, the far right has dismissed the whole issue as a “socialist Trojan horse”, and even the economic liberals who despise market externalities and would, at first glance, appear to be natural allies of the system have rejected the climate science underpinning the need for intervention, or complacently expect that laissez-fair economics will deliver such widespread wealth and technology that the worst consequences of climate change will be unnoticeable.

One of many bizarre results of this radicalisation has been that both the green-left and the sceptic-right end up as strange bedfellows in a campaign to replace the ETS with a carbon tax. The green-left pursues this because it is a familiar, command-and-control, redistributive mechanism that they feel they can use to leverage stronger climate outcomes. The sceptic-right pursues this because they see it as a means to shift taxation away from income while deferring meaningful action on a problem they don't feel exists.

Nigel Lawson¹³, Matt Ridley¹⁴ and Bjorn Lomborg¹⁵ have all at some time advocated that a carbon tax replace existing cap and trade legislation.

This excessive politicization of the European trading system has become a distorting lens through which its imperfections have been perceived, turning each technical or environmental challenge it faces into a call for its termination. These challenges should instead be perceived as opportunities for constructive engagement and reform with what is, fundamentally, a powerful policy whose major fault is that it lacks sufficient ambition.

The broad political base that allowed the EU ETS to first get underway must again unite behind reforming the policy to ensure its relevance and its primacy in driving ambitious and cost-effective abatement.

Fortunately this is already beginning to happen, with a tightening of the ETS cap supported by increasing numbers in the European Parliament¹⁶, by household brand-names¹⁷ and even by the energy companies facing high costs under the system¹⁸.

We survey some of technical merits of the ETS, and some of the challenges it has overcome, in the following section.

Technical advantages of the EU ETS

One of the key benefits of the EU ETS is that promises to deliver *affordable* and *guaranteed* emissions reductions. It can achieve this because:

- it provides an *absolute limit* on greenhouse gas emissions.
- it maximizes the *flexibility* by which governed polluters can meet those limits by creating a market in which those limited emissions rights can be traded.

1. A clear limit on greenhouse gas emissions

Some of the critics of the EU ETS express the fear that the cap it presents is illusory, pointing to the offsetting provisions in the system as potential leaks. But such concerns overlook that offsets can achieve genuine abatement and that the supply of offsets into the system is legally limited.

They express concern firstly about the “additionality” of the carbon saved through UN offset projects, i.e. whether these reduction were real or whether they would have happened anyway. This controversy has particularly surrounded the projects that deliver the largest volumes of offset credits at the lowest prices, which might potentially have been built without help from carbon funding, or projects that might artificially be sustaining the chemical factories whose waste gases we pay to destroy.

¹³ Nigel Lawson, *An Appeal to Reason: A Cool Look at Global Warming* (London: Duckworth Overlook, 2008).

¹⁴ Matt Ridley, *The Rational Optimist: How Prosperity Evolves* (London: HarperCollins, 2011).

¹⁵ Bjorn Lomborg, *Smart Solutions to Climate Change: Comparing Costs and Benefits* (Cambridge: Cambridge University Press, 2010).

¹⁶ European Parliament Committee on the Environment, Public Health and Food Safety, *Report on the analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage.*

(<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2011-0219+0+DOC+PDF+V0//EN&language=EN>). 1 June 2011.

¹⁷ http://www.theclimategroup.org/assets/files/business_declaration_june_15_2011.pdf

¹⁸ <http://www.environmental-finance.com/news/view/1776>

But fortunately, while some campaigners have used the ignominy of these credits as a basis to reject carbon trading, others have concentrated on having these removed from the market, and it is thanks to their efforts that industrial gas offsets can no longer be used in the EU ETS from 2013.¹⁹

Most importantly, while the rhetoric around “offsetting loopholes” seems to suggest that the opportunities for purchasing offsets are unlimited, the Trading Directive stipulates clear constraints on the quantity of offsets each installation can purchase.²⁰ The aggregate offset budget potentially extends the domestic cap by some **1.6Gt** over 2008-2020, but it is important to note that the actual physical supply of offsets might be less than this.

So we have established that a real cap on the traded sector exists, and that even if we take the extreme position that UN offsets contribute no genuine abatement and presume that the whole offset budget will be fully exploited, this still caps emissions at **27Gt** across the period 2008 to 2020 or roughly **2.1Gt** a year on average²¹. The question remains whether the cap has been set at an *appropriate* level.

2. The ETS drives real abatement – *despite weak ambition*

For environmentalists, the chief concern is whether proposed reductions are sufficient to avoid the threat of dangerous climate change. So far the answer to this is a clear no and much work needs to be done to put the ETS, Europe and the world on a steeper emissions reduction trajectory.

But many commentators have confused *inadequate* ambition in the EU ETS with the suspicion that it is failing to deliver any carbon reductions *at all*. Noting that both the first and the second trading periods have been oversupplied with carbon permits has led many to jump to the premature conclusion that the cap is having no downward effect on emissions. But despite this oversupply, the *perception* of current or future scarcity has generated a real market price for carbon that has in turn had real effects on operating costs and investment decisions. Analysing background emissions, economic trends and weather patterns to estimate what emissions would have been without the ETS price signal, Ellerman et al. conclude that Phase 1 of the EU ETS drove **between 120Mt and 300Mt** of abatement in Phase 1, with a best guess of **210Mt**²².

Similarly, Deutsche Bank also provides BAU figures for Phase 2 which imply that, despite the surplus of permits created by the recession, the ETS has delivered additional abatement of **118 Mt** over the last 3 years²³. Combining these estimates, the ETS has driven some **330Mt** of abatement over the first six years of its operation.

At over half a tonne of carbon saved for every EU citizen, this is not negligible, however it is clearly inadequate.²⁴ If we plot Deutsche Bank’s business-as-usual emissions estimates for 2008-2020 against the

¹⁹ Sandbag is pleased to have been involved in a joint campaign with CDMWatch, and the EIA to ban these credits. See CDM Watch, ‘OPEN LETTERS: Regarding the use of banned offsets by EU member states’. (<http://www.cdm-watch.org/?p=1749>). 10 March 2011. (Accessed 27 June 2011).

²⁰ Up to 22% depending on Member State. See Sandbag, *International Offsets and the EU 2009*. (http://www.sandbag.org.uk/site_media/pdfs/reports/offset2009.pdf). July 2010, p. 39.

²¹ Controlling the cap for changes in scope after the start of Phase 2.

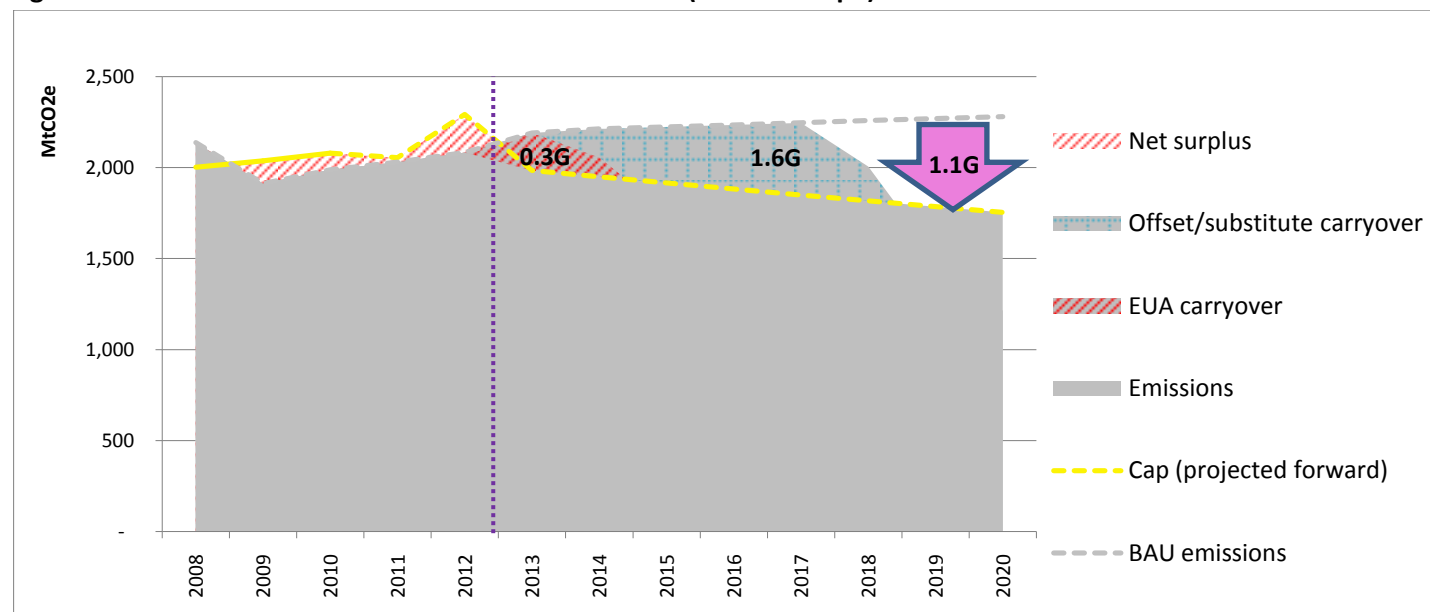
²² A. Denny Ellerman et al., *Pricing Carbon: The European Union Emissions Trading Scheme* (Cambridge: Cambridge University Press, 2010).

²³ Figures are taken from Mark Lewis & Isabelle Curien, *Hard to Credit: ETS Offset Use Again in the Spotlight*. (<http://www.zyen.info/joomla/londonaccord/images/reports/pdf/hard%20to%20credit.pdf>). Deutsche Bank Global Markets Research, 22 June 2010, but the effects of complementary policies are not disaggregated.

²⁴ EU population reached 501 million in January 2010. See *European Commission Eurostat*, ‘Total Population’. (<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&language=en&pcode=tps00001&tableSelection=1&footnotes=yes&labeling=labels&plugin=1>). (Accessed 27 June 2011).

ETS cap, we find that it first begins to limit emissions in 2014, but offsetting provisions would allow domestic emissions to continue growing until 2018. **It is unlikely that a system that allowed domestic emissions to grow until 2018 was what the system’s designers or supporters had in mind when it was first established!**

Figure 3: When would the ETS constrain BAU emissions (Phase 2 scope)



Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2008-2020 Total
BAU emissions	2,137	1,913	1,988	2,030	2,083	2,191	2,213	2,224	2,235	2,246	2,258	2,269	2,280	28,067
Max emissions (using offsets)	2,137	1,913	1,988	2,030	2,083	2,191	2,213	2,224	2,235	2,246	2,161	1,765	1,729	26,915
Max emissions (no offsets)	2,137	1,913	1,988	2,030	2,083	2,191	2,054	1,911	1,874	1,838	1,802	1,765	1,729	25,315

• BAU estimates from Deutsche Bank. Phase 2 allocations from CITL and EU website. Scope controlled Phase 3 allocations and carryover from author’s calculations.

3. The ETS discourages carbon-intensive energy

While energy efficiency policies reduce total energy demand and renewable energy policies increase clean energy supply, the ETS is the only policy currently discouraging the use of carbon-intensive fossil fuels in the power sector. Recognizing this, the energy companies most invested in low-carbon generation have openly called for tighter carbon budgets in the ETS, and have sought to ensure that these budgets are adjusted in line with Energy Efficiency policies.²⁵ Despite weak caps, the ETS carbon price has already encouraged significant fuel switching, making black coal more competitive against brown coal and gas more competitive against coal.

The ETS forces installations to internalize some of the social and environmental costs of their pollution, and is the only instrument currently correcting for this market failure.

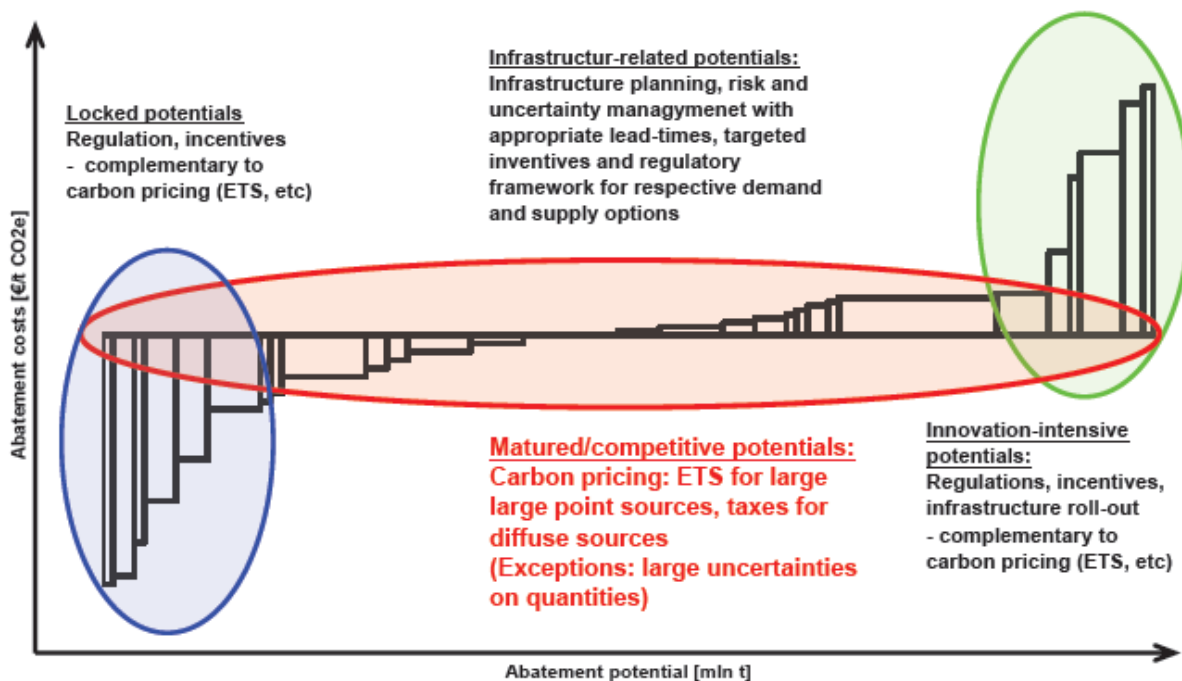
If the ETS is broadened to cover other energy sectors, like heat and transport it can help discourage carbon-intensive energy across the European economy while increasing the opportunities to uncover lowest cost abatement.

²⁵ SSE, Dong, Statkraft, Eneco, Sorigenia, Public Power Corporation have made several joint declarations to this effect (e.g. http://www.theclimategroup.org/assets/files/business_declaration_june_15_2011.pdf)

4. The ETS can work with complementary policies to drive low-cost abatement

There is a convincing argument that suggests that while the ETS harnesses the market to identify “low-hanging fruit”, complementary policies are needed to overcome barriers to energy efficiency, to directly support abatement projects with very high up-front costs and slow returns, or to bring new technologies to market. Figure 4 demonstrates the central role of ETS pricing, along with complementary spheres of action on either end of the Marginal Abatement Cost curve. On one end there are clear barriers that prevent a carbon price from incentivising certain energy efficiency measures, such as the well-know ‘landlord-tenant’ problem, where the carbon cost is paid by the tenant but the ability to reduce emissions is held by the landlord. On the other, technology development often needs significant additional support in addition to any expected future costs of carbon from an ETS.

Figure 4: Relevance of different policies across the Marginal Abatement Cost curve



(Source: Öko institute)

It is this sound logic that led to the adoption of the Renewables Directive and Energy Efficiency Targets, obliging Member States to expand the uptake of these technologies and to overcome other market failures. It is also hoped that these statutory requirements will steer European industries towards a leading place in a rapidly growing global market for clean-tech, all the while improving Europe’s energy independence and protecting it from rising and volatile fossil fuel prices.

But these “technology-led” approaches to mitigation beg the question of where governments will find the money to support them, especially when so many are cash-strapped following the global financial crisis. The revenues generated from auctioning permits represent an excellent source of additional funds for Member States to dedicate to bringing promising technologies forward, without putting *additional* strain on taxpayers or consumers.

Such a hypothecation is stipulated by the Emissions Trading Directive (Article 10, paragraph 3), which states at least 50% of auction revenues in each Member State *should* be reinvested towards climate abatement or adaptation measures and reported; however, the Commission cannot infringe national sovereignty by making this hypothecation obligatory. It should be stated, though, that for such a policy to

work effectively the market needs to have sufficient demand in it to return a positive price for any allowances set aside for auction in this way.

Independently of the Member State auctioning revenues, revenues from the sale of 300 million permits from the Phase 3 New Entrants Reserve, with a current value of **€4.8 billion**, is assigned to promoting Carbon Capture and Storage projects.

5. The ETS is resilient and open to reform

The main opponents of the ETS have used three principal shortcomings to criticise the system:

- Windfalls to the electricity sector from passing through opportunity costs for their free-allocations
- The oversupply of free permits as windfall assets to the industrial sectors
- Questionable additionality and disproportionate profits from industrial gas offset projects

Critical engagement with the system has helped to correct each of these issues as the system moves into its third trading period. From 2013, big polluters will no longer be “grandfathered” free carbon permits on the basis of prior emissions levels; instead, nearly all electricity-generators will be required to purchase their permits at auction, so only real carbon costs will be passed through to consumers. Similarly, industrial emitters will now have their free allocations benchmarked against the most carbon-efficient installations in their product category and will be required to purchase additional permits at auction to cover their remaining emissions. This should effectively prevent surpluses *continuing* to accrue to industrial sectors. Lastly, the most controversial offset projects available through the Kyoto Protocol, HFC and N₂O adipic acid industrial gas projects, have been excluded for use from the ETS market from April 2013.

These reforms set a promising precedent that remaining weaknesses and loopholes in the system can be corrected. The most pressing of these is to protect future phases of the system from the excess allowances accumulated in Phase 2.

Phase 2 outlook

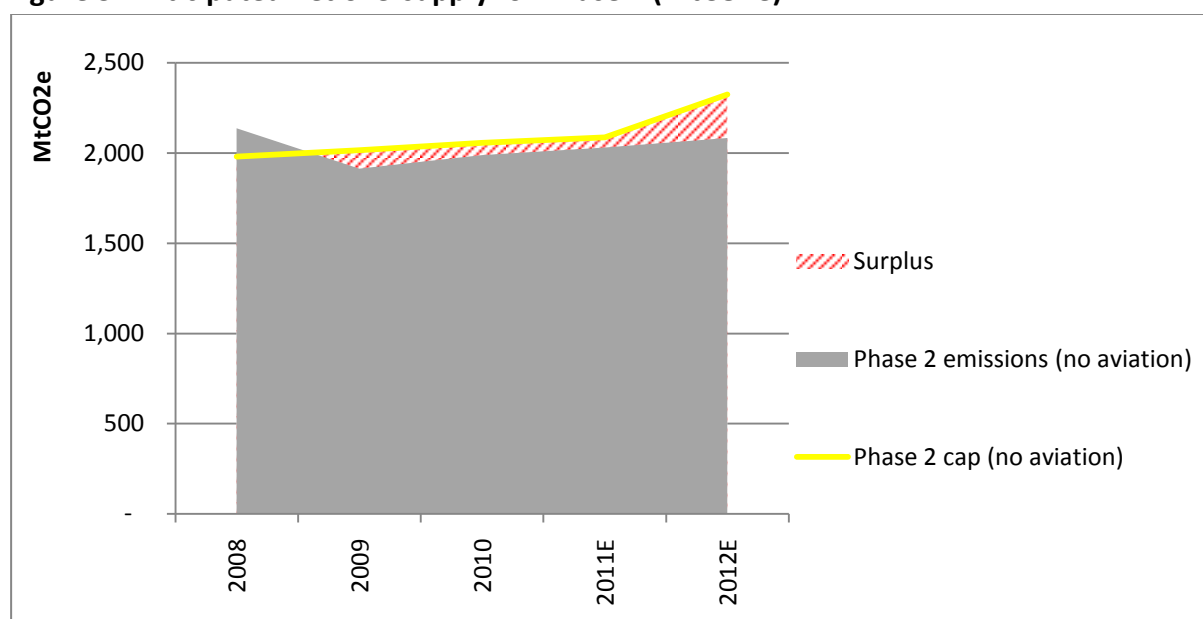
The balance of supply and demand

When the final 2010 emissions figures were released this May, they showed only a 3% bounce-back from the recession, a far smaller rise than had been expected following the 3% and 11.6% drops in 2008 and 2009 respectively²⁶. Emissions grew back **49Mt**, but surpluses were down only **7Mt** against the previous year (154Mt down from 161Mt in 2009). This surplus has been largely maintained due to a **27Mt** increase in the permits released at auction and increases of **15Mt** in the permits freely allocated to new entrants.

If emissions going forward follow Deutsche Bank's projections for 2011 and 2012²⁷, the ETS will be oversupplied for the second trading period in a row. We find Phase 2 oversupplied by **198Mt** to date, and project the market to be long **525Mt** by 2012. This oversupply is roughly equivalent of the annual economy-wide emissions of France²⁸. The entry of aviation into the system in 2012 is expected to absorb only 20Mt of this oversupply.

If we look to Figure 5 below we see that the surplus rises in 2012 as unused permits from the New Entrants Reserve are released back into the market.

Figure 5: Anticipated net oversupply for Phase 2 (MtCO₂e)



Year	2008	2009	2010	2011E*	2012E*	Ph2E
Allocations	2,001	2,038	2,080	2,054	2,292	10,465
Emissions	2,118	1,876	1,926	1,986	2,034	9,940
Net surplus	-117	161	154	68	258	525

- Projected emissions are taken from Deutsche Bank, *Hard to Credit*
- Allocations include Auction data (taken from http://ec.europa.eu/clima/policies/ets/auctioning_second_en.htm)
- Historical allocations and emissions data for all installations where valid CITL data was provided for both fields
- Aviation emissions have not been included.

²⁶ European Environment Agency, 'EU greenhouse gas emissions: more than half way to the '20% target by 2020'. (<http://www.eea.europa.eu/pressroom/newsreleases/eu-greenhouse-gas-emissions-more>). 2 June 2010. (Accessed 27 June 2011).

²⁷ Lewis & Curien, *Hard to Credit*.

²⁸ France's economy wide emissions excluding LULUCF were 533Mt as of 2008. See GHG Data viewer at www.unfccc.int

Concealed surpluses – by category

The net surplus in Phase 2 described above is only the tip of the iceberg when it comes to total surpluses being accrued. A rough sectoral breakdown reveals that asymmetrical allocations have left the power sector doing all the work under the scheme.

Power installations face a shortfall of **534Mt** to date, and approximately **934Mt** over Phase 2. The ambitious caps within this sector are suggestive of just how powerful and effective a utilities only European cap might have been.

But instead of driving nearly a billion tonnes of real abatement, this shortfall has mainly served to absorb and conceal excess credits awarded to the industrial sectors and to the combustion operations associated with them. These industry-related installations are holding surpluses totalling **530Mt** to date, and projected to rise to **855Mt** over the whole of Phase 2.

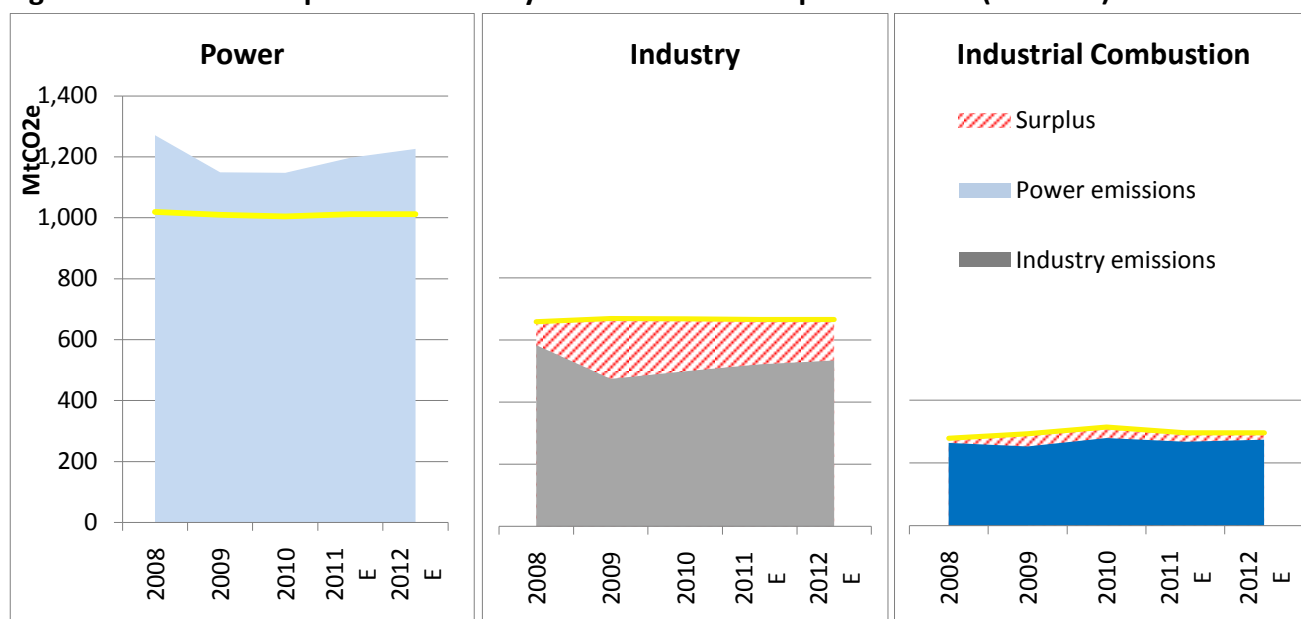
Box 1: Methodology for defining Power, Industrial Combustion and Industry

In the 2010 edition of this report we prepared a ‘shadow allocation’ plan based on recent historic emissions in industrial sectors and keeping allocations tight in the power sector. To do this we sought to disaggregate electricity generators from the cruder “Combustion” category provided in the Community Independent Transaction Log (CITL). We approximated this by defining all consistently underallocated combustion installations as “Power” and all remaining installations as “Industrial Combustion”. While this methodology helped reveal the full scale of the surpluses accruing under the system beneath the cover of underallocated installations, it was very generous to the power sector which has its own conspicuously overallocated installations and companies (as identified in our Carbon Fat Cats reports).

For this year’s report we repeated the shadow allocation but were able to access publically available information on the “NACE” economic activity codes for ETS installations prepared for DG Enterprise as part of the benchmarking appraisal. NACE codes were not comprehensive and were not equally detailed for all installations, but using this NACE code data, we were able to isolate installations which involved “The production electricity, gas, steam or hot water supply” (NACE 40). This classification encompasses more emissions than last year’s definition, not only from the CITL combustion sector, but from some CITL *industrial* sectors as well. It also captures proportionally more allocations, leaving the sector with a smaller shortfall.

The remaining combustion and industrial sectors have been adjusted to remove installations with these NACE codes. All three sectoral categories have also been adjusted to reflect any waste gas data submitted to us by steel companies.

Figure 6: Industrial surpluses masked by the shortfall in the power sector (MtCO₂e)



Year	2008	2009	2010	2011E	2012E	Phase2E
Auctions	44	66	93	81	319	603
Industry surplus	76	194	169	144	132	715
Industrial combustion surplus	15	40	36	28	22	141
Power shortfall	-252	-139	-144	-185	-214	-934
Total/Net surplus	2,765	778	3,461	4,158	7,482	18,644

2011-12 emissions and allocations have been derived by averaging the percentage of total free allocations and emissions represented by each sector across 2008-10 and applying this to CITL free allocations and to Deutsche Bank's predicted emissions

Jos Sijm of the Netherlands Energy Research Centre and other prominent academics have drawn attention to the problem of the power sector obtaining windfalls by passing through the costs of permits awarded them for free²⁹, but energy consumers are also unwittingly generating windfalls to the industrial sectors through the permits the power sector purchases to cover its shortfall.

The power sector can resort to both offsets and to publically auctioned permits before purchasing permits off the market, but this still suggests that, at a minimum, the sector has purchased **183Mt** from industry to date worth **€2.9 billion** at current prices.

Table 1: Minimum EUAs purchased by the power sector

Year	2008	2009	2010	To date
Power Shortfall	252	139	144	534
Power Offsets surrendered	43	55	86	184
Auction permits available	44	66	93	203
Minimum EUAs purchased from industry	165	18	0	183

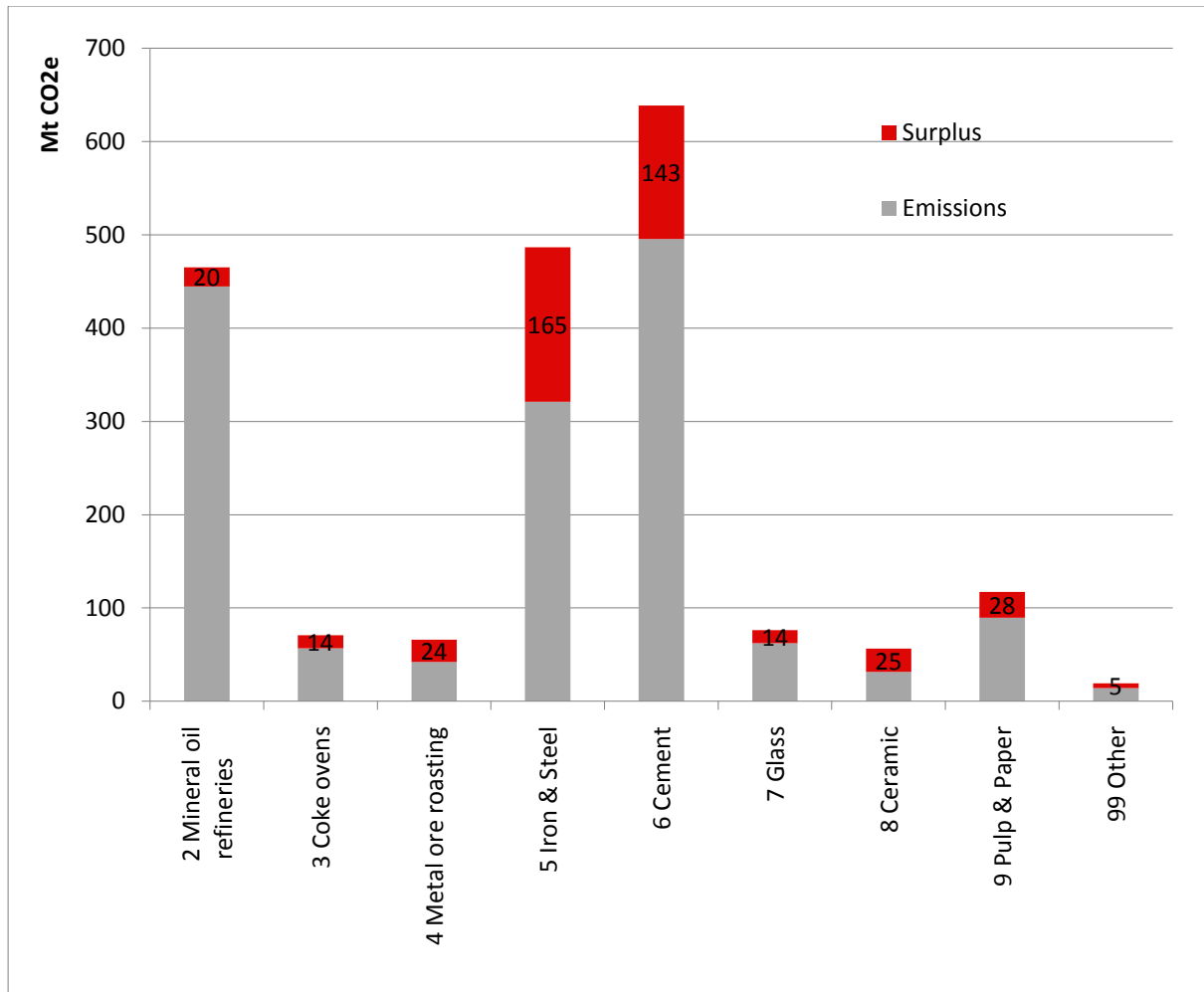
From 2010 through to 2012, increased access to auctions and increases in offset use will allay the need for power installations to purchase industrial surpluses, leaving **672Mt** to dilute the cap and carry forward to future trading phases.

²⁹ Jos Sijm, Karsten Neuhoff and Yihsu Chen, *CO₂ cost pass through and windfall profits in the power sector*. (<http://www.eprg.group.cam.ac.uk/wp-content/uploads/2008/11/eprg0617.pdf>). Electricity Policy Research Group, University of Cambridge, 19 June 2006.

Carbon fat cat sectors

If we take a closer look at the industrial sectors we get a better sense of which sectors are benefitting most from this cross-subsidisation from power consumers while their allocations weaken the Phase 2 cap. An overview is provided in Figure 7 below:

Figure 7: 2008-2010 surpluses by CITL sector (controlled for NACE 40 installations and waste gases)



If we divide industry into its constituent CITL activity codes (controlled for NACE 40 installations as per Box 1) we find that the lion's share of industrial surpluses accrue to both iron and steel (sector 5) and cement (sector 6), which together account for **308 million** surplus permits to date, or **70%** of the total industrial surplus.³⁰ Furthermore, **240 Mt** of this surplus is controlled by just 10 companies.³¹

Given the scale of the surpluses these two sectors have already accrued as a result of their generous treatment in National Allocation Plans across Europe, it is remarkable to find them aggressively resisting a unilateral move to 30% reductions and lobbying for continued generous free allocations in Phase 3. These sectors contend that their international competitiveness will be threatened if tighter overall caps raise their energy costs, or a shortage of free permits inflicts compliance costs on them.

While it cannot be denied that the internalisation of a price of carbon will increase industry's running costs in the long term, over the short-term it is doing the opposite, creating a new asset worth many

³⁰ These surplus figures include offsets.

³¹ Sandbag, 'Carbon Fat Cats 2011'. (<http://www.carbonfatcats.eu>). (Accessed 27 June 2011).

millions of Euros and providing opportunities for making money. Even in the long term the benefits of investing in increased efficiency will help to defray additional costs incurred.

In addition to selling their surplus free allocations, industry has also profited from them by loaning them to brokers before using them for compliance. Furthermore, despite being oversupplied many are surrendering offset credits for compliance purposes, freeing up more valuable EUAs for sale or later use (as we document in further detail on page 32 below).

Lastly, research done by CE Delft and Climate Strategies suggests that both the steel and cement sectors may be passing on the “opportunity costs” of their freely allocated permits to their customers. If this is the case, we must question the sincerity of their fears that a carbon price would cause them to lose market share. CE Delft estimates that nearly 100% of EUA opportunity costs have been passed through to steel customers across 2005-8 delivering windfalls of €14 billion across the iron, steel and refineries sectors³² and Climate Strategies estimates that 33-90% of EUA value will be passed through to cement consumers in Phase 3.³³

Despite this, the most overallocated sector of all, the iron and steel sector, has been perhaps the most recalcitrant and has most recently initiated legal action against the Commission to preserve allocations for waste gases in its benchmarked free allocations for Phase 3.

But in light of their large surpluses, these lobbying efforts look less like petitions to protect competitiveness and more like requests for free money. Far from generating additional costs for these sectors, the scheme is currently generating profits, and rather than presenting a competitive disadvantage, the EU ETS appears to have helped subsidize these industries as the recession entered full swing.

The German Steel Confederation, amongst others, has actively sought to reframe this oversupply by arguing that each surplus EUA was gained at a cost of €100 in lost production revenue during the financial crisis.³⁴ This figure may be misleading if it refers to gross income forgone from loss of sales without taking into account the reduction in expenditure that would also have taken place at the same time. The sector has also argued that these surplus revenues help protect them from carbon costs indirectly incurred through electricity prices.

Free allocations were awarded to industry to protect them from carbon costs incurred through direct process emissions. They were not designed to alleviate indirect electricity costs, which send an important price signal to improve efficiency, and were certainly never intended to act as a subsidy to protect industry from exogenous economic shocks. If free allocations were awarded by Member States on this basis it might even represent a violation of WTO rules prohibiting state-aid.³⁵

After lobbying aggressively to water down the caps on the basis of exaggerated production expectations, polluting industries are inappropriately profiting from the environmental policy designed to police them. The environmental pressures the ETS places upon them, and upon the traded sector as a whole, have been unambiguously further weakened by the recession. Reappropriating permits from installations to which they have already been allocated is clearly impossible, so to maintain the efficiency of the system and to ensure it continues to have an environmentally positive purpose the Commission should tighten

³² <http://www.ce.nl/publicatie/does-the-energy-intensive-industry-obtain-windfall-profits-through-the-eu-ets/1038>

³³ “Climate change and the cement sector” by G.Cook, Climate Strategies, 2009, p.15 <http://www.climatestrategies.org/our-reports/category/32/222.html>

³⁴ Cited by ThyssenKrupp in private communication. No reference given.

³⁵ “free allocation could also be subject to WTO challenges as an implicit subsidy” Carbon Trust, “Tackling Carbon Leakage” page 2 <http://www.carbontrust.co.uk/Publications/pages/publicationdetail.aspx?id=CTC767>

the cap. Industry will cry foul and use the usual arguments to try to prevent this but this should not diminish our ambitions.

The profit making opportunities in the ETS make it the preferred regulatory instrument of industry despite their protestations. If they continue to block progress an alternative strategy would be to remove the most vocal sectors from the system altogether and instead imposing direct regulatory controls on emissions or introduce a carbon tax. This threat would, we suspect, lead to industry lobbying in favour of emissions trading once more.

Waste gases – a convenient smokescreen?

The steel sector has fiercely resisted tighter caps within the EU ETS and aggressively fought any diminution of its free allocations. The industry argues that both strategies risk making European operations too expensive to compete on the global market, and will force the closure of European plants and the loss of European jobs. What is more, they argue that these closures will not lead to carbon savings, as the global demand for steel will simply see operations shift to less environmentally regulated regions.

The language has been particularly inflammatory, with Eurofer claiming that increased climate ambition in the traded sector “would be fatal”³⁶ to the sector and “will lead to the deindustrialisation of Europe”³⁷:

Most recently Eurofer has initiated legal action against the European Commission challenging their decision to exclude waste gas emissions from their benchmarked free allocations.

But while the rhetoric has been strong, these arguments have been increasingly hard to swallow as the steel industry has accrued millions of surplus carbon allowances over the past three years that are fully transferrable into future phases of the system. Data published by the European Commission on the Community Independent Transaction Log (CITL) finds the Iron and Steel sector (activity code 5) accruing a surplus of **203Mt** to date, worth **€3.2 billion** at current prices.

Table 2: Steel sector surpluses implied by CITL

	2008	2009	2010	Total to date
Allocations (Mt)	170	170	170	510
Emissions (Mt)	120	85	102	307
Surplus (Mt)	50	85	68	203

Source: CITL

Recently New Energy Finance projected that sector was unlikely to face a shortage of permits until 2023 if all of its surplus permits were carried forward.³⁸

³⁶ Alliance for Competitive European Industry, ‘Open letter to the presidents of the European Council, European Parliament and European Commission’. (<http://www.eurofer.org/index.php/eng/content/download/8541/44459/file/2010-01-21ACEIOpenLetter.PDF>). 21 January 2010. (Accessed 27 June 2011).

³⁷ Mia Callanta, ‘EUROFER: “EU Low Carbon Roadmap 2050 unacceptable”’. (<http://www.eurofer.org/index.php/eng/News-Publications/Press-Releases/EUROFER-EU-Low-Carbon-Roadmap-2050-unacceptable>). EUROFER, 25 February 2011. (Accessed 27 June 2011).

³⁸ Point Carbon, ‘EU steel sector warns new ETS rules will hit investment’. (<http://www.pointcarbon.com/news/1.1539144>). 19 May 2011. (Accessed 27 June 2011).

A bridge between rhetoric and reality?

This would initially seem to be an embarrassing discrepancy between rhetoric and reality, but the sector explains away the discrepancy by claiming that their current surplus is much smaller than it first appears because a large proportion of their allocation is gifted to combustion installations in waste gas transfers.

Conveniently, the industry has not been very forthcoming about the scale of these transfers, but have been allowed to deflect concerns about the size of their accrued surpluses using this unknown quantity, e.g.:

“It is a myth to view steel producers as having a huge allowance surplus from the 2008/2009 crisis as quoted numbers often omit waste gas emissions and can be very misleading.”³⁹

- Dr Hans-Jörn Weddige (ThyssenKrupp) at the Green Steel Conference 18/4/2011

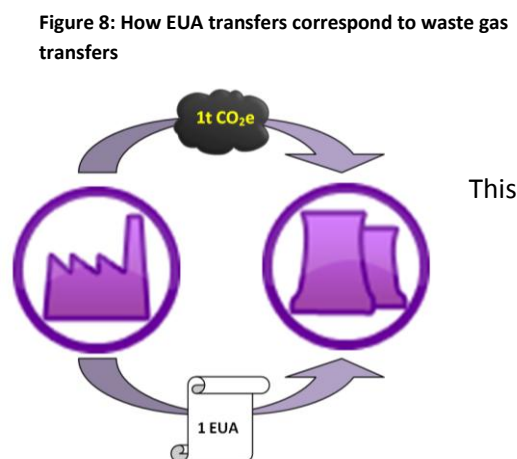
“There has been no over-allocation to the steel industry in Phase 2”⁴⁰

- Gordon Moffat (Eurofer) letter to Commission Vice President Tajani 15/10/2010

We feel that the steel sector needs to provide more precise evidence of the quantities involved before waste gas can be used as a valid defence. We investigate some of the claims made regarding these in the text below.

What are waste gas transfers?

The waste gases produced as a by-product of iron and steel operations are a potential fuel source that factories can choose to sell on to neighbouring combustion installations. This provides an alternative to flaring them or somehow recycling them on site. The combustion installations that receive these gases can then put these to constructive use, using them to generate heat, steam, or electricity for their customers rather than burning fossil fuels from other sources.



To prevent steel factories using waste gases to unduly profit from their free EUA allocation, waste gas producers are legally obliged to transfer free EUAs corresponding to the tCO₂ value of the gases sold (See Figure 8).

Missing numbers

If waste gas transfers are significant, and the steel industry claims they are, we can expect these transfers to significantly reduce steel companies' surpluses. But while the industry has been quick to dismiss or even threaten legal action against observers who fail to account for waste gas data in calculating surpluses, they are yet to be forthcoming on specific figures, despite presumably having access to them as part of their contracts with recipient installations in order to fulfil their legal obligations. **It would seem highly unusual for a steel company to part with a valuable asset to a third party without keeping a paper trail.**

This leads to a situation where the CO₂ value of the combustible gases transferred from a particular installation (if indeed there are any at all) and the number of EUAs passed forward are a mystery (See Figure 2).

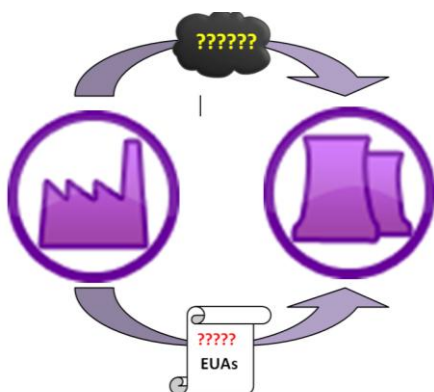
³⁹ Green Steel Blog, 'Carbon leakage is a threat to Europe, says TK executive'.

(<http://sbbnews.wordpress.com/2011/05/31/carbon-leakage-is-a-threat-to-europe-says-tk-executive/>).

⁴⁰ 33. Gordon Moffat, 'Letter to European Commission Vice President Tajani'.

(http://www.sandbag.org.uk/site_media/uploads/Eurofer_letter-to-Commission-15-10-2010.pdf). 15 October 2010. (Accessed 27 June 2011).

Figure 9: Undisclosed waste gas transfers make EUA transfer unclear



Riddles in the dark – Eurofer’s hinted waste gas figures

The industry provides only a few hints to penetrate this mystery. In a leaked letter to EU Vice-President Antonio Tajani, Eurofer stated that “roughly 15%” of steel allocations were transferred to combustion installations.⁴¹ If we apply this to CITL 5 allocations, this implies waste gas transfers of **25Mt** annually, which makes a sizeable dent in their average surplus of 68Mt, but of course no hard figures are provided to support this claim.

This contradicts a larger figure cited in an FAQ in its website that suggests “the use of waste gases [by electricity generators] avoids the emission of roughly **50 Million tons** of CO₂ annually”, presumably in contrast to simply flaring these gases or emitting them directly into the atmosphere⁴².

Table 3: Steel sector surpluses implied by Eurofer using CITL 5 definition of Iron and Steel (Mt)

	2008	2009	2010	Total to date
CITL surplus	50	85	68	203
-15% transfer	24.5	59.5	42.5	126.5
-50Mt transfer	0	35	18	53

• Source: CITL and Eurofer

How is Eurofer able to come up with two such wildly different figures and where are the data to support them?

One explanation might be a shifting definition of the steel sector, which sometimes uses the CITL definition (Activity Code 5) and at other times defines the sector as the installation holdings of the constituent companies which are Eurofer members, but until we see the source data behind these calculations we can only speculate⁴³. It is important, in any case, to remember that transfer of EUA permits outside of steel *installations* does not necessarily mean it is going outside of the steel *companies*. This is because many of the major steel companies are vertically integrated with the combustion installations providing their heat or electricity, and these combustion installations are, in many cases, the first recipients of the waste gases and waste gas EUAs that are not used on site.

A flattering equation – company waste gas figures

We contacted Eurofer and several key steel companies, inviting them to provide information on the specific year-by-year quantity of EUAs that they had transferred outside the sector. We made it clear that this information would be used to reduce the surplus we reported, and would thus be in their interests.

Only ThyssenKrupp and Salzgitter responded directly to this request; however, earlier correspondence with Tata and their recent publication of waste gas estimates in the Dutch press, furnished us with an effective reply.

⁴¹ Ibid.

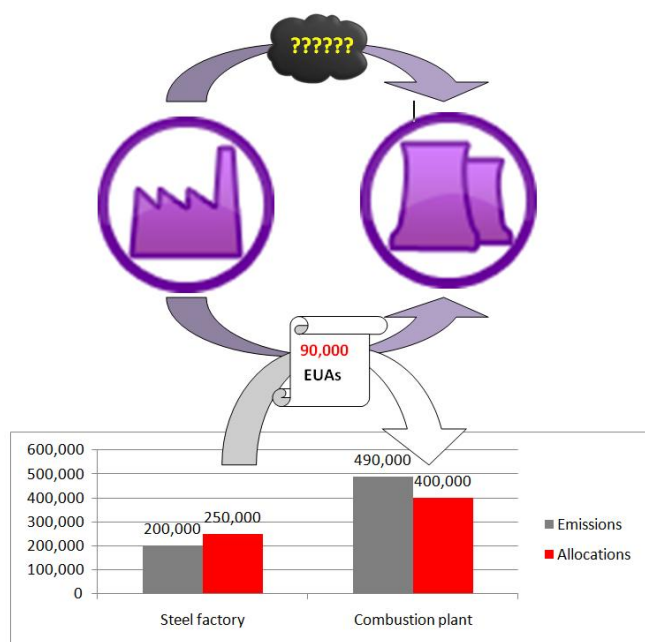
⁴² Ariane De Coster, ‘Climate Change: Steel industry waste gases and benchmarking under trading period III of the Community’s Greenhouse Gas Emissions Trading System - Questions & Answers - First update - 13 January 2010’. (<http://www.eurofer.org/index.php/eng/Issues-Positions/Environment/Climate-Change-Steel-industry-waste-gases-and-benchmarking-under-trading-period-III-of-the-Community-s-Greenhouse-Gas-Emissions-Trading-System-Questions-Answers-First-update-13-January-2010>). Eurofer, 14 January 2010. (Accessed 27 June 2011).

⁴³ Even if we combine free allocations to the Steel sector (CITL 5) with those of Coke Ovens (CITL 3) and Metal Ore Roasting installations(CITL 4), 15% of allocations only delivers an annual average waste gas figure of 33Mt.

None of these companies managed to provide the specific figures that their legal and financial accounting should presumably require them to keep. Salzgitter directed us towards their latest CSR report, while Tata and ThyssenKrupp invited us to use the following methodology:

These two companies identified their waste gas producing installations and the external installations which receive them. They then proposed that we subtract the net EUA shortfall of their waste gas recipients, as published by the European Commission in the CITL, and presume that their waste gas producers covered it (see Diagram 3). Full details of ThyssenKrupp’s and Tata’s preferred methodology are displayed in Appendix 1.

Figure 10: EUAs transfers are artificially reconstructed from shortfalls



Unfortunately this EUA shortfall bears only an approximate relationship with the actual quantity of waste gases exchanged.

While it is reasonable to assume that Member States have awarded additional permits to steel installations that are expected to transmit waste gases, and also reasonable to assume that recipient installations will be underallocated by a corresponding amount, it is also true that **Member States have routinely underallocated, combustion installations independent of whether they were waste gas recipients or not.**

Member States have placed more of a reduction burden on combustion installations (especially electricity generators) both because they are more technologically amenable to decarbonisation and because they are more

competitively protected than industrial installations and can more readily pass through their carbon costs to consumers without losing market share. Furthermore this tendency is even more pronounced in Germany, UK, and the Netherlands where waste gas transfers are most established. While the average annual shortfall to each combustion installation across the ETS is 22Kt, in these countries the shortfall is 58Kt, 84Kt and 25Kt respectively.

As the background shortfall of combustion installations is likely to substantially augment the shortfall factored in for receipt of waste gases, this methodology is prone to distorting the scale of apparent waste gases transfers heavily in the steel company’s favour.

Confusing additionality

The Eurofer FAQ on waste gases repeatedly claims that the burning of waste gases is environmentally additional because it prevents combustion installations from burning primary fuels. While this would be true if the EU ETS cap was not already in place, both combustion and steel emissions are already limited under the existing carbon budgets, and waste gases transfers do not therefore represent additional abatement within the system.

Confusing incentives

The sector argues that, by adding a carbon price to waste gases used by the electricity sector, electricity installations will be less incentivised to use them instead of conventional fuels, but surely the main incentive for electricity generators to use waste gases will be if they are sold to them at lower prices than conventional fuels. Meantime steel companies will be incentivised to pass them on cheaply because they not only avoid the CO₂ costs involved in flaring them, but will be remunerated into the bargain.

Abuses of the EU ETS offsetting provisions

Subsidizing Europe's industrial competitors

Further suggestive evidence that industrial sectors are exaggerating their competitiveness risks is their readiness to purchase offsets from industrial competitors outside Europe and their resistance to the quality controls on offsets that would prevent this.

Offsetting has the potential to exacerbate any competitiveness distortions arising from a non-global cap being introduced into globally traded market sectors. This is because under the rules of the CDM any source of emissions in developing countries can apply for accreditation for emissions reductions. Therefore steel and cement manufacturers or chemical companies can receive subsidies for investment undertaken to improve their carbon/fuel efficiency while companies in the same sectors in Europe are facing increased costs from the same policy.

Some **254 Mt** in offsets from foreign industrial projects have been surrendered into the EU ETS to date representing a **€3 billion** subsidy to foreign industry. A breakdown by offset project category is given in Table 4 below:

Table 4: Foreign offsets subsidizing competitive industries (tCO₂e)

Project Category	2008	2009	2010	2008-2010 total	Current value
Metal production	46,580	31,818	777,869	856,267	€ 10,275,204
Destruction of HFC Gas	50,694,985	46,364,460	53,646,911	150,706,356	€ 1,808,476,272
Destruction of N ₂ O Gas	18,608,587	19,586,517	47,227,381	85,422,485	€ 1,025,069,820
Manufacturing Energy Efficiency	776,907	852,435	2,104,228	3,733,570	€ 44,802,840
Industrial Energy Efficiency	76,810	418,194	1,048,131	1,543,135	€ 18,517,620
Waste Gases	5,566,567	3,092,653	3,224,354	11,883,574	€ 142,602,888
Totals	75,770,436	70,346,077	108,028,874	254,145,387	€ 3,049,744,644

- Includes JI projects from non-EU27 countries (i.e. Ukraine)
- CERs and ERUs valued at €12 based on prices from www.blunext.eu

But the starkest examples of this competitive distortion are the direct transfers or subsidies from European industrial installations directly to foreign installations competing in the same sector. In just the Cement and Steel sectors, Sandbag has found **27 instances** representing **1.1Mt** of offsets subsidizing direct competitors to the tune of **€13.4 million**. See Table 5 below for details.

Removing eligibility for projects in competitive sectors should surely be one of the first ETS reforms considered to protect European competitiveness, certainly ahead of any more disruptive options such as the introduction of border tax adjustments.

Table 5: Offset subsidies of direct industrial competitors in the cement and steel sectors

ETS Installation Name	Company	Source	Amount	Value	Project company
CEMENTERIA DI CASTROVILLARI	Italcementi	China	7,867	€ 94,404	Anhui Conch Cement Company Limited
Cementeria di Fumane	Cementi Rossi	China	313	€ 3,756	Huasheng Tianya Cement Co. Ltd
CEMENTERIA DI VIBO VALENTIA	Italcementi	China	13,585	€ 163,020	Anhui Conch Cement Company Limited
CEMENTERIA DI VIBO VALENTIA	Italcementi	China	16,415	€ 196,980	Anhui Conch Cement Company Limited
Degerhamnsfabriken	HeidelbergCement	India	23,359	€ 280,308	Mysore Cements (now Heidelberg Cement India Ltd)
GHIGIANO	Colacem	China	21,183	€ 254,196	Taishan Cement Group Company Limited
GHIGIANO	Colacem	China	14,013	€ 168,156	Taishan Cement Group Company Limited
NAP-865 DY-Werk Amöneburg	Buzzi Unicem	China	7,425	€ 89,100	Taishan Cement Group Company Limited
Ribblesdale Works	HeidelbergCement	India	23,700	€ 284,400	Mysore Cements now Heidelberg Cement India Ltd
RSO-Kalkbrennofenanlage	KalkwerkeOetelst	Malay	20,000	€ 240,000	Lafarge Malayan Cement Bhd
SESTO CAMPANO	Colacem	China	4,560	€ 54,720	Anhui Conch Cement Company Limited
SESTO CAMPANO	Colacem	China	20,000	€ 240,000	Anhui Conch Cement Company Limited
Skövdefabriken	HeidelbergCement	India	33,788	€ 405,456	Mysore Cements (now Heidelberg Cement India Ltd)
Slitefabriken	HeidelbergCement	India	20,467	€ 245,604	Mysore Cements (now Heidelberg Cement India Ltd)
Wünschendorfer Dolomitwerk	Wünschendorfer	China	34,290	€ 411,480	Huasheng Tianya Cement Co. Ltd
Elektrostahlwerk Trier	TSW GmbH	China	15,000	€ 180,000	Baotou Iron & Steel Co., Ltd.
Glocke Salzgitter	Salzgitter	India	40,000	€ 480,000	Usha Martin Limited (steel)
Integriertes Hüttenwerk Duisburg	ThyssenKrupp	China	4,392	€ 52,704	Jinan Iron & Steel Group
Integriertes Hüttenwerk Duisburg	ThyssenKrupp	China	17,376	€ 208,512	Jinan Iron & Steel Group
Integriertes Hüttenwerk Duisburg	ThyssenKrupp	India	375,000	€ 4,500,000	JSW Steel Ltd.
Roheisenerzeugung Dillingen	Dillinger Hütte	China	43,157	€ 517,884	Anshan Iron and Steel Group Corporation
U.S. Steel Košice s.r.o.	US Steel	China	32,027	€ 384,324	Jinan Iron & Steel Group
U.S. Steel Košice s.r.o.	US Steel	India	60,000	€ 720,000	JSW Steel Ltd.
U.S. Steel Košice s.r.o.	US Steel	India	150,000	€ 1,800,000	JSW Steel Ltd.
U.S. Steel Košice s.r.o.	US Steel	China	31,230	€ 374,760	Baotou Iron & Steel Co., Ltd.
Teesside Integrated Iron & Steel	Tata Steel	Ukraine	71,707	€ 860,484	Energomashspetsstal (EMSS)
Tornion tehtaant	Outokumpu	Ukraine	13,900	€ 166,800	Alchevsk Coke Plant
Total	NA	NA	1,114,754	€ 13,377,048	NA

- Includes JI projects from non-EU27 countries (i.e. Ukraine)
- CERs and ERUs valued at €12 based on prices from www.bluenext.eu on 16/06/2011

Profiteering from offset substitution

Another significant concern in relation to offsetting is the extent to which installations are surrendering offsets for compliance despite having a surplus of free carbon permits. The offset provisions in the Directive were chiefly established as a means of keeping reductions within the system affordable, owing to the lower abatement costs of many abatement projects in developing countries. The use of offset credits by surplus-holding installations suggests this provision is being exploited by them as an *arbitrage* opportunity to free-up additional European permits from their free allocation in order to sell these on at a profit. European carbon permits are currently worth **€4** more than CER offsets.

By filtering the CITL data we were able to isolate all of the installations that have accumulated a surplus over Phase 2 to date (2008-2010). These comprised **7,908** installations or 77% of the **10,288** installations

active within the system over that period. Of these, some **2,912 installations** have used offsets for compliance despite having no immediately apparent need to do so, which suggests that **28%** of all installations in the ETS are actively gaming the system for profit.

These surplus-holding installations have collectively surrendered 157Mt of offsets over 2008-2010 representing **52%** of all offsets surrendered into the system to date (**300Mt**). A breakdown of how this divides between the CITL activity sectors is provided below:

Table 6: Offset substitution in net oversupplied installations

CITL sector	# Oversupplied installations	2008-2010 surplus (Mt)	Offsets to date (Mt)	Current spread value (€m)	Share of total ETS offsets (300Mt)
1 Combustion	1,692	412	82	326	27%
2 Oil refineries	42	44	11	46	4%
3 Coke ovens	11	15	2	8	1%
4 Metal ore roasting	7	5	0	2	0%
5 Iron & steel	52	224	23	94	8%
6 Cement	283	149	24	96	8%
7 Glass	94	15	2	9	1%
8 Ceramics	454	25	3	12	1%
9 Pulp & paper	253	30	6	25	2%
99 Other	24	11	2	8	1%
TOTAL	2,912	950	157	627	52%

- Based on an CER-EUA spread of €4 taken from www.bluenext.eu on 16/6/2011
- Sector codes in this table do not exclude “power” (NACE 40) installations

In some cases, offsets surrendered by a surplus-holding installation might be being used to assist other installations facing a shortfall in the same company. The instances will be rare, however, when short installations will be unable to meet their compliance obligations using their own offset entitlement. Furthermore, our Carbon Fat Cats 2011 report shows that offset arbitrage is rife within even the most oversupplied companies.⁴⁴

Serial offenders

A significant share of the offsets subsidising Europe’s competitors are being surrendered by installations from companies or sectors that were both:

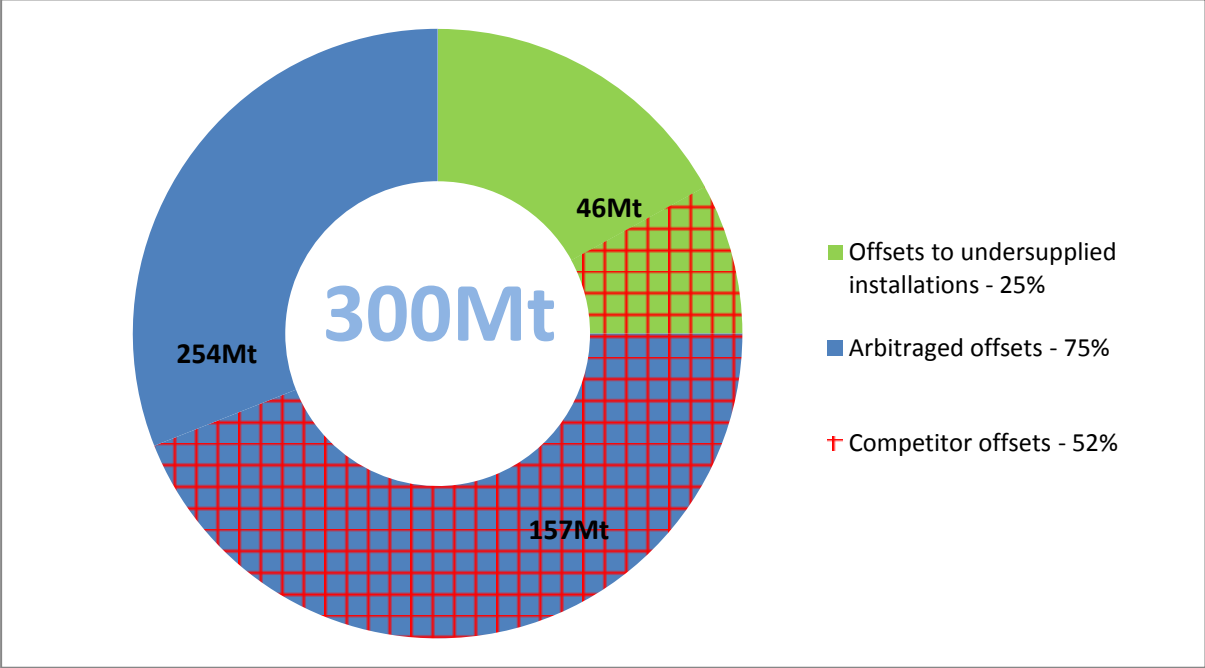
- in surplus and had no immediate need to purchase and surrender offsets to meet their compliance obligation.
- have actively watered down the ambitiousness of the ETS caps on the basis of alleged competitiveness threats.

Of the **2,902** oversupplied installations that arbitrated offsets for potential profit, some **90%** did so using credits that support foreign industry. Between them they surrendered some **131Mt** of competitor offsets, representing **44%** of total offsets purchased.

Amongst the cement and steel installations subsidising competitors within the same sector (Table 6), only Heidelberg Cements Degerhamnsfabriken works faces a net shortfall larger than its quantity of surrendered offsets. Owing to uncertainties about the precise level of waste gas transfer, the actual status of the ThyssenKrupp Duisburg facility listed is unclear.

⁴⁴ www.carbonfatcats.eu

Figure 11: Offsets used for arbitrage and/or supporting industrial competitors



Phase 3 outlook

Harmonised allocations in Phase 3

In Phase 2 the overall cap was established bottom up. Member States submitted National Allocation Plans (NAPs) for approval by the European Commission, and were generally granted these insofar as they conformed with the Emissions Trading Directive and contributed a realistic proportion of the State's efforts towards its Kyoto obligations. Once approved, National Allocations were effectively the property of Member States to distribute as they chose across the stationary emitters regulated by the system. Member States were also entitled to withhold a share of their National Allocation to sell at auction or to provide permits for installations built or expanded midway through the phase.

All through the process of devising the National Allocation Plans, submitting them and, once approved, distributing them, Member States were highly sensitive to the demands of industry and the risks a carbon price might place on domestic manufacturing and jobs. As a consequence, the NAPs submitted to and ultimately approved by the Commission were substantially enlarged by the exaggerated emissions projections of industrial lobbies in each Member State. Analysis from the Carbon Fat Cats section in last year's Environmental Outlook, *Cap or Trap?* suggested that companies with operations most dispersed across Europe, managed to reap the largest proportional surpluses as a result of lobbying.⁴⁵

Despite the efforts of the Commission to defend the Phase 2 cap from the oversupply that crashed the first trading period, the onset of recession in the last quarter of 2008 saw emissions and production diving below a cap built with great expectations for industrial expansion. The only policy preventing an immediate crash in the carbon price was a new provision for installations to bank unused permits forward.

Given the poor record of the current allocation methodology, it is encouraging that the rules for the distribution of allowances in Phase 3 have been substantially altered and improved. Firstly, the Phase 3 cap is determined centrally, to contract annually by 1.74% against Phase 2 average allocations.

Secondly, instead of being distributed by Member States, allocations to installations are determined through harmonised legislation across the EU. Whereas permits were given away for free to the largest emitters in Phase 1 and 2, a process referred to as "grandfathering", the majority of permits will now be sold at auction. With a few minor exceptions, the power sector, which currently accounts for **60%** of the emissions under the system⁴⁶, will purchase *all* of its permits at auction. At a stroke, this puts an end to the undeserved windfalls the power sector has made through passing on "opportunity costs" of free permits to electricity consumers in Phase 1 and 2.

Industrial installations will still receive free allocations, but these will now be benchmarked against the most carbon efficient installations in their product category, adjusted for output. Those industries deemed to face extraordinary threats to their competitiveness from a carbon price will receive 100% of their permits against the benchmark across Phase 3. All other industrial installations will receive free allocations equivalent to 80% of the emissions of the best performers in their category adjusted for output, but this will decline by 7.14% each year, reaching 30% in 2020.⁴⁷ As we have seen with power windfalls,

⁴⁵ http://www.sandbag.org.uk/site_media/pdfs/reports/fatcats2009.pdf

⁴⁶ This percentage is derived using our NACE 40 approximation of the sector, as averaged over the last 3 years.

⁴⁷ Article 10a, paragraph 11

benchmarked free allocations should almost completely prevent excess free allowances being given to industrial installations. It will also prevent specific industrial companies or Member States gaining competitive advantage against their European rivals. We provide an approximate breakdown of the Phase 3 cap in Table 7 below.

Table 7: Estimated breakdown of auctions and free allocations in Phase 3

	2013	2014	2015	2016	2017	2018	2019	2020	Totals
Annual cap	2,039	2,002	1,964	1,927	1,889	1,852	1,815	1,777	15,265
Free allocations	754	741	727	713	699	685	671	658	5,648
NER	102	100	98	96	94	93	91	89	763
Auctions	1,183	1,161	1,139	1,118	1,096	1,074	1,052	1,031	8,854

* Annual caps have been announced by the Commission on 22/10/2010
 * NER accounts for 5% of the annual cap (Article 10a, P7)
 *Maximum free allocations is 37% of annual cap, derived from the share of total Phase 1 emissions, represented by non-NACE40 installations that were active in Phase 2 (Article 10a, P5a)

These are all promising developments, however while these prevent the scheme from *repeating* the mistakes of the past, they do little to *remedy* them: there are no provisions, for example, to provide less permits to installations or companies who were oversupplied in Phase 2, or to adjust the overall cap downward to reflect any unmerited carryover of Phase 2 permits.

In one decision, however, the Commission has perpetuated the mistakes of previous Phases: setting the Phase 3 cap in relation to average Phase 2 allocations has contaminated it with the inflated industrial emissions projections that were aggregated in the Phase 2 NAPs. The Commission has thereby effectively multiplied this oversupply across the eight years of the Phase 3 budget.

Box 2: Offsetting rules in Phase 3

The use of international carbon offsets in Phase 3 is dependent on the overall target set for the system. Under the current 20% scenario, access to Phase 3 offsets is limited due to the failure to reach an international legally binding agreement succeeding the Kyoto Protocol. If an agreement is reached or the Directive is opened up to make caps tighter then the offsetting rules in the ETS are also likely to be changed.

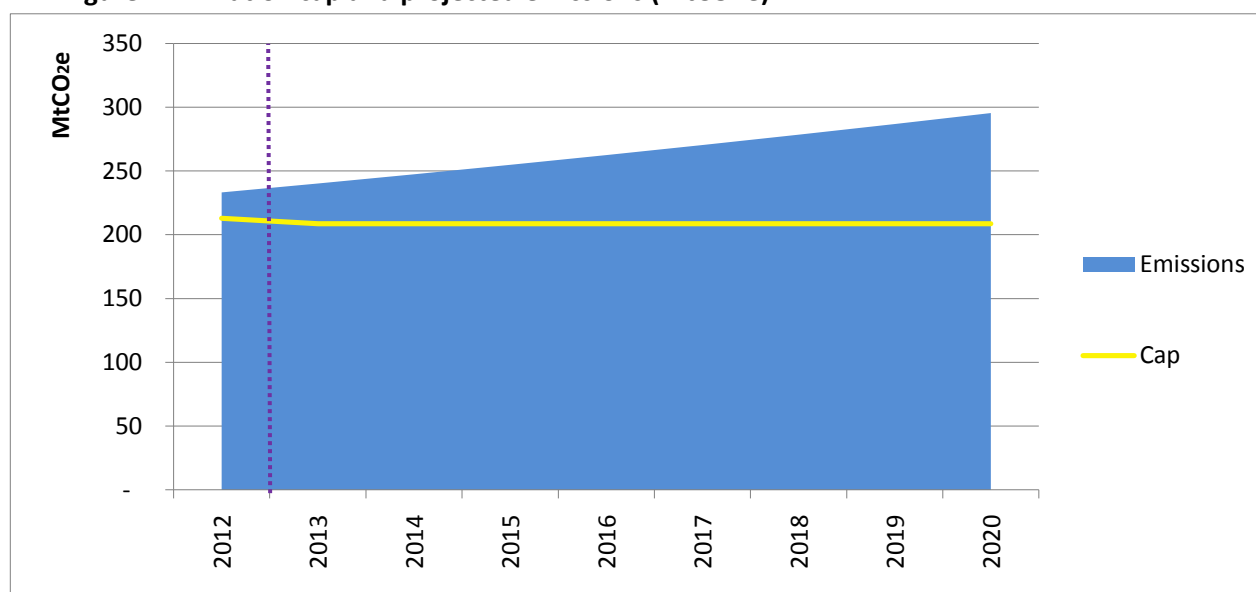
As it stands currently, the volume of offsets allowed in Phase 2 (estimated at around 1.6bn tonnes) can be carried over and used in Phase 3 as long as the credits originate from projects registered before 2013 and are from valid project types. Credits from, HFC and N2O adipic acid projects will no longer be eligible from 1st May 2013. Credits originating from new projects must come from least developed countries (LDC) or be approved via bilateral agreements. New entrants and aviation operators will also be allowed to use offsets credits of up to 4.5% and 1.5% of their emissions during the period 2013-2020 respectively.

Under a tighter cap the volume of emissions that may be offset by installations will likely be adjusted, with volumes determined in supporting regulations. If the tighter cap is triggered by international agreement then the country of origin of offsets will be determined by who has signed the new agreement.

The use of Joint Implementation (JI) credits in Phase 3 is highly unclear given their dependency on AAUs (the Kyoto based allowances). Without agreement to extend the Kyoto Protocol the continued use of ERUs is extremely limited but could be replaced by a similar *Community* offset mechanism (under Art. 24a) to generate credits in uncapped sectors. Other unresolved issues for Phase 3 include the possibility of additional quality restrictions being introduced, and the quantity of eligible credits from LDCs and bilateral projects.

Effects of aviation entering the system

Figure 12: Aviation cap and projected emissions (MtCO₂e)



Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2012-20 Total
Aviation cap	208	208	208	208	208	208	208	208	208	1,881
Aviation emissions	233	240	247	255	262	270	278	287	295	2,369
Shortfall	-20	-32	-39	-46	-54	-62	-70	-78	-87	-488

The European Commission has set a separate cap for the aviation sector for 2012-2020 running parallel to the declining annual cap provided for stationary emitters. Using average aviation emissions over 2004-2006 to set a baseline of 219Mt, the Commission have set the 2012 cap at 97% of this, dropping to 95% across 2013-2020.

These allocations are exclusively for use by airline operators and cannot be surrendered by stationary installations for compliance, however a shortfall structured into this cap will require airlines operators soak up excess permits from the main cap. Based on emissions projections from Deutsche Bank, we see the aviation sector absorbing **20Mt** of surplus permits from Phase 2 and **468Mt** in Phase 3.

Impact of accrued surpluses

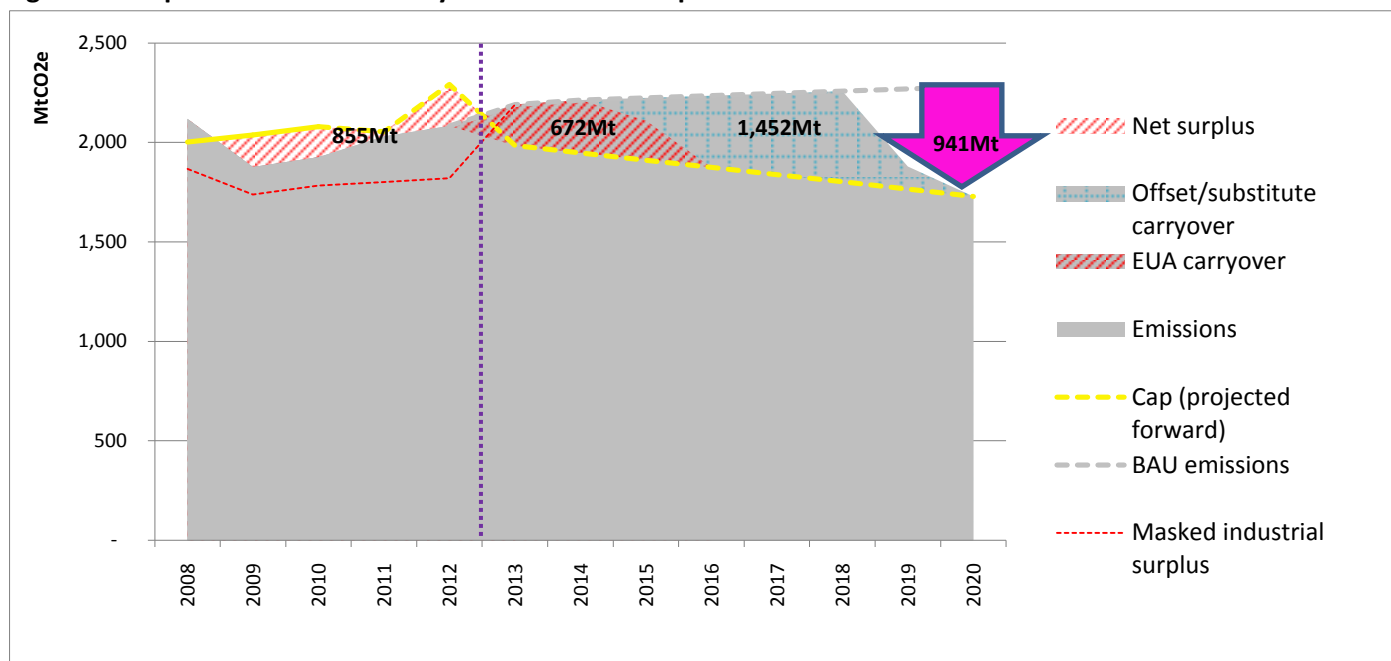
As discussed in our Phase 2 performance update above, we expect to see industry-related installations under the system to accrue a combined surplus of **855 million** EUAs. Over 2008-9 the power sector was obliged to purchase and surrender **183Mt** of this surplus to meet its compliance obligations, leaving **672Mt** within the system to carry forward to Phase 3.

Some commentators will object that shortfalls in the power sector will prevent all but the *net* surplus (525Mt) carrying forward, but as discussed on p.21, this fails to account for the large quantities of offsets that are likely to be surrendered into Phase 2. We anticipate some **788Mt** of offsets being surrendered, weakening the demand for EUAs in short installations and *further* expanding the surplus of oversupplied installations, this creates a sufficient window through which **672Mt** of the remaining industrial oversupply can be banked forward undiminished.

This oversupply would be sufficient to allow Phase 3 emissions to follow business-as-usual trajectories until **2015** if no other climate policies were in place. Beyond this the additional unused and or substituted

offsets from Phase 2 would enable *domestic* emissions to continue to track business-as-usual levels until **2019**.

Figure 13: Impacts of industrial carryover on Phase 3 cap



Effects of other policies on demand

The Commission has made it clear, both in its May 2010 Communiqué on Options for Moving Beyond 20%⁴⁸, and also in its March 2011 Low Carbon Roadmap⁴⁹, that – if fully implemented – it expects the complementary policies in the climate package to constrain emissions from the traded sector more than the Emissions Trading System itself, primarily because, the energy efficiency and renewables targets are set to deliver reductions significantly greater than economy-wide 2020 target the ETS budgets were designed to help deliver.

European policymakers need to recalibrate the ETS cap to correct for oversupply during the recession and reorient the cap to align with Europe’s 2050 goals. If they do not act, they risk making the flagship climate policy redundant as it is undermined by other more targeted mechanisms.

More targeted climate policies are by their nature more piecemeal and are often less flexible in how they can be complied with. The energy efficiency and renewables targets are likely to be more costly to both taxpayers and to consumers as they are proscriptive in the solutions that they require to be implemented. Often they are funded through government spending programs or through imposed statutory costs that increase the unit cost of energy quite substantially. The relative inflexibility of these mechanisms makes it unlikely they will deliver their carbon reductions as affordably as a cap and trade system– these policy instruments “pick winners” amongst the available low-carbon technologies by their very design.

Though the price paid may be higher however the popularity of these policies rests on the fact that the outcome is more predictable and can be more easily controlled than a broad market-based instrument. The higher degree of certainty over the outcome means that, while the ETS has been subject to a

⁴⁸ European Commission, *Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage*. (<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0265:FIN:EN:PDF>). 26 May 2010.

⁴⁹ European Commission, *A Roadmap for moving to a competitive low carbon economy in 2050*. (http://ec.europa.eu/clima/documentation/roadmap/docs/com_2011_112_en.pdf). 8 March 2011.

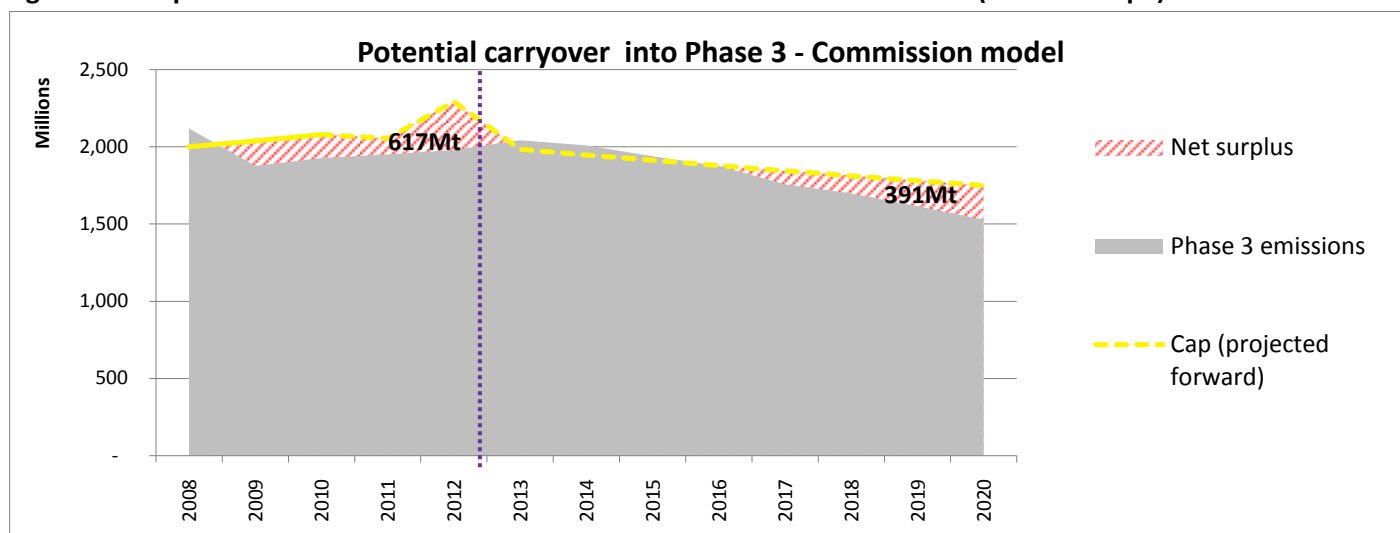
derailment by the recession, these policies have continued to drive investment and are likely to ensure that the emissions trajectory for Europe going forward is now significantly lower than projected when decisions over the design and implementation of ETS were being made.

Europe is correct to increase its investment in renewable and energy efficiency so as to improve its energy security and its resilience against volatile fossil fuel prices and we do not advocate a move away from these policies. Rather we call on decision makers to take action to prevent them undercutting the reductions mandated by the EU ETS, by reducing the oversupply of carbon allowances in the third phase.

Analysis cited in a draft Impact Assessment for the Energy Efficiency Directive predicts that Phase 3 oversupply might cause the price of carbon permits to drop to €14 (from an anticipated price of €25) or even collapse to €0.⁵⁰

Using numbers Deutsche Bank derived from Commission Graphs, we find that complementary policies are sufficient to augment the Phase 2 surplus by at least 92 million EUAs bringing the total to **617Mt**⁵¹. Over Phase 3 the full climate and energy package would allow the system to accumulate further EUA surpluses of **391 million**, while still leaving **1.6Gt** of unused and substituted offsets untouched. Together the cap covering Phase 2 installations stands to leave a legacy of **2.6Gt** in permits and credits to future phases of the system. As discussed above aviation emissions are expected to absorb some **490Mt** of this.

Figure 14: Surpluses accrued in the Commission’s reference scenario 2008-2020 (Phase 2 scope)



Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cap	2,001	2,038	2,080	2,054	2,292	1,984	1,947	1,911	1,874	1,838	1,802	1,765	1,729
Emissions	2,118	1,876	1,926	1,950	1,978	2,042	2,008	1,938	1,875	1,757	1,697	1,615	1,527
Surplus	-117	161	154	104	314	-58	-61	-27	-1	81	105	150	202

	Phase 2 (2008-1012)	Phase 3 (2013-2020)	Total
Cap	10,465	14,850	23,315
Emissions	9,848	14,459	23,307
Surplus	617	391	1,008

⁵⁰ www.sandbag.org.uk/site_media/uploads/20110505_Impact_Assessment_Energy_Efficiency_Directive.pdf p.30

⁵¹ Figures taken from Deutsche Bank *Hard to Credit* (2010) by comparing Deutsche Bank’s projected emissions against those in the Commission’s “Reference Scenario”. As the Deutsche Bank projection for 2011 and 2012 already takes abatement under complementary policies into account, this is likely to be an *underestimation* of how much the Phase 2 surplus is augmented. This goes some way to explaining the discrepancy between our 2.1Gt figure and the 2.4 figure cited by the Commission. All 2011-2020 emissions figures taken from *Hard to Credit* (2010).

Recommendations

1. Fix the EU ETS *independently* of reviewing 2020 climate targets

Sandbag concentrates its campaigning efforts on scrutinizing and improving the EU ETS, because we feel that delivering abatement more cheaply via this mechanism will provide a bottom up opportunity for Europe to increase its climate ambition and ultimately put it on a pathway commensurate with its historical climate responsibilities, and lead other countries to making similar reductions.

To date, however, the level of ambition within the EU ETS has been set top down, firstly in the context of the EU15’s joint commitment under the UN Kyoto Protocol to reduce its emissions 8% below 1990 levels across 2005-2012, and more recently in the EU27s unilateral commitment to reduce emissions 20% below 1990 levels by 2020.

As Europe wrestles with the question of whether it should increase its climate ambitions to 30%, we can see how important a role the traded sector is expected to play by surveying the proposed European Commission scenarios in Table 8 below:

Table 8: 2020 GHG reduction scenarios accompanying the May 2010 Communiqué

2020 scenario	Summary	EU %below 1990	EU %below 2005	ETS %below 2005	Non-ETS %below 2005
2009 Baseline	Enacted policies as of Spring 2009	14%	7%	11%	3.5%
Reference	Full implementation of 20:20:20 package	20%	14%	19%	9.5%
30% Flexible	25% internal, 5% state offsets	25%	19%	26%	13%
30% Domestic	30% internal	30%	24%	34%	16%

(Source: Compiled from different tables in SEC (2010) 650)

The table shows that the traded sector is consistently expected to achieve *double* the reductions of the non-traded sector. Given that the traded sector covers roughly half of Europe’s current emissions, this suggests that the traded sector is expected to deliver roughly 2/3rds of Europe’s total reductions *whatever* 2020 target it sets itself. **If the ETS can be recalibrated to further reduce emissions in the traded sector, then this should greatly facilitate more ambition economy wide.**

However, the EU ETS demands adjustment *independently* of any formal increase in Europe’s climate ambition. Over the last year, the European Commission has made several proposals that seek to set aside (and ultimately cancel) a portion of the Phase 3 permits that would have been sold at auction, with only the first of these explicitly referring to a change in the European target. But the rationale and the scale of these proposals have grown increasingly timid over the course of the last year as Table 9 shows:

Table 9: Shifting rationales and quantities for a Phase 3 set-aside

Document	Proposed set-aside	Purpose of set-aside
20% Communiqué ⁵²	1.4 Gt	To prepare the ETS for a 30% economy-wide target in 2020 (i.e. 25% domestic, 5% offset).
2050 Roadmap (leaked draft)	0.5-0.8Gt	To account for excess allowances banked forward from Phase 2.
2050 Roadmap ⁵³ (published)	No figure provided	To align the EU ETS with any new measures in the implementation of the Energy Efficiency Target

The set-aside recommendations have retreated from *paving the way* for increased economy-wide ambition, to *depending* upon it. The most recent language of the Commission in the 2050 Roadmap effectively states adjustments will *only* be made to the traded sector if Europe adopts energy efficiency measures that cause it to exceed the mandated 20% reductions against 1990 levels.

While the Roadmap hesitates to provide a set-aside figure for the EU ETS, it recommends that additional efficiency policies be implemented in order to fulfil Europe’s pledge to increase Energy Efficiency by 20% against projected levels. The Commission’s latest analysis suggests that this would be sufficient to drive a 25% emissions reduction economy wide, which would seem to *implicitly* recommend the **1.4Gt** outlined in the May 2010 Communiqué, however, in the spirit of continued retreat, the adjustment under consideration is currently rumoured to be in the region of **400Mt**.⁵⁴

The Commission has given too much ground and needs to establish a firm basis from which to defend a clear set-aside figure in the system. **Sandbag feels that a strong set-aside can be strongly defended on the grounds of correcting for direct and indirect effects of the oversupply to Phase 2. We calculate that this adjustment would be no smaller than 1.7Gt.**

While high surpluses of allowances provide a strong rationale for being able to move beyond Europe’s economy-wide 2020 targets, creating a set-aside does not automatically require changing these. The use of a set-aside simply serves to create a greater incentive for participants in the ETS to abate earlier, changing the shape of the trajectory towards future targets but not the overall volume of emissions. Altering the timing of the supply of allowances in this way would hopefully inspire early action putting Europe on a more steeply declining path in the earlier years. This would have environmental benefits since there is a risk premium associated with maintaining high levels of emissions over time. It would also have potential economic benefits in the long term as early action makes the meeting of future, more stringent targets cheaper.

⁵² European Commission, *Analysis of options to move beyond 20%*. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0265:FIN:EN:PDF>

⁵³ European Commission, *2050 Roadmap*, p. 11
http://ec.europa.eu/clima/documentation/roadmap/docs/com_2011_112_en.pdf

⁵⁴ For example Pete Harrison, ‘Energy firms fear "tremendous decline" in CO2 price’. (<http://www.reuters.com/article/2011/06/14/us-eu-energy-climate-idUSTRE75D4FO20110614?feedType=RSS&feedName=everything&virtualBrandChannel=11563>). Reuters, 14 June 2011. (Accessed 27 June 2011).

2. Set aside 1.7Gt from Phase 3 by 2013

A 672Mt correction for oversupply in Phase 2

In our Phase 2 Outlook section we noted that some **855Mt** of surplus permits is currently expected to accrue to oversupplied installations in Phase 2, with some **672Mt** carried through to Phase 3. Note that this volume sits close to the middle of the 500-800Mt estimate in the draft version of the 2050 Low Carbon Roadmap for a Competitive European Economy.

We feel the Commission has very strong grounds for removing these permits from the system. The ETS was never designed to encourage industries to increase or recover their emissions, or to financially subsidise their economic growth or recovery, and this is precisely the use to which these allowances are being dedicated. To remove these excess permits from circulation is not to *re-appropriate* them from the companies to whom they were grandfathered, but simply to adjust the level of ambition within the system to reflect their environmental superfluity.

Some commentators resist such an adjustment insofar as it represents an after-the-fact (*ex post*) adjustment to the system, that was designed to provide a predictable cap in advance (*ex ante*), but they overlook similar mechanisms within the system that prepare for the possibility of a *shortage* of permits. These include:

- **generous offsetting provisions (Article 11a):** that have been exploited firstly as an *additional* way of extracting profits from surplus free allocations, and exploited secondly as a means to enable European domestic emissions to *grow*, rather than carrying half of the burden of active emissions reductions.
- **Provisions to bring forward permits from future auctions/NER reserve in the event of steep price rises: (Article 29a):** when precisely the opposite has problem has occurred.

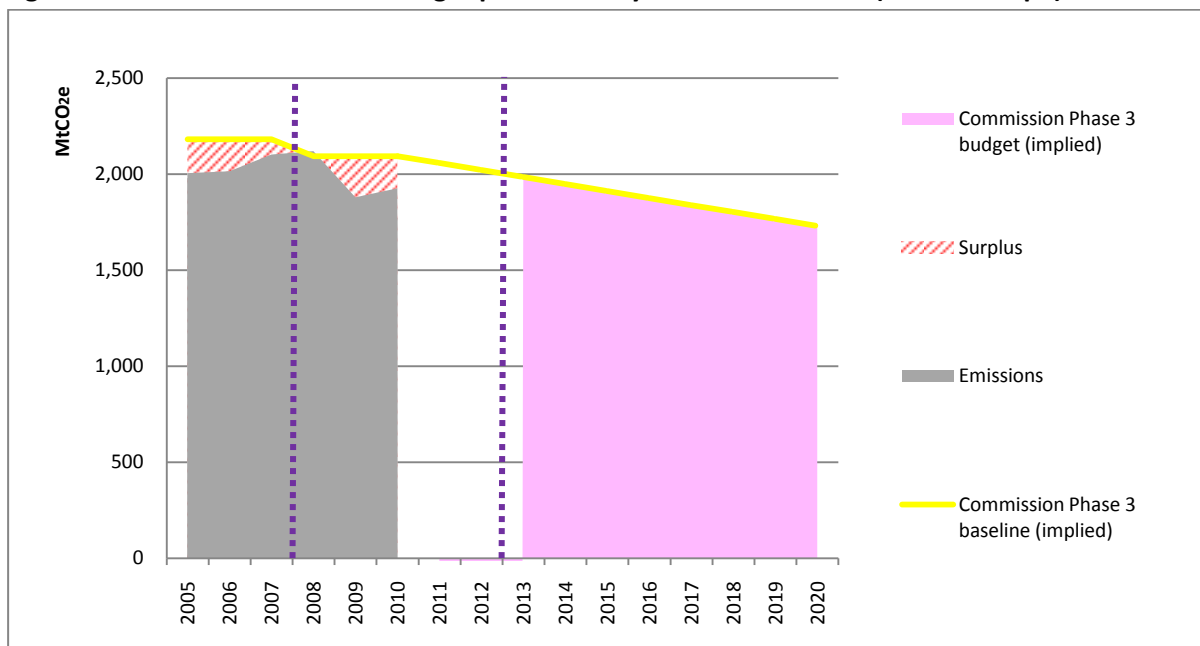
A 1Gt correction for the effects of oversupply on the Phase 3 budget baseline

As well as *directly* inflating the Phase 3 cap as carryover, this oversupply has even more powerful *indirect* effects on the Phase 3 budget by inflating the baseline from which future caps were set.

The Trading Directive stipulates that from 2013, annual caps follow a defined declining trajectory from the *average* annual cap in Phase 2. An unintended consequence of this decision is that it multiplies the slack the recession contributed to the Phase 2 cap *indefinitely* into the future of the scheme.

The Phase 3 cap (2013-2020) was derived by applying an annual decrease of 1.74% to the average Phase 2 budget, starting in 2010. See Figure 15 below:

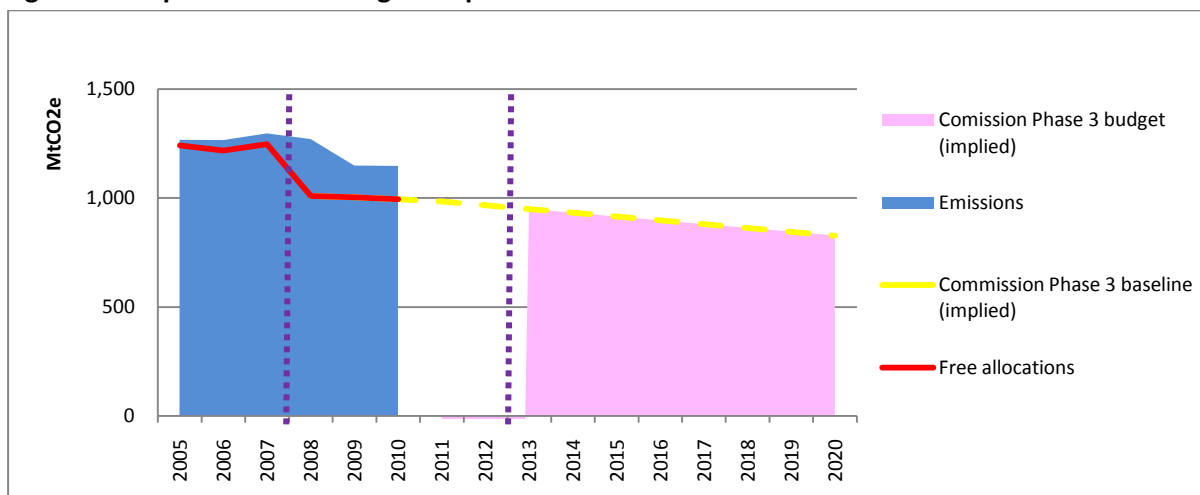
Figure 15: Commission Phase 3 budget prescribed by 1.74% decline (Phase 2 scope)



However, as we just revisited, that cap is oversupplied by **855Mt**. This pushes up the baseline (average Phase 2 allocations) by **171Mt**, which in turn pushes up the Phase 3 budget by **1.2Gt**.⁵⁵

We propose that a set-aside of at least **1Gt** is a fair adjustment to correct for the effects of Phase 2 oversupply on the Phase 3 budget. We derive this adjustment by the following method: we keep the power sector’s contribution to the Phase 3 baseline constant at average Phase 2 allocations, assuming that it was awarded fewer permits because of its relative immunity from competitiveness threats and its more immediate and affordable opportunities for abatement.

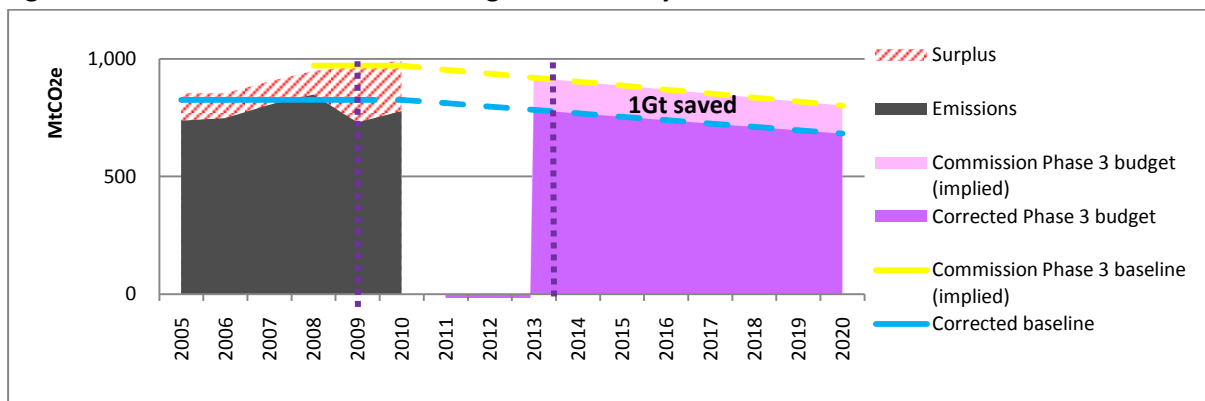
Figure 16: Implied Phase 3 budget for power installations



Meanwhile, for industry-related sectors, we have determined their contribution to the baseline from their average historical *emissions* since 2005. This corrects for oversupply against their Phase 2 emissions while accounting for some reductions owing to abatement since the system first got underway. Under this shadow allocation, industry contributes 826Mt to the baseline instead of the existing 971Mt, this 145Mt difference diminishing the Phase 3 budget by 1Gt.

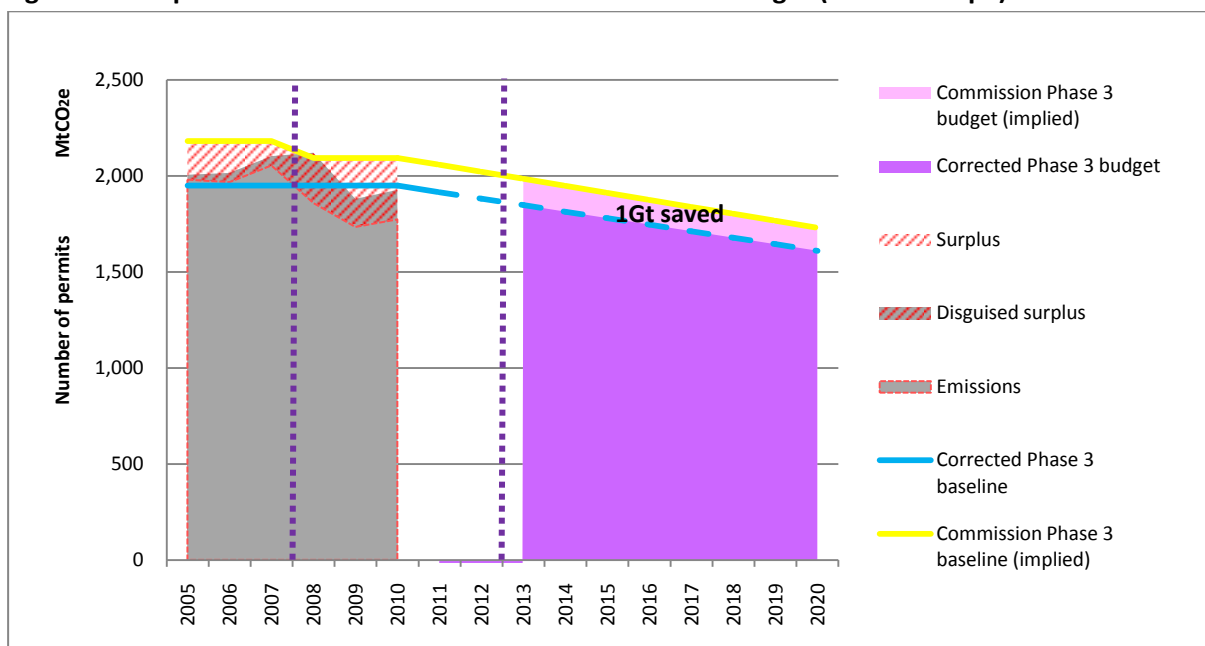
⁵⁵ i.e. 171Mt multiplied over 8 years, diminished by the 1.74% decline over the same period (7.043x171Mt)

Figure 17: Emissions-based Phase 3 budget for industry-related installations



This **1Gt** adjustment is then reflected in the overall Phase 3 budget when we add Power and Industry-related allocations together.

Figure 18: Proposed correction to the Phase 3 baseline and budget (Phase 2 scope)



We feel that there is, if anything, an even *stronger* basis for this indirect adjustment than for the direct adjustment. Firstly, this does not correct for allocations that have already been distributed, and secondly, a strong precedent for emissions-derived Phase 3 allocations has already been set for this in the aviation sector and the new categories of stationary emitters entering the system in Phase 3.

This **1Gt** correction is likely to be an *underestimation* of the scale of adjustment prescribed by this methodology, owing to a broad definition of what we here define as a “power” installation. As discussed in Box 1 in our Phase 2 outlook, in this year’s report we have defined the power sector using “NACE” economic codes. Strictly speaking only NACE code 4011 installations are electricity generators; insufficient refinement of the NACE code data available for ETS installations has forced us to resort to using NACE code 40 installations, which captures all of electricity, gas, steam and hot water supply. Many of these processes are industrial activities taking place in oversupplied installations, which thereby evade our emissions-based adjustment to the Phase 3 baseline. As an indication, when we defined the power sector as Combustion installations facing a net shortfall last year, this methodology prescribed a correction of 1.4Gt to the Phase 3 cap. The most accurate adjustment will lie somewhere in between, but cannot be precisely determined until more detailed NACE information is provided for ETS installations in the CITL as we recommend in our calls for transparency below.

3. Review the directive by 2015

Many observers note that the opportunities for adjusting the level of ambition in the ETS appear limited, insofar as current trajectories within the EU ETS are enshrined in the Trading Directive and would require a review of the primary legislation in order to be changed.

There are many reasons we should not shrink from actively reopening the Directive, as we shall explore in more detail below, but the Commission should prepare for a review being triggered by a change in external circumstances.

There are two triggers for a reform of the ETS cap already enshrined in the Directive:

- a political trigger – if a sufficiently ambitious international climate agreement is reached⁵⁶; and
- a scientific trigger – if it is shown that greater reductions are required to avoid dangerous climate change.⁵⁷

A lot of emphasis has been placed on the political trigger and the hope that a post Kyoto agreement would provoke a 30% community wide target in the EU. Less attention has been directed towards the *scientific* trigger which immediately *precedes* this in the legal text and might, according to some observers, already have been passed.⁵⁸ The relevant text reads:

“This Directive also provides for the reductions of greenhouse gas emissions to be increased so as to contribute to the levels of reductions that are considered scientifically necessary to avoid dangerous climate change.” – Article 1 (2), Directive 2003/87/EC

Given Europe’s proportional responsibilities for tackling climate change, we believe it is incumbent upon the Commission to review the Emissions Trading Directive by 2015 at the latest, following the publication of the full text of the IPCC 5th Assessment Report in September 2014.⁵⁹

Political support for reopening the Directive

An opportunity might well arise before 2015 if the political appetite for increased ambition continues to grow. Recent votes supporting adjustments to the ETS and increased European ambition firstly in the Industry Research and Energy Committee on May 9th and then in the Environment, Public Health and Food Safety Committee on May 24th provide encouraging signs. To highlight 2 paragraphs in the report tabled at the more recent vote:

*3. [The European Parliament] calls for the Commission to come forward, as soon as possible and before the end of 2011, with proposals to achieve a 25% internal greenhouse gas reduction by 2020 consistent with a cost effective pathway to the 2050 objective as outlined in the 2050 Roadmap, and to move to a 30% overall target for 2020”;*⁶⁰

⁵⁶ Article 1, Paragraph 3 Consolidated Directive 2003/87/EC

⁵⁷ Article 1, Paragraph 2 Consolidated Directive 2003/87/EC

⁵⁸ Box 13.7 on page 776 of the IPCC AR4 WGIII report recommends developed countries aim for greenhouse gas reductions of 25-40% against 1990 emissions. As Europe is the region with the largest historical emissions we can expect that a European 2020 target closer to the 40% end of the spectrum is implied.

⁵⁹ All three Working Group reports will already be finished by April 2014.

⁶⁰ European Parliament Committee on the Environment, Public Health and Food Safety, *Report on the analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage.*

(<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2011-0219+0+DOC+PDF+V0//EN&language=EN>). 1 June 2011.

“19. [The European Parliament] supports the idea of setting aside 1.4 billion allowances from the EU ETS prior to 2020 as a possible solution to maintaining the incentives in the ETS and to guarantee the level of stringency foreseen at the time of the legislative procedure.”⁶¹

Shortly after this report goes to press, the text cited above will be put before a plenary vote in the Parliament. This will be a crucial test and barometer of the Parliament’s climate ambition.

Ambition also appears to be growing in the European Council. On June 21st all Environment Ministers apart from Poland supported the targets outlined in the 2050 Roadmap in the Environment Council. Earlier in March, Environment Ministers from Denmark, France, Germany, Greece, Portugal, Sweden and the UK declared support for a 30% economy-wide target via an open letter to the European press⁶². The UK’s position has, in fact, recently become *more* emphatic as it has moved to introduce tough new domestic carbon budgets and price floors which it wishes to leverage to secure more ambition across Europe as a whole. The UK’s ambitious carbon budget for the period 2022-27 includes a review clause in 2014. This is explicitly to take into account the progress, or lack thereof that Europe has made towards tightening caps in the ETS. In effect this creates a deadline for the EU to act – if it fails to then the ETS will be guilty of holding back climate ambition rather than stimulating it.

Nevertheless, the UK’s position alone will not be enough and more Member States will need to be convinced if more ambitious targets are to be taken on. Recent political developments in Germany provide the perfect opportunity to increase its role in helping to secure the necessary changes.

Outside of the EU institutions, a growing number of corporate supporters have joined the call for greater ambition, including several prominent energy companies.⁶³ The support of power companies for tougher climate targets and tighter carbon budgets is particularly telling as they will be obliged to purchase most of their permits at auction. This shows that progressive electricity companies are prepared to shoulder steeper carbon costs for more market share.

How Eastern Member States stand to gain from tighter caps

Tighter ETS budgets will increase the revenues that Member States accrue from auctioned permits, but will disproportionately advantage Central and Eastern Member States who have hitherto resisted stronger European climate targets.

While 88% of the permits auctioned will be distributed to Member States in proportion with their 2005-7 emissions, the remaining 12% will be redistributed to assist economically weaker states grow or recover. 10% is assigned to countries for “solidarity and growth” (Annex IIa), and a subset of these receive the remaining 2% for “early effort” (Annex IIb).⁶⁴

A recent report by Climate Strategies exploring the *Revenue Dimension of the EU ETS Phase 3* found that the total revenues to all Member States would double under a 30% domestic target, climbing from **€154billion to €307billion**. A more detailed breakdown is provided in Table 10 below:

⁶¹ *ibid*

⁶² http://www.decc.gov.uk/en/content/cms/news/chrish_eulett/chrish_eulett.aspx

⁶³ http://www.theclimategroup.org/assets/files/business_declaration_june_15_2011.pdf

⁶⁴ Article 10, Paragraph 2. See European Parliament and European Council, *Directive 2003/87/EC*

Table 10: Potential Phase 3 auction revenues generated under different scenarios (€m)

Country	20% scenario with RES target	30% flexible scenario (25% domestic)	30% domestic scenario
EU27 total	153,758	200,545	306,970
Annex IIa countries	67,533	89,030	139,778
Annex IIb countries	26,061	35,297	57,136
- Bulgaria	2,370	3,209	5,195
- Czech Republic	5,007	6,782	10,979
- Estonia	1,079	1,460	2,363
- Hungary	884	1,198	1,939
- Latvia	92	125	203
- Lithuania	230	314	508
- Poland	13,186	17,857	28,905
- Romania	2,613	3,539	5,728
- Slovakia	600	813	1,316

Source: Adapted from *Climate Strategies*⁶⁵

Furthermore, the Climate Strategies figures suggest that the Member State beneficiaries of these redistributive provisions in the Directive not only disproportionately benefit from the increased *value* of their permits as ambition rises, but that their *share* of the auctioned permits also expands, rising by 2% in the 30% domestic scenario. Poland's current resistance to climate ambition threatens to cost it €15 billion in potential revenues.

4. Prioritize the following changes to the ETS Directive

Once political or scientific circumstances allow for a review of the Directive, we suggest the following changes be prioritized:

i. Permanently cancel the set-aside

Any permits set aside from Phase 3 risk returning to haunt the system in 2020 or in future trading periods unless they are permanently cancelled. This cancellation of the set-aside could be imposed on the basis of the following two recommendations:

ii. Steepen the trajectory of the ETS cap

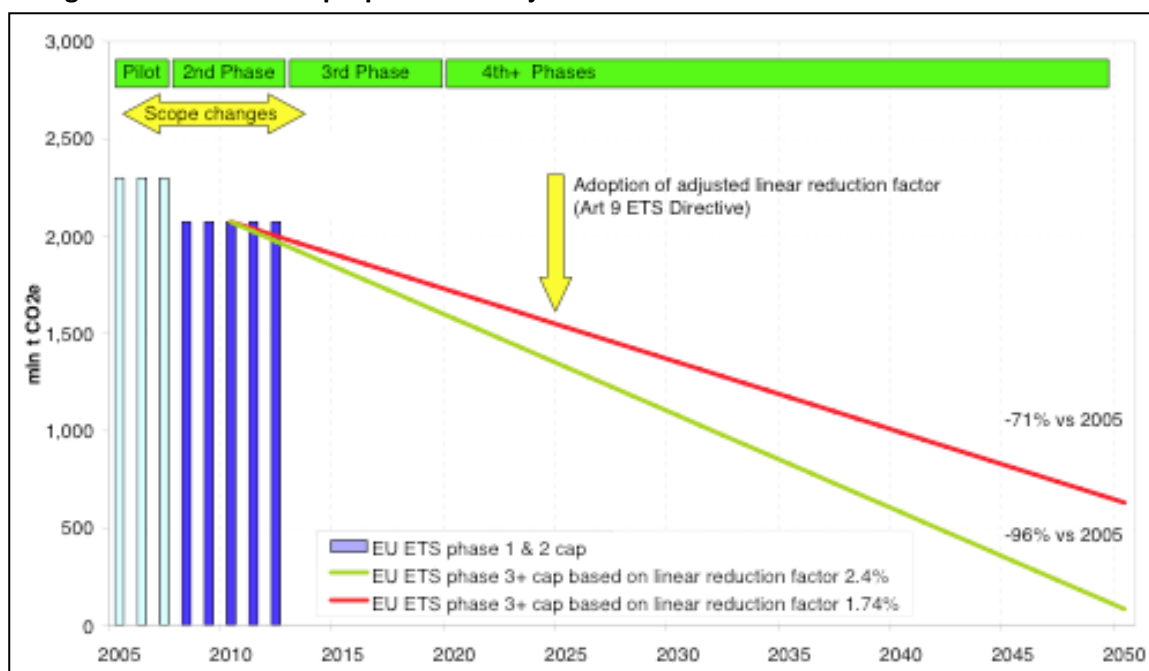
The Directive currently calls for a review of the 1.74% annual reduction rate within the system to be underway by 2020 and in force by 2025. But it is already clear that this trajectory is insufficiently steep to deliver the carbon reductions proposed in the 2050 Roadmap. The Roadmap sets an economy-wide emissions target of roughly -80% against 1990 levels, while power and industry are given median targets of -96% and -95% respectively.

Calculations performed by Climate Strategies find the current ETS trajectory will deliver only -71% by 2050 against 2005 emissions. In keeping with their recommendations, we currently suggest a 2.4% trajectory would be more appropriate, reaching 96% below 2005 emissions in the traded sector; however the findings in the IPCC 5AR might dictate a still more ambitious European target and a steeper trajectory for the traded sector.

⁶⁵ Simone Cooper and Michael Grubb, *Revenue dimension of the EU ETS Phase III*. (<http://www.climatestrategies.org/research/our-reports/category/61/313.html>). Climate Strategies, 12 May 2011, pp. 47-50.

If applied from 2016 a 2.4% revised trajectory would absorb some **553Mt** of any set-aside by 2020. Our proposed 1.7Gt set-aside would be effectively cancelled by **2027**.

Figure 19: Current and proposed ETS trajectories out to 2050



(Source: *Climate Strategies*⁶⁶)

iii. Create an ongoing cancellation mechanism to account for oversupply

The ETS currently has two legal mechanisms to prevent low supplies of carbon permits in the system from pushing up prices: generous international offsetting provisions, which allow compliance installations to purchase cheap abatement overseas towards half of their mandated reductions; and also a provision to bring forward permits from future auctions or unused New Entrants Reserve under specific criteria. There is currently only one provision, the banking of permits into future trading periods, to account for the opposite and prevailing problem, weak demand for permits and low carbon prices. To better account for this we recommend an Article 29b be established to create a clear basis for the Commission to intervene to permanently lower the supply of permits coming to the market under a predictable set of conditions (i.e. pre-specified drops in the production index, or drastic reductions in the carbon price). This will prevent a re-enactment of the problems afflicting Phase 2.

iv. Introduce a reserve price for auctioned permits

Alternatively, or as a complement to the above cancellation mechanism, we recommend an amended directive introduce a reserve price for auctioned EUAs, whereby any permits not purchased at routine centralised auctions are permanently cancelled from the market. This would generate a reliable minimum price signal for investors while maintaining the link between price and supply, turning the ETS from a quantity instrument into a hybrid quantity-price instrument.

v. Keep offsetting limited in volume and type

The offset provisions in the Directive are currently very generous, allowing compliant installations to meet up to 50% of their reduction obligations through abatement projects overseas. With the recession

⁶⁶ Emmanuel Guerin and Thomas Spencer, *Climate Strategies Strengthening the EU Climate and Energy Package* (8 June 2011) <http://www.climatestrategies.org/research/our-reports/category/57/326.html>

drastically reducing domestic emissions, though, offsets stand to represent much more than half of the *active abatement* driven by the ETS. We feel this violates the spirit of the Directive.

Furthermore, Member States are inclined to frame offsetting within the traded sector as “domestic reductions”, but together with state level offsetting, this accounts for an extraordinary share of Europe’s effort towards its targets. The current weighting does little to assist Europe’s efforts to increase its energy independence and security, nor does it help to set an example of low-carbon growth to emerging economies.

In keeping with this logic, we recommend the Commission reduce the total share of reductions ETS installations can meet through offsetting. In light of the abuses of the offsetting provisions highlighted in this report, we urgently recommend the Commission to prohibit companies from surrendering offsets until their total emissions exceed their free allocations since 2008. This prohibition should take effect for the largest legal entity controlling an installation, and requires greater transparency about installation ownership. Lastly, we recommend limiting access to offsets that support Europe’s industrial competitors as a first recourse to address carbon-leakage concerns before limiting ambition within the system or imposing border-adjustments.

vi. Enable an economy-wide ETS cap

The current Directive enables direct regulation of greenhouse gases from large point sources of emissions. This leaves around half of Europe’s emissions outside of the traded sector making the meeting of more ambitious climate targets more difficult to guarantee and potentially more expensive to meet. Other trading systems such as the New Zealand Emissions Trading System and the West Coast Initiative in the US enable economy-wide emissions to be traded by including the emissions from fossil fuels sold in the heat and transport sectors. These are regulated at the point of entry into the market e.g. the refinery. To remain compatible with other international trading systems the EU must either introduce a complementary Directive enabling the trading of indirect emissions in heat and transport sectors or amend the current Directive to make this possible.

As is the case for electricity generation, companies supplying heating and transport fuels are largely immune from international competition from outside the Union. Demand is relatively fixed – determined by economic growth rather than export driven – and the sources of demand, i.e. consumers and businesses, are not ‘footloose’ in the same sense that heavy industry is. In retrospect, many of the problems experienced in the ETS would have been avoided if the sectors included from the start had covered electricity, heat and transport and *not* heavy industry. This would have given a larger scope covering more emissions but avoided some of the worst effects of industry lobbying to weaken the cap.

Arguments against including heat and transport in the cap generally focus on the fact that price signals alone are not very effective at driving abatement in these sectors and that more direct policies, such as vehicle efficiency and renewables targets, should be pursued instead. This argument does not stand up to scrutiny since exactly the same may be said of the need for complementary policies in the electricity sector where the cap and complementary policies co-exist by adjusting cap levels to take into account expected savings from other policies.

Another argument used is that there are fewer abatement options in these sectors. This again is not a strong argument since the very principle of emissions trading rests on the fact that it does not matter *where* reductions are achieved so long as they are. In addition, trading has already proven to be a very effective mechanism for uncovering low cost abatement that officials and analysts did not predict. The

fact the JI mechanism is being used to fund fuel switching in district heating schemes in Eastern Europe is already testimony to the fact that markets will find the least-cost solutions.

Perhaps the strongest arguments in favour of scope expansion to include these sectors are that it will distribute the cost of meeting our decarbonisation targets more equally across the economy and ensure that the polluter pays principle is applied.

Most analysts agree that in order to get to 80% economy-wide reductions in emissions, electricity will have to replace the use of fossil fuels in transport and heating. At present a shift towards higher consumption of electricity will increase the cost of compliance on that sector meaning that electricity consumers are taking the full responsibility for the cost of decarbonising heat and transport sectors. This is clearly inequitable and could become the source of political tension if consumers begin to object to watching their electricity bills rise.

Recommendation 5: Increase the transparency of the ETS

Several of the above recommendations rely on additional information about compliant installations and their activities being available to the Commission, to participants and, ideally to outside observers. We recommend the following installation level information be mandatorily reported to the Commission and published on the Community Independent Transaction Log (CITL):

- **Precise annual information on waste gas EUA transfers**

The steel sector has repeatedly referred to the impacts of EUA transfers to downplay the scale of their surplus free allocations. In place of current approximate methodologies that are likely to exaggerate the scale of these transfers in favour of the industry, we urgently recommend that installations giving or receiving EUAs as a corollary to waste gas transfer report this to the Commission, and that this data be published on the CITL website.

- **Clear and up-to-date information on installation ownership**

Shortfalls and surpluses at the installation level can easily disguise or confuse the picture of what is happening at company level, where several installations across different sectors performing and behaving very differently might be used to assist each other. To properly assess the concerns raised by corporations operating within the system it is necessary to see how they are actually performing. To this end, we recommend obliging installations to report the largest legal entity with a majority share in their ownership, and that this data be published on the CITL database.

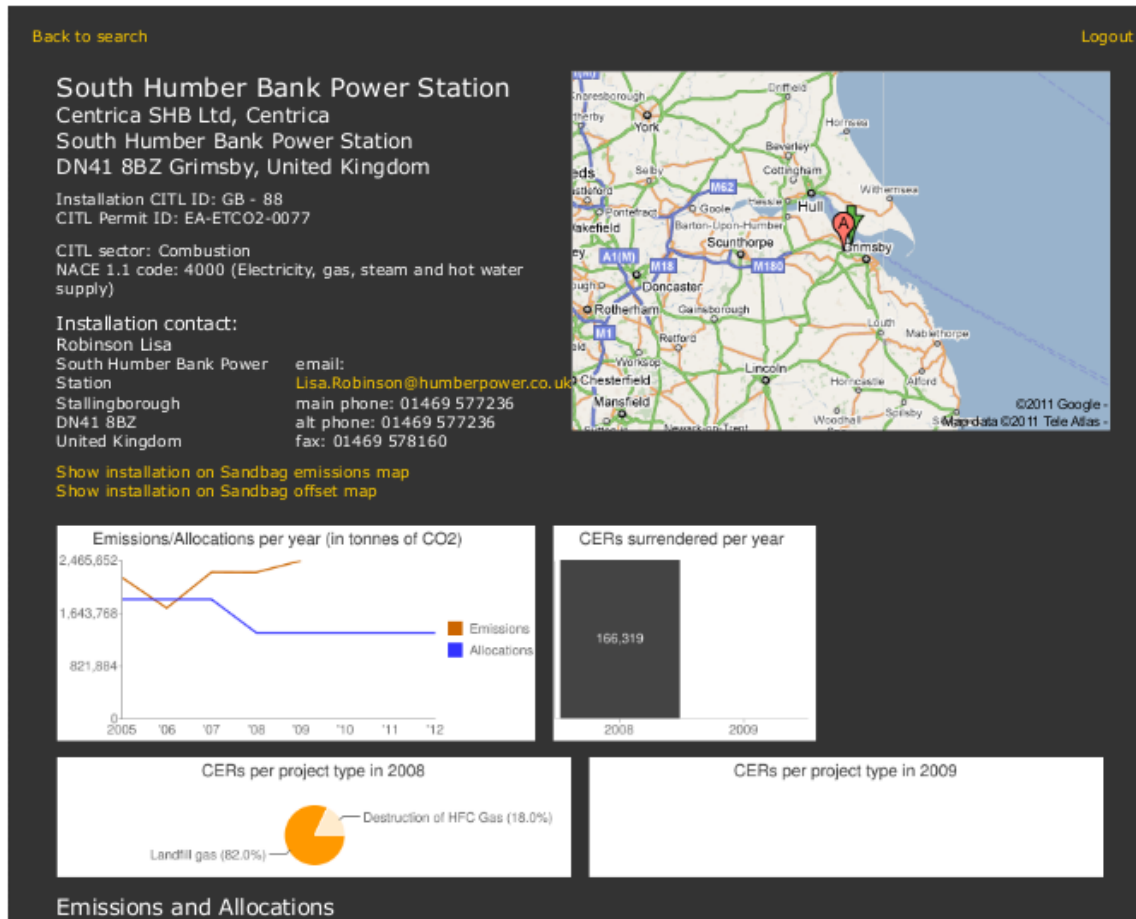
- **Better information on installations' economic activities**

Electricity generators that provide power to third party installations are covered by numerous special provisions within the ETS Directive, but despite their importance, at the present time these cannot be readily disaggregated from various combustion installations. A list of NACE economic codes for compliance installations was used to help determine risks of carbon leakage, but the publically available version of this data-set is incomplete and is inconsistent in its level of detail. A complete 4-digit level NACE code-set would help distinguish electricity generators, and would help monitor the environmental performance of different sectors against their annual output.

- Facilitate access to information on the aggregate performance of compliance installations

As a final note, we observe that the current presentation of the CITL is very piecemeal and makes it difficult to determine the aggregate performance of the system, or particular sectors and countries within it. We therefore recommend that the Commission develop a user-friendly and queryable data viewer, similar to the data tools that Sandbag has developed in their absence⁶⁷, and also to allow site visitors to download the latest CITL database as CSV files.

Figure 20: Screenshot of Sandbag data tools in action



⁶⁷ www.sandbag.org.uk/data contact info@sandbag.org.uk to enquire about gaining access.

Conclusion

Like a car seatbelt, the EU emissions trading system is a powerful technology to protect Europeans from danger, but is useless if it is not fitted correctly. After taking considerable trouble to install this climate seatbelt, the European policy community has so far failed to take the simple and obvious step of adjusting it so it restrains our emissions appropriately.

As a result, other policies that should be *complementary* with the ETS, bringing new renewable technologies to market and increasing energy efficiency, instead threaten to make it *irrelevant*, while some of the largest polluters regulated by the system have used it as an opportunity for profit.

Adjusting the Phase 3 budget to reflect industrial emissions since the system began in 2005 would deliver a Phase 3 cap some **1.7Gt** lower than the one currently in place. We recommend creating a set-aside of permits from auction reflecting this slack in the cap. We also recommend the directive be re-opened by 2015 at the latest to align the trajectory of the ETS with Europe's long term climate ambitions and with the demands of the science relayed in the IPCC's 5th Assessment Report.

A trajectory determined by a **2.4%** annual reduction from Phase 2 allocations would deliver a 2050 ETS budget more in keeping with the ambitions outlined in the published 2050 Roadmap for a competitive low-carbon European economy. If implemented from 2016 this would effectively cancel **553Mt** by 2020 and the whole **1.7Gt** set-aside by **2027**. The Commission is also encouraged to make additional amendments to the directive preventing the exploitation of offset provisions for profit.

The above changes, together with more transparent reporting of the industrial activities, ownership and waste gas transfers of regulated installations should make the EU ETS a climate seatbelt that is environmentally fit for purpose, and that works as its original supporters intended.

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Appendix 1

Both Tata and ThyssenKrupp have recommended a similar methodology be used to calculate the scale of EUAs they have transferred with waste gases.

After identifying their waste gas recipients, they have requested Sandbag (and other observers) assume that EUA transfer is sufficient to cover any EUA shortfall of their recipient installations.

Thus Tata provides the following information on its Ijmuiden steel works in the Netherlands:

Table AP1: Tata's methodology to derive Tata Ijmuiden surplus

Installation (surplus/shortfall)	2008	2009	2010	2008-2010
Tata Ijmuiden (producer)	4,179,278	5,148,445	5,330,462	14,658,185
Nuon Velsen (recipient)*	-2,900,130	-3,245,142	-2,589,393	-8,734,665
Nuon Ijmond (recipient)*	-1,571,327	326,404	-1,791,123	-3,036,046
Tata Ijmuiden after waste gas	-292,179	2,229,707	949,946	2,887,474

(Source: CITL, Tata Press release⁶⁸ and author's calculations)

*Indicates installations that are not Tata holdings

ThyssenKrupp also identified waste gas recipients for its integrated steelworks in Duisburg, to which (lacking any specific figures) we are obliged to apply the same methodology:

Table AP2: ThyssenKrupp's methodology to derive Integriertes Hüttenwerk Duisburg surplus

Installation surplus/shortfall	2008	2009	2010	2008-2010
Integriertes Hüttenwerk Duisburg (producer)	10,810,776	13,016,490	10,926,737	34,754,003
Dampfkesselanlage Duisburg Hamborn (recipient)	-3,707,694	-2,085,282	- 4,317,265	-10,110,241
Heizkraftwerk ThyssenKrupp Stahl AG Duisburg Hamb. (recipient)	-2,661,063	- 1,571,796	-2,291,576	-6,524,435
Kokerei Duisburg Schwelgern (recipient)	-971,570	-819,567	-1,098,432	-2,889,569
Heizkesselanlage Duisburg Hamborn (recipient)	-11	-192	-629	-832
Hubbalkenofen 2 (recipient)*	-119,317	-96,537	-104,360	-320,214
Kraftwerk Hamborn (recipient)*	-3,054,512	-2,726,156	-3,206,809	-8,987,477
IH Duisburg adjusted for waste gas	296,609	5,716,960	-92,334	5,921,235

(Source: CITL and ThyssenKrupp email and author's calculations)

*Indicates installations that are not ThyssenKrupp holdings

Source: CITL and ThyssenKrupp email and author's calculations

*Indicates installations that are not ThyssenKrupp holdings

⁶⁸ Tata Steel, 'Natuur en Milieu manipuleert weer cijfers in rectificatie over CO2 emissie Tata Steel'.

(<http://www.tatasteel.nl/print/news-and-media/nieuws-2011/Natuur-en-Milieu-manipuleert-weer-cijfers-in-rectificatie-over-CO2-emissie-Tata-Steel.html>). (Accessed 27 June 2011).

Salzgitter referred us to their corporate responsibility report. It states that their installation Glocke Salzgitter produces waste gas that is used by Kraftwerk Hallendorf, which also belongs to Salzgitter.

Table AP3: Salzgitter waste gas transfer

Installation (surplus/shortfall)	2008	2009	2010	2008-2010
Glocke Salzgitter (producer)	5,100,330	5,830,522	5,264,551	16,195,403
Kraftwerk Hallendorf (recipient)	-2,964,847	-2,157,598	-3,135,793	-8,258,238
Glocke Salzgitter after waste gas	2,135,483	3,672,924	2,128,758	7,937,165

(Source: CITL, Salzgitter CSR report⁶⁹ and author's calculations)

Despite our requests, no further waste gas recipient installations have been listed by these companies in their communication with us, so we must assume that these represent the full extent of their EUA transfers. Even after their transfers to *external* companies are taken into account, Sandbag's research on companies finds Tata still holding a surplus of 23Mt and ThyssenKrupp holding a surplus of 20Mt to date.

Table AP4: Company EUA surpluses adjusted for waste gas transfer to external companies

Company	Installations	2008-2010 surplus	2008-2010 waste gas transfers	Adjusted surplus
Tata	30	34,854,050	-11,770,711	23,083,339
ThyssenKrupp	43	29,198,481	-9,307,691	19,890,790

However, as discussed in the main text of this briefing, we find this methodology likely to be highly flattering to the companies involved and suspect that the actual scale of the transfers is considerably smaller than this methodology suggests, leaving the company surpluses considerably larger.

⁶⁹ Salzgitter AG, Continuity through Progress, Corporate Responsibility Report 2009, http://www.salzgitter-ag.de/cr/2009/0_download/szag_cr_2009_en.pdf (Accessed 30 June 2011)

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