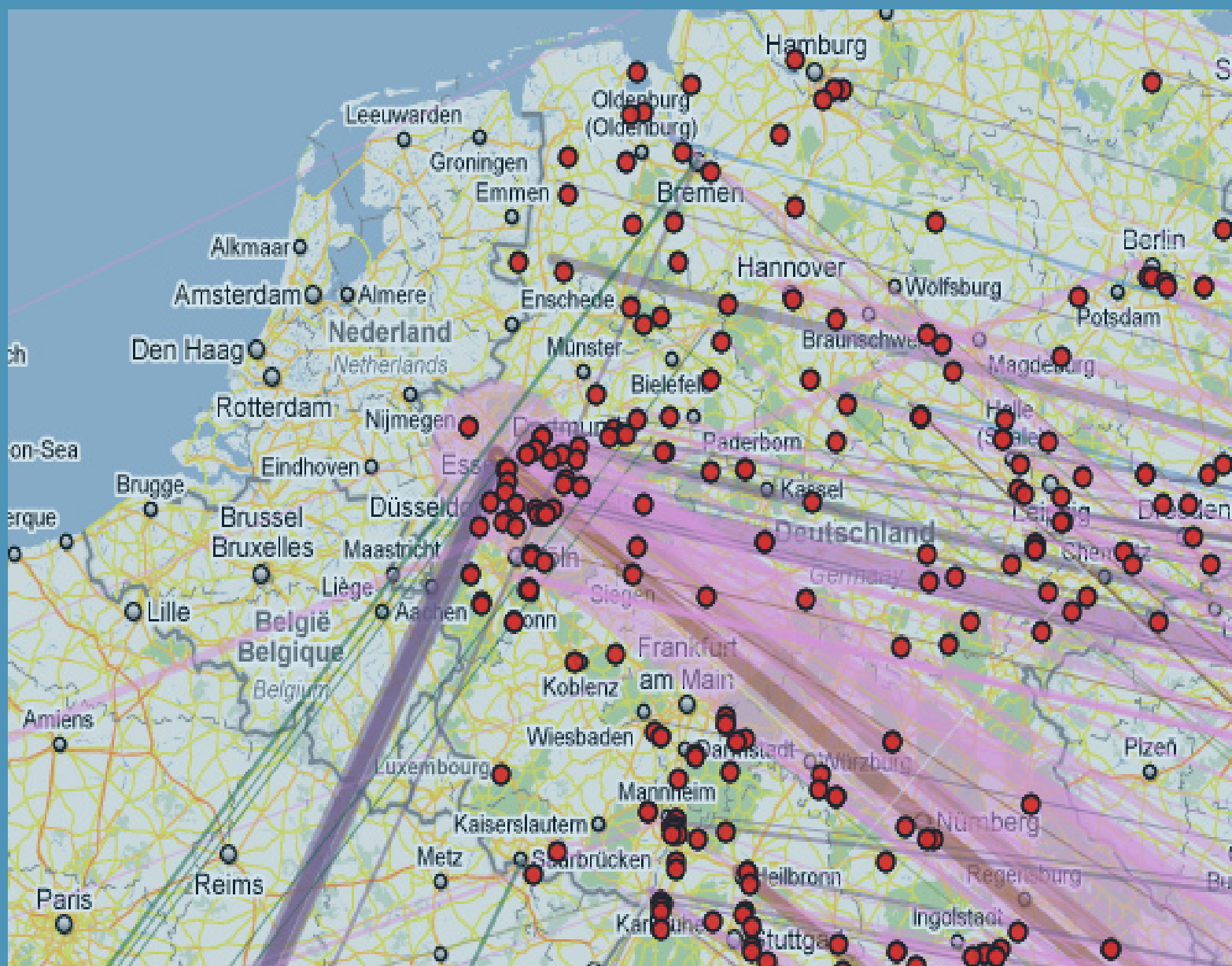


# International Offsets and the EU

Tracking compliance offsets in the EU Emissions Trading Scheme



## About Sandbag

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

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

We are grateful to the European Climate Foundation for helping to fund this work and to Carbon Market Data for sharing their company level analysis with us.

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Sandbag Climate Campaign is a not-for-profit enterprise and is registered as a Community Interest Company under UK Company Law. Co. No. 6714443

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# Executive Summary

The following report is based on a consolidated database of information about the use of offsetting in the EU Emissions Trading System in 2008. This data links for the first time the users of international offsets (Certified Emissions Reductions or CERs) for compliance with EU caps, to the projects they have bought credits from.

Our purpose in releasing this information is to increase transparency and stimulate and inform debate about the future of offsetting. Offsetting is clearly being used very successfully by many of the participants in the EU trading system and we also wish to use this information to counter industry claims that it would be 'physically impossible' for the EU to take on more ambitious climate targets.

We are seeking to provide a neutral platform for all interested stakeholders to explore the workings of the EU's offsetting policy in more detail. We would like to invite anyone interested in helping us to further improve and develop this resource to get in touch.

On the basis of the information we have to date we have undertaken some analysis and in Section 2 of this report present some key findings that help to bring the policy to life. Highlights include:

1. The top 10 European installations who are users of offsets accounted for 21% of all compliance offsetting in 2008
2. Biggest offsetting installation: Thyssen-Krupp's Steel plant in Duisberg, Germany offset 56% of its emissions in 2008. 88.6% of offset credits used were from HFC and N2O projects.
3. Biggest company offsetter: ENEL/Endesa – accounting for 12.3% of all offset credits surrendered in 2008. Of the 9,997,116 CERs used, 99.7% were chemical plant (HFC) credits from China.
4. Biggest sectoral offsetters are combustion, with iron and steel and cement also using reasonable volumes.

5. The vast majority of credits being used come from chemical factories eg 84% in total from 'HFC' and 'N2O' destruction projects.

6. India was the biggest source of credits from renewable projects, with over 2 million credits coming from biomass and renewable energy projects.

7. German companies owned 29% of all CERs surrendered into the ETS in 2008, of the 23,721,741 credits used 83.1% of these were from HFC and N2O projects

8. Spain bought 21% of all CERs surrendered into the ETS in 2008, of the 17,718,918 credits used 86.3% were from HFC and N2O projects

9. China originated 41% of all CERs surrendered into the ETS in 2008. Of the 33,380,848 exported, 94% of these were HFC and N2O credits.

In the final section of this report we offer some observations arising from our analysis of the data and some views on the future development of offsetting policy in Europe.

## **We recommend that the EU should:**

- **take unilateral action to improve the quality of compliance credits being used in the EU ETS**
- **carefully monitor offsetting levels to ensure they are supplemental to rather than a replacement for domestic action and set more ambitious targets to ensure more investment flows internally as well overseas, and**
- **improve the distribution of countries hosting projects to minimise competitive distortions, to ensure least developed countries receive more investment and make issues of additionality easier to assess.**

# Introduction

## How international offsetting works

In 2005 the European Union introduced legally-binding caps on all large concentrated sources of emissions in each of the 27 Member States. This created the EU Emissions Trading Scheme which is now in its second phase. In this phase, running from 2008-2012, caps have been tightened and more companies must now either reduce their own carbon emissions or pay others for equivalent emissions reductions achieved outside of Europe. The EU scheme is linked to the international emissions trading scheme, established under the Kyoto Protocol, and companies are allowed to buy emissions credits (CERs) generated in developing countries to comply with their European caps.

The use of overseas credits generated from approved emissions savings projects is often referred to as 'offsetting'. It is intended to ensure that companies facing caps have access to reasonably-priced emissions reductions achieved outside the EU. The amount of offsetting is limited, the precise level in this phase having been set by Member States in their National Allocation Plans<sup>1</sup>. According to the data we have used in 2008 EU ETS participants surrendered 2 billion permits and used 82 million offset permits (4%) to comply with their caps.

## Opinions differ

A range of opinions have been expressed about the use of overseas offsets within Europe's emissions trading scheme. Proponents of the policy argue that it is economically rational for the EU to seek to address climate change at the lowest possible cost as it minimises any increase in the price of energy for consumers, therefore helping to prevent the policy from becoming unpopular. Lower costs, it is argued, also help to give decision-makers confidence in taking on tougher targets in the future. The influx of project development money into the developing world can also help to demonstrate the cheap solutions that exist and help to achieve technology transfer, increase employment, and promote sustainable development.

Those opposed to offsetting, however, point out that developing countries want technology transfer to take place in addition to action to reduce

emissions in Europe. They believe richer countries have an obligation to 'lead the way' in terms of demonstrating how a high carbon economy can be transformed to a low carbon economy. The fact that the use of project credits, through the Linking Directive, allows European industries to carry on emitting mitigates against this goal. Questions have also been raised about the quality of the projects that have qualified for credits. There have been concerns that projects are 'non-additional': they would have been enacted without European input and the emissions 'saved' are therefore not genuine. In addition, many of the projects that have been accredited produce profits that are so out of scale with the investment required to implement them that they do not represent value for money and solve problems that would be better addressed using other tools, such as regulation. Some projects may also have environmental and/or social impacts that outweigh the benefits of the emissions saved.

## Why we did this analysis

Sandbag has compiled a database linking the installations in the EU emissions trading scheme with the projects from which they have bought offset credits to try to bring some transparency to the debate surrounding the use of international offsets in the EU. This is to shed light on the offsetting process so that it is clear how the EU emissions trading scheme is working, how much offsetting is being used and by whom, and what projects are being funded in developing countries.

In providing this new publicly-available combined dataset we are seeking to provide information for all of those interested in the future workings of the carbon market, both its supporters and its critics.

Central to this process will be the development of a platform, in the form of a web-based interactive map, which illustrates the flow of investment from installations to overseas projects and the corresponding flow of certified emissions reductions (CER) credits from project to installations. This accompanying report into the use of offsetting in 2008 highlights the key findings that can be derived from this combined data set. This includes, for example, the source and type of credits being used for compliance and the flow of

<sup>1</sup> See Annex for table summarising restrictions created by Member States.

CERs between countries, the number and type of CERs surrendered by different installations and companies, and the use of offsetting in different industrial sectors in the EU trading scheme.

## Countering industry lobbying

By bringing the use of offsetting in the EU to life in this way we are also seeking to counter some of the current industrial lobbying which maintains that an increased emissions target for Europe would be impossible to achieve.

There is still a strong voice among industrial lobby groups that additional climate targets cannot be met. The Alliance for a Competitive European Industry (ACEI) has spoken out against the EU moving to a 30% emissions target. On the 21st Jan 2010 they wrote an open letter<sup>ii</sup> to the President of the European Council, Commission and Parliament urging them stick to the 20% emissions reduction target. ACEI based this position on a number of issues, in particular citing the failure of an international agreement on a legally binding deal has meant that there is a great deal of uncertainty in the carbon market. Strong opposition also came from individual companies, ENEL, Italy's largest utility, defiantly announced that "a 30 per cent reduction by 2020 would be physically impossible"<sup>iii</sup>.

We believe there is a misconception about how achievable a 30% target would be. The ETS has a considerable over-supply of permits<sup>iv</sup> amongst industrial participants and all will continue to be able to buy international permits, therefore a move to 30% emissions reduction target would be relatively easily achieved. It is certainly not 'physically impossible' since firms have generous access to overseas emissions reductions and the 2008 data shows they know how to access them.

The EU's emissions trading scheme is currently the single largest driving force in the international carbon market and even in the absence of a continuing international Kyoto-style agreement the EU has the power to act to ensure that access to offsetting continues, providing companies facing caps with a continuing supply of lower-cost permits. This fact is often overlooked in the debate about how ambitious the EU's climate targets should now be.

In this report we are seeking to highlight how participating installations have adapted to the ETS and are making use of, and benefiting from, the ability to offset their emissions.

## Issues of quality

No report on the use of offsetting can ignore the issue of the quality of the offsets being used. In the final section of this report we offer some views on this issue. The EU has already acted to tighten the rules set by the UN, which normally dictate the type of projects that can qualify for credits. The EU's Linking Directive<sup>v</sup> currently sets out a number of quality restrictions on CER types, excluding the use of CERs from nuclear and land use, land use change and forestry (LULUCF) projects. Hydroelectric projects over 20MW must also adhere to tighter rules.

Clearly the EU has the power to shape the future of the international carbon market and we hope that it will continue to do so in order that it can become ever more effective in achieving the goal of tackling climate change.

## Future development

We hope that this new information resource will develop over time and enable stakeholders in the EU's offsetting policy to add further information to the maps and reports. We would particularly like to hear from companies and groups with information about particular CDM projects that they may wish to add and from those interested in monitoring the actions of the offsetting installations and companies.

<sup>ii</sup> See [http://www.cembureau.be/sites/default/files/documents/2010-01-21\\_ACEI\\_open\\_letter\\_on\\_30%25\\_climate\\_change\\_objective.pdf](http://www.cembureau.be/sites/default/files/documents/2010-01-21_ACEI_open_letter_on_30%25_climate_change_objective.pdf)

<sup>iii</sup> See interview with ENEL Chief Executive in Financial Times. <http://www.ft.com/cms/s/0/a9bbfec8-e819-11de-8a02-00144feab49a.html>

<sup>iv</sup> See Sandbag Repot: EU ETS: S.O.S Why the Flagship Policy Needs Rescuing, July 2009, <http://sandbag.org.uk/documents>

<sup>v</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:338:0018:0018:EN:PDF>

# About this report

## Data sources

Data used in this report is taken from the UNFCCC<sup>vi</sup> and the EU community independent transaction log (CITL)<sup>vii</sup> websites. Data is made available at installation, sector and country level. We have with the help of Carbon Market Data<sup>viii</sup> and our own research, also added some company level information for the biggest users of offsets.

As part of the reporting process of the UN Clean Development Mechanism (CDM) projects are required to submit a substantial amount of documentation about their projects. This includes the project design documents and the verification reports which are freely available on the UNFCCC website. Likewise, all installations participating in the EU ETS are required to submit information about what type of permits they are using to comply with their caps which is made available via the CITL. Crucially, the CITL records all compliance information including project identifier numbers for all the CERs that were surrendered by installations. These numbers relate directly to the projects CDM numbers on the UNFCCC site.

Where these websites contain detailed information regarding CDM projects and the number of allowances surrendered by installation, this information, as far as we know, has not been brought together in a publicly available database. Sandbag has undertaken its own research aggregating the 2008 information from both sites to form this new unique consolidated data set.

In order to make information about project types more user-friendly, Sandbag has modified the standard UN CDM methodology types. For the most part we have used the UNFCCC methodology types as a means of categorising projects. Nevertheless, some of the UNFCCC sectoral scopes

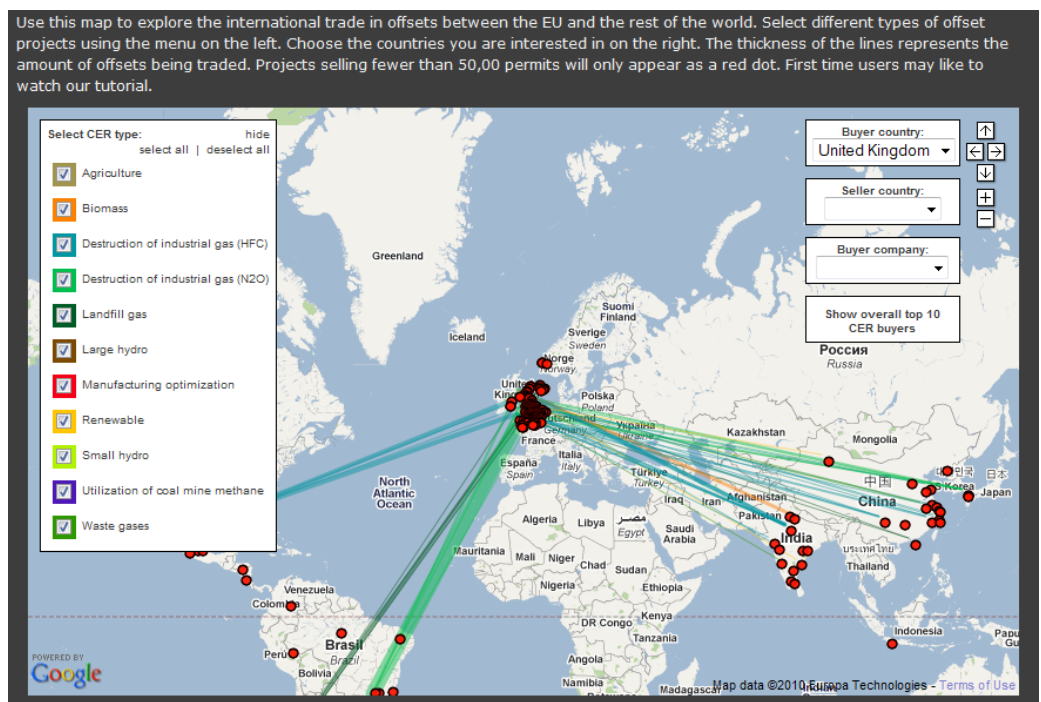
vi <http://www.unfccc.int>  
vii <http://ec.europa.eu/environment/ets/>  
viii <http://www.carbonmarketdata.com>








are at times too technical to be clear to the layperson, and they group a wide range of project types together that could be usefully disaggregated. To make the scope more accessible and digestible to the layperson, Sandbag has attributed each scope with a Sandbag descriptor, further adding sub categories for the project type 'Energy industries (renewable - / non renewable sources)', to provide a higher level of differentiation.

The table on the pages below shows the scopes of as set out by the UNFCCC including their designated number. Additional to this is the Sandbag descriptor, sub categories and number of CERs that have been surrendered from each sector. A short description has also been included.

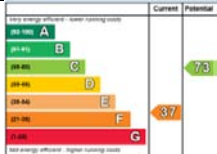






This report complements the launch of the Sandbag International Offset Map illustrating how CERs are being used in the EU emissions trading system.

To explore the map please visit: <http://sandbag.org.uk/offsetmap>.



UNFCCC Sectoral Scope	Scope Description	Sandbag Descriptor	Sub category	CERs	Picture	Explanation
1	Energy industries (renewable - / non renewable sources)	Energy industry - fuel switching	Biomass	1,276,440		Biomass projects use plant based materials and residues – such as wood chip, rice husks, bagasse and sawdust - for the generation of electricity and/or heat.
1	Energy industries (renewable - / non renewable sources)	Energy industry - renewables	Small Hydro	479,033		Hydro power refers the harnessing of energy through the interception of water flows. Small hydro projects are classified as those projects which generate less than 20MW of power.
1	Energy industries (renewable - / non renewable sources)	Energy industry - renewables	Large Hydro	408,932		Hydro power refers the harnessing of energy through the interception of water flows. Large hydro projects are classified as those projects which generate more than 20MW of power.
1	Energy industries (renewable - / non renewable sources)	Energy industry - renewables	Renewable	1,730,019		Renewable energy is the generation of electricity from sources that are naturally replenished, e.g. by harnessing geothermal sources, wind, sun or tidal movements.
1	Energy industries (renewable - / non renewable sources)	Energy industry	Waste Gases (flue gases)	5,573,331		The objective of these project is to capture waste gases from industrial processes such as steel-making and to utilise them in a new combined cycle power plant (CCPP) to generate electricity.
1	Energy industries (renewable - / non renewable sources)	Energy industry	Fuel Switch	94,940		Fuel switch projects involve changing from one carbon intensive fuel type to another less carbon intensive fuel type for example from oil to natural gas.
2	Energy distribution	Energy distribution	na	0		
3	Energy demand	Industrial Energy Efficiency	na	76,810		The main purpose of these projects is to achieve energy efficiency improvements through the reduction of steam consumption in boilers, thereby considerably reducing the fuel consumption.



4	Manufacturing industries	Manufacturing Energy Efficiency		776,907		These projects focus on reducing emissions from manufacturing. For example the reduction of clinker content in cement manufacturing which reduces direct onsite emissions and offsite emissions
5	Chemical industries	Destruction of Industrial Gas (N2O)	na	18,269,628		N2O is produced as a by-product of the manufacture of Adipic acid which is used primarily as the main constituent of nylon. For example through the installation of a dedicated facility to convert at high temperatures the nitrous oxide into nitrogen.
6	Construction	Construction	na	0		
7	Transport	Transport	na	0		
8	Mining/mineral production	Utilization of coal mine methane	na	112,916		The purpose of these projects is to capture and utilise coal mine methane. Typically projects extract methane directly from coal mines to be burnt to generate power.
9	Metal production	Metal production	na	0		
10	Fugitive emissions from fuels (solid, oil and gas)	Gas Recovery and Utilization (Flaring)	na	1,026,692		The purpose of these projects is to recover and utilise gases produced as a by-product of oil production activities which would have otherwise been flared.
11	Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	Destruction of Industrial Gas (HFC)	na	50,149,930		HFC23, a powerful greenhouse gas, is generated as a by-product in the production of HFC22 (commonly used in air conditioning / refrigeration units). Projects ensure the thermal destruction of HFC23 gases.
12	Solvents use	Solvents	na	0		
13	Waste handling and disposal	Landfill Gas	na	1,243,707		The purpose of these projects is to capture and burn methane produced from landfill sites.
15	Agriculture	Agriculture	na	334,017		These projects mitigate emissions by developing more effective animal waste management systems. Including through the capture of methane from agricultural waste which can then be burnt to produce heat and/or power.
<b>Grand Total</b>				<b>81,553,302</b>		

# What the new data enables us to discover

Combining CDM project data with data about those participating in the EU Emissions Trading scheme enables us to look at a number of different aspects of international offsetting. Below we present some key findings looking at the data from an installation, company, sector and country level.

## A. Installation level analysis

The EU ETS is most easily analysed at the level of installations and we can therefore easily trace what type of projects credits have been bought by installations. The table below shows the top 10 biggest users of international offsets in 2008.

Plant Name	Country	Location	Company	Total CERs	% of total CERs	% of plants total emissions[1]
Integriertes Hüttenwerk Duisburg	Germany	Duisburg	Thyssenkrupp	4,984,978	6	56
ES121501000743	Spain	As Pontes de García Rodríguez	Endesa	2,198,586	3	31.3
ES024401000184	Spain	Andorra (Teruel)	Endesa	1,847,240	2	39.2
ES062401000342	Spain	Cubillos del Sil (León)	Endesa	1,724,381	2	29
14220-0016	Germany	Duisburg	Hüttenwerke Krupp Mannesmann	1,720,000	2	37
ES010401000044	Spain	Carboneras (Almería)	Endesa	1,341,822	2	26.9
ELEKTROWNIA TURÓW	Poland	Bogatynia	Polska Grupa Energetyczna	1,115,864	1	8.7
ES130701000797	Spain	Alcudia (Islas Baleares)	Endesa	940,549	1	29.1
LA SNET - Centrale de Provence	France	Meyreuil	E.ON / Société Nationale d'Électricité	862,324	1	32.2
ES062401000351	Spain	La Robla (León)	Gas Natural / Union Fenosa	836,223	1	31.2
<b>Total</b>	n/a	n/a	n/a	17,571,967	n/a	n/a
<b>Total CERs in 2008</b>	<b>81,553,302.00</b>					

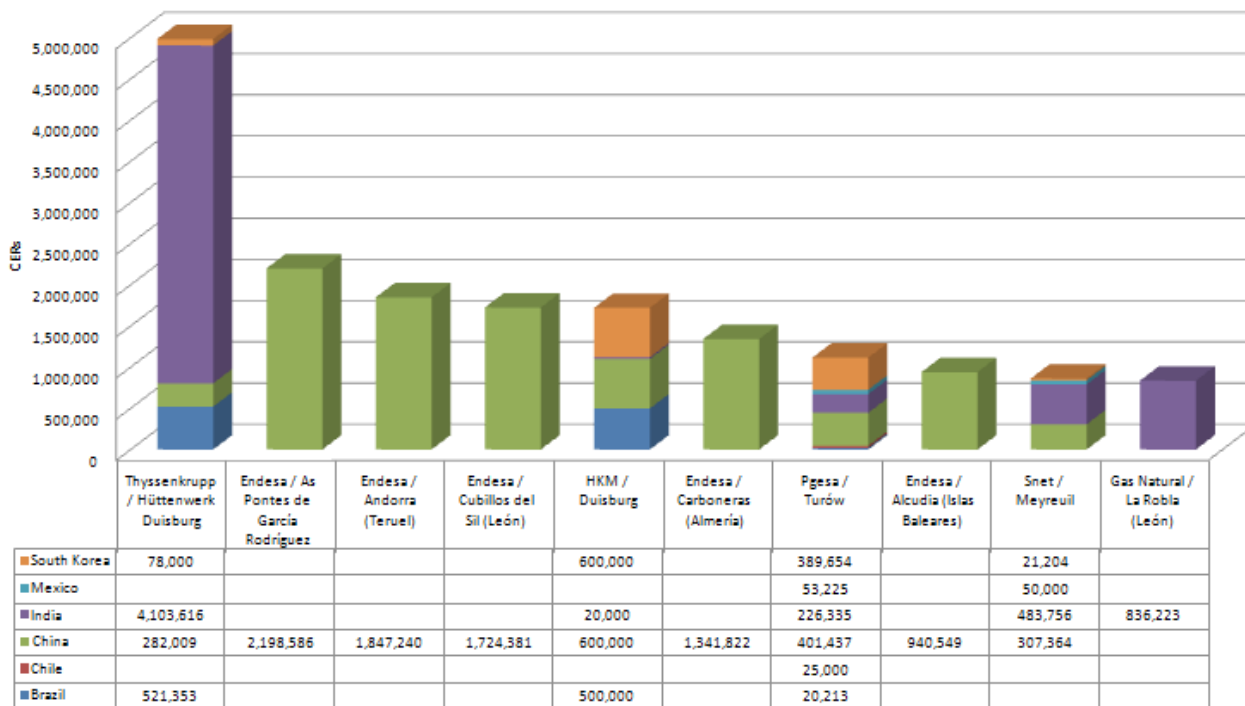
[1] Calculated using total verified emissions as submitted to the CITL registry.

For the first time in addition to knowing how many CERs installations used we are now able to easily analyse where they originated from both in terms of country of origin and project type.

Chart 1 below shows the different volumes of credits bought from different countries by the top 10 installations. Chart 2 on the next page shows the same information in more detail revealing the type of project credits and country of origin. A more detailed breakdown is also provided in Annex 2.

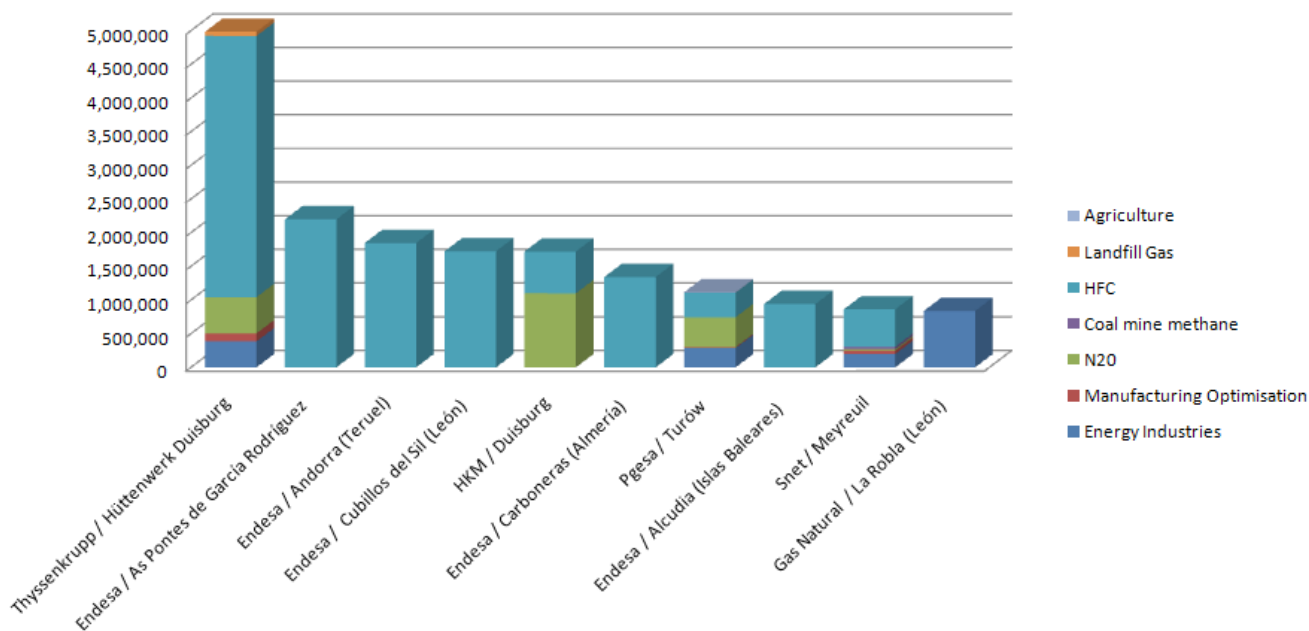
**Chart 1**

**Origins of top 10 CER buyers**



**Chart 2**

**CER origin top 10 installations**

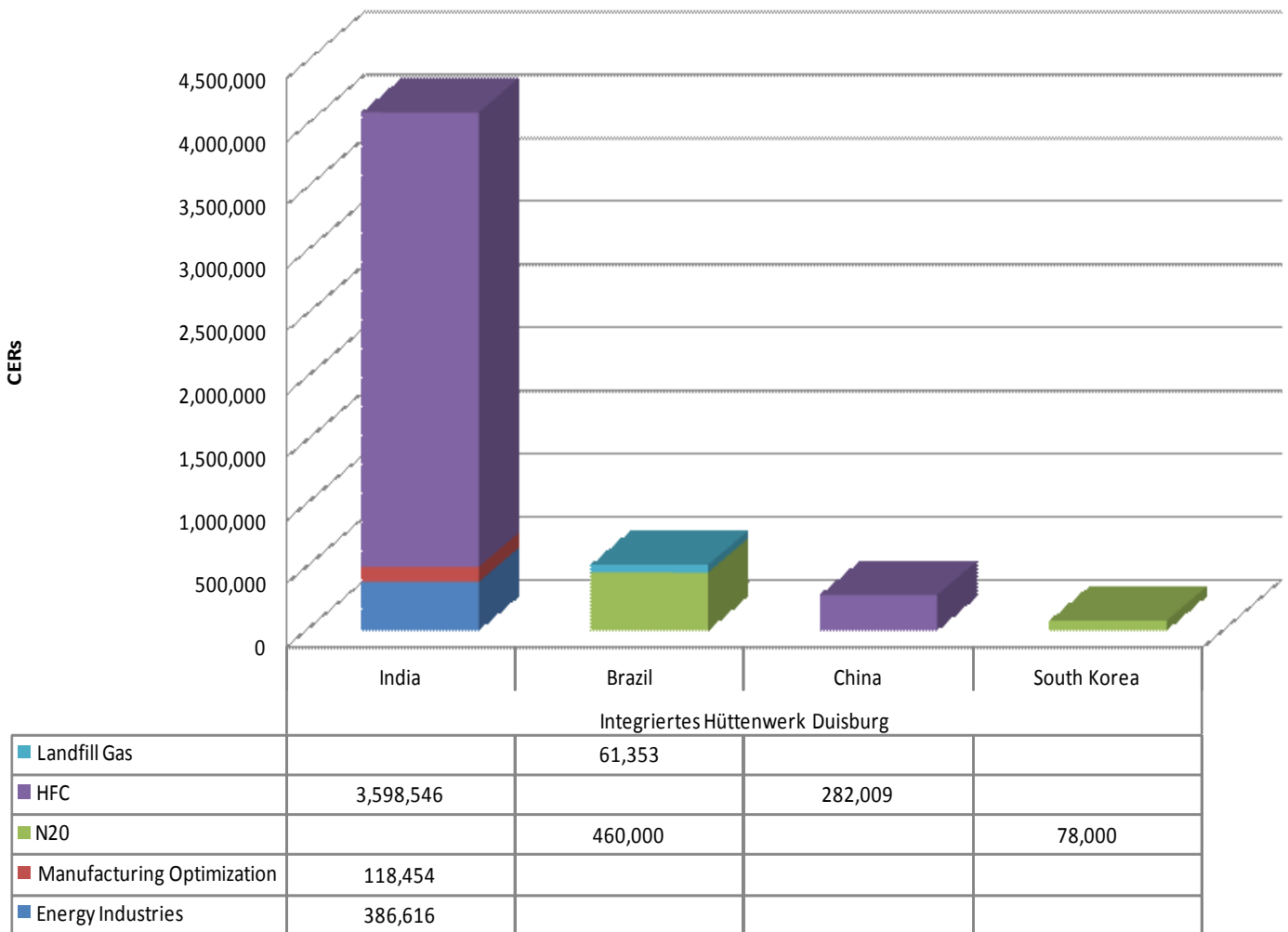


## Duisburg case study

The ThyssenKrupp plant, Integriertes Hüttenwerk Duisburg is the single biggest user of CERs for compliance in the ETS. Of the 8,855,305 permits surrendered by the plant in 2008, 4,984,978 of those permits were made up of CERs (56.3%). Chart 3 gives a full breakdown of the origins of the CERs bought by the plant, including country and project type. The overwhelming majority of CERs originated from HFC projects in India.

Chart 3

### Origin of Duisburg's CERs



## B. Company level analysis

It is less easy to undertake analysis at a company level since the quality of information provided is very variable and often company ownership details are incomplete. In addition there is no requirement for companies to provide details of parent company ownership. We are grateful for the co-operation of Carbon Market Data<sup>ix</sup> who have compiled company level ownership data enabling us to build up a picture of the top offsetting companies.

Top 20 companies surrendering CERs in 2008				
Company	Sector	Installation count	Surrendered CERs for 2008 compliance	% CERs surrendered by company
Endesa [1]	Power & Heat	38	11,180,530	25.16%
Enel/Endesa [1]	Power & Heat	78	9,546,242	12.41%
ThyssenKrupp	Iron & Steel	19	5,966,872	29.63%
E.ON	Power & Heat	268	2,908,048	2.70%
Union Fenosa	Power & Heat	16	2,758,528	19.79%
Edison	Power & Heat	34	2,483,207	8.96%
EDF	Power & Heat	527	2,240,038	3.29%
EnBW	Power & Heat	24	2,172,173	12.91%
GDF SUEZ	Power & Heat	232	2,096,218	4.87%
PGE - Polska Grupa Energetyczna	Power & Heat	9	2,032,376	3.47%
Corus	Iron & Steel	13	2,025,000	7.50%
Unelco	Power & Heat	9	1,854,320	28.75%
HKM - Hüttenwerke Krupp Mannesmann	Iron & Steel	1	1,720,000	36.99%
EDP	Power & Heat	26	1,385,388	6.75%
BP	Oil & Gas	52	1,381,062	9.07%
Cemex	Cement & Lime	19	1,317,640	11.82%
Holcim	Cement & Lime	27	1,212,726	8.56%
Ruhr Oel	Oil & Gas	13	1,207,948	16.10%
Gas Natural	Oil & Gas	7	1,197,324	18.90%
Vattenfall	Power & Heat	138	1,173,354	1.37%

[1] Please note that these figures should not be added together. Where companies are majority share holders of other companies there is potential double counting of the number and % of offsets listed. For example, 100% of Endesa's offsetting is listed separately, however, the ENEL/Endesa figure below also includes 67% of Endesa's offsetting, which corresponds to ENEL's ownership stake in Endesa.

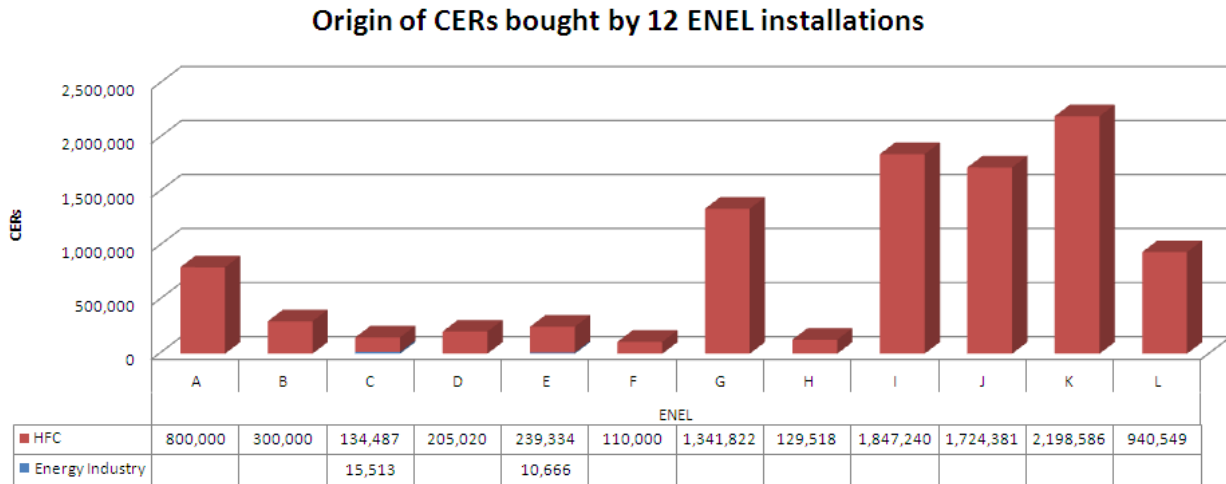
<sup>ix</sup> <http://www.carbonmarketdata.com>

## ENEL case study:

ENEL, who are majority stakeholders in Endesa, were the biggest user of CERs for compliance in 2008. We have been able to identify 12 ENEL plants who are major users of CERs.

Of the installations which bought international permits, 99.7% of these CERs originated from Chinese HFC projects, with only a tiny proportion, 0.3% originating from a Chinese wind project. Figure 3 shows the full breakdown of these purchases. As a means of saving space in the table, the installation name is referred to as a letter; a key containing the full name is available below in figure 4.

Chart 4



Code	Installation Name
A	CENTRALE TERMOELETTRICA DI BRINDISI SUD
B	CENTRALE TERMOELETTRICA DI FUSINA
C	CENTRALE TERMOELETTRICA DI LA CASELLA
D	CENTRALE TERMOELETTRICA DI LA SPEZIA
E	CENTRALE TERMOELETTRICA DI MONTALTO DI CASTRO
F	CENTRALE TERMOELETTRICA DI TERMINI IMERESE
G	ES010401000044 - Endesa / Carboneras (Almería)
H	ES012101000048 - Endesa / Huelva (Huelva)
I	ES024401000184 - Endesa / Andorra (Teruel)
J	ES062401000342 - Endesa / Cubillos del Sil (León)
K	ES121501000743 - Endesa / As Pontes de García Rodríguez
L	ES130701000797 - Endesa / Alcudia (Islas Baleares)

## C. Sector level analysis

### 1. Offsetting countries

Installations in the EU ETS are grouped according to different sector types. These are not extensive in their break down but they do enable a crude analysis of how different industrial sectors are engaging with international offsetting.

Chart 5

## % CERs bought per EU sector

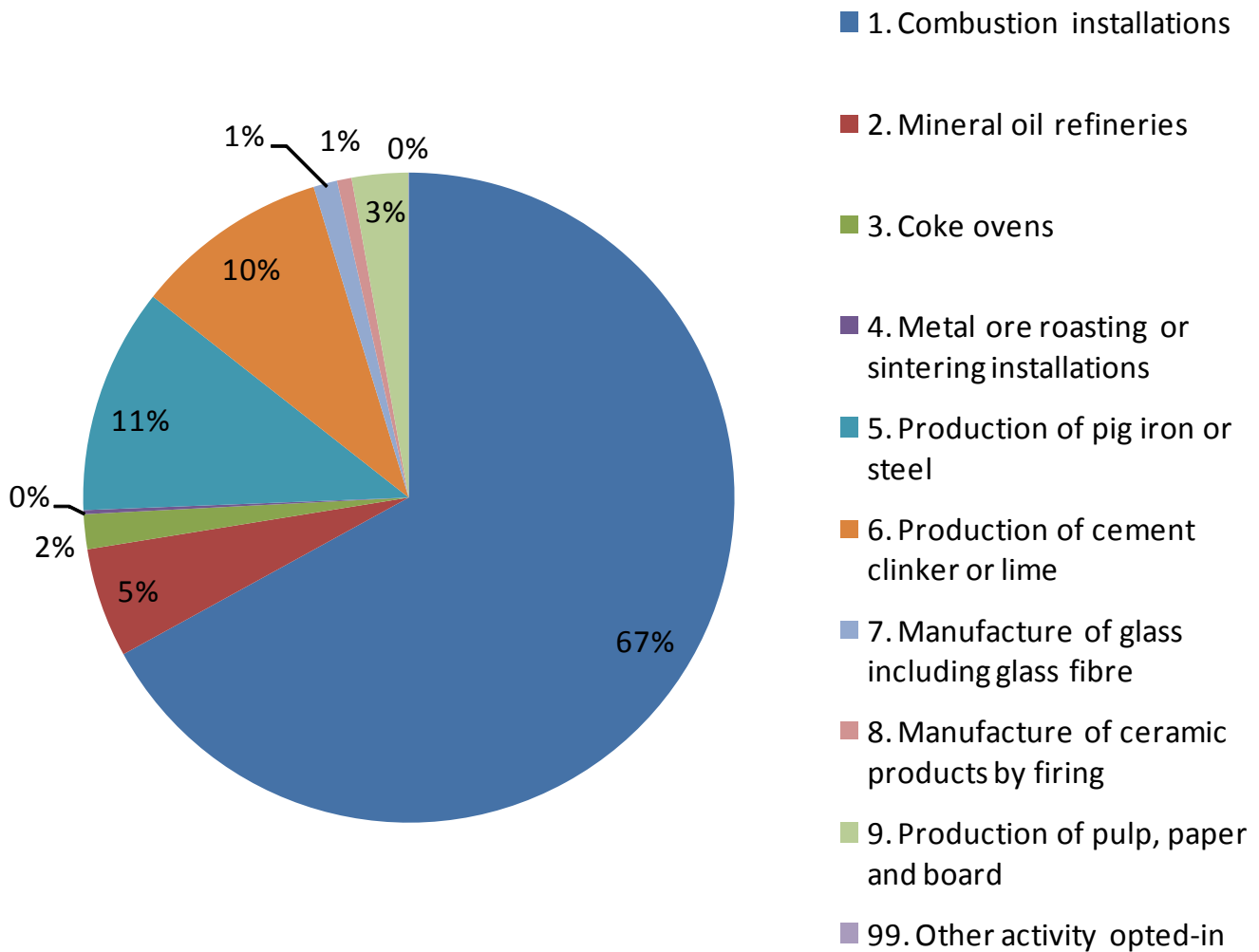


Chart 5 shows the breakdown of European sectors that are using CERs for compliance. According to the CITL, there are 10 industry sectors and can be seen in the chart above, each sector is relatively self explanatory, sector 99 is a miscellaneous category which is used for opted-in installations included in the system.

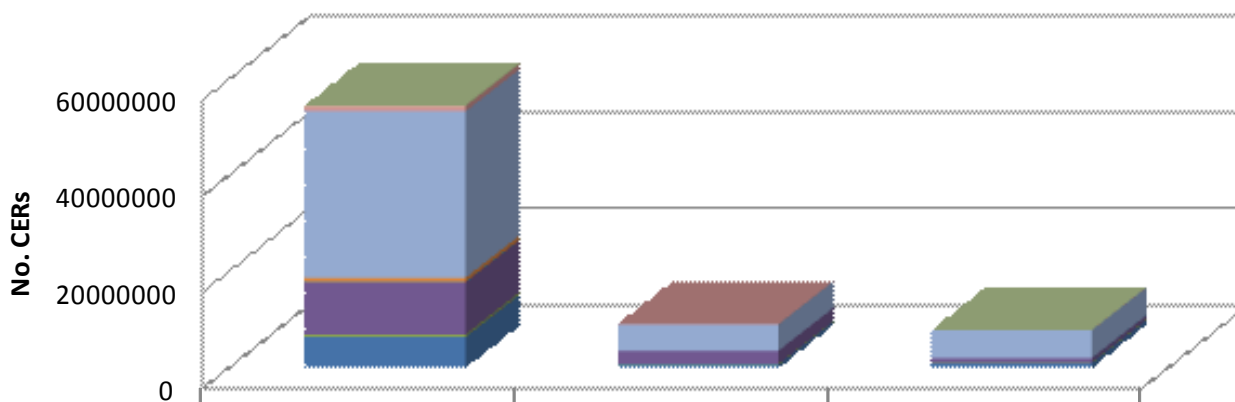
As shown in the chart above combustion installations or power generation is overwhelmingly the biggest user of CERs accounting for 67% of all surrendered CERs. 11% of CERs surrendered were done so by the Iron and steel sector, this is despite evidence to suggest that many steel firms are currently enjoying substantial over-allocations of permits compared to emissions<sup>x</sup>. This would imply that they are swapping cheaper CERs in order to either sell or bank the more valuable EUA allowances they currently receive for free.

The chart below takes a further look at the top three European sectors using CERs, it breaks down the purchases according to types of projects the CERs have originated from.

<sup>x</sup> See Sandbag Report: Carbon Rich List, March 2010, [http://www.sandbag.org.uk/files/sandbag.org.uk/carbon\\_fat\\_cats\\_march2010.pdf](http://www.sandbag.org.uk/files/sandbag.org.uk/carbon_fat_cats_march2010.pdf)

Chart 6

## Origin of EU sectors CERs



	Combustion Installations	Production of pig iron or steel	Production of cement clinker or lime
■ Agriculture	163972	0	0
■ Landfill Gas	1095542	73448	49605
■ HFC	34640924	5486156	5760537
■ Gas Recovery (Flaring)	845947	0	0
■ Coal mine methane	80978	0	31938
■ N2O	10897188	2750069	901578
■ Manufacturing Optimization	444858	118454	121349
■ Steam optimization	38933	0	0
■ Energy industries	6432978	727456	1015607

## 2. Supplying countries

The types of projects that are generating credits for compliance can also be grouped according to 'sectoral' or project type definitions. As previously mentioned, this project type definition is based on the sectoral scopes as set out by the UNFCCC. Each project is assigned to a sectoral scope depending on the project methodology.

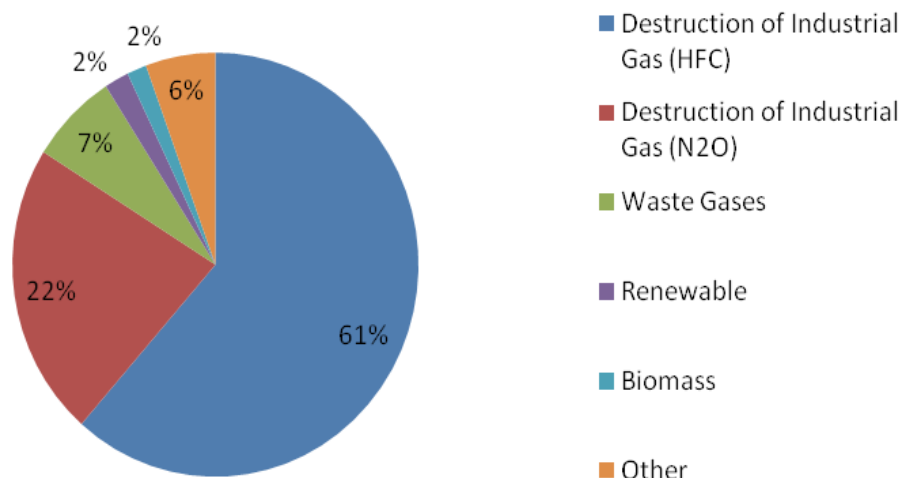
This is interesting in that it shows that under the current system there could be a substantial competitive distortion where companies in competitively traded markets such as the chemicals and iron and steel sectors are being required to buy permits while other companies in the same sector are receiving a subsidy for the permits they are able to sell. For example, Enel has signed a cooperation agreement with the Wuhan Iron & Steel Group for the acquisition of CERs originated through the implementation of five energy efficiency projects in China<sup>xi</sup>. This issue is something that the EU will need to carefully monitor as it considers the impact of emissions trading on competitiveness.

<sup>xi</sup> [http://www.enel.com/en-GB/doc/investor/auicap/offering\\_circular.pdf](http://www.enel.com/en-GB/doc/investor/auicap/offering_circular.pdf)  
 Agreements signed in China for the reduction of greenhouse gases on May 5, 2008.



## Chart 7

### % CERs from Sectoral Scope



Based on the UNFCCC sectoral scopes, it is possible to develop a clear picture of the type of CERs that are flowing into the ETS. The chart above shows that the overwhelming majority of CERs used originated from a limited number of project types, notably the destruction of the industrial Hydrofluorocarbons (HFCs). The second and third most popular source of CERs are also from industrial gas projects meaning that industrial gas CERs account for the majority of CERs entering the ETS. Only 4% of CERs used originated from renewable or biomass projects.

## D. Country level analysis

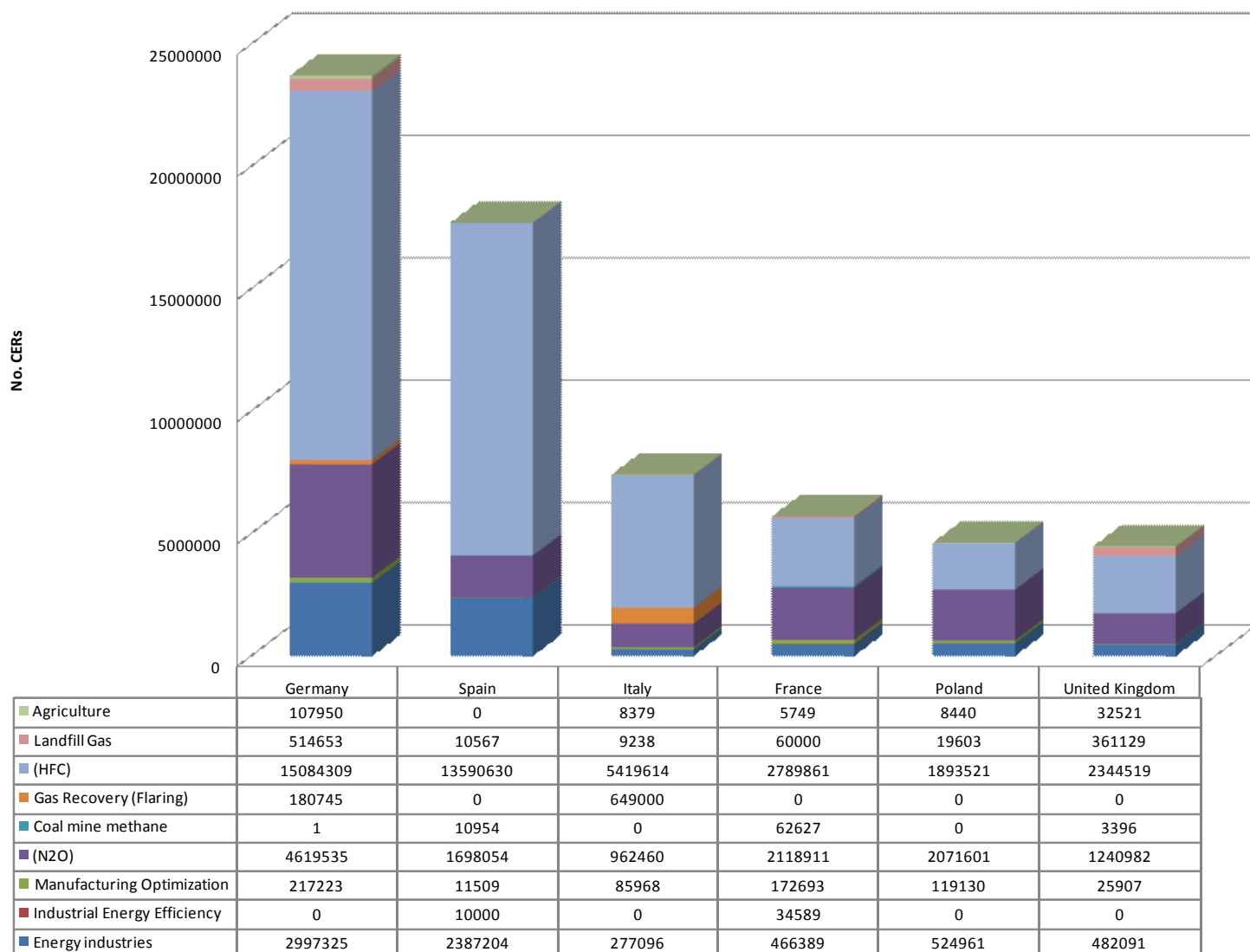
### 1. Top 6 offsetting countries:

The international carbon market is not equally distributed with some countries in Europe buying far more than others. There are various reasons for this including the overall ambition of the caps set in National Allocation Plans, the caps set on the use of offsets (detailed in Annex 1) and the range of policies that exist in a country to encourage investment in abatement at home rather than abroad.

Chart 8 on the following page illustrates the top six countries surrendering CERs in 2008 and the types of credits surrendered. The top 6 countries in terms of volume of CER use for compliance in the EU ETS are Germany, Spain, Italy, France, Poland and the UK.

Chart 8

### Origins of Top 6 buyers CERs



The table below shows the percentage of CERs surrendered for compliance in the top six countries.

Country	Total surrendered permits	Total EUAs M/tons	Total CERs M/tons	% total made up of CERs
Germany	475,029,289	451,307,548	23,721,741	5
Spain	165,319,492	147,600,574	17,718,918	11
Italy	220,590,944	213,179,189	7,411,755	3
France	121,483,595	115,772,776	5,710,819	5
Poland	204,165,410	199,528,154	4,637,256	2
UK	265,500,731	261,010,186	4,490,545	2

## 2. Top supplying countries

As illustrated above, just as the buying of permits is not evenly distributed amongst countries the supplying is also largely concentrated in a few countries.

Chart 9 shows that the overwhelming majority of CERs that entered the ETS originated from a small number of countries, notably China, India and South Korea. Note the numbers from 1 – 15, relate to the UNFCCC sector codes, a detailed description of these sectors can be found in the table on pages 8 and 9.

Chart 9

Project types Vs host country

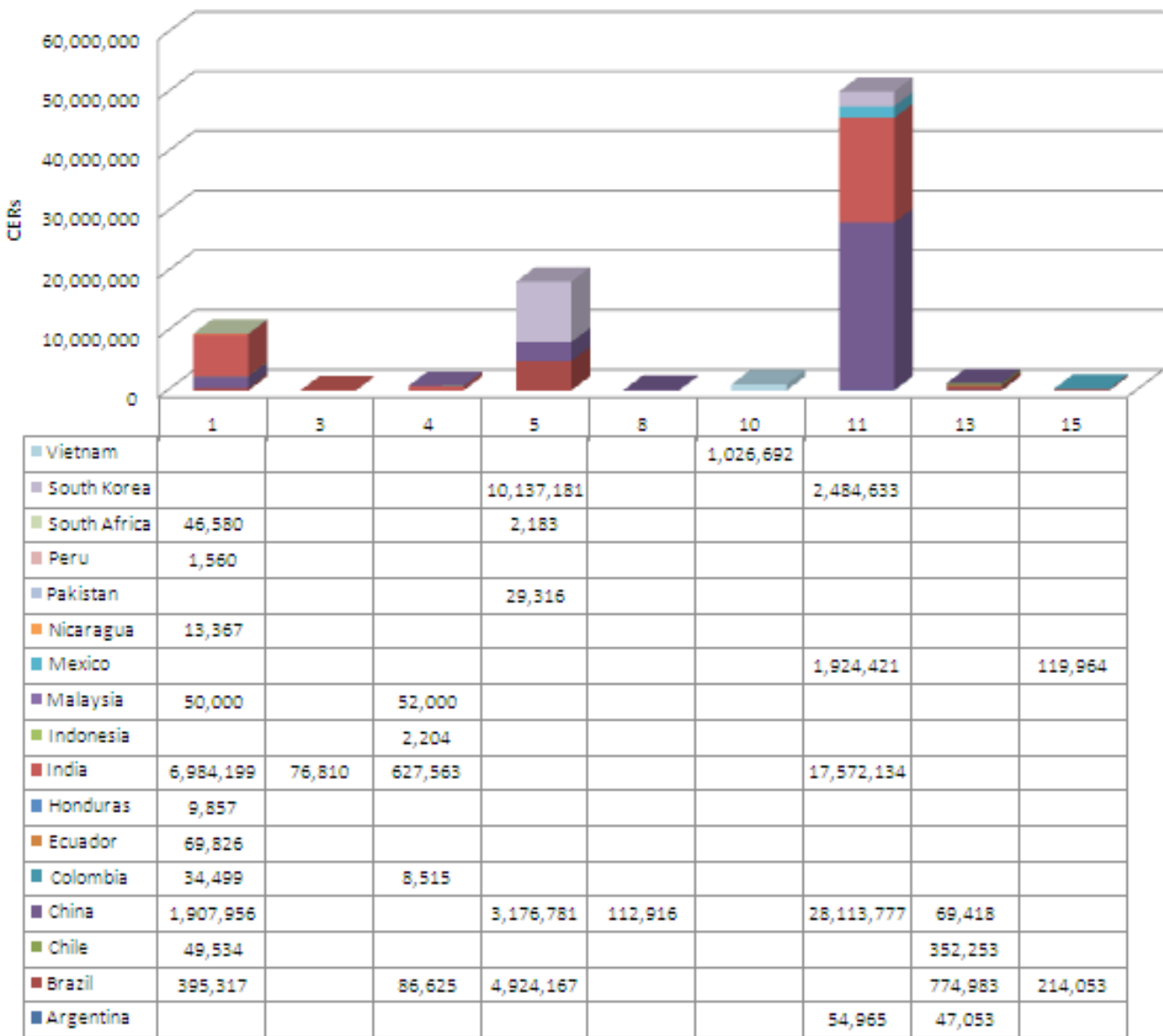
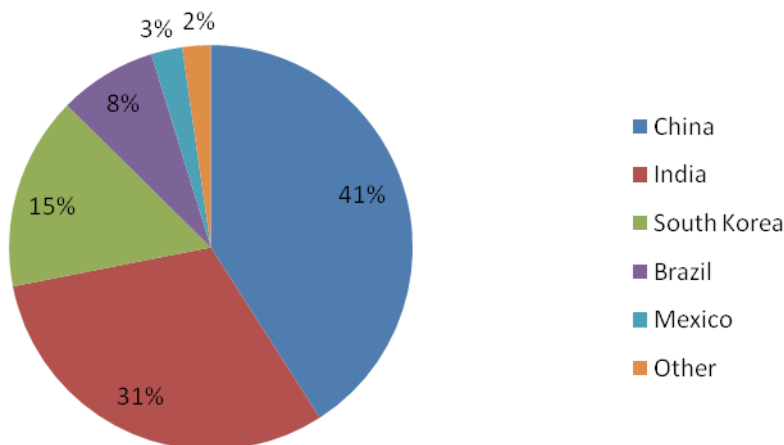


Chart 10 below breaks down the type and country of origin of CERs surrendered in 2008. Project types 11 (HFC destruction), 5 (N2O destruction) and 1 (energy industry projects) clearly dominate the types of projects being used for compliance.

Chart 10 % CERs surrendered 2008



# Observations and recommendations

## Just the beginning

International offsetting is a complex policy area. We do not profess to have all the answers to the questions that may arise from exploring this data, however, we firmly believe that making information available can only help to improve our collective understanding and raise the standard of debate.

We believe the principle of supply chain transparency is important. Especially since many of the big users of credits are power companies whose revenues are coming in part from European citizens. We hope that by making this information publicly available we can help to encourage offsetters to be more interested in the sources of the credits they are purchasing. While public pressure has led to much greater interest in the ethical and environmental impacts of buying choices in many sectors it seems odd that there should be no similar accountability and pressure applied in the one market whose sole existence is intended to deliver environmental gain.

We would like the publication of this report and associated on-line map to mark the beginning of a new degree of public engagement in the workings of the international carbon market and for that, ultimately, to lead to a more effective policy. We would be delighted to hear from all those who might be interested in helping us to improve this resource.

## Buying patterns revealed

This information provides a snapshot of how international offsetting is being used in the EU to comply with legally-binding caps on emissions. The data used is for 2008. In a few weeks new data relating to use of offsets in 2009 will be made available and we will be able to redo our assessments.

The data set we have combined enables us to explore the pattern of buying that installations and companies are exhibiting since we can explore exactly what is being bought and where from. Previous assessments of the ownership of credits has been limited to those who invest in projects to bring credits to market<sup>xiii</sup>. Though interesting,

this does not indicate where the money for offset credits ultimately originates from. Unsurprisingly, the information shows evidence of widespread purchasing of the most easily available and cheapest credits: those generated from chemical factories in richer developing countries (chiefly HFC and N<sub>2</sub>O destruction projects in China and India). These made up over 60% the offset compliance permits in 2008.

Although the profits from these type of projects have been criticised for being excessively large<sup>xiii</sup>, it is also true that there is currently no regulation in place that would otherwise prevent these emissions from occurring. It should also be noted that over time the availability of new sources of cheaper permits from quick, low-cost changes to chemical processes has reduced and they are no longer the dominant type of project in the CDM pipeline, however, they still exist in such large volumes that they are likely to continue to be used for compliance for some years to come.

There is also evidence of buying of more 'charismatic' projects such as renewable energy schemes. These projects can be seen by some commentators as less controversial than chemical projects in that they demonstrate how clean technologies can be successfully deployed in countries where inward investment in such projects has historically been low. However, these projects are controversial in another respect since there are question marks over the degree to which they are 'additional', especially where they originate in countries which already have their own policies to encourage renewables. Investment via the CDM could therefore be seen as displacing investment that would have happened anyway in response to the domestic policy signal.

Interestingly, when we looked at buying patterns of some companies we see some evidence of what appears to be an attempt to add a 'green tinge' to what might otherwise be seen as purely least-cost compliance buying. One company in particular, power company ENEL, owning plant in Italy and Spain, used an interesting mix of 99.7% credits from HFC chemical plant projects in China projects and 0.3% from a wind farm also in China.

<sup>xii</sup> A breakdown on CDM developers can be found on [www.cdmpipeline.org/](http://www.cdmpipeline.org/)

<sup>xiii</sup> Wara, M and Victor, D (2008) A Realistic Policy on International Carbon Offsets. Program on Energy and Sustainable Development, Stanford University—Working Paper 74.

## Controlling the future quality of credits

The issues surrounding the quality of offset credits are complex. The goals of the Kyoto mechanisms are to create a cost-effective form of compliance for capped countries, as well as to encourage flows of investment, the transfer of technology and to promote sustainable development in the region where the project is based. Project developers wishing to be accredited under the CDM must follow the rules set by the UNFCCC. They must meet mandatory standards, show proof of additionality and be certified by third party verifiers.

However, the process of assessing whether projects meet all these criteria is not straightforward and is vulnerable to a certain degree of subjective decision making.

Concerns over the quality of offset credits being generated under this system spurred WWF to set up a separate accreditation mechanism known as the 'Gold Standard'. This applies far stricter criteria for assessing projects than the UN and operates a positive list of project types, currently restricted to renewables and end-use energy efficiency projects. As a result only a small proportion of CERs attain the 'Gold Standard'<sup>xiv</sup>.

The EU also added its own stricter criteria for assessing which projects qualify for use in the EU trading scheme ruling out credits from land use change and forestry and applying tighter requirements to large scale hydro schemes.

The risk that new policy will change the type of projects qualifying for compliance may lead to the discounting of projects seen as vulnerable to changes. The debate about the quality of credits can therefore affect the market and ultimately the wider environmental and social impacts of the scheme. Groups like CDM Watch exist as effective watchdogs over the quality of offsets<sup>xv</sup>.

The destruction of industrial gases has become something of a cause célèbre in the discourse surrounding 'bad' credits. These debates tend to focus on hydrofluorocarbon (HFC) destruction projects which, produce vast numbers of credits, requiring little technology transfer, and have negligible sustainability benefits for the local area. Such accusations prompt a complicated debate, it is clear that these projects do little in the way of technology transfer and increasing sustainable development benefits, nevertheless, they are

<sup>xiv</sup> As of 2009 only ten out of 1626 registered CDM projects were Gold Standard projects, representing a market share of 0.6%. Source: Wuppertal Institute Report, CDM Post 2012, February 2010.

<sup>xv</sup> CDM Watch are very critical in particular of HFC and N2O projects which they claim have generated perverse incentives, windfall profits and carbon leakage.

successfully removing a powerful greenhouse gas - HFC gases are 11,700 times more polluting than carbon dioxide - from entering the atmosphere. From a market perspective, HFC credits are ideal, the initial investment is low, the methodology is approved, the project is simple to implement and it produces a huge number of CERs. Since there are no international regulations or domestic policies to control their release the additionality of the reductions is also easy to demonstrate.

However, there is a growing concern amongst the political and NGO communities, that the use of such credits should no longer be acceptable; that the EU and businesses should be striving for the highest environmental standards rather than the minimum level of compliance. It is clear that these gases need to be prevented from entering the atmosphere, what remains in question is whether the CDM is the correct mechanism for achieving this. Straight regulation at either an international or domestically could be a much more effective solution.

**The EU has an opportunity to change the rules governing the quality of credits used for compliance ahead of the next phase of trading beginning in 2013. The exclusion of more classes of projects should be considered as well as the adoption of more standardised procedures for the proper assessment of the sustainable development impacts of projects<sup>xvi</sup>.**

## Are offsets supplemental to domestic effort?

The ability of European businesses to use CERs as an offsetting tool ultimately allows them to pay for reductions outside of Europe while continuing to emit at home. This is justified as a way of ensuring the EU is able to meet its climate targets without incurring excessive costs since in the science of climate change it does not matter where in the globe emissions reductions are attained, the overall effect is the same.

However, a balance needs to be struck to ensure that the use of trading is 'supplemental' to domestic effort to reduce emissions. If the only investments being made are in projects to reduce emissions outside Europe, it would fail to meet developing country expectations that richer countries should decarbonise their own economies. It would also negatively impact on Europe's competitiveness by diverting investment away from projects to increase the efficiency of European industry or

<sup>xvi</sup> See briefing: 'CDM Post 2012', Wuppertal Institute, Feb 2010, for a detailed assessment of options for improving assessment criteria at an international and EU level.

to decrease reliance on fossil fuels. In the future Europe may also lose out on future revenues from exportable low carbon technologies and solutions.

The EU's climate targets are for the period 2008-12 it is therefore difficult to make any assessment of the degree to which offsetting is 'supplemental' from a single year of data, especially since and banking and borrowing of offsets is allowed by most countries<sup>xvii</sup>. However, this issue will need careful monitoring. As the information above shows, at an installation and company level some participants are exhibiting very high levels of offsetting. If the principle of trading being 'supplemental' to action at home were to be applied in these cases, companies would have to meet very high overall levels of actual reductions in their own emissions to match their use of offsetting. However, the only rules that currently apply at the level of participants in the EU ETS are that the number of CERs submitted must be within the limits set in the National Allocation Plans. Careful monitoring will need to take place to ensure these limits are not breached.

On the positive side, evidence of high levels of offsetting amongst different sectors and companies participating in the EU ETS, many of who have been very vocal in opposing more ambitious targets in Europe, demonstrates that participants in the EU ETS have quickly adapted to the trading scheme and taken up the measures available to them to reduce costs of compliance. This should give policy makers increased confidence that tighter targets could be achieved. Regardless of the exaggerated claims of some lobbyists.

Much of the reduction in emissions achieved recently in European industrial sectors has arisen as a result of the economic recession – the degree to which this represents 'effort' to decarbonise is highly questionable. Because of the recession there is very real potential for the caps in this current phase to be left higher than actual emissions (ie total supply of permits will outstrip demand). In this scenario it is hard to see how any offsetting can be 'supplemental' to a level of 'effort' that is non-existent and a review of the limits set would seem appropriate. If the only actions taking place in Europe are reductions arising from the recession, savings from other policies (ie renewables targets) and offsetting, then it is hard to see how arguments that the EU ETS represents good value for money, and that tackling climate change will boost economic growth in Europe, can be

sustained in the long term.

**To guarantee that the principle of supplementarity is upheld and to ensure low carbon investment continues to flow into Europe, as well as into international offsetting projects, the EU should consider taking on tighter overall targets and tighter limits on the use of offsetting, especially for sectors not subject to stringent CO2 cuts. It must also carefully monitor offsetting in this phase to ensure compliance with the limits that have been set.**

## Views on future countries of origin of CERs

The use of international offsets can be understood as a subsidy. The EU, through purchasing CERs, subsidises the use of clean technologies in developing countries in return for being able to continue emitting. Some may argue that maintaining this kind of subsidy is no longer justified since richer developing countries have themselves indicated that they do not need money from developed countries in order to tackle climate change and have already moved to introduce emissions reduction targets and domestic policies.

It may be argued therefore that the EU should lead the way in supporting and promoting only the most beneficial offsetting projects. These might be projects to deliver emissions reductions in vulnerable and least developed countries (LDCs) where questions of additionality are much less complicated.

This would also help to address the potential competitiveness distortions that arise in internationally-traded sectors, where, for example, a steel firm in Eastern Europe may be faced with a cap on its emissions while other companies in Europe are paying for a competing steel plant in China to generate credits by becoming more efficient. This is occurring under current EU ETS rules but may increasingly be questioned as Europe increases its efforts to tackle climate change.

The fast developing economies of China, India, Brazil and South Africa were able to take advantage of the CDM during its early development. Perhaps now it is time for those countries to step back and allow this much needed subsidy to flow to those countries in greatest need of investment.

**The definition of a qualifying projects should in future not only refer to the project type but also increasingly to the country of origin.**

<sup>xvii</sup> See Annex 1

## ANNEX 1

Table Showing Summary of CDM/JI limits in EU ETS National Allocation Plans for Phase II

Member State	Annual Cap 2008-2012 in MMt CO2e	Annual JI/CDM limit in %	Annual JI/CDM limit in MMt CO2e	Banking/Borrowing	Region/Sector differentiation
Austria	30.7	10	3.1	Yes/yes	
Belgium	58.5	8.4	4.9	-	Yes
Bulgaria	42.3	12.6	5.3	Yes/yes	
Cyprus	5.48	10	0.5	Yes/yes	
Czech Rep.	86.8	10	8.7	Yes/yes	
Denmark	24.5	17	4.2	Yes/yes	Yes
Estonia	12.72	0	0.0	No/no	
Finland	37.6	10	3.8	Yes/Yes	Yes
France	132.8	13.5	17.9	Yes/Yes	
Germany	453.1	22	99.7	Yes/Yes	
Greece	69.1	9	6.2	Yes/Yes	
Hungary	26.9	10	2.7	No until end 09/No	
Ireland	22.3	10	2.2	Yes/Yes	Yes
Italy	195.8	15	29.4	Yes/no	Yes
Latvia	3.43	10	0.3	Yes/Yes	
Lichtenstein		8		Yes/Yes	
Lithuania	8.8	20	1.8	No/no	
Luxembourg	2.5	10	0.3	Yes/Yes	
Malta	2.1	10	0.2	Yes/Yes	
Netherlands	85.8	10	8.6	Yes/Yes	
Norway		13		Yes/No	
Poland	208.5	10	20.9	Yes/No	
Portugal	34.8	10	3.5	Yes/Yes	
Romania	75.9	10	7.6	Yes/Yes	
Slovakia	30.9	7	2.2	Yes/Yes	
Slovenia	8.3	15.8	1.3	Yes/Yes	
Spain	152.3	20.6	31.4	Yes/No	Yes
Sweden	22.8	10	2.3	Yes/Yes	Yes
UK	246.2	8	19.7	Yes/No	Yes
<b>Total</b>	2080.93	-	288.7		

In the table above the "banking" and "borrowing" of CERs/ERUs refer to the intra-period annual banking/borrowing. Regional/Sectoral differentiation refers to the presence of disaggregated limits on CER/ERU use according to sector type or region within the country.

### Sources:

#### 1. Carbon Offset Research (SEI)

<http://www.co2offsetresearch.org/policy/EUETS.html>

Values calculated based on emissions cap and JI/CDM % limit.

Source: European Commission, 2007a

#### 2. Deutsche Bank – information compiled from Member State NAPs

NB Sources differ for % annual limit for Germany and Spain value in table is Deutsche Bank's.

## Annex 2

### Detailed breakdown of Top Ten Installations

Top 10 Installation  
CER origin

