sandbag

Carbon Fat Cats 2011

The Companies profiting from the EU Emissions Trading Scheme

June 2011

About Sandbag

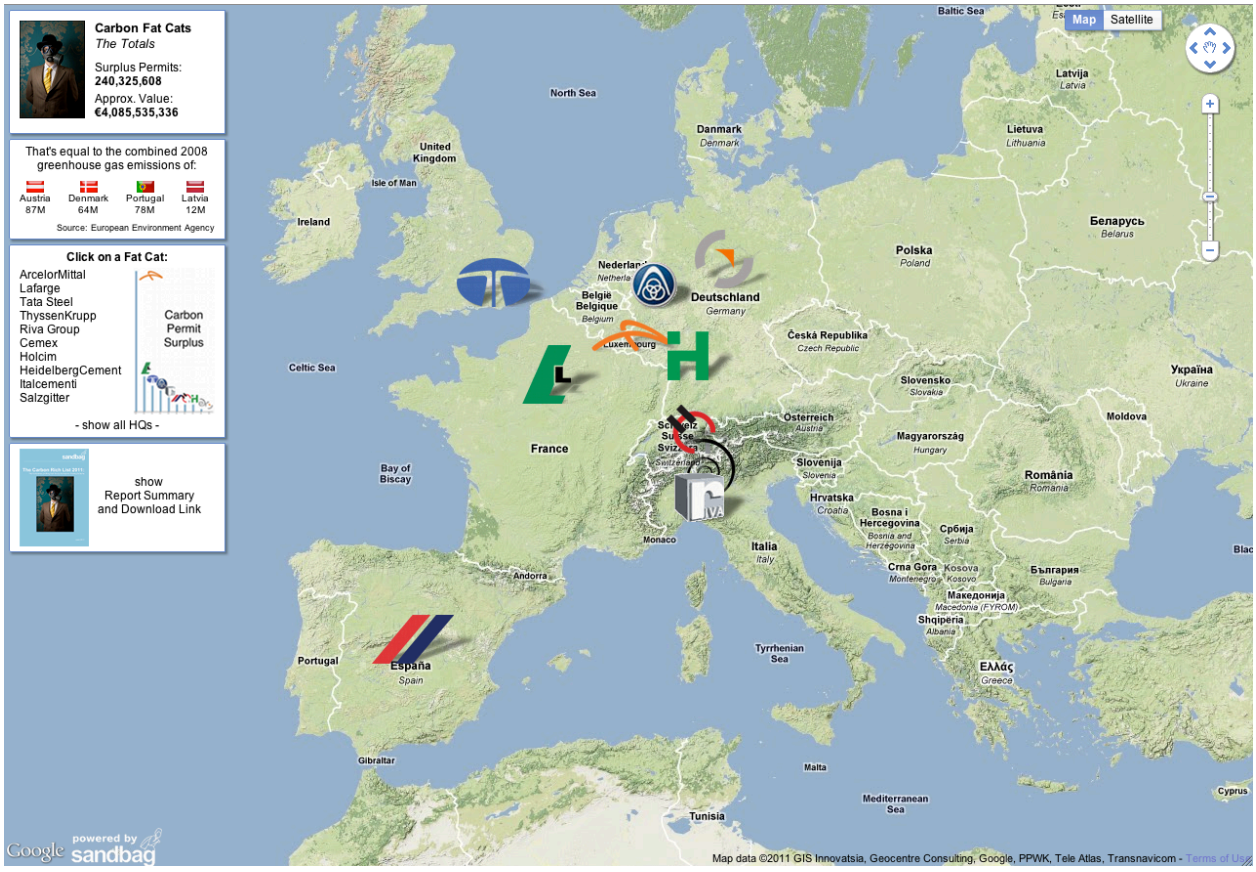
Sandbag Climate Campaign is a not-for-profit campaigning organisation dedicated to achieving real action to tackle climate change and focused on the issue of emissions trading. Our view is that if emissions trading can be implemented correctly, it has the potential to help deliver deep cuts in carbon emissions and help Europe make the transition to a high tech, low carbon economy.

We are grateful to the European Climate Foundation for helping to fund this work.

About this report

We are publishing this report to highlight some concerns we have over the current implementation phase of the EU Emissions Trading Scheme. In parallel we are also publishing an EU-wide interactive map illustrating how the scheme is currently operating on the ground together with an easy to use data set so that other organisations and individuals can do their own analysis.

Interactive map and conclusions available at: www.carbonfatcats.eu



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Contents:

Key Terms:

Allowance – European Union Allowance (EUA)

CDM – Clean Development Mechanism

CER – Certified Emissions Reduction

CITL – Community Independent Transaction Log

EC – European Commission

ERU – Emissions Reduction Unit

EUA – European Union Allowance (EUA):

EU ETS or ETS – European Union Emissions Trading System

JI – Joint Implementation

NACE – Economic activity code

NAP – National Allocation Plan

PI – Phase I, 2005-7

PII – Phase II, 2008-12

PIII – Phase III, 20013 – 20

Waste Gas – Calorific gas produced during the production of iron and steel

UNFCCC – United Nations Framework Convention on Climate Change

The EU Emissions Trading Scheme

The European Union's Emissions Trading Scheme or 'ETS' is the world's biggest market for trading greenhouse gas emissions. Launched in 2005, it covers some 11,000 factories and power stations across ten industrial sectors in thirty countries, whose emissions make up almost 50% of Europe's carbon emissions.

The EU ETS works by setting a declining cap on polluting industries' total number of emissions. Emissions allowances (EUAs) equalling the size of this cap are then provided to the companies regulated by the scheme. The companies are required to measure and report their emissions and to hand in one allowance for each tonne they release. Those companies emitting less than their cap can trade their surplus allowances to those emitting beyond their cap, providing an incentive for them to reduce their emissions.

Executive Summary

Thanks to overly optimistic forecasts of growth and fierce lobbying by heavy industry the EU Emissions Trading Scheme (ETS) has failed to incentivise cost effective reductions in emissions and instead enabled some companies to profit from the scheme. This report looks at those companies who have made the most substantial gains: our Carbon Fat Cats.

The fact that the ETS has provided substantial windfalls to some participants and a money making opportunity for many others has not prevented industry from attacking it whenever it can and from successfully lobbying to keep it in its current state: oversupplied with allowances and exerting only the weakest pressure on participants to invest in a low carbon future.

Change	Rank	Company	Current Phase II Surplus (Million EUAs)	Value (€m)[1]	Offsets Used
-	1	ArcelorMittal	97.2	1,656	162,477
-	2	Lafarge	29.4	501	219,500
↑	3	Tata Steel*	23.1	393	4,549,619
↓	4	ThyssenKrupp*	19.9	339	7,395,336
-	5	Riva Group	16.6	283	0
-	6	Cemex	12.7	217	1,372,239
-	7	Holcim	12.5	213	2,881,549
-	8	Heidelberg Cement	12.5	216	1,149,638
↑	9	Italcementi	8.9	151	1,163,476
↓	10	Salzgitter*	7.5	129	5,535,000
		Total	**240.3**	**4,093**	**24,428,834**

Table 1

The same industries enjoying large surpluses of allowances are those most vocally lobbying to hold the system back. This situation cannot be allowed to continue. Europe needs to transform its energy systems so that it can become more efficient, competitive, less polluting and less reliant on imported fossil fuels. A handful of companies cannot be allowed to hold back a policy, which would otherwise deliver this outcome efficiently and cost effectively.

The Carbon Fat Cats

This report takes a fresh look at how companies are profiting from the EU ETS. A full list of this year's top ten Carbon Fat Cats can be found in Table 1.

- The top ten Carbon Fat Cats share between them **240 million surplus allowances**, equivalent to the annual combined greenhouse gas emissions of Austria (87M), Denmark (64M), Portugal (78M) and Latvia (12M)[2].

*Adjusted for waste gas transfers. See Annex 3 for details.

[1] Based on a €17.03 EUA price (06/05/11).

[2] Taken from the EU Greenhouse Gas Inventory. Latest data is for 2008. Austria (87M) + Denmark (64M) + Portugal (78M) + Latvia (12M) = 241M tonnes CO2e. (http://www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2010)

- These permits have a value of around **€4.1bn**[3]. This is over **four times the entire environment budget** for the EU over the same period (€880m spent)[4]
- Looking ahead to the end of Phase II we estimate the Carbon Fat Cats will share 330 million surplus allowances with an estimated value of €5.6bn.

Under the rules of the ETS, companies can carry over surplus emissions allowances from Phase II (PII) for use in subsequent years. Free allowances will continue to be given out to heavy industry in Phase III (PIII) according to sector specific benchmarks. This will bring to an end the accrual of large volumes of surplus allowances, however, the volumes accrued in this phase will make it likely that many of these companies need not make any reductions in their emissions until after 2020.

These findings run strongly counter to recent claims by industry groups that more ambitious EU emission reduction targets would be a burden and would excessively damage the competitiveness of European Industry.

Sectoral analysis

In addition to looking at the top ten Carbon Fat Cats we have in this report also looked at the sectors that command the majority of the overall surplus and the companies that dominate those sectors, based on the size of their reported emissions. The majority of industrial sectors have a surplus of permits with the iron and steel and cement sectors having the largest. The power sector, on the other hand, is short of permits and is acting as the main buyer in the scheme ensuring that there is a positive price for carbon.

- The top ten emitting iron and steel sector companies have a surplus of 172 million allowances at this stage in PII, worth an estimated €2.9bn
- The top ten emitting cement sector companies have a surplus of 90 million allowances at this stage in PII, worth an estimated €1.5bn
- The power sector is currently facing a deficit of 214million permits.

Since most power companies buy allowances to comply with the ETS and pass on the cost of compliance to EU power consumers it is likely that EU citizens are unwittingly paying a subsidy to oversupplied industrial sectors, which are able to sell their surpluses without investing in emissions reductions themselves.

Offsetting Double Standards

A further feature of the way these Fat Cats are performing under the ETS directly addresses the over-emphasised concerns about international competitiveness: the use of international offsets to meet compliance targets. Despite sitting on comfortable surpluses of allowances our Fat Cats benefit from being able to use cheaper offset credits and swapping them for more valuable EU allowances. They can either then sell the EU allowances at a profit or store them up for future use. International credits come mostly from industrial gas projects in India and China, however, a proportion originate from rival industries to companies covered by the ETS. Concerns over competition with rival companies based in these countries have not prevented our Fat Cats from sending money to them in return for their cheap credits: not the actions of an organisation fully focused on protecting competitiveness at all costs.

- The Carbon Fat Cats have surrendered 24.4 million international credits with an estimated value of €315m.
- 73% of these credits came from India and China while 2.1% came from EU member states.
- The Carbon Fat Cats spent €7m on credits from their **direct international rivals**.

[3] Based on a €17.03 EUA price (06/05/11).
[4] Environment Budgetary Allocations for the years 2008, 2009 and 2010, (payments total outturns), totalled €880m. Taken from annual reports on EU budget, (http://ec.europa.eu/budget/figures/2010/2010_en.cfm)

Data and Transparency

Much of the monitoring of the ETS is dependent on the availability of data. While a wealth of data is published by the EU commission, there are glaring omissions that distort the true positions of many companies. Two serious omissions include:

- Incomplete or missing **company ownership data** for installations - this makes it difficult to compare allowance surpluses per company.
- No publically available data on the transfer of calorific **waste gas** produced during metal production, and its transfers to neighbouring power installations.

Recommendations

Sadly there is little that can be done about the surpluses accruing to the Fat Cats in this phase. We recommend the following measures to prevent the 'hangover effect' of surplus permits from the current phase damaging the effectiveness of the next phase.

1. **Move to a 30% emissions reductions target for Europe**
   This will trigger a tightening of the emissions cap for the traded sector taking the slack out of the ETS and helping to drive investment in low carbon technologies. As this report shows, failure to increase the targets will allow much of the industrial sectors to free-ride the ETS.

2. **Allowance 'set-aside'**
   The Commission has admitted that the system has too many allowances thanks to the unexpected drop in emissions arising from the recent recession. It estimated that 500-800[5] million allowances could be held back in the next phase to address this fact. Our own estimates show that setting caps based on recent historic emissions (rather than overly optimistic future projections) would result in an emissions cap 1.9bn[6] allowances lower than currently proposed. Furthermore, there is growing support for a set aside from energy companies that fear proposed energy efficiency measures would further weaken the ETS[7]. There is nothing in the ETS Directive that prohibits a set aside of allowances[8]. We strongly recommend that such a set-aside is agreed and announced before the start of the next phase in January 2013.

3. **Prudent offset usage**
   The use of offsets is intended to act as a price safety valve against an overly high carbon price and to be supplemental to domestic action. Offsets are not needed in situations where EU emissions are falling faster than projected or where companies have a large surplus of free allocations. However, the fact that they are cheaper than EU allowances, means that they are being used to the maximum extent possible. This displaces investments in genuine EU abatement. The majority of offsets being surrendered represent a lost investment opportunity in Europe. Furthermore, evidence of exposed companies surrendering offsets from their international rivals undermines their arguments about threats to their competitiveness. Offsets originating from rival industries must not be allowed to be used for compliance within the ETS. Just as industrial sectors prone to carbon leakage have been assessed so too must offsetting project types that are likely to exacerbate this problem.

   Furthermore, the future use of offsets should be reserved for those companies that are not able to meet their compliance target any other way.

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[5] Euractiv. *EU 'low-carbon roadmap' aims for 25% cuts by 2020*. (http://www.euractiv.com/en/climate-environment/eu-low-carbon-roadmap-aims-25-cuts-2020-news-502197). 16 February 2011.
[6] Calculations from Sandbag's forthcoming *Environmental Outlook for the EU ETS 2011* suggest that a Phase 3 set aside of at least **1.9Gt** is necessary to fully account for the effects of oversupply in Phase 2.
[7] Energy industry sees urgent need for ETS set-aside clause in draft Energy Efficiency Directive. 14th June 2011
[8] Client Earth. *Legal Policy Briefing – Draft ETS auctioning regulation and Commission proposal to move beyond 20% GHG reductions*. (http://www.clientearth.org/reports/energy-and-climate-clientearth-legal-briefing-on-auctioning-regulation-june-2010.pdf). 12 June 2010.

4. **Better data for better analysis**

   In order to facilitate more accurate research more data should be made publically available. In particular participating installations should be required to fill out all company and parent company fields in the Community Independent Transaction Log (CITL)[9] as well as inducted percentage ownership between companies if necessary. Waste gas transfer data should also be made publically available to establish just how much of the iron and steel sectors' colossal surplus is actually being given away to neighbouring installations.

[9] As well as the European Union Transaction Log (EUTL) which will replace CITL in PIII.

Introduction – putting the Fat Cats in context

Carbon Fat Cats 2011 sets out our analysis of those companies profiting most from Europe's Emissions Trading Scheme (ETS). The results matter because of their bearing on a crucial debate being held in Europe and the wider world – a debate about how to respond to profound challenges created by our economic dependence on fossil fuels, in particular the threat to a stable climate.

Governments have largely accepted the need to help redirect economies towards a low-carbon model, and there are growing signs of a race between major global economies to lead the market for clean technologies. Europe's cornerstone policy intended to help achieve this is the ETS, which sets a cap on emissions and allows these allowances to be traded. The EU ETS is the world's largest functioning carbon market, so assessing its performance is crucial for the global climate debate – its impact on the companies it regulates is an essential part of this.

Any such assessment needs to bear in mind that the policy is organised in trading periods, also known as 'Phases'. This allows changes to be made in an organised way from one phase to the next.

- Phase I, ran from 2005-8 and was seen as a test phase. Allowances from this period could not be carried over to subsequent phases.
- Phase II runs from 2008-2012. Allowances from this Phase can be banked and carried over into Phase III.
- Phase III begins in 2013 and runs indefinitely but is subject to a review beginning in 2020.

There will be significant improvements introduced in Phase III, with central distribution of allowances, a central EU registry, the introduction auctioning as the rule rather than the exception, and the use of benchmarks to assess allocations for those sectors still entitled to free EUAs. These are welcome, but analysis shows that past over-allocation and the impact of the recession have led to a sizeable build-up of unused allowances. The fact these allowances can be carried over into the next phase threatens the future performance of the ETS, and changes are needed to address this surplus if the policy is to remain relevant.

Support for more ambition

The best solution would be for Europe to adopt more ambitious climate targets and there is currently fierce debate about whether the EU should unilaterally commit to increasing its 2020 emissions reduction target from 20% against 1990 levels, to 30%.

The growing consensus among progressive Environment Ministers is that an ambitious target could be instrumental in stimulating investment in a high tech, low carbon economy, increasing energy security and helping to tackle climate change. On the 14th March 2010 UK Secretary of State for Energy and Climate Change, Chris Huhne – alongside his counterparts from Germany, Spain, Sweden, Denmark, Portugal and Greece – signed an open letter to the Guardian newspaper in support of moving to 30%. The letter outlined that:

> "Now is the right time to discuss the most cost-effective route to achieving our 2050 goals, maximising growth, jobs and prosperity throughout Europe".[10]

On the 23th May 2011 further political support came from the Environment Committee of the

10 Department of Energy & Climate Change (DECC). *Chris Huhne and EU environment ministers letter in the Guardian*. (http://www.decc.gov.uk/en/content/cms/news/ChrisH_EULett/ChrisH_EULett.aspx). 14 March 2011.

European Parliament who voted in favour[11] of adopting a 30% target by the end of the year. MEP, Bas Eickhout, who drafted the resolution, said: "The European Parliament's position has been shifting over the last year. There is now broad support for a 30% reduction target and a growing realisation that ambitious climate policies are in Europe's own economic interest".

And support is growing in the business sector too: 72 companies – including Eneco, Eurostar, IKEA, Nestle, Philips, Puma, Scottish and Southern Energy (SSE), Sony and Vodafone[12] – have signed public declaration calling on the EU to adopt a 30% emissions reduction target by 2020, insisting that increased ambition would be good for the EU economy and jobs.

Heavy (industry) opposition

There remain voices strongly opposed to such a move, and chief among them is Europe's traditional heavy industry who view climate protection as a burden opposed to an opportunity. The fear of losing market share to foreign competition with lower production costs has prompted some extravagant claims. The European Confederation of Iron and Steel Industries, EUROFER, has gone so far as to argue that the European Commission's DG Climate Action's proposal on the move to a 30% emissions reduction target would lead to the 'de-industrialisation of Europe'.[13] Unfortunately their words are not falling on deaf ears, with the European Commissioner for Energy, Günther Oettinger, taking up their cause. In reaction to the proposed move to 30% he commented: "if we go alone to 30%, you will only have a faster process of de-industrialisation in Europe",[14] citing the iron and steel industry as one of the likely casualties.

A sensible path to low-carbon growth

Knowing how key companies are doing so far is crucial in assessing the relative strength of their arguments and this is what Carbon Fat Cats provides. It reveals the level of exaggeration when talk of 'de-industrialisation' comes from companies sitting on large stockpiles of spare allowances worth billions of Euros.

Sandbag has invested a considerable amount of time in collecting and curating publicly available emissions data, in order to paint an accurate picture of companies' position under the ETS. We hope that the results will bring clarity to the debate and help engender meaningful discussions on the future of the EU's most important climate policy.

[11] Environment, Public Health and Food Safety Committee, European Parliament. *Climate: EU should cut CO2 by 30%.* (http://www.europarl.europa.eu/en/pressroom/content/20110523IPR19955/html/Climate-EU-should-cut-CO2-by-30). 24 May 2011.
12 WWF, *72 leading companies call for increase in EU climate ambition to boost EU economy and jobs.* (http://www.wwf.eu/?200650/72-leading-companies-call-for-increase-in-EU-climate-ambition-to-boost-EU-economy-and-jobs). *15 June 2011.*
[13] Callanta, M. *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.
[14] Harvey, F. *Hopes of 30% cut in greenhouse emissions dashed.* (http://www.guardian.co.uk/environment/2011/feb/10/hopes-greenhouse-emissions-cuts-dashed?INTCMP=SRCH). The Guardian, 10 February 2011

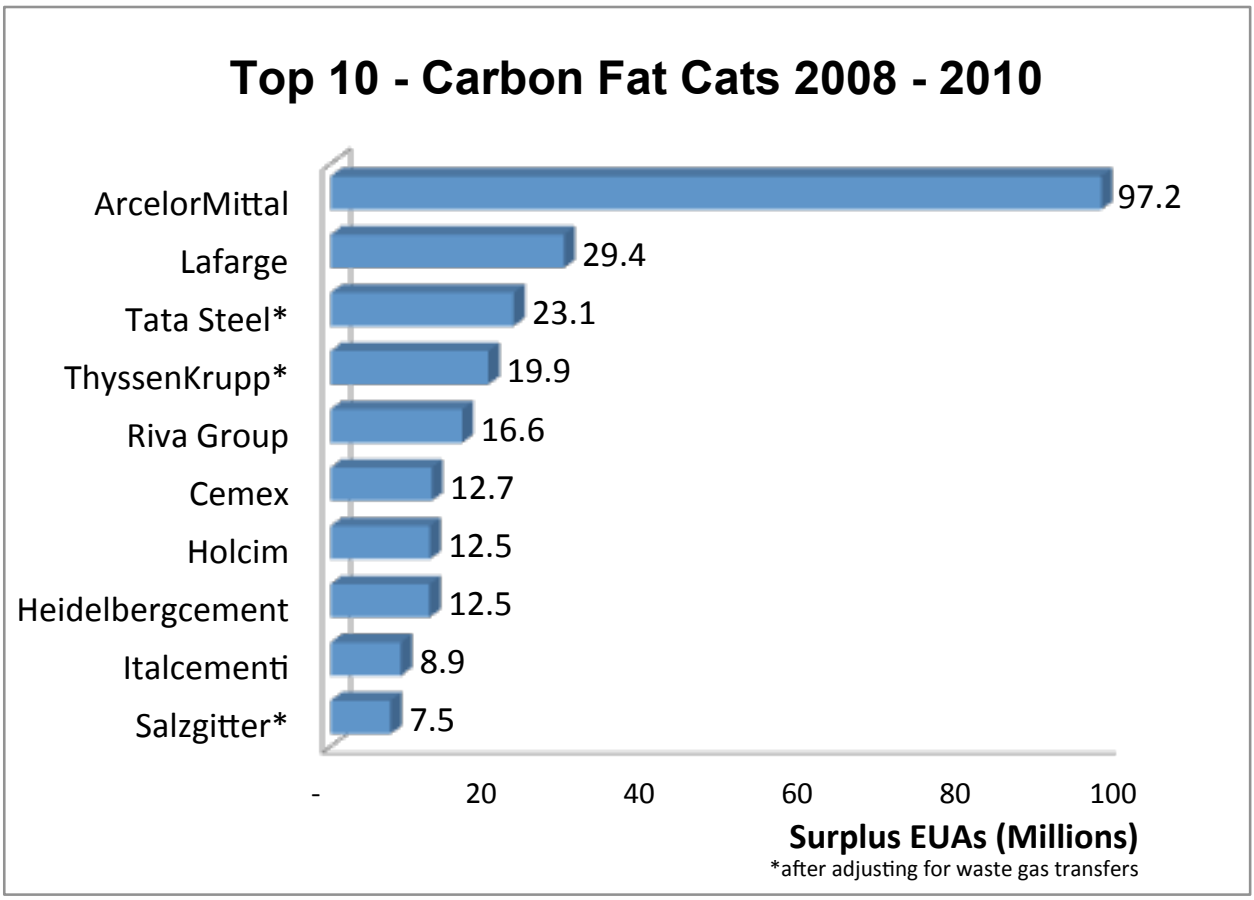

Figure 1

The Top Ten Companies

Our 'Top Ten' is based on the companies with the most surplus permits available to sell at the end of 2010. This is over half way through Phase II (2008-2012). It is calculated by adding reported free allocations over the three years, and then subtracting reported emissions over the same period. It takes into account all the installations owned by the company[15], which may fall within different economic sectors. Adjustments have been made for the transfer of calorific waste gas between steel and power installations for those companies which provided the data.[16]

The ten Carbon Fat Cats have between them **240 million tonnes** worth of emissions permits. This is **equivalent to the annual emissions of Austria, Denmark, Portugal and Latvia combined.**[17] Furthermore, we project that this surplus could grow to 330 million by the end of Phase II.

*Adjusted for waste gas transfers. See Annex 3 for details.

[15] See Annex 2

[16] See below and Annex 3 for details

[17] Austria (87M), Denmark (64M), Portugal (78M) and Latvia (12M). European Environment Agency, *European Union Greenhouse Gas Inventory* 2010, http://www.eea.europa.eu/publications/european-union-greenhouse-gas-inventory-2010, 2nd January 2010.

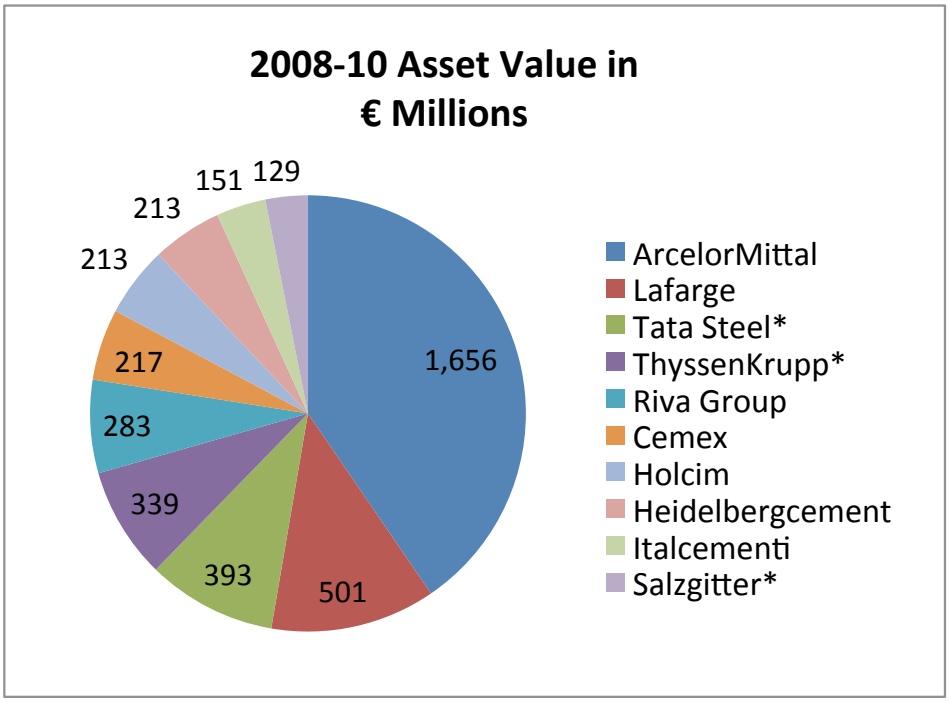

Figure 2
Based on a €17.03 EUA price (06/05/11)

Just how much is being made?

The total value of the surplus permits held by our top ten companies is valued at **€4.1bn.**[18]

This is:

- More than the EU provides in annual support for renewable energy.[19]
- Over twice what Europe committed to providing for offshore wind energy and carbon capture and storage (CCS) in the European Energy Programme for Recovery.[20]
- Over *four times* the EU budget for the environment over the same three years.[21]

Even if the permits are not used for compliance or sold they will still remain on the company's books, and can be banked into the next phase. Indeed, if the carbon price rises – as it would likely do if the ETS cap were tightened – so does the asset value.

Looking to the end of to Phase II

In order to get an idea of what the position of our Fat Cats might be at the end of this second trading period, we have, using a 2008 baseline, estimated their overall Phase II position. Modelling future emissions trends is notoriously difficult and this is a conservative estimate of the total surplus, given that emissions in 2008 were considerably higher than 2009 and 2010.

*Adjusted for waste gas transfers. See Annex 3 for details.
[18] Based on a €17.03 EUA price (06/05/11).
[19] "EU financial support given to renewables is relatively low. For the period 2007-2009, funds spent on renewable energy amounted to roughly €9.8bn, (€3.26bn/a), the bulk of which in the form of loans from the European Investment Bank." http://www.clickgreen.org.uk/news/international-news/121840-europes-renewable-energy-investment-must-double-to%E2%82%AC70bn.html.
[20] Europa, *Commission approves over €1,5bn for 15 CCS and off-shore wind projects to support European economic recovery,* http://europa.eu/rapid/pressReleasesAction.do?reference=IP/09/1896&format=HTML&aged=0&language=en&guiLanguage=en. 9 December 2009.
[21] Environment Budgetary Allocations for the years 2008, 2009 and 2010, (payments total outturns), totalled €880m. Taken from annual reports on EU budget, http://ec.europa.eu/budget/figures/2010/2010_en.cfm.

Company	Projected Phase II Overall Surplus EUAs	Value (€ Millions)[22]
ArcelorMittal	139,209,446	2,370,736,865
Lafarge	39,454,252	671,905,912
Tata Steel*	29,214,951	497,530,616
ThyssenKrupp*	28,948,600	492,994,658
Riva Group	22,273,458	379,316,990
Cemex	18,093,861	308,138,453
Holcim	15,912,709	270,993,434
Heidelberg Cement	15,695,018	267,286,157
Salzgitter*	11,489,885	195,672,742
Italcementi	10,090,298	171,837,775
Total	**330,382,478**	**5,626,413,600**

Table 2

With this in mind we project that we project that in two years the surplus of the Carbon Fat Cats will have grown to 330 million allowances, with an estimated value of €5.6bn.

How the surplus is growing

To put these numbers into perspective, Figure 3 compares the EUA surplus of all Fat Cat companies combined and ArcelorMittal, the biggest Fat Cat, to the 2008 annual greenhouse gas emissions of some of Europe's largest member states.

As of 2010, the accumulated EUA surplus for all Fat Cats companies is already larger than the annual emissions of Belgium and the Netherlands. Furthermore, our (conservative) projection for the end of Phase II estimates that the total Fat Cat surplus is likely to reach 330 million, which is approaching Spain's annual emissions of 406M tonnes. By itself, ArcelorMittal's EUA surplus is likely to overtake Belgium's annual emissions by 2012.

In the first Carbon Fat Cats report, which analysed 2008 data, Sandbag projected the combined 2012 EUA surplus for all Fat Cat companies to reach 230M EUAs[23]. Our new calculations estimate the numbers for 2012 to be almost a third above this previous projection as they are likely to surpass 330 milllion EUAs.

[22] Based on a €17.03 EUA price (06/05/11)
*Adjusted for waste gas transfers. See Annex 3 for details.
[23] Pearson, A. *The Carbon Rich List*, (http://www.sandbag.org.uk/site_media/pdfs/reports/carbon_fat_cats_march2010.pdf), Sandbag. February 2010.

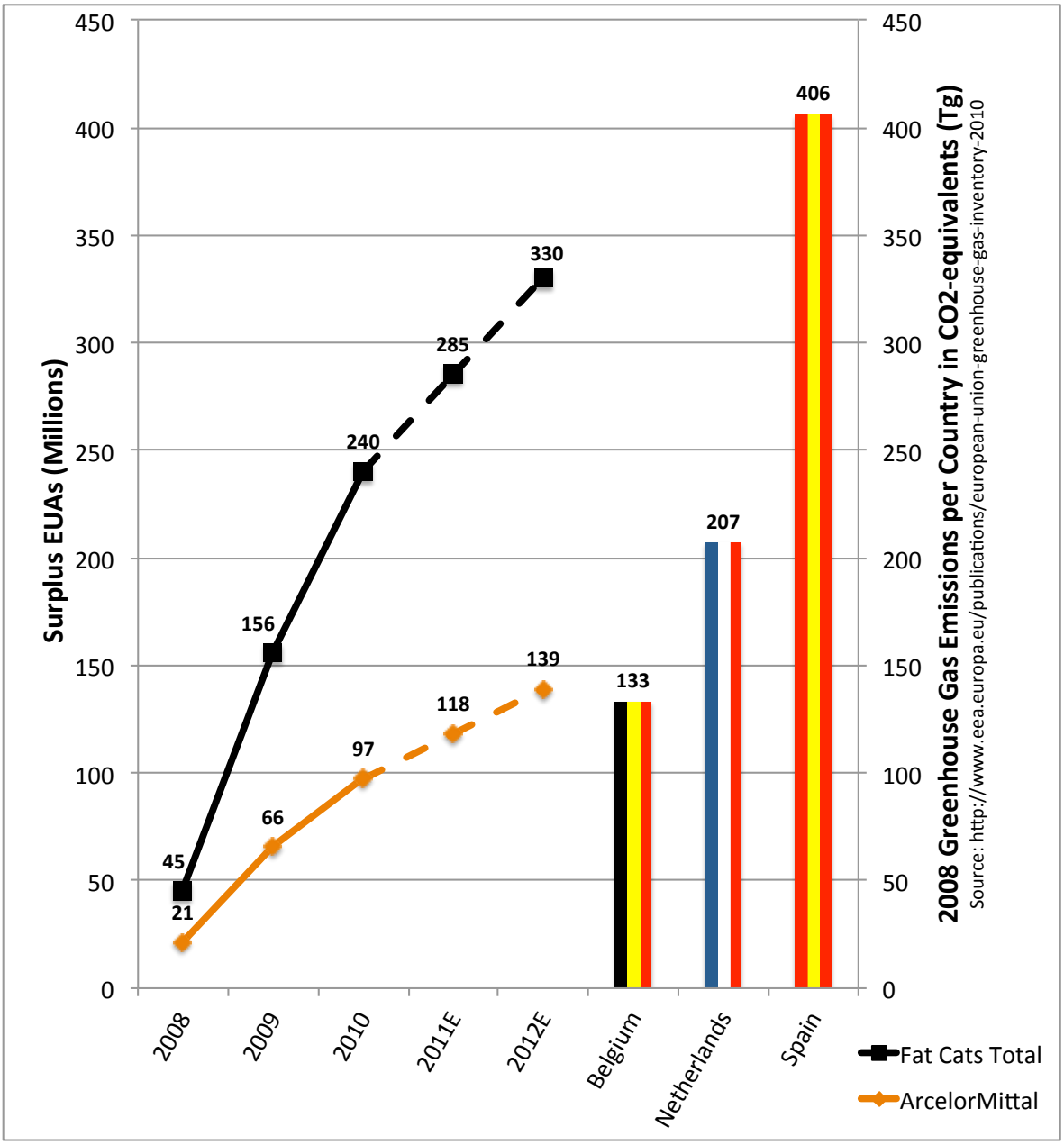

Figure 3

How is money made on the EU carbon Market?

This comparison of free emissions allowances with the actual emissions reveals the total number of surplus permits available to each company. Not only do these have a market value – as reported above – but there are a number of other ways that companies can profit from them, meaning that our estimates of financial benefits to the ten Carbon Fat Cats are likely to be conservative.

Companies can:

- **Sell surplus permits for a windfall profit**
  ArcelorMittal and Lafarge have already made gains from their favourable position, selling allowances for €172m[24] and €300m[25] respectively.

[24] ArcelorMittal. *ArcelorMittal reports first quarter 2011 results.* (http://www.arcelormittal.com/index.php?lang=en&page=128). 11 May 2011. (Accessed 9 June 2011).
[25] Lafarge. *Annual Report 2010.* (http://www.lafarge.com/03222011-press_publication-2010_annual_report-uk.pdf). 22 March 2011. (Accessed 9 June 2011).

- **Lend permits to traders**
  If they do not wish to sell their permits they can loan them to banks and brokers who can speculatively trade the allowances with a view to returning a profit.

- **Pass on the cost of emissions allowances to consumers**
  While the emissions allowances have been allocated to the companies for free, this has not prevented many of them from passing on the full cost to the consumer. This has been proven to be the case for both the power[26] as well as the industrial sectors.[27]

- **Swap EUAs for CERs / ERUs**
  Companies are free to use international offsets to meet a percentage of their emissions reduction targets. The price of these offsets are lower than European allowances and many companies are choosing to buy and surrender cheaper offsets and bank their allowances, incurring a saving in the process.

These factors must be kept in mind when considering the overall impact of emissions trading on the EU economy and in particular when considering the more alarmist statements from some industry players.

Why do some companies have surplus pollution permits?

The size of the allocations for Phase II was set in advance and so most of the overall surplus in the system is due to the combination of inflated projections of growth and the subsequent impact of the economic recession. For many companies, little or no actual effort towards emissions reductions will have taken place, and their surplus permits have not been earned by successfully reducing their pollution. These companies can therefore literally bank the profits from the sale of their surplus permits or bank the actual permits for future use against climate change targets, insulating them against future incentives to adopt low-carbon production.

There are a number of reasons for the uneven spread of the surplus across economic sectors, with huge over-allocation for some and huge under-allocation for others. In the current trading period (Phase II) the vast majority of allowances were provided for free and the rules governing this process were set at a Member State level. Member states decided how many permits to provide to installations in their territory in a National Allocation Plan (NAP), which was then subject to approval by the European Commission. Many countries chose to protect the competitiveness of their industrial sectors by giving them allocations based on generous business-as-usual projections that incorporated estimates of strong future growth. There were a number of instances where Member States submitted extremely inflated NAPs, in particular Italy[28] and Poland, the latter taking the Commission to court regarding its NAP[29]. To compensate for this over-allocation of permits to industry, governments under-allocated their power companies, deemed not be exposed to international competition, or 'carbon leakage'.

Carbon Leakage

The threat of 'carbon leakage' is the main driver to protect heavy industry with such generous allocations of free allowances. The term is used to refer to the degree to which an industry is exposed to international competition and thus vulnerable to production being relocated outside of Europe – with its associated emissions 'leaking' from the ETS. While framed in terms of carbon, the principle concern is with the loss of jobs and competitiveness through additional costs on business imposed by the ETS.

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[26] Sijm, J., *et al. The impact of the EU ETS on electricity prices*. (http://www.ecn.nl/docs/library/report/2008/e08007.pdf). Energy Research Centre of the Netherlands, December 2008.
[27] de Bruyn, S. *et al. Does the energy intensive industry obtain windfall profits through the EU ETS?* (http://www.ce.nl/publicatie/does_the_energy_intensive_industry_obtain_windfall_profits_through_the_eu_ets/1038). CE Delft, April 2010.
[28] Europa, *Emissions trading: Commission adopts decision on Italy's national allocation plan for 2008-2012.* (http://europa.eu/rapid/pressReleasesAction.do?reference=IP/07/667&format=HTML&aged=0%3Cuage=EN&guiLanguage=en). 15 May 2007.
[29] Euractive, *EU, Poland move to settle carbon quota row*. (http://www.euractiv.com/en/climate-environment/eu-poland-move-settle-carbon-quota-row-news-461636). 20 April 2010.

The extent to which the additional costs from the ETS have impacted industry is fiercely debated and varies widely between sectors. However, the argument that paying some form of price on carbon emissions can be avoided by businesses relocating outside Europe looks increasingly dubious as likely relocation countries such as China and India show signs of introducing their own environmental measures to curb emissions.

Still getting a free ride in Phase III?

Given the problems created by free allocations, changes agreed for the third phase included a move to greater use of auctioning of permits. This important reform starts in 2013 when the auctioning of allowances will be the rule rather than the exception. The power sector will have to buy all of its allowances, with only 'limited and temporary options to derogate from this rule'.[30]

For industry, those sectors deemed to at risk of carbon leakage were assessed. They will continue to receive the vast majority of their allowances for free, but rather than basing allocation on past emissions, each sector was benchmarked, to assess a best performance level of emissions by product. Benchmarks are based on the average of the 10% most efficient installations in the sector. Companies will therefore receive free allowances up to the level of best performing companies in that product sector, and have to purchase any remaining allowances required. The Commission estimates that this will see 80% of allowances allocated for free in 2013, gradually decreasing to 30% in 2020 with the view to reaching full auctioning in 2027.

The benchmarks were hotly contested by industry, with fierce lobbying to secure very generous assessments. Unsurprisingly, the most vocal opposition has come from the iron and steel[31], and cement[32] sectors - the companies insulated from the effects of the ETS are those pushing for even more free allocations. EUROFER has gone as far as announcing that it plans to take the European Commission to the European Court of Justice, claiming that the benchmarks have been unfairly assessed.[33]

More free allocations for industry will further compound the effects of over allocation and the likelihood of companies free-riding their way through Phase III.

30 DG Climate Action, *Auctioning*. (http://ec.europa.eu/clima/policies/ets/auctioning_en.htm).
31 ICIS, *Steel industry challenges CO2 benchmarks in court*, (http://www.icis.com/heren/articles/2011/04/04/9449781/steel-industry-challenges-co2-benchmarks-in-court.html). 4th April 2011.
32 CEMBUREAU, *EU ETS – A Clinker Benchmark but* .., (http://www.cembureau.be/newsroom/article/eu-ets-%E2%80%93-clinker-benchmark).
33 Steel Orbis, *EUROFER to challenge EC decision on benchmarks for steel*. (http://www.steelorbis.com/steel-news/latest-news/eurofer-to-challenge-ec-decision-on-benchmarks-for-steel-591841.htm). 4 April 2011.

Sector Analysis: Iron & Steel and Cement

The EU Emissions Trading Scheme covers ten economic sectors – CITL sector codes – ranging from power to glass making, yet the top ten Fat Cats featured in this report were made up exclusively of steel and cement companies.

This section of the report looks at allocations from a sectoral perspective, and shows a clear pattern that reflects the politics and economics of the ETS.

Our sectoral breakdown

This analysis is based on data taken from those installations that have surrendered information for 2008, 2009 and 2010, giving a complete and consistent overview of their position. Our categories of economic sectors are base on CITL sector codes for Iron and Steel, Cement and Power. Company's installations are not limited to one sector code. For example, while ArcelorMittal is predominantly known for its steel production, they have installations in numerous other CITL sectors, including power, cement and ceramics.

The following charts show the top ten companies, ranked by volume of reported emissions (largest polluter at the top), and their ETS position in terms of over or under allocation of EUAs.

Iron and Steel

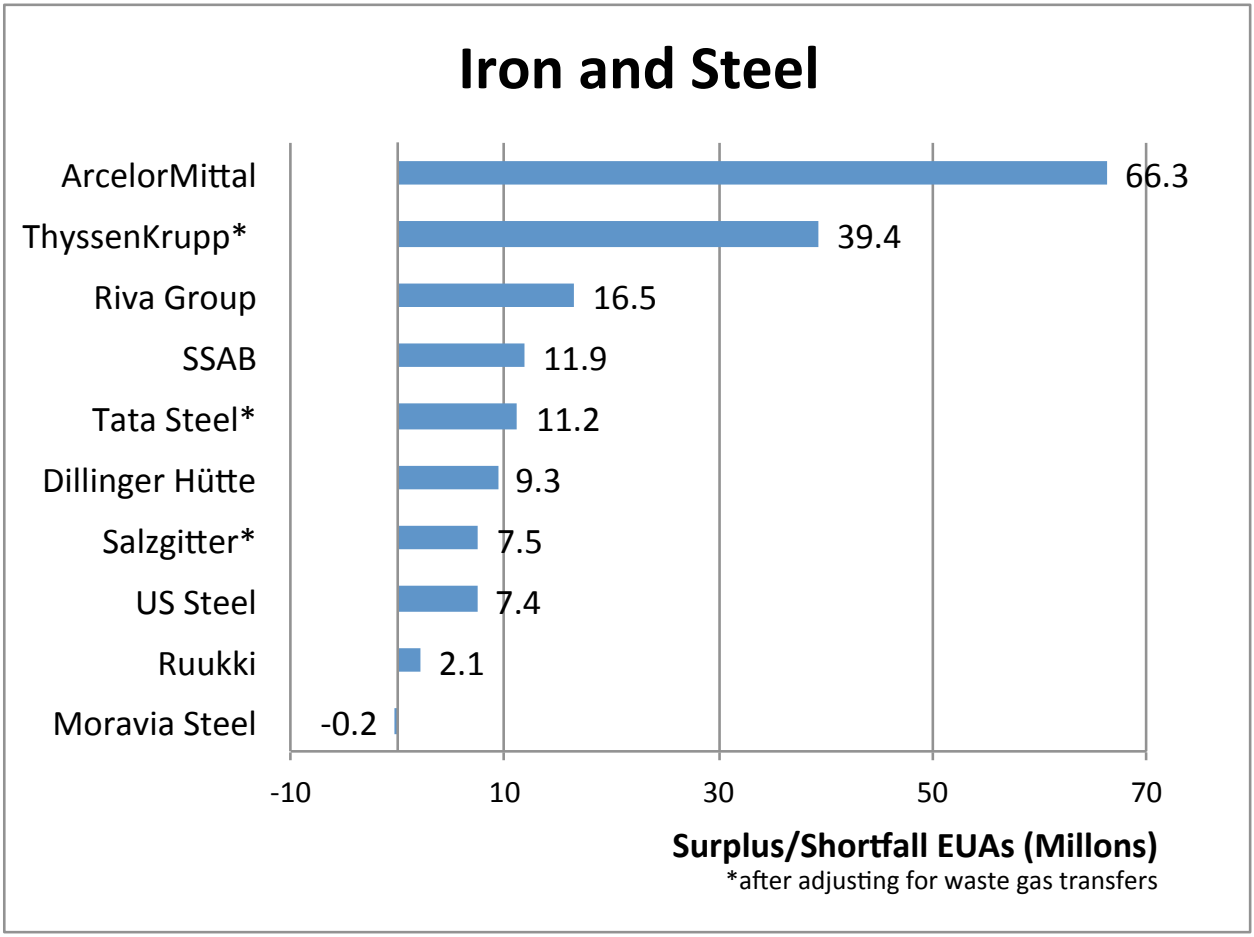

Figure 4
*Adjusted for waste gas transfers. See Annex 3 for details.

Iron and steel production is widely perceived as being most at risk of carbon leakage. As a result installations were issued generous free allocations from Member State governments in order to reduce the burden of a carbon price on industry and keep it internationally competitive.

Free allocations were also actively sought out by iron and steel companies, who asserted a huge amount of pressure on Member States. The biggest steel producer in Europe, ArcelorMittal, lobbied the national governments in each of the countries within which it operates[34]. With operations spread widely across Europe, - in Germany, France, Belgium, Spain, Luxembourg, Poland, Czech Republic and Romania - it is little wonder that this sector finds itself in such a comfortable position.

Figure 4 shows that surpluses in the iron and steel sector are considerable. However, while the biggest emitting steel companies have a large surplus of permits, some companies do not, e.g. Moravia Steel is 157,000 allowances short at this stage in Phase 2.

Much of the opposition against furthering the level of ambition in the EU ETS has come from the iron and steel sector, which is vocally objecting to moves for Europe to take on a unilateral 30% emissions reduction target.

On the 19th May 2011 EUROFER initiated an open letter[35] addressed to the European Council, Environment Council and European Parliament, and signed by the CEOs and Vice-Presidents of six[36] of Europe's major steel companies. This reiterated their position that increasing the emission reduction ambition unilaterally would be damaging to business: "the consequence will be more steel imports with a worse CO2 balance at the expense of EU industry, jobs and GDP." But our analysis to date shows that the majority of iron and steel companies have not been negatively affected by the scheme and at this stage it looks unlikely that they will be. What's more, the majority of companies seem to be benefitting from the system, and the top 10 alone have amassed surplus permits worth €2.9bn.

Many of the iron and steel companies protest that their position is not fairly represented as such analysis omits key factors, in particular the transfer of calorific waste gases and the associated allowances. In numerous cases installations supply waste gases to neighbouring power plants and are required to transfer an equivalent number of allowances (see waste gas section below and Annex 3). It is possible that this could significantly alter the final figures on allowance surpluses for many iron and steel companies. However, this information is not publically available, and neither EUROFER nor the individual companies have released it. Withholding information that they claim essentially exonerates them gives real cause for suspicion – if waste gas transfers really do significantly reduce their surplus of allowances, the companies should publish the data to prove this.

[34] Corporate Europe Observatory. *Laughing all the way to the (carbon offset) bank*. (http://www.corporateeurope.org/system/files/files/article/CDM_ban_delay_final.pdf). April 2011.
[35] EUROFER, *European Climate Change Policy: Don't damage an industry that is providing solutions*, (http://www.eurofer.org/index.php/eng/News-Publications/Press-Releases/Open-letter-of-the-EU-steel-industry). 19th May 2011.
[36] Voestalpine, ThyssenKrupp, Salzgitter, Tata Steel, Gruppo Riva, Celsa and ArcelorMittal.

Cement

Similarly to iron and steel, the cement sector has been allocated a generous amount of free permits as a result of their fervent lobbying activities. The biggest emitting cement company, Lafarge, actively lobbied Member State governments, threatening to stop investments[37] if there were delays to carbon leakage decisions.

The Chief Executive of the European Cement Association, CEMBUREAU, Dr Jean-Marie Chandelle, has argued that "the European cement industry is highly vulnerable to carbon leakage"[38]. As a member of the Alliance for Energy Intensive Industries (AEII), CEMBUREAU has backed a statement that "moving the existing 2020 targets would be unacceptable" and that "carbon leakage is a reality and leads to job, investment and growth losses in Europe and to substantial off shoring of carbon emission".[39] Given this supposed vulnerability of the cement sector many of its companies can take comfort in their current position in the scheme as the majority of them have a healthy surplus of permits at this stage in PII, as shown in Figure 5.

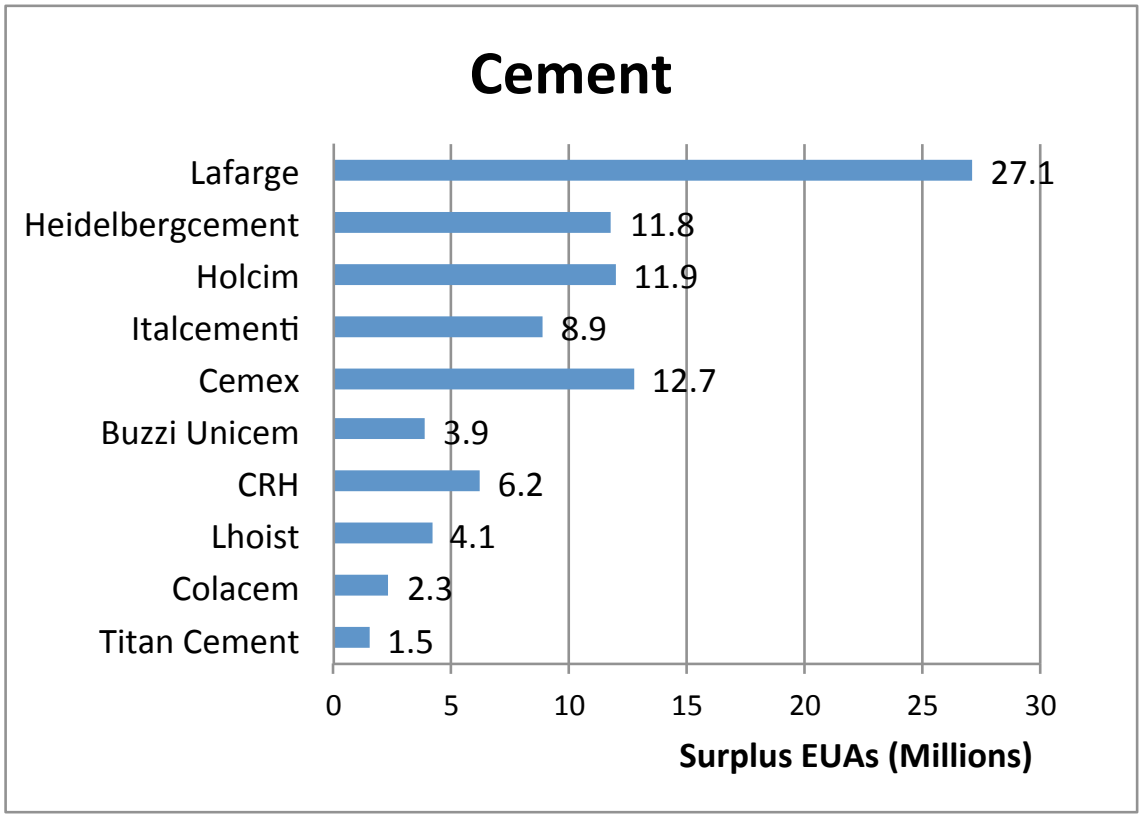

Figure 5

[37] Corporate Europe Observatory. *Industry lobbying on emissions trading scheme hits the jackpot: the cases of Arcelor Mittal and Lafarge*. (http://www.corporateeurope.org/system/files/files/resource/lafarge_arcelor_mittal_jackpot.pdf). 21 May 2010.
[38] CEMBUREAU, *CEMBUREAU highlights issue of carbon leakage*. (http://www.cembureau.be/newsroom/article/cembureau-highlights-issue-carbon-leakage). January 2009.
[39] Alliance for Energy Intensive industries, *Energy Intensive Industries: why Setting CO2 Targets to 2050 Is Unrealistic,* (http://www.greenpeace.org/eu-unit/Global/eu-unit/reports-briefings/2011%20pubs/5/CO2UnreallisticMarch11.pdf). 3 March 2011.

Sector Analysis: Power

In any market there is a need for demand. In the case of the EU carbon market the demand for emissions allowances comes predominantly from the power sector.

Based on a 2008 baseline, the power sector will be required to make net cuts of a 994 million tonnes in their carbon emissions to comply with its emissions cap for Phase II. However, overall the ETS will only require net cuts of 390 million tonnes of carbon for the same period.

The imbalance is due to the surpluses residing with industrial companies – as seen in the previous section – partly caused by the onset of recession, but also due to over-allocation in previous phases of the ETS. This means that power companies are compensating for industry in order for overall EU caps on emissions to be reached.

Looking at company level data we find that it is actually just a handful of major power companies that completely dominate demand in the ETS. Being short of permits requires these companies to make a corresponding effort to cut their emissions, purchase surplus allowances or use offsets. They can choose whether to invest in abatement or whether to pay for surplus allowances or equivalent offset credits from overseas. Thus these companies are the major drivers towards achieving the caps set out in the EU ETS Directive.

The Power sector

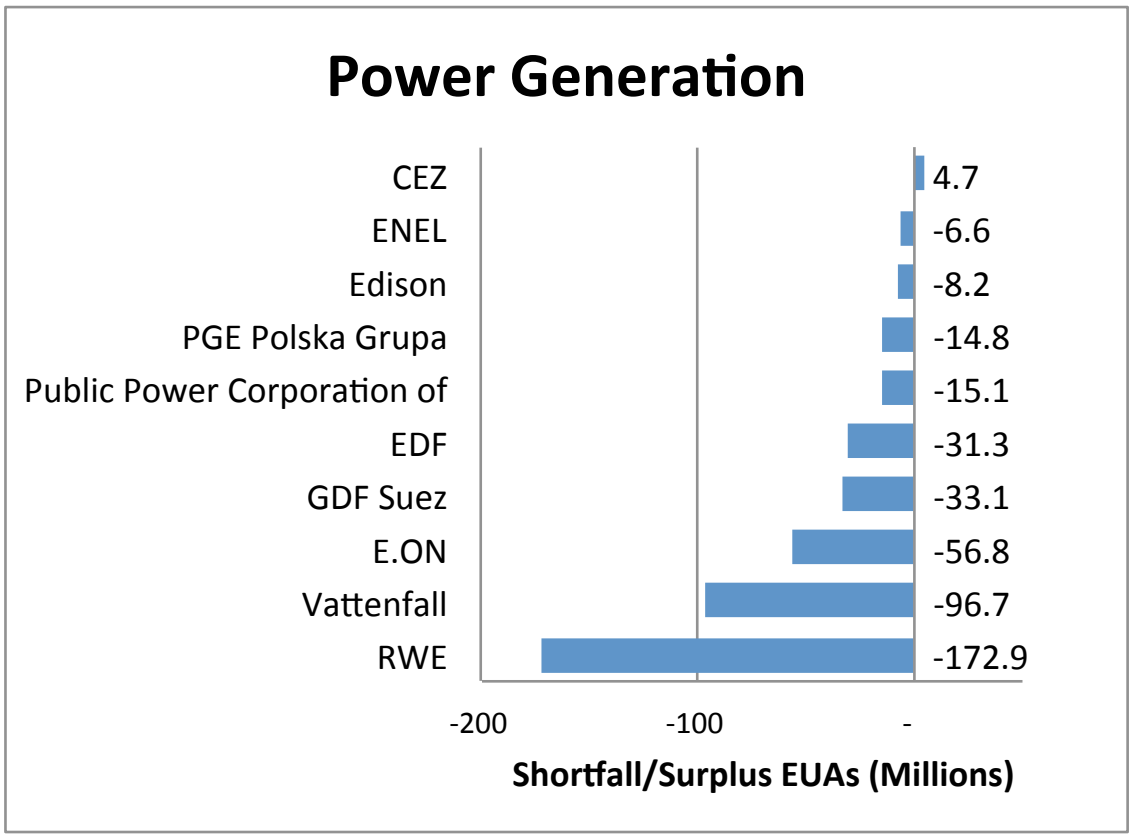

Figure 6

There is not a single power company in our list of Fat Cats. The following chart shows the position of the top ten power companies, as ranked by volume of emissions (largest polluter at the top).

- They face a collective shortfall so far of 431 million EUAs, more that the emissions reductions we estimate will be achieved by the entire ETS over Phase II (2008-2012).

- RWE, Vattenfall, E.ON, GDF Suez, EDF and PGE alone **already** face a shortage of 379 million allowances. **This is almost equivalent to our PII estimate savings of the whole scheme**.

- CEZ bucks the trend with a surplus of 4.7million allowances.

Exception to the rule

While it is evident that the majority of power companies face a large shortfall of allowances, there are exceptions to the rule. As was the case in Sandbag's first look at the standing of companies in the EU ETS[40], the Czech power company, CEZ, stands out as from crowd. Unlike any of its competitors, CEZ currently has a surplus of 4.7 million allowances worth an estimated €80m. Assuming a 2008 baseline, CEZ looks set to finish phase II with a 5.6 million allowance surplus worth an estimated €96m.

In its NAP the Czech government has chosen to protect CEZ. The rationale could be to prevent power consumers from paying higher prices, but as CEZ is majority state owned – the government could also stand to benefit from the surplus permits. CEZ's luck looks set to continue as in Phase III some Eastern European Member States are allowed to issue further free allocations to the power sector. The Czech Republic is among these countries and it is reported that the Czech government will distribute between 53% and 58% of allowances to the power sector for free in 2013, gradually phasing out to zero by 2020[41].

[40] Pearson, A. *The Carbon Rich List*, (http://www.sandbag.org.uk/site_media/pdfs/reports/carbon_fat_cats_march2010.pdf), Sandbag. February 2010.
[41] Bloomberg New Energy Finance, *EU CO2 Drops 1.9% as Czech Free Allowances Decision Curbs Demand*, (http://bnef.com). 16 May 2011.

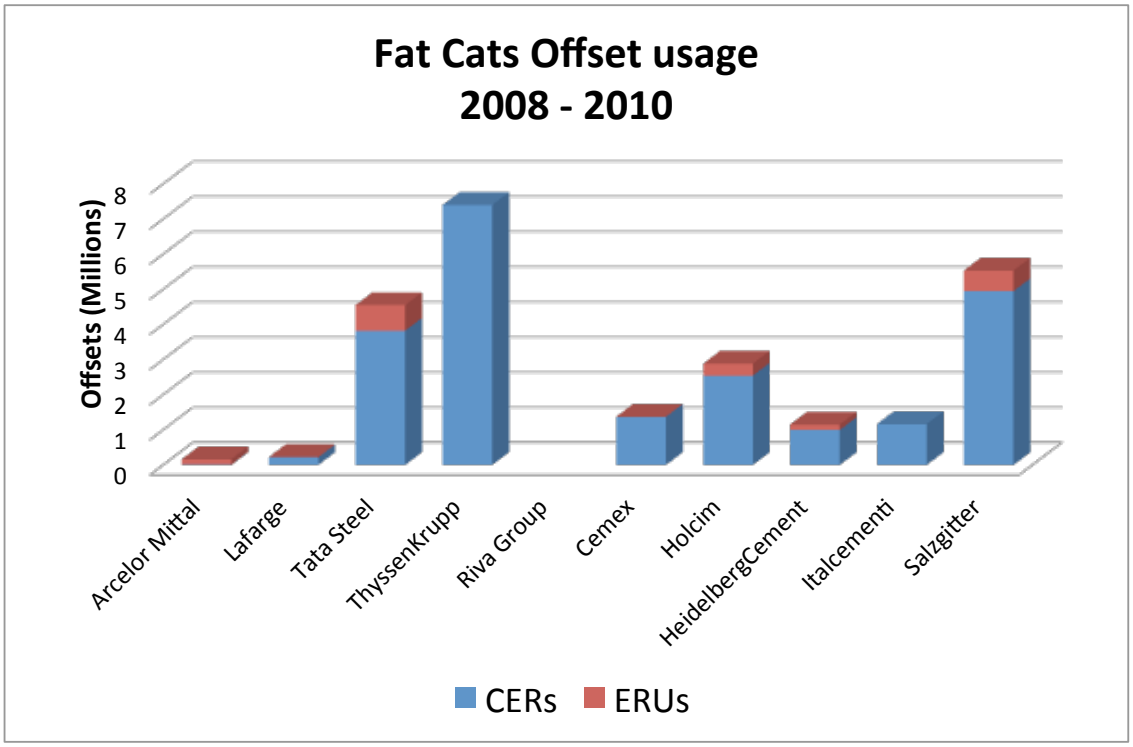

Figure 7

While the EU ETS is a policy instrument of the European Union, its reach goes far beyond the borders of Europe. One of its most direct and tangible links to the international climate negotiations of the UNFCCC is through the use of international carbon offsets.

ETS rules allow for a percentage of carbon credits from projects outside the EU to be used by companies to meet their required targets. This was designed to act as a safety valve against a high carbon price and be supplementary to domestic action. Furthermore, it plays an important role in demonstrating the EU's commitment to international climate change negotiations, prolonging of the Kyoto protocol, and the expansion of carbon markets globally.

International offsets are those credits generated by Clean Development Mechanism (CDM)[42] and Joint Implementation (JI)[43] emissions reduction projects, as set out in the Kyoto Protocol. Many companies have used international offsets with enthusiasm, even when they have a healthy surplus of free EUA allowances. To date 300 million offsets have been used for compliance by companies in the EU ETS representing a value of €3.9bn.

As Figure 7 above shows, the Carbon Fat Cats are amongst the largest users of offsets:

- The Carbon Fat Cats have used 244 million offsets to date, representing an estimated €314m at current market prices.[44]
- 73% came from China and India
- 2.1% came from within the EU
- 83% were industrial gas credits

[42] Credits generated by CDM projects are called 'certified emissions reductions' (CERs)
[43] Credits generated by JI projects are called 'emissions reductions units' (ERUs)
[44] Prices used, June 2011: CERs €12.90 / ERUs €12.44

The use of international offsets has come under increasing scrutiny over the past year; in particular the dominance of a handful of project host countries and the dominance of just a few credit types have led many to question the system.

Credits type and value for money

The majority of offsets used in the EU ETS come from industrial gas CDM projects, notably HFC-23 and N20 adipic projects. The true abatement cost of HFC 23 is deemed to be about €0.17/tonne[45], however, through the CDM it commands a price of up to €12.90 per CER.

As well as distorting the geographical distribution of projects, Industrial gas credits have no real sustainable development benefits for the host country, a fundamental requirement of all CDM projects. Figure 8 shows that this general trend for heavy dependency on industrial gas credits is equally true for our Fat Cats, representing lost investment in domestic mitigation.

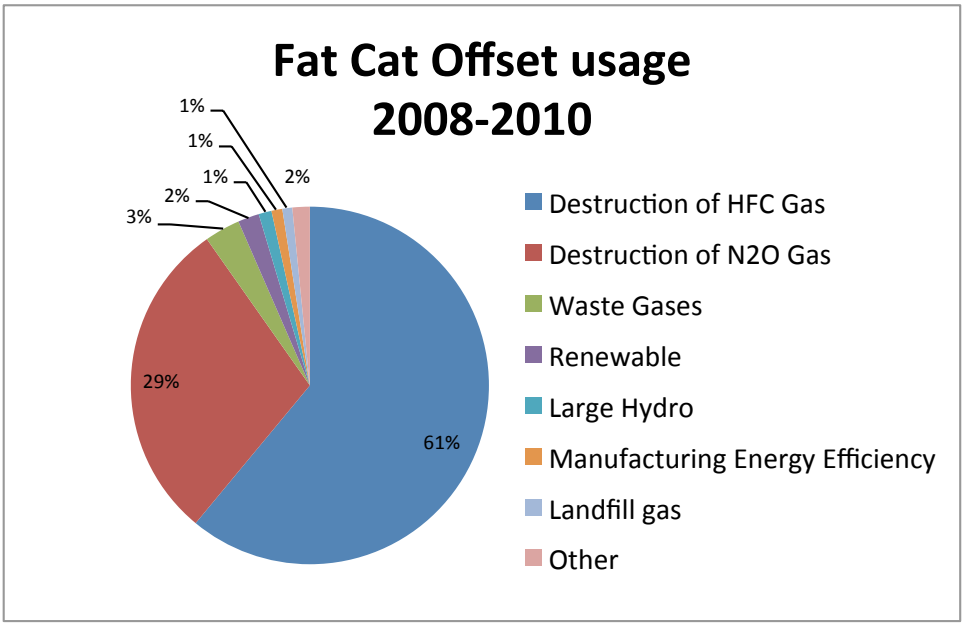

Figure 8

Subsidising international rivals

Offsetting projects are designed to reduce emissions by implementing new low carbon technology in those parts of the world that otherwise would be unable to make the investment themselves. Many of these projects take place in an industrial setting – where there is a high concentration of emissions. Like in Europe, these tend to be in the industrial parts of the economy and it is common for CDM and JI projects to be based on emissions savings from increasing the efficiency of heavy industry, such as a steel mill or cement works.

Given the worry about carbon leakage, it would make little sense for European sectors exposed to carbon leakage to use credits from project run by their international rivals: this could be seen as providing a direct subsidy to their competitors, buying credits that help pay for improved production facilities.

Table 3, however, shows that this is exactly what four out of our ten Fat Cats are doing, in surrendering credits from their direct international rivals.

Playing the market in this way is perfectly legal and may be economically rational, yet it calls into question the vociferous concerns of companies about losing business to foreign competitors: they are choosing to pay what amounts to a subsidy.

[45] Environmental Investigation Agency. *Companies urged to reject HFC-23 credit trade*. (http://www.eia-international.org/cgi/news/news.cgi?t=template&a=598&source). 16 June 2010.

Company	Year	CERs/ ERUs*	Value (€)	CDM/JI* Project	Host Country	CDM/ JI* id
Italcementi	2010	21,452	276,731	Waste Heat Recovery Project of Digang Conch Cement Company Limited	China	1672
Italcementi	2010	16,415	211,754	Waste Heat Recovery Project Jiande Conch Cement Company Limited	China	1674
Tata	2010	71,707*	892,035	Improvement of the Energy efficiency at Energomashspetsstal*	Ukraine	0104*
Salzgitter	2009	40,000	516,000	Waste Heat Recovery Based Captive Power Project activity in steel plant	India	696
ThyssenKrupp	2009	21,768	280,807	Waste gas CDM project in Jinan Iron & Steel Works	China	812
ThyssenKrupp	2008	375,000	4,837,500	Generation of Electricity through combustion of waste gases from Blast furnace	India	325
TOTAL		**546,342**	**7,014,827**			

Table 3

While the volumes of credits are not necessarily high the political significance of these transactions is. Companies desperately concerned about their competitiveness should take more care to ensure their money is not helping competitors to improve their efficiency and profitability.

To offset or not to offset?

The use of international offsets has a role to play within the EU ETS. However the continued blind usage of offsets is questionable. In the current phase of the ETS companies should take full responsibility for the kind of offsets they use, screening against projects that have no meaningful sustainable development benefits - such as industrial gas projects - or contribute to carbon leakage by subsidising international rivals. Furthermore, ongoing offsetting usage by businesses should avoid the use of credits from rival industries, and instead favour credits from those projects with genuine sustainable development benefits.

There is a further question around the swapping of CERs for EUAs: should those installations with a huge surplus of allocations – such as those owned by our Fat Cats – be permitted to use offsets? The current policy, which distributes the quantitative limit on the use of offsets amongst all installations, irrespective of their position in terms of their allocation of allowances, serves to boost demand for offsets when there is little need for them. This serves to increase the amount of investment flowing out of Europe at a time when Europe needs inward investment to help deliver a low carbon economy for the future.

Data and Transparency

All data used in this report is taken from publically available sources, in particular the Community Independent Transaction Log (CITL) and UNFCCC websites.

Gaps in the data create significant problems for the proper assessment of the ETS. The two most significant problems are a lack of ownership data for installations, making a company level analysis difficult, and a lack of data on waste gas transfers.

Who owns this power station: parent company data

The ETS may be administered according to specific installations, but its impact is felt by the companies that own them. Only by adding up data on installations – emissions and allocations – can the position of companies be seen.

Unfortunately this process has not been made easy. Installations within the ETS are required to submit a significant amount of information but it is optional for them to provide company/parent company ownership details. With this omission the European Commission has tied its hands behind its back when it comes to assessing the performance of the scheme. So, while companies play a very vocal role in the debate about the future of Europe's climate policy and targets, a lack of access to data makes it very hard to see just how they are actually faring. They have been able to argue against greater ambition while hiding their installations behind a cloak of anonymity.

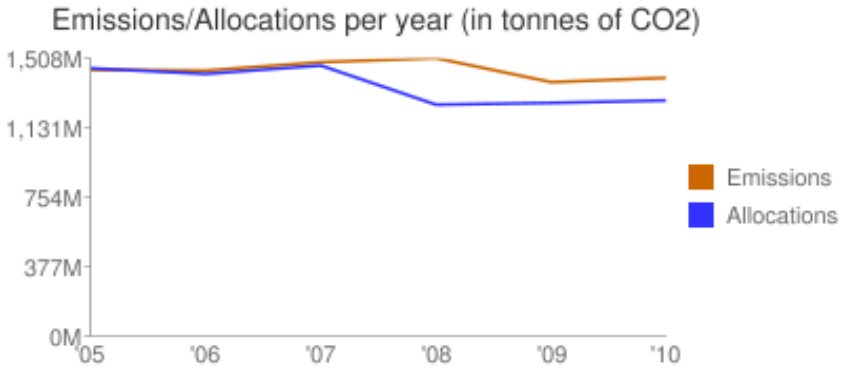

Figure 9 – Overall standing of the power sector

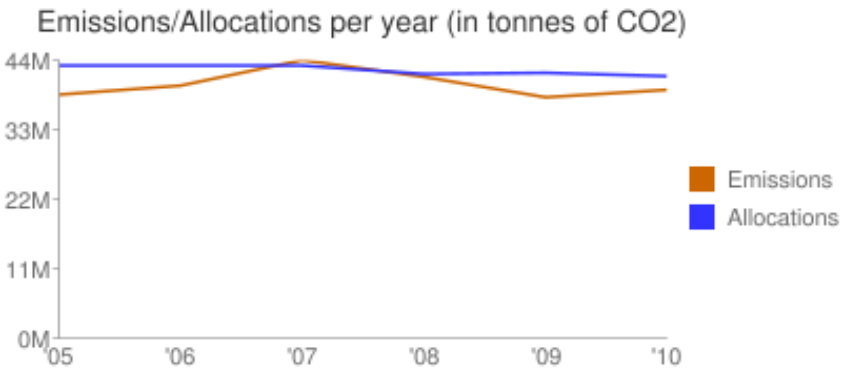

Figure 10 – Overall standing of CEZ

One consequence of this lack of transparency is that it is harder to identify competitive distortions at a fine-grained, company level. So, while a sector as a whole may be under-allocated, individual companies may not be – for example Figure 9 shows the overall standing of the power sector, with a current shortfall of 214 million allowances, and Figure 10 shows the current standing of the Czech power company, CEZ, which, unlike the majority of its competitors, has a 4.7 million surplus of permits.

As a result the competitive distortions taking place within the EU ETS remain below the surface, with some companies gaining significantly at the expense of the rest.

To provide the needed transparency, Sandbag has invested considerable time in collecting and curating emissions trading data and adding company (and parent company) ownership information for ETS installations. We have created one of the most accurate overviews of how companies are positioned in the scheme.

The mystery of waste gas transfers: magic disappearing surpluses

Another glaring data omission is the absence of 'waste gas data'. During the production of iron and steel, combustible waste gas is produced which is commonly utilised for energy production by neighbouring power installations.

The volume of these gas transfers is not reported, making it is difficult to assess the surplus of these companies. Companies and industry bodies frequently refer to it to counteract claims that they have large surpluses.

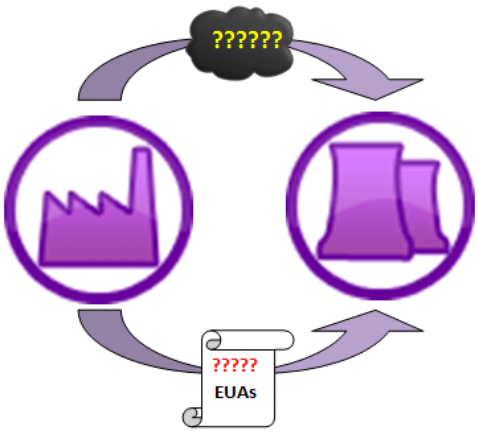

Figure 11

"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."[46]

If waste gas transfers are significant - and the iron and steel industry claims they are - we can expect this to greatly reduce 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.

Sandbag requested this data from companies covered in this report. Unfortunately only one – ThyssenKrupp –responded, but rather than providing data they suggested a method that merely estimates the quantity of the waste gas transfer. A figure for Tata was gleaned from a press release[47] of theirs countering allegations of excessive profit.

We used this information to make an estimation of waste gas transfers and included this in our final figures: ThyssenKrupp's total dropped by almost a third, from 29.2 million to 19.9m moving it from third place to fourth in the Fat Cat list; Tata total dropped from 34.9m to 23.1m, moving it from second place to fourth in the list.

However, it should be stressed that these results are best estimates based upon a rule of thumb method. No company has actually released hard data. A full breakdown of waste gas data taken into account in this report is available in Annex 3.

As this report suggests, the available data shows many of the largest companies in the iron and steel sector to be sitting on huge surpluses of permits. The assessment of just how safely they are cushioned by their surplus is not only held by Sandbag: Bloomberg New Energy Finance similarly deems that "if the steel sector (on aggregate) did not sell any of its surplus it would not have a need to purchase emissions until 2023[48].

While companies fervently refute this accusation they continue to refuse to release accurate waste gas transfer data. Until they do, it is reasonable to assume that the companies are using this issue as smokescreen.

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[46] Steel Business Briefing. *Carbon leakage is a threat to Europe, says TK executive.* (www.steelbb.com/us/?PageID=157&article_id=91118). 18 April 2011.

[47] Tata Steel. *Natuur en Milieu manipuleert weer cijfers in rectificatie over CO2 emissie Tata Steel.* (http://www.tatasteel.nl/news-and-media/nieuws-2011/Natuur-en-Milieu-manipuleert-weer-cijfers-in-rectificatie-over-CO2-emissie-Tata-Steel.html). 11 May 2011.

[48] Point Carbon. *EU steel sector warns new ETS rules will hit investment.* (http://www.pointcarbon.com/news/1.1539144). 19 May 2011.

Conclusions and Policy Recommendations

In the last three years a small number of powerful companies, concentrated in the steel and cement sectors, have amassed a huge quantity of freely allocated carbon allowances.

The volume – 240 million – held by just these top ten Fat Cats is equivalent to the entire annual emissions of several small Member States, and their value dwarfs the European Commission's environment budget.

These companies have received their windfalls in part through persistent lobbying of Member State governments and the EU authorities, based on the argument that they were at risk from the higher costs the ETS would bring, and that generous free allocations were needed to prevent carbon leakage. Sandbag argues not that such concerns could never be without foundation, but rather that these arguments are being deliberately and consistently exaggerated, largely by a small section of entrenched heavy industry incumbents. This group has in fact profited handsomely from the first few years of the ETS, to the point where the surplus of permits is a threat to the future of the mechanism – yet they are fighting as hard as they can against any and all efforts for reform.

Tackling climate change is an urgent priority, and one the EU is committed to addressing. A balance has to be struck between driving decarbonisation and nurturing economic recovery, and the promise is that a strong EU ETS can help nurture sustainable economic growth that both generates jobs and cuts emissions.

Finding that balance is crucial, but in the heated debate the vigour with which heavy industry has embraced the threat of 'carbon leakage' deserves to be treated with great scepticism. This is especially true given the results of our analysis. On the basis of the available data some of the companies shouting loudest are sitting on enormous stockpiles of valuable emissions allowances, received for free and banked to cushion the impact of carbon prices for many years to come.

Cries of 'de-industrialisation' help little in taking Europe forward and reflect those limited, but powerful voices that wish to protect the status quo for their own benefit. Europe must not allow a handful of powerful companies to undermine its long-term economic competitiveness or its position as a global leader in tackling climate change.

A strong and substantial policy to put increasing costs on pollution - such as the ETS attempts - stands to create many winners in the global race to a high tech, low carbon economy, so it is no surprise if those established industries with most to lose put up strong resistance. The question remains though - can Europe afford to be held back by the powerful few?

Their arguments – based on the threat of job losses – hold considerable sway with politicians. Knowing their true position is important for assessing their claims, and yet the Commission has not made this easy by its failure to require the ownership of installations and data reporting on the transfer of gases between them.

Therefore, Sandbag would make the following recommendations for dealing with the surplus permits and issues of transparency that this report has addressed:

- Move to a 30% emissions reduction target for Europe.
- Provide for an allowance 'set aside' in Phase III to reduce the surplus and prevent a price crash.
- Amend offset rules to exclude offsets from projects that exacerbate carbon leakage. Furthermore, the distribution of the quantitative limit on the use of offsets should be changed so as not to encourage unnecessary offsetting.

- Amend reporting rules to require participating installation to fill out all company and parent company fields in the CITL database, and make data on waste gas transfers publically available.

Annex 1: Other Sectors

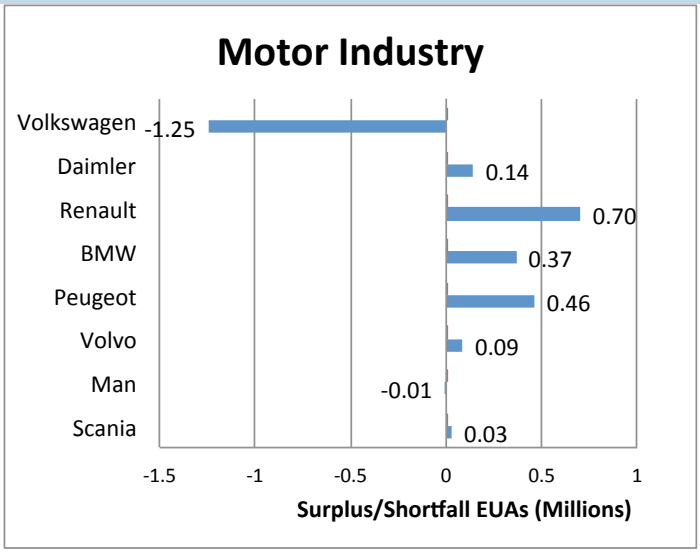


Figure 12

Installations with NACE codes within the category:
DM.34 - Manufacture of motor vehicles, trailers and semi-trailers (DG.34.10 to DG.34.30)
(see: http://ec.europa.eu/competition/mergers/cases_old/index/nace_all.html)

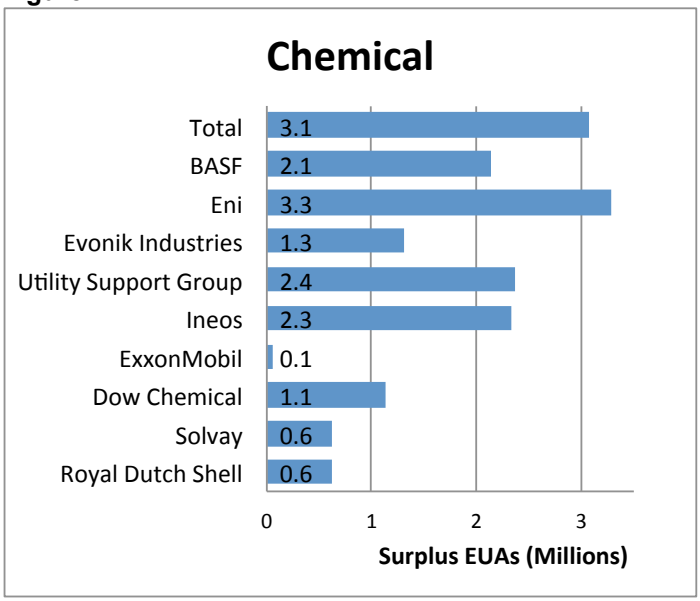


Figure 13

Installations with NACE codes with the category:
DG.24 - Manufacture of chemicals, and chemical products (DG.24.10 to DG.24.70)
(see: http://ec.europa.eu/competition/mergers/cases_old/index/nace_all.html)

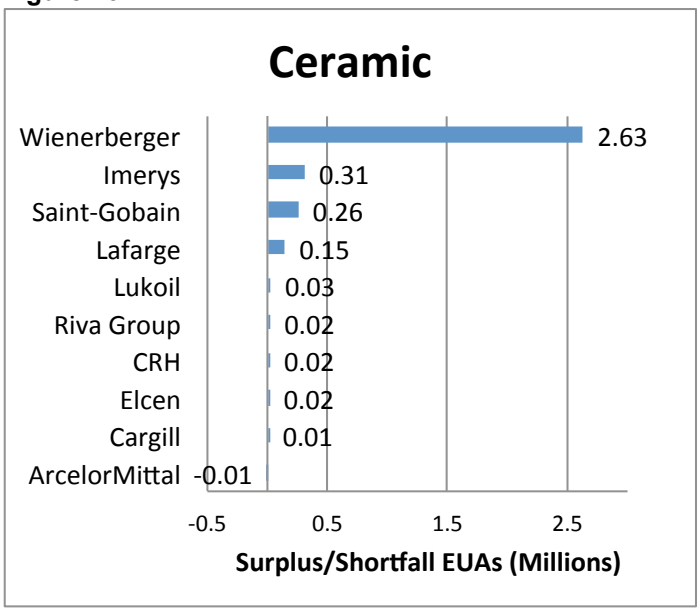
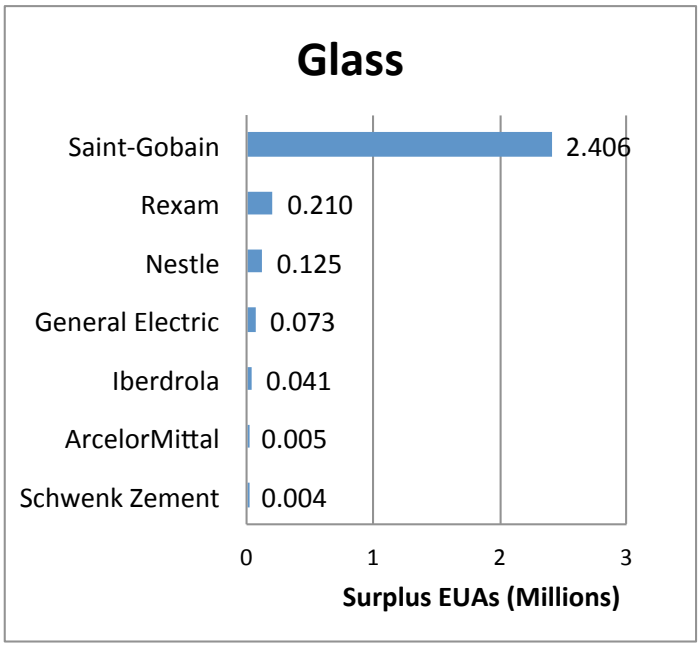


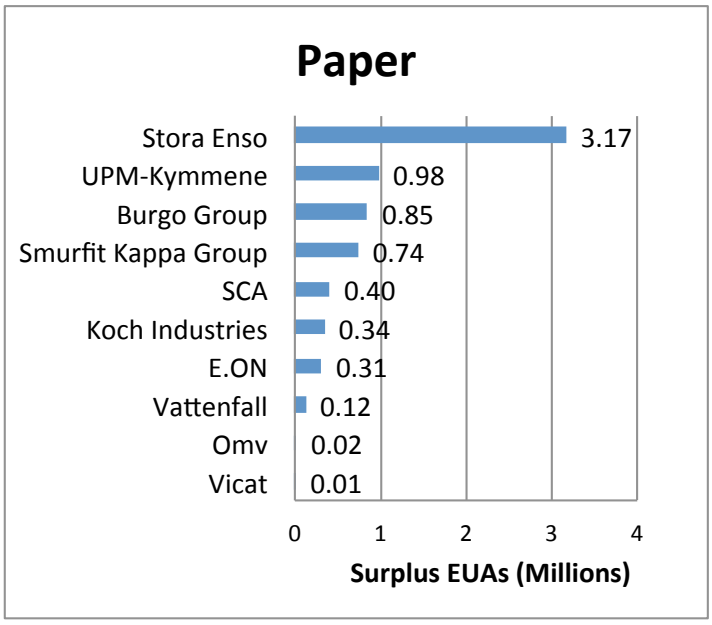
Figure 14

Installations with CITL sector code 6 - Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain



Installations with CITL sector code 7 - Installations for the manufacture of glass including glass fibre

Figure 15



Installations with CITL sector code 9 - Industrial plants for the production of (a) pulp from timber or other fibrous materials (b) paper and board

Figure 16

Annex 2: Company Research

All data in this report is based on publically available emissions data, in particular from the community independent transaction log (CITL) and the UNFCCC websites.

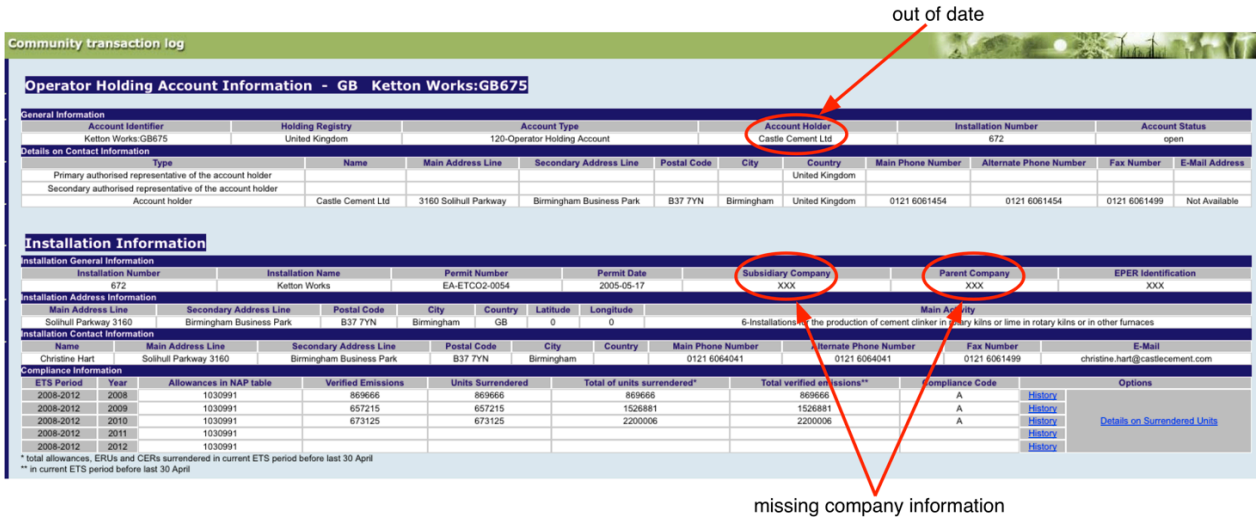


Figure 17

The screenshot above is from the European Commission's Community Transaction Log (CITL) website. It exemplifies how the CITL is missing accurate company data. Although it has fields for both *Subsidiary Company* and *Parent Company* information, these hardly ever contain any data. Instead, if an installation provides any company information at all, this is often (but not consistently) recorded in the *Account Holder* field. However, as seen in the example above this information is often out of date. In this case the installation 'Ketton works' has specified its account holder to be 'Castle Cement Ltd'. However, 'Castle Cement Ltd' was rebranded as 'Hanson Cement' in 2009 and since 1998 is actually fully owned by the German cement giant 'HeidelbergCement'.

Sandbag has been working through the data to correct invalid and add missing company information, both at the subsidiary and parent company level. Due to the lack of transparency it was not possible to add full company ownership information to all 11,036 installations, hence, Sandbag adopted the following approach. First, we researched basic subsidiary company information for all installations and were able to record this for 99% (10,924 of 11,036) of all installations. Secondly, these subsidiary companies were assigned to parent companies. Although only 31% of installations have complete parent company information, this covers 86% of total emissions (82% of total allocations) across the phase and provides us with a sufficient data set for the Carbon Fat Cats ranking.

Annex 3: Waste gas

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:
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**

Table 4
Source: CITL and Tata Press release[49] and authors' calculations
**Indicates installations which 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:
ThyssenKrupp's methodology to derive 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
Integriertes Hüttenwerk Duisburg adjusted for waste gas	**296,609**	**5,716,960**	**-92,334**	**5,921,235**

Table 5
Source: CITL and ThyssenKrupp email and authors' calculations
**Indicates installations which are not ThyssenKrupp holdings*

[49] Tata Steel. *Natuur en Milieu manipuleert weer cijfers in rectificatie over CO2 emissie Tata Steel.* (http://www.tatasteel.nl/news-and-media/nieuws-2011/Natuur-en-Milieu-manipuleert-weer-cijfers-in-rectificatie-over-CO2-emissie-Tata-Steel.html). 11 May 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.

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 adjusted for waste gas	**2,135,483**	**3,672,924**	**2,128,758**	**7,937,165**

Table 6

Source: CITL and authors' 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 23.1 million EUAs and ThyssenKrupp holding a surplus of 19.9 million EUAs. Salzgitter's overall surplus is unaffected because waste gases and EUAs are transferred between installations belonging to the same company.

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

Table 7

Other things we do:

Sandbag is the NGO leading in research-led campaigning for effective emissions trading. Our informed reports, briefing papers, consultation responses and workshops have reached and influenced European policymakers at the highest levels and been widely reported in the European and international press.

Sandbag can provide your organisation with:

- **Commissioned reports:** our reports combine rigorous research with clear and targeted messaging.

- **Research and data analysis:** Sandbag has extensive experience analysing the key EU ETS data, and has developed some unique tools (such as our offset and emissions trading maps) to make these more transparent. Sandbag has also developed extensive profiles of specific sectors, companies and countries within the scheme.

- **Workshops:** We have provided workshops to MEPs and UNFCCC delegates on such topics as offset reform, carbon leakage, ETS reform, and sectoral trading.

For more information on our research consultancy services please contact info@sandbag.org.uk