



13 Charterhouse Square  
London  
EC1M 6AX

Tel: +44 (0)207 1486377  
Mail: [info@sandbag.org.uk](mailto:info@sandbag.org.uk)  
Web: [www.sandbag.org.uk](http://www.sandbag.org.uk)

Campaigning for effective carbon markets

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## Consultation Response (Organisation):

### European Commission consultation the 2030 Energy and Climate Framework

#### Introduction

Last week Sandbag published two reports which speak directly to some of the core questions raised in the Commission's stakeholder consultation on the 2030 Framework.

Last Tuesday, Sandbag published *Drifting Towards Disaster*, our 5<sup>th</sup> annual Environmental Outlook for the EU Emissions Trading Scheme.<sup>1</sup> In that report we found that Phase 2 and Phase 3 of the ETS currently threaten to undermine the ambition of the 2030 framework by banking forward some 2 billion surplus allowances accrued over 2008-2020. The report argues that some 700 million of those surplus allowances are likely to consist of abatement delivered by other policies in the 2008 Climate and Energy Package that the ETS has cancelled out, and that at least a billion more of these surpluses will consist of offsets surrendered into the scheme whose environmental integrity is in question.

Last Wednesday Sandbag also published *The Sovereign Emissions Rights Framework*<sup>2</sup> which critically examines the methods by which Europe and other regions determine their appropriate level of climate ambition. That report argues that the EU is currently pursuing an emissions pathway that is an incomplete and incoherent reading of an effort-sharing table in the Fourth IPCC report.

We advance a specific effort-sharing framework for Europe to use as a template for an equitable and adequate distribution of global emissions rights under a 2015 international agreement, and to consult when setting its internal climate targets.

Our research indicates that a fair division of the global emissions space leaves Europe with less than **90 billion tonnes** of CO<sub>2</sub>e out to 2050. We advise that Europe adopt targets and budgets compatible with this as part of a conditional global offer. Indicatively, a 2030 target of **-65% compared with 1990 levels** would be required if Europe fails to increase its level of ambition in the 2020 climate framework. We also observe that deeper domestic and international effort would be required of Europe pre-2020 if it is to keep within its equitable carbon space cost-effectively.

We encourage the Commission and other stakeholders to consider these reports in full as part of this consultation. In this submission we will pull out some of our main findings from these two reports to answer some of the specific questions raised in the Commission's Green Paper, starting overleaf.

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<sup>1</sup> Damien Morris, *Drifting Towards Disaster* (Sandbag, June 2013),  
[http://www.sandbag.org.uk/site\\_media/pdfs/reports/Drifting\\_Towards\\_Disaster.pdf](http://www.sandbag.org.uk/site_media/pdfs/reports/Drifting_Towards_Disaster.pdf)

<sup>2</sup> Damien Morris, *The Sovereign Emissions Rights Framework* (Sandbag, June 2013)  
[http://www.sandbag.org.uk/site\\_media/pdfs/reports/The\\_Sovereign\\_Emissions\\_Rights\\_Framework.pdf](http://www.sandbag.org.uk/site_media/pdfs/reports/The_Sovereign_Emissions_Rights_Framework.pdf)

#### 4.1. General Questions

- Which lessons from the 2020 framework and the present state of the EU energy system are most important when designing policies for 2030?

The first and fundamental lesson from the 2020 framework was that Europe's current climate targets and the carbon budgets set to meet those targets have been insufficiently ambitious.

Europe's has derived its 2050 target range (-80 to -95% vs. 1990 levels) from an effort sharing table in the 4<sup>th</sup> IPCC report, but it has conveniently ignored what that table specifies for 2020 targets (-25% to -40% vs. 1990 levels). This suggests that, even under the most forgiving effort-sharing models examined by the IPCC, Europe is currently failing to do its part.

A closer inspection of this table finds that it provides, in any case, insufficient information for Europe to derive an emissions pathway from it.

**Table 1: The IPCC table on international effort sharing**

Box 13.7 The range of the difference between emissions in 1990 and emission allowances in 2020/2050 for various GHG concentration levels for Annex I and non-Annex I countries as a group <sup>a</sup>			
Scenario category	Region	2020	2050
A-450 ppm CO <sub>2</sub> -eq <sup>b</sup>	Annex I	-25% to -40%	-80% to -95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia and Centrally-Planned Asia	Substantial deviation from baseline in all regions
B-550 ppm CO <sub>2</sub> -eq	Annex I	-10% to -30%	-40% to -90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia	Deviation from baseline in most regions, especially in Latin America and Middle East
C-650 ppm CO <sub>2</sub> -eq	Annex I	0% to -25%	-30% to -80%
	Non-Annex I	Baseline	Deviation from baseline in Latin America and Middle East, East Asia

Notes:

<sup>a</sup> The aggregate range is based on multiple approaches to apportion emissions between regions (contraction and convergence, multistage, Triptych and intensity targets, among others). Each approach makes different assumptions about the pathway, specific national efforts and other variables. Additional extreme cases – in which Annex I undertakes all reductions, or non-Annex I undertakes all reductions – are not included. The ranges presented here do not imply political feasibility, nor do the results reflect cost variances.

<sup>b</sup> Only the studies aiming at stabilization at 450 ppm CO<sub>2</sub>-eq assume a (temporary) overshoot of about 50 ppm (See Den Elzen and Meinshausen, 2006).

Source: See references listed in first paragraph of Section 13.3.3.3

Firstly, as the table itself highlights, it treats all Annex I countries as a group. This means individual Annex I parties to the UN Framework Convention on Climate Change might have much stronger or much weaker targets when disaggregated from the others.

More importantly, the table does not advance a specific emissions pathway under a particular effort-sharing model, but merely presents the full range of pathways described by all the effort-sharing models examined. Moreover it only incompletely represents those pathways, showing only the 2020 and 2050 target ranges implied by them. These target ranges are almost meaningless without reference to the maximum volume of emissions dictated by each approach. One of the underlying models might support a 40% reduction in 2020 leading to an 80% reduction in 2050. Another might propose a 25% reduction in 2020 leading to a 95% reduction in 2050. None might allow the least ambitious pathway that starts with a 25% reduction in 2020 and leads to an 80% reduction in 2050. This observation is currently beside the point, however, insofar Europe's current 2020 targets fail to comply with even the most lenient possible interpretation of this table.

For Europe's emissions pathway to be coherent it must be founded on a deeper interrogation of available effort-sharing models and principles. These need to be narrowed to a set that European policymakers feel are robust and legitimate, and these need to be applied to Europe specifically to

determine it's appropriate mitigation efforts, and also to determine those of different Member States within the Community (see answer to Q4.5 below).

To help kickstart this essential effort-sharing debate, we have prepared a report outlining our own effort-sharing model, the Sovereign Emissions Rights Framework. This report was submitted in full to the Commission consultation on the 2015 International Climate Agreement.<sup>3</sup> In that report we propose that:

- The total global greenhouse emissions budget to 2050 should be back-calculated from 1990, when the dangers of climate change were first globally acknowledged following from the IPCC's first assessment report.
- This 1990-2050 budget should be divided between nations based on their share of global population in 1990 at that particular moral and epistemological milestone.
- This new agreement should supersede previous agreements and that all historic territorial emissions produced since 1990 should be counted against these national budgets, as well as any as awarded emissions rights or offset credits issued under the Kyoto Protocol.
- All fossil and industrial CO<sub>2</sub> emissions under those national budgets should be tradable between countries, either at state level or through devolved cap and trade schemes, to allow cost-effective emissions reductions to be realised while ensuring ultimate financial responsibility for these reductions is appropriately apportioned.

As we show in Table 2 below, this model generates a global budget of 2,274 billion tonnes and a European budget of 204 billion tonnes. Only 87 billion tonnes of that EU budget now remains.

**Table 2: Indicative Global and EU budgets under the Sovereign Emissions Rights framework<sup>4</sup>**

Country/region	Share of 1990 global pop <sup>n</sup>	1990-2050 budget under 66% chance of avoiding 2°C (Gt CO <sub>2</sub> e)	Emissions produced 1990-2012E (Gt CO <sub>2</sub> e)	Share of budget already used
<b>Global budget</b>	<b>100%</b>	<b>2,274</b>	<b>1,024</b>	<b>45%</b>
<b>EU27 budget</b>	<b>9%</b>	<b>204</b>	<b>116</b>	<b>57%</b>
<p>Sources: UNEP 2012 Emissions Gap report gives a 1,890Gt budget for 2000-2050 of which 640 is estimated to have been used by 2012. To both figures we have added in 384Mt of estimated 1990-1999 emissions from Stockholm Environment Institute</p> <p>1990 population figures taken from CIA World Factbooks<sup>5</sup></p> <p>EU emissions for 1990-2012 taken from the European Environment Agency as reported to the UNFCCC (net emissions including LULUCF and bunker fuels and early 2012 estimates from Eurostat.</p> <p>Figures from remaining countries are taken from SEI estimates</p> <p>Figures are approximate and have been rounded</p>				

If Europe fails to strengthen its 2020 framework and pursues the domestic pathway laid out in the 2050 Roadmap, it will exhaust this equitable budget as early as 2033. In order to have any chance of staying within this budget out to 2050 while adhering to this domestic pathway, Europe would be obliged to cover **42%** of its post-2020 emissions via emissions rights purchased in from other countries.<sup>6</sup> **This implies a 2030 target of roughly -65% (-40% domestic, plus a further -25% international).**

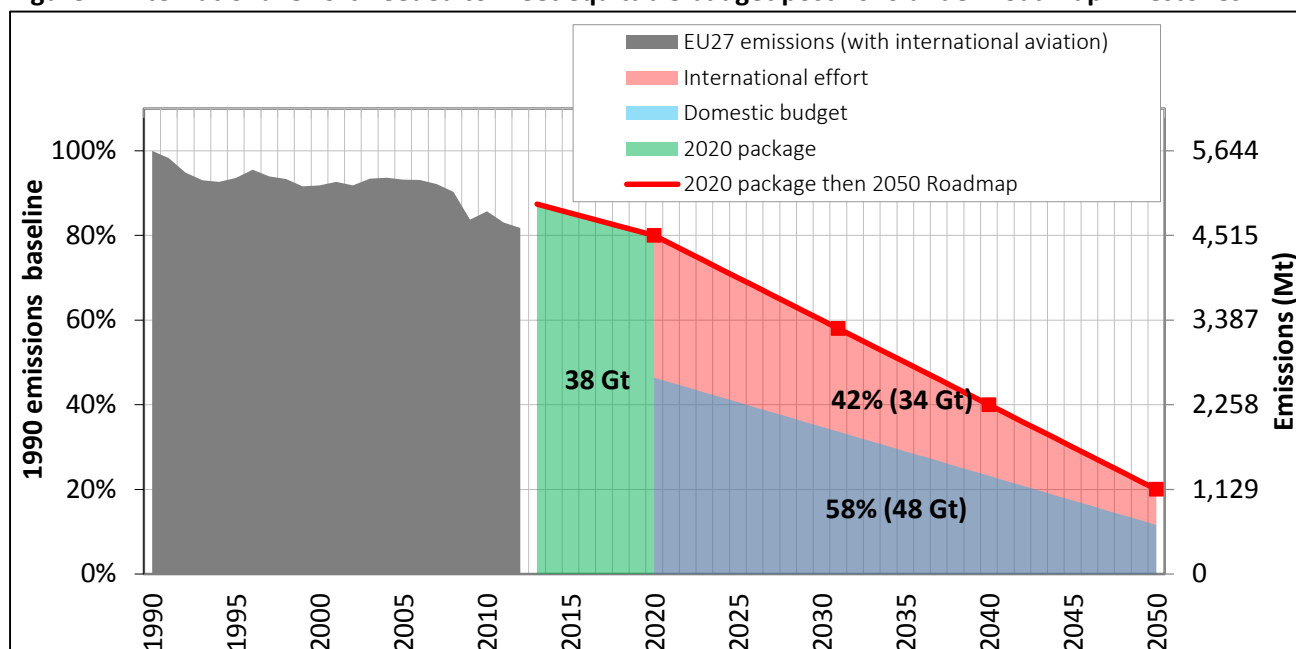
<sup>3</sup> *ibid.*

<sup>4</sup> A more exhaustive breakdown of countries is provided in the interactive *Sovereign Emissions Rights Calculator* that we also submitted as part of our earlier consultation response. That can be downloaded [http://www.sandbag.org.uk/site\\_media/uploads/Sovereign\\_Emissions\\_Rights\\_calculator\\_v1.3.xlsm](http://www.sandbag.org.uk/site_media/uploads/Sovereign_Emissions_Rights_calculator_v1.3.xlsm)

<sup>5</sup> [http://www.nationmaster.com/graph/peo\\_pop-people-population&date=1990#source](http://www.nationmaster.com/graph/peo_pop-people-population&date=1990#source)

<sup>6</sup> EU27 Effort Sharing Decision budget (20.9Gt) plus EU27 share of Phase 3 ETS budget (16.8Gt) plus EU27 carryover of length in the Phase 2 ETS budget carried over (0.7 Gt). 2021-2033 Roadmap pathway implies 48.4Gt. Past flex mechs and future land use emissions/sinks are not included in this calculation.

**Figure 1: International effort needed to meet equitable budget post 2020 under Roadmap milestones**



We note, however, that if Europe waits until after 2020 to increase its ambition this will prevent significant low-cost abatement options from being uncovered. This is true both for domestic abatement and internationally: the 2050 Low Carbon Roadmap identifies a -25% 2020 target as a more cost-effective domestic route to the other milestones<sup>7</sup>; while internationally the UN Environment Programme finds that current 2020 climate pledges are collectively 8-13 billion tonnes from a cost-effective global trajectory.<sup>8</sup>

#### 4.2. Targets

- Which targets for 2030 would be most effective in driving the objectives of climate and energy policy? At what level should they apply (EU, Member States, or sectoral), and to what extent should they be legally binding?

As outlined above a Community-wide 2030 target of roughly -65% (relative to 1990 levels), would be needed to keep Europe within its equitable share of the carbon space compatible with avoiding 2°C of global warming against pre-industrial levels. Europe's should adopt a target of this magnitude conditional on other countries making similarly ambitious pledges as assessed under a common effort sharing framework. This 2030 target could be softened by Europe increasing the domestic and international ambition in its 2020 climate target. This, again, would also represent a more cost-effective emissions pathway for Europe.

- Have there been inconsistencies in the current 2020 targets and if so how can the coherence of potential 2030 targets be better ensured?

#### 4.3. Instruments

- Are changes necessary to other policy instruments and how they interact with one another, including between the EU and national levels?

There have been unexpected inconsistencies between the instruments designed to meet the different 2020 targets. Firstly, there are some indications that renewables and energy efficiency policies have delivered slightly more abatement than was envisaged when the carbon budgets under the EU emissions trading scheme were set. The potential overperformance of these instruments may have served to weaken the residual abatement required to meet the ETS cap. But this is the least of

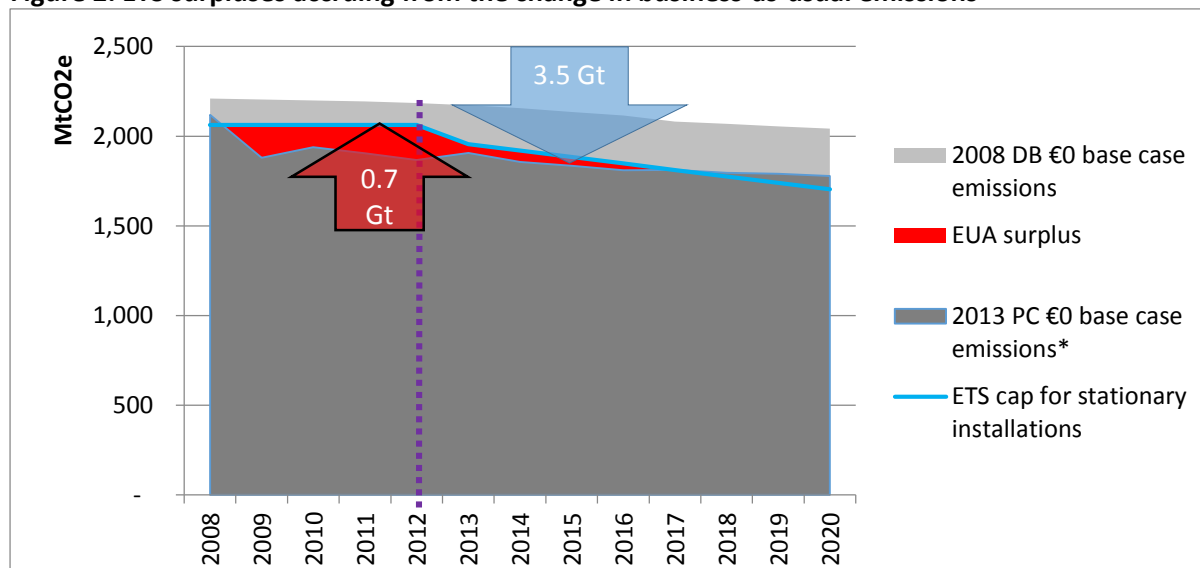
<sup>7</sup> European Commission, COM (2011)112 final <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0112:FIN:EN:PDF>

<sup>8</sup> UNEP, *The Emissions Gap Report 2012* <http://www.unep.org/pdf/2012gapreport.pdf>

the problems affecting the EU cap-and-trade scheme. Our latest report on the EU ETS<sup>9</sup> finds that the policy was expected to deliver around 2.8 billion tonnes of emissions reductions against business-as-usual emissions over the thirteen years of the Climate and Energy Package, but is now delivering less than zero net reductions over that timeframe.

The recession has lowered business-as-usual emissions by as much as 3.5 billion tonnes in the traded sector across 2008-2020 and this now leaves the EU ETS cancelling out some 700 million tonnes of abatement delivered by renewables and efficiency policies, which the ETS is now storing up as surplus allowances. The EU ETS is currently blocking climate action.

**Figure 2: ETS surpluses accruing from the change in business-as-usual emissions**



A key ingredient missing in the design of the EU ETS, was a provision to ensure that each cap delivered a minimum level of abatement. Without this provision, the EU ETS risks becoming environmentally counterproductive storing up the emissions reductions delivered by other climate policies as surpluses that can be used against emissions in future trading phases.

To redress this oversight, we recommend the Commission come forward with a legislative proposal to cancel a one-off volume of allowances from Phase 3 auctions to prevent the scheme from diluting ambition the 2030 framework with abatement cancelled from other policies. To protect the environmental integrity of the cap, we advise that any such cancellation should also seek to correct the cap for any offsets surrendered into the scheme which are suspected of being environmentally non-additional.

We separately advise the Commission to introduce a new mechanism which automatically tightens the cap to prevent it being undermined by exogenous drops in emissions. Until such a time as the ETS caps are set within economy-wide commitments that reflect Europe's equitable share of the "safe" global carbon space, Europe cannot afford for its most cost-effective tool for reducing emissions to lie idle, or worse, to cancel out its other climate policies. Going forward, we propose that, independently of the political decision about the level of each cap, policymakers should agree a minimum level of abatement that will be driven by each trading period, and install mechanisms within the scheme to ensure it self-adjusts to deliver this. A politically fixed minimum level of abatement under the EU ETS will ensure that it does not again serve to cancel out the effects of other climate policies.

In our latest ETS report we tentatively propose some design elements for a strategic reserve of allowances which might partly serve this purpose. This special reserve would hold back a set volume of allowances from auction over the course of each future trading phase. On a routine basis over the

<sup>9</sup> Damien Morris, *Drifting Towards Disaster* (Sandbag, June 2013)  
[http://www.sandbag.org.uk/site\\_media/pdfs/reports/Drifting\\_Towards\\_Disaster.pdf](http://www.sandbag.org.uk/site_media/pdfs/reports/Drifting_Towards_Disaster.pdf)

course of the phase, an official assessment would be conducted to determine whether the “base case” emissions in the traded sector had departed from those expected when the cap was last agreed (e.g. economic slowdown, overperformance of complimentary policies), and would *quantify* these effects. This would then be reflected in a reduction of the volume of allowances ultimately come to the market from the reserve.

This mechanism is modelled on the Voluntary Renewable Energy Reserve that was designed for the Californian cap and trade scheme<sup>10</sup>, but would have a larger remit and scale, perhaps accounting for as much as 10% of the total budget over each period. It could also embrace the function of the Californian mechanism that inspired it and correct the supply of allowances for those exogenous emissions reductions delivered as a result of quantifiable emissions reductions performed by ethical consumers and businesses that affect the traded sector (e.g. through take up of approved green energy tariffs).

We note that the reserve places an *upper limit* on the quantity of allowances that might be removed from the scheme. This means that if exogenous demand shocks are larger than the scale of the reserve, it will not be able to achieve this level of fixed minimum abatement desired. The reserve therefore needs to be somewhat larger than the fixed minimum target to better account for this. For example, if politicians agreed a fixed minimum of 1 billion tonnes of abatement should be delivered, the reserve could be set at 1.5 billion tonnes.

Alternatively, much of this design could be fulfilled without a special reserve, and could instead be achieved through a direct recalibration of the cap on a rolling basis. This would have the advantage of better ensuring that minimum level of abatement was delivered by the EU ETS in the event of deep exogenous demand shocks, but without clear limits on how much the cap might be recalibrated this might, however, create uncertain conditions for investors.

Finally, while they are not targets or instruments as such, we note that both the ETS offsetting budget for 2008-2020 and the free Phase 3 allowances awarded to sectors deemed at risk of carbon leakage have proved poorly attuned to the evolving developments within the scheme. Going forward, we encourage the Commission to install provisions to prevent offsets from continuing to flood the scheme when the residual abatement required by the cap diminishes, and that carbon leakage allowances are only awarded to sectors who genuinely need them. We note that the need to adjust these will be diminished if mechanisms to maintain overall demand in the EU ETS are installed as we suggest above.

#### 4.4. Competitiveness and security of supply

- What evidence is there for carbon leakage under the current framework and can this be quantified? How could this problem be addressed in the 2030 framework?

One of the main obstacles to returning even a minimum level of ambition to the EU ETS has been the fear that this risks putting additional pressure on Europe’s struggling manufacturing sectors. We feel this fears are misplaced. It is precisely in these sectors that spare carbon allowances are accumulating, not only in Phase 2 but also in Phase 3.

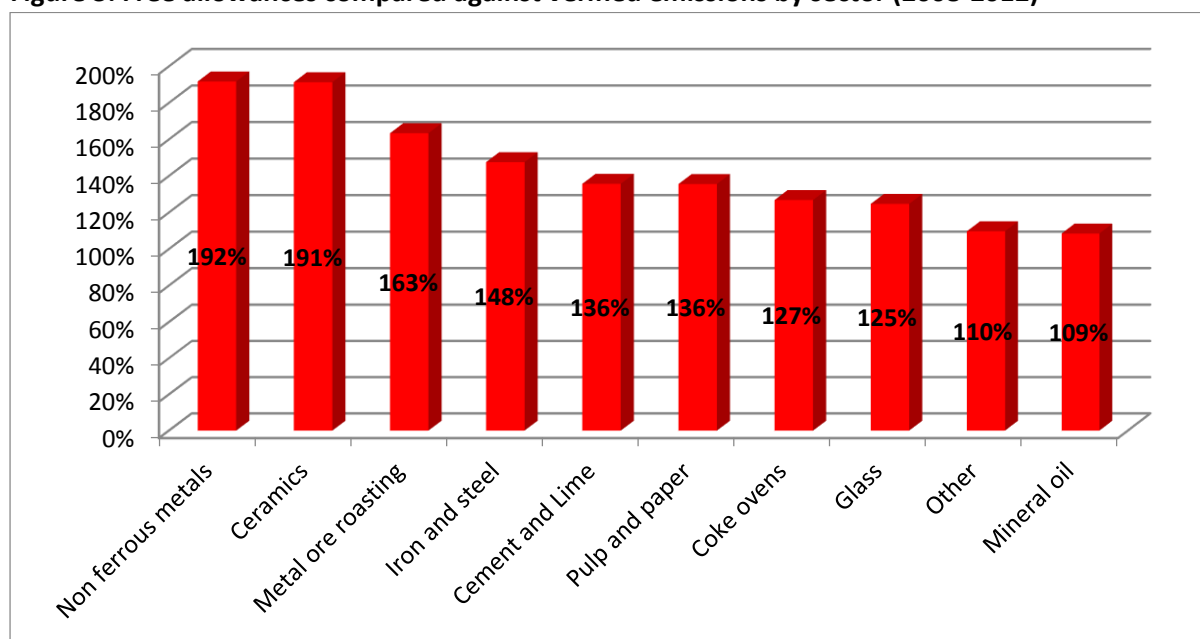
Firstly, we note that *without exception* each of the manufacturing sectors were oversupplied allowances in Phase 2. This should immediately put to bed claims by each of the European manufacturing lobbies that, the EU ETS has *on the whole*, harmed their industries over 2008-2012. On the contrary, it has afforded them spare allowances to be sold as a potential revenue stream or has provided them additional protections going into Phase 3 against those expected.

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<sup>10</sup> See Sandbag’s briefing on California’s strategic reserve policies for further details:  
[http://www.sandbag.org.uk/site\\_media/pdfs/reports/California\\_set\\_aside\\_briefing.pdf](http://www.sandbag.org.uk/site_media/pdfs/reports/California_set_aside_briefing.pdf)

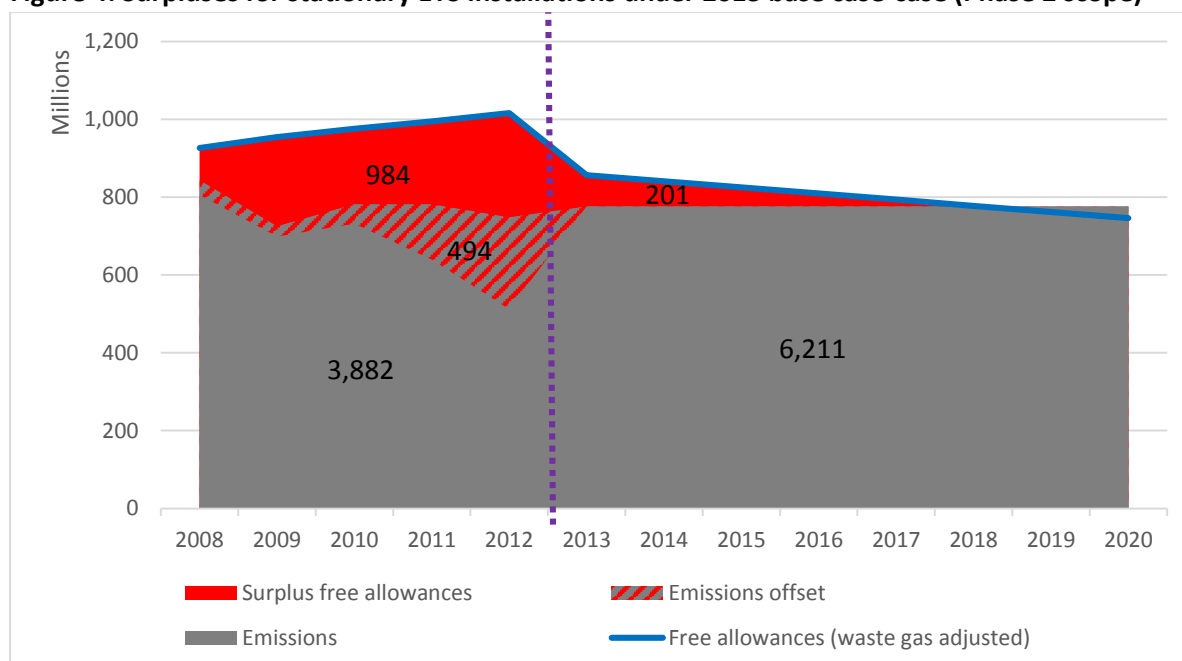


**Figure 3: Free allowances compared against verified emissions by sector (2008-2012)**



Secondly, we note that, as a group, manufacturers are likely to continue accruing surpluses across Phase 3. If manufacturing emissions stayed at average Phase 2 levels across 2013-2020, not only will they fail to exhaust their accumulated Phase 2 surpluses, they will accrue *new* surpluses that can be sold on to electricity generators at a profit or can be banked against their obligations in a future the 2030 framework.

**Figure 4: Surpluses for stationary ETS installations under 2013 base case-case (Phase 2 scope)**



With manufacturer's holding more free allowances than they are collectively likely to need to cover their emission out to 2020, policymakers should be sceptical of industry's claims that a reduction in the supply of auctioned Phase 3 allowances would be unacceptably punishing to them over that timeframe. These concerns should be kept in perspective when looking to protect the 2030 framework from environmentally dubious surpluses banked from Phase 2 and Phase 3 of the EU ETS.

Finally we note that secondary decisions that provide special protections to sectors at risk of carbon leakage by awarding them free allowances, are currently applying obsolete metrics to assess their exposure, in particular, using a €30/tCO<sub>2</sub> carbon price. This is allowing some manufacturing sectors to undeservedly monopolize the supply of free Phase 3 allowances, while contributing to a reduction in the free allowances of those sectors who might actually need them (i.e. by triggering a cross sectoral correction factor that reduces everyone's allowances). Carbon leakage protections need to be better linked to evolving developments in the scheme.

- How should uncertainty about efforts and the level of commitments that other developed countries and economically important developing nations will make in the on-going international negotiations be taken into account?

We propose that these considerations should be taken into account in the level of ambition in Europe's unconditional offer. While the budgets approach outlined in the Sovereign Emissions Rights framework represents our recommended ultimate arrangement for a fair and adequate global deal, we recognise that the climate negotiations are a fraught political process, and that other countries might not be willing to commit to the ambitious pledges described in this framework.

Under that circumstance, Europe needs to be able to assess how ambitious its commitments should be relative to those of others, to assume a position of leadership while discouraging free riders. To do this it needs a clear yardstick to measure the comparability of commitments. We highlight that the popular short-hands of historical or business-as-usual baselines, or even current per capita emissions are poor barometers of this.

The effort sharing model we advance does not in itself serve as a yardstick of effort, but only the first half of one. The budget approach we recommend provides a destination towards which pledges should move, but the real measure of national commitments will be the distance travelled towards these from a counterfactual starting point, namely the business-as-usual emissions if no efforts to combat climate change were made over 1990-2050.

We note that the long horizon of these business as usual projections makes them highly speculative, and allows a significant degree of uncertainty to enter into the process. Such a yardstick would, of course, encourages national negotiators to inflate their business-as-usual emissions assessments; nevertheless, we feel this tool helps begin to shed some light in the otherwise dark art of comparing international climate effort.

This effort "barometer" should better equip Europe in determining where to position itself in the climate negotiations to ensure it fulfils its intended role as a climate leader, by matching or exceeding the relative "distance travelled" by the most ambitious countries elsewhere in the world when setting its unilateral targets. It should also be used to determine whether the competitiveness threats that industry complains about are appropriate or inappropriate for Europe to endure in respect to other specific countries or regions, and to determine what actions if any, should be taken to prevent these.

- How can the EU increase the innovation capacity of manufacturing industry? Is there a role for the revenues from the auctioning of allowances?

There might be a role for a centralised low-carbon transition fund paid for by auctioned ETS allowances; however we note that Member States are already free to direct national auction receipts towards this goal, and are urged to do so by the EU ETS Directive (2003/87/EC).

We also note again that that, in many cases, industry has already been excessive free allowances over Phase 2, allowances which represent forfeited revenues to EU governments. A reduction in the supply of Phase 3 allowances will increase the value of these surplus permits, and can start to serve as a provisional low-carbon transition fund for the companies holding them.



#### 4.5. Capacity and distributional aspects

- How should the new framework ensure an equitable distribution of effort among Member States? What concrete steps can be taken to reflect their different abilities to implement climate and energy measures?
- What mechanisms can be envisaged to promote cooperation and a fair effort sharing between Member States whilst seeking the most cost-effective delivery of new climate and energy objectives?

As well as having important implications for how effort-sharing is determined between Europe and other countries, our Sovereign Emissions Rights framework also has important implications for how this is decided within Europe. The 1990 populations and historical responsibilities of different Member States should be considered when awarding Community emissions allowances under the Effort Sharing Decision or the EU ETS (for auction receipts collected under harmonised auctions), when assigning targets for other climate policies, or when assessing whether a particular Member State's antagonism to deeper emissions reductions is potentially justified.

Observing historical effort through the lens of this budget-sharing framework yields some surprises, with environmentally progressive Member States like Ireland, Denmark and the Netherlands nearly through their entire emissions budgets. It might therefore, be deemed appropriate that they undertake a greater share of the effort going forward compared with countries who are progressing comfortably within their carbon space like Sweden and Slovenia.

In particular, we question the appropriateness of awarding additional access to ETS auction receipts on the basis of "Community Solidarity" or especially "Early Effort" to countries who have used up a disproportionate share of their carbon budgets. We note that Poland, the Member State that has been most outspoken in blocking increased European climate ambition, stands at approximately the same stage through its budget as the EU as a whole, and yet it receives a large share of additional ETS auction revenues through both of these provisions in the ETS Directive.

**Table 3: EU27 historical emissions and GHG budgets**

Country/region	Share of 1990 global pop <sup>n</sup>	1990-2050 budget under 66% chance of avoiding 2°C (Gt CO <sub>2</sub> e)	Emissions produced 1990-2012E (Gt CO <sub>2</sub> e)	Share of budget already used
<b>Global budget</b>	<b>100.00%</b>	<b>2,274.0</b>	<b>1,024.0</b>	<b>45%</b>
<b>EU27 budget</b>	<b>8.97%</b>	<b>204.1</b>	<b>116.0</b>	<b>57%</b>
<b>EU27 states ordered by share of GHG budget remaining</b>				
Latvia	0.05%	1.1	-0.1	-11%
Sweden	0.16%	3.7	1.0	27%
Slovenia	0.04%	0.8	0.2	28%
Lithuania	0.07%	1.6	0.4	28%
Romania	0.44%	10.0	2.9	29%
Bulgaria	0.17%	3.8	1.4	37%
Hungary	0.20%	4.4	1.7	39%
Portugal	0.19%	4.3	1.8	43%
Slovakia	0.10%	2.3	1.0	43%
Italy	1.08%	24.5	11.9	49%
Spain	0.73%	16.7	8.3	50%
France	1.07%	24.4	12.3	50%
Austria	0.14%	3.3	1.8	53%
Estonia	0.03%	0.7	0.4	55%
Finland	0.09%	2.1	1.2	55%
Poland	0.72%	16.4	9.1	56%
United Kingdom	1.08%	24.6	16.3	66%
Greece	0.19%	4.4	3.0	68%

Germany	1.50%	34.1	24.5	72%
Malta	0.01%	0.2	0.1	73%
Czech Republic	0.19%	4.4	3.3	74%
Cyprus	0.01%	0.3	0.2	76%
Denmark	0.10%	2.2	1.8	82%
Belgium	0.19%	4.3	3.8	88%
Ireland	0.07%	1.5	1.4	96%
Netherlands	0.28%	6.4	6.2	96%
Luxembourg	0.01%	0.2	0.3	172%
<p><i>Sources: UNEP 2012 Emissions Gap report gives a 1,890Gt budget for 2000-2050 of which 640 is estimated to have been used by 2012. To both figures we have added in 384Mt of estimated 1990-1999 emissions from Stockholm Environment Institute</i></p> <p><i>1990 population figures taken from the CIA World Factbooks</i></p> <p><i>EU27 emissions for 1990-2012 taken from the European Environment Agency as reported to the UNFCCC (net emissions including LULUCF and bunker fuels and early 2012 estimates from Eurostat.</i></p> <p><i>Figures are approximate and have been rounded</i></p>				

## Conclusion

In summary, we feel that Europe should adopt suitably ambitious 2030 targets based on coherent effort-sharing principles. Our own effort-sharing model suggests that a -65% 2030 target (-40% domestic, -25% international) is broadly compatible with this.

In parallel, Europe should also seek to ensure that its climate efforts in the 2030 framework are not compromised by the weak ambition of the 2020 framework, which currently prevents Europe from cost-effectively meeting its global climate responsibilities, and also risks contaminating the 2030 framework with banked ETS carbon allowances. Our research finds a large share of these banked surpluses consists of abatement the ETS has cancelled out from other policies in the 2020 framework or consist of potentially non-additional offset credits surrendered into the scheme.

We encourage the Commission to come forward with proposals for structural reform of the EU ETS to remove those allowances that have been accumulated from cancelling out other policies or from non-additional offsets. We also encourage the Commission to come forward with additional structural reform proposals which guarantee the ETS will drive a minimum volume of abatement in future caps and not compromise other climate policies again in the future.