

## Effort sharing, enhanced flexibility and low-carbon transformation: a new proposal for non-ETS sectors in the post-2020 period.

While the EU ETS tends to get the headlines in the debate on the 2030 energy-climate package, in 2012 non-ETS sectors accounted for 60% of EU emissions. These sectors are important to the transition to a low-carbon economy and cover emissions from energy use in buildings, agriculture, transport, light industry and waste. Thus, last October, the European Council set a goal of reducing emissions in non-ETS by 30% by 2030 (vs. 2005 levels).

In the 2020 Climate Package, non-ETS sectors are treated by the EU's "Effort Sharing Decision" or ESD. For reasons of fairness, the ESD assigns reduction targets to Member States based on their relative GDP/capita levels. As such countries like Luxembourg and Ireland have the biggest reductions to make, while lower-income Member States are often required to do little.

Thus, the post-2020 policy tool-kit for non-ETS sectors must do three things. First, it must ensure that all Member States reduce emissions in these sectors. Transformation towards a low-carbon European economy by 2050 cannot succeed unless all Member States are well engaged before 2030. Second, it will need to reflect EU's Member States widely varying financial capacities and policy priorities. Thirdly, the 2030 ESD must ensure that high-income Member States have an "insurance policy" to fall back on, in case the cost of meeting their targets domestically becomes prohibitive in the short term or if policies fail to deliver as expected.

The EU Council has thus called for "enhanced flexibility" in the post-2020 ESD. If well-designed, an enhanced flexibility mechanism could indeed help to address the three needs described above, (although other policies are also needed). However, a big improvement on previous mechanisms is required. Past experiments with flexibility mechanisms have suffered from risk aversion of seller governments who are in position to offer emission reductions, high transaction costs, economic nationalism and environmental integrity problems.

In a recent report, "Enhanced Flexibility in the 2030 ESD: issues and options"<sup>1</sup>, we outline a new proposal, based around the idea of a central clearinghouse for transformational projects (CCH). The CCH would collect the demand schedules of buyer Member States for non-ETS emissions reductions and meet this demand by issuing calls for tender directly to business or local governments with projects that reduce emissions in non-ETS sectors. Low-income Member States would stand to win these tenders given their greater potential for emission reduction opportunities in the ESD sectors. This would not only help spread effort more evenly in the EU, but would reflect fairness and capacity limitations as the CCH would pay for these projects using funds delivered from the buyer Member States.

This approach has several advantages. By limiting accepted project types to those of strategic importance for the low carbon transition – like deep energy efficiency retrofit, new agricultural practices, renewable heating, etc. – it would help to promote the European low carbon transition and drive much needed learning spill-overs in low income Member States. It would also provide a clear policy rationale for buyer governments, who will need to justify why they are investing abroad.

By centralising the approach in a single clearinghouse, market transparency and visibility of demand, supply and price would be improved. Transaction costs for developers and buyers could also be reduced. Finally, a single, centralised clearinghouse would enable greater protection for host Member States. This would be done by uniform rules ensuring that favourable crediting baselines were applied and by independent verification and payment of auditors. It is important that the EU meets its 2030 targets and that all Member States start decarbonising major non-ETS sectors. Our 2050 climate goals will not be achievable without it.

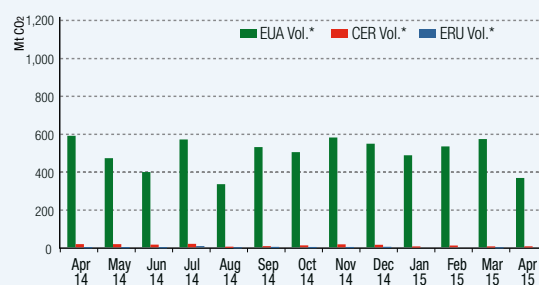
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1. <http://www.cdclimat.com/Enhanced-flexibility-in-the-EU-s.html?lang=en>.

## Key points

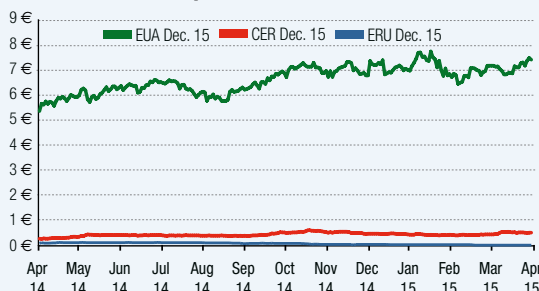
- **EU ETS – MSR timetable:** The second trilogue meeting between EU institutions took place on 5<sup>th</sup> May. An agreement was reached for the implementation of the MSR as from 2019, and a placement of backloaded as well as unused allowances straight into the reserve.
- **EU ETS – Carbon leakages:** The European Commission should propose measures to tackle carbon leakages issues in the six months following the adoption of the MSR.
- **EU ETS emissions:** Emissions under the EU ETS decreased by 4,4 % in 2014, and are yet below the 2020 cap of 1,816 MtCO<sub>2e</sub>.

### Trading volumes: EUA –35.96%, CER +6.31%



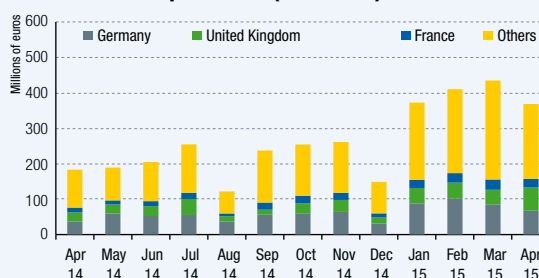
Source: CDC Climat Research calculation, based on data from EEX, ICE Futures Europe, NYMEX, Nasdaq OMX, and LCH Clearnet

### Dec 15 contract price: EUA +4.18%



Source: CDC Climat Research, ICE Futures Europe

### Monthly proceeds from Phase 3 auctions: 368.4 M€ in April 2015 (-15.27%)



Source: CDC Climat Research based on data from ICE Futures Europe, EEX

# Energy

## Primary energy prices and electricity prices

		Apr. 2015	
Coal	API # 2 CIF ARA (First month in USD/t)	59.2 ▼	
Natural gas	NBP (spot in €/MWh)	22.2 ▼	
	TTF (spot in €/MWh)	22.1 ▲	
Crude oil	Brent (First month in USD/b)	61.0 ▲	
Electricity	Germany (€/MWh)	Spot	32.5 ▼
		Calendar	32.0 ▼
	United Kingdom (€/MWh)	Spot	60.8 ▲
		Next summer	60.1 ▲
		Next winter	64.6 ▲

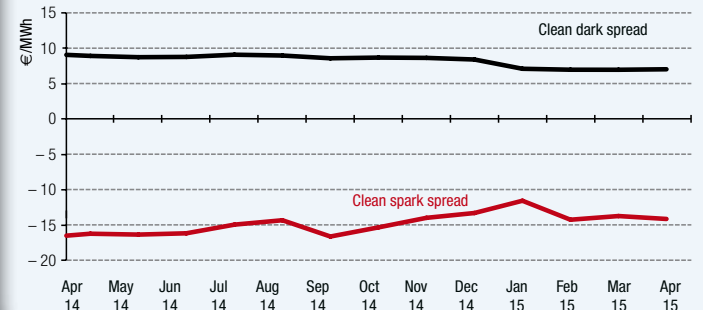
Sources: CDC Climat Research, Thomson Reuters

## Clean dark, clean spark spreads and switching price

	Clean spark (€/MWh)		Clean dark (€/MWh)		Switching Price (€/tCO <sub>2</sub> )	
	spot	futures	spot	futures	spot	futures
Germany*	-14.2	-14.1	7.1	7.1	43.2	43.2
United Kingdom*	13.0	14.3	34.6	34.6	43.2	41.0

\* Germany, 2016 calendar contract

### German baseload – monthly average of Cal. 2015 clean dark and clean spark spreads



Sources: CDC Climat Research, Thomson Reuters

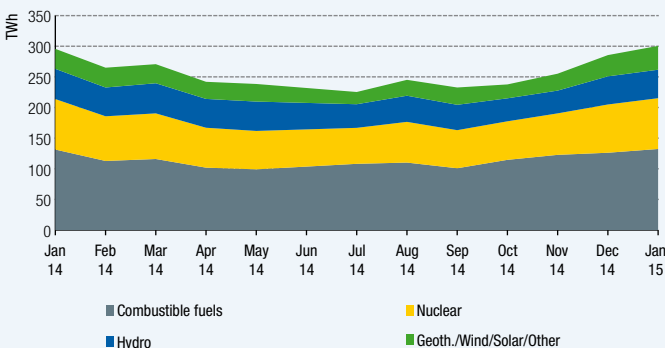
The Brent price increased again in April, reaching 61.0 \$/bbl on average, exceeding on 15<sup>th</sup> April the threshold of 65 \$ bbl, despite rather bearish fundamentals. Regarding demand, the US economy slowed sharply in the first quarter, China's outlook is bleak, and the European recovery remains very fragile. The offer is on the rise following the agreement concluded with Iran, high OPEC production and a very small decrease in US production (-0.2%). Coal prices have varied little (59.2 \$/t) as well as that spot gas prices, NBP and TTF amounting to 22.2 €/MWh and 22.1 €/MWh. German spot electricity prices have decreased slightly to 33.7 €/MWh, due to strong wind output and globally high temperatures, however offset by low thermal and nuclear availability in France. The contract for electricity delivery in December 2016 was traded at an average of 32.0 €/MWh. The German clean dark spread remained low on spot markets to 7.05 €/MWh and on the futures markets to 7.11 €/MWh, while the clean spark spread has declined in spot and futures markets. The theoretical CO<sub>2</sub> "switch" price was calculated to 43.17 €/tCO<sub>2</sub> in the German spot power market and 43.16 €/tCO<sub>2</sub> in the British spot power market.

# Production

## Electricity generation (TWh)

EU 20 (in TWh)	Jan. 15	Cumulative from Jan. 15	Year-on-Year (% change)
Production	299.6	299.6	13.4 %
of which - Combustible fuels	131.9	131.9	17.3 %
- Nuclear	82.7	82.7	13.7 %
- Hydro	46.3	46.3	-1.1 %
- Geoth./Wind/Solar/Other	38.7	38.7	20.3 %

\* Gas, coal, oil.

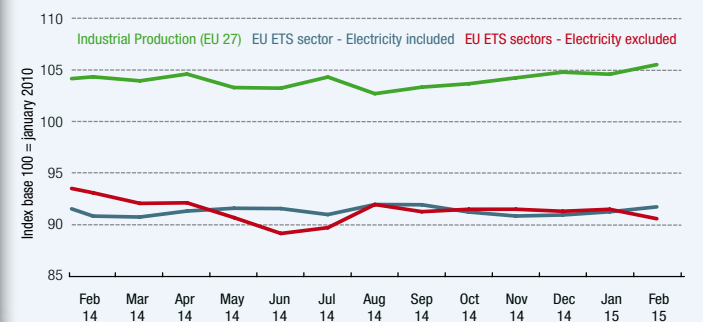


Sources: CDC Climat Research, from IEA data

## Production indices (Index base year 2010)

EU 27	Feb. 15	Last month (pts)	Year-on-Year (pts)
Indust. Prod (excl. construction)	105.5	0.9	1.2
EU ETS sectors production* (incl. electricity)	91.7	0.5	0.9
EU ETS sectors production* (excl. electricity)	90.6	-0.9	-2.5
Electricity, gas and heating	92.3	1.2	2.7
Cement	72.5	-4.5	-10.1
Metallurgy	102.2	2.3	-9.7
Oil refinery	97.7	2.5	5.3

\* Index weighted by EU ETS sectors's weight in average total allocation over 2008-2012

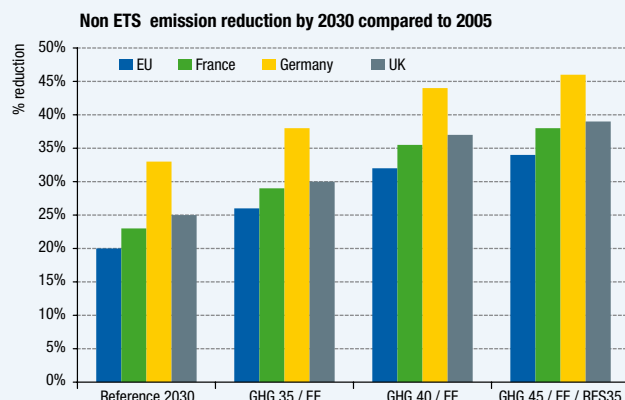
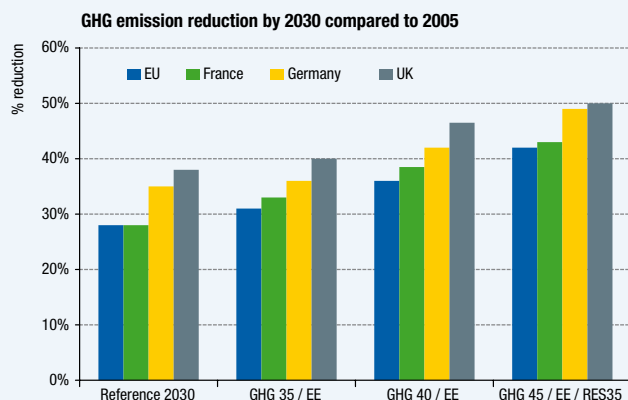


Sources: CDC Climat Research from Eurostat data

Industrial production in the EU-27 countries rose by 0.9% in February 2015 compared to the previous month and by 1.2% compared to February 2014. The 0.9% monthly increase of industrial production is due to increases in production of 1.1% for non-durable consumer goods, 0.6% for energy, and 0.5% for durable consumer goods. The largest increases in industrial production were registered in Ireland (+16.3%), Lithuania (+6.1%), Croatia (3.5%), Greece (+2.5 %), and the largest decreases in Malta (-1.3%), Bulgaria (-0.6%) and Portugal (-0.5%). Our production index EU ETS sectors (including electricity) rose slightly to 91.7 pts, while the index excluding electricity decreased to 90.6 pt. Power generation in the 20 EU countries amounted to 299.6 TWh in January 2015, increasing 5.3% compared to December 2014 and up 13.4% compared to January 2014. Compared to the year 2014, an increase in the cumulative hydraulic generation was observed (+13.4%), and in the cumulative generation of renewable energy (+20.3%), while cumulative fossil fuel generation increased by 17.3%.

# Coordination of CO<sub>2</sub>, EE and RES policies

## The EU 2030 emission reduction target: impact on Member States



Note: Reference refers to the scenario with no additional climate and energy policies on the trajectory of the 2020 objectives; GHG 35, 40 et 45 refer to the scenario with a 35%, 40% and 45%, GHG target, RES 35 refers to the scenario with a 35% EU level renewable energy target in the final consumption.

Source: European Commission, Impact Assessment, A policy framework for climate and energy in the period from 2020 up to 2030, 2014.

On April 14<sup>th</sup>, the Committee ITRE of the European Parliament unveiled its opinion on the EU Fund for Strategic Investments (EFSI) and called for the allocation of 5 billion euros to energy efficiency projects. The aim of this new fund will be to fill the gap of the annual energy efficiency investment deficit of €70 million. On April 28<sup>th</sup>, the EU Parliament approved the draft agreement on the use of biofuel within the transport sector. The new law caps to 7% by 2020 the contribution of biofuels produced from food crops and calls for a greater emphasis on the production of advanced biofuels from waste feedstocks. Member States must then transpose the law into national legislation by 2017, and submit an action plan on the implementation of advanced biofuels target. According to data released by the European Commission and corresponding to 86 % of installations, total CO<sub>2</sub> emissions under the EU ETS dipped by 4.4% to 5 % in 2014, meaning that the 2020 cap of 1,818 Mt CO<sub>2</sub>e was probably reached last year. This contraction is linked to a lower energy demand during the mild winter in 2014 and to the continued growth of renewables in the energy mix. On April 15<sup>th</sup>, the EU Environment Agency published an update on the emission levels from new cars sold in the EU during 2014. This average emissions level is almost 7 grams of CO<sub>2</sub>/km below the 2015 target (130 gCO<sub>2</sub>e/km). In addition, new cars sold in 2014 emitted on average 2.6 % less CO<sub>2</sub> than those sold in 2013.

## Institutional environment

### Phase 3 supply balance table

	2013	2014	2015*	2016*	2017*	2018*	2019*	2020*
<b>Auctions (MtCO<sub>2</sub>)</b>	804	532	675	779	985	992	1,302	1,633
<b>Free allocation (MtCO<sub>2</sub>)</b>	843	767	813	789	765	741	717	693
<b>Total</b>	<b>1,647</b>	<b>1,299</b>	<b>1,488</b>	<b>1,568</b>	<b>1,750</b>	<b>1,733</b>	<b>2,019</b>	<b>2,326</b>

\* Estimations

### Free allocation status table

EU Member State	2013	2014	2015*
France	82	81	73
Germany	169	163	159
United Kingdom	66	64	56
Others	526	459	246
<b>TOTAL</b>	<b>843</b>	<b>767</b>	<b>535</b>

\* Until 31<sup>st</sup> March

### CER and ERU supply

	April 15	Last month change
<b>Number of CDM projects</b>	<b>12,295</b>	<b>+11.0</b>
<i>of which - registered</i>	7,630	+8.0
<i>with - CER issued</i>	2,770	+16.0
<b>Cumulative volume of CER issued (Mt)</b>	<b>1,551</b>	<b>+6.6</b>
<b>Number of JI projects</b>	<b>788</b>	<b>0.0</b>
<i>of which - registered</i>	604	0.0
<b>Cumulative volume of ERU issued (Mt)</b>	<b>863.5</b>	<b>0.0</b>
<i>via - Track 1</i>	838.1	0.0
<i>via - Track 2</i>	25.4	0.0

On 29<sup>th</sup> April, during a COREPER meeting of EU Ambassadors and Deputy Ambassadors, EU Member States agree to give a new mandate on Market Stability Reserve to the Latvian presidency for the 2<sup>nd</sup> trilogue meeting of EU institutions. A deal was eventually reached on 5<sup>th</sup> May during this 2<sup>nd</sup> trilogue meeting. The content of the deal is : 1/ The start-date of the market stability reserve (MSR) will be 1<sup>st</sup> January 2019. Until September 2019 the mechanism will gradually come into operation, tackling only 8% of the surplus allowances, and the annual withdrawal rate will reach 12% from 1<sup>st</sup> September 2019 onwards, 2/ the so-called "solidarity" allowances (amounting to 10% of the annual total allocated to Member States with GDP lower than 90% of EU average), would be exempt from the reserve until 2025, 3/ The backloaded allowances will be placed in the reserve, 4/ the unallocated allowances will be placed in the reserve in 2020, but will be subject to Commission review in the framework of the proposal to amend the ETS-Directive later this year, 5/ a proposal concerning carbon leakage provisions post 2020 should be presented within 6 months from the adoption of the MSR and 6/ the European Commission will consider in its upcoming review of the ETS Directive the possible use of 50 million EUAs for industrial innovation projects before the so-called NER 400 is implemented. The text is to be put to COREPER for approval on Wednesday 13<sup>th</sup> May, to the Environment Committee of the European Parliament on 26<sup>th</sup> May, preceding a plenary vote during the week starting 6<sup>th</sup> July.

Sources: CDC Climat Research, European Commission, ICE Futures Europe, EEX

Sources: CDC Climat, UNEP-DTU

# Carbon markets dashboard

## Primary market - EUA auctions in Phase 3

		Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
Common Auction Platform + United Kingdom & Germany	Price (€/t)	7.35	5.03	5.54	5.91	6.23	5.96	5.99	6.78	6.74	6.89	7.20	6.72	7.01
	Volume (Mt)	35.22	37.72	37.02	43.28	19.52	39.79	42.05	38.56	22.04	54.06	57.00	64.67	52.55
Auction Revenues (M€)	Germany	36.53	59.46	52.45	55.37	36.75	56.07	58.71	63.97	31.17	88.04	101.65	84.94	67.35
	United Kingdom	26.48	25.35	27.82	44.97	14.93	14.13	29.65	33.78	17.15	43.38	44.97	41.54	65.55
	France	13.13	11.65	14.01	17.35	7.90	20.14	21.35	20.03	11.51	23.14	26.76	28.96	23.96
	Others	106.82	92.56	110.32	136.70	62.03	146.78	144.45	143.52	88.78	217.71	236.84	279.33	211.53
	Total	182.96	189.02	204.60	254.39	121.61	237.13	254.15	261.30	148.61	372.27	410.23	434.77	368.40

Sources: EEX, ICE Futures Europe

## Primary market - CER and ERU issued (MtCO<sub>2</sub>)

		Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
Cumulative volume of CER issued UNEP-DTU (Mt)		1,451	1,457	1,466	1,472	1,480	1,491	1,504	1,512	1,512	1,525.7	1,540.8	1,544.7	1,551.3
Cumulative volume of ERU issued (Mt)	Track 1 (Mt)	824	824.1	824	824.1	824.4	824.4	824.4	824.5	824.5	838.1	838.1	838.1	838.1
	Track 2 (Mt)	25	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4	25.4

Sources: UNEP-DTU, CDC Climat Research

## Secondary market - Prices (€/t) and volumes: EUA, CER (ktCO<sub>2</sub>)

			Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
ICE Futures Europe	Daily spot	Price EUA phase 3	5.22	5.11	5.52	5.96	6.26	6.01	6.09	6.91	6.97	6.97	7.27	6.80	7.10
		Volume EUA phase 3	49,429	19,271	20,937	11,897	5,173	17,953	5,530	7,793	10,180	9,324	25,327	23,640	23,244
		Price CER	0.17	0.12	0.14	0.16	0.17	0.15	0.13	0.08	0.04	0.46	0.42	0.41	0.49
		Volume CER	2,998	745	167	1,530	1	242	255	319	8,622	860	4,436	3,202	833
	Dec.15	Price EUA	5.46	5.50	5.80	6.16	6.44	6.16	6.21	7.03	7.15	7.06	7.35	6.85	7.14
		Volume EUA	60,524	467,135	56,911	114,684	64,504	94,922	119,746	140,392	180,590	356,677	377,226	394,219	268,144
		Price CER	0.41	0.23	0.29	0.40	0.40	0.39	0.38	0.52	0.54	0.46	0.42	0.41	0.49
		Volume CER	2,012	15,510	3,454	3,951	1,636	1,535	3,644	3,724	2,654	1,863	0	0	0
	Dec.16	Price EUA	5.7	5.50	6.02	6.35	6.62	6.30	6.34	7.17	7.35	7.17	7.47	6.93	7.22
		Volume EUA	45,597	466,631	33,286	61,189	28,171	47,533	40,921	40,926	39,009	55,893	46,588	50,070	39,148
		Price CER	0.42	0.33	0.29	0.40	0.41	0.39	0.38	0.52	0.54	0.52	0.42	0.40	0.49
		Volume CER	164	800	0	0	10	50	850	500	550	500	0	0	164
	Dec.17	Price EUA	5.7	5.50	6.02	6.35	6.62	6.30	6.34	7.17	7.35	7.34	7.63	7.06	7.34
		Volume EUA	45,597	466,631	33,286	61,189	28,171	47,533	40,921	40,926	39,009	15,087	19,340	28,076	8,049
		Price CER	0.42	0.33	0.29	0.40	0.41	0.39	0.38	0.52	0.54	0.46	0.42	0.40	0.49
		Volume CER	164	800	0	0	10	50	850	500	550	0	0	0	164

Sources: ICE Futures Europe

## Emission-to-cap by EU ETS sector and country: difference between distributed allocations of allowances and verified emissions

	2008	2009	2010	2011	2012	2013
Combustion	-253.1	-113.5	-125.8	-76.9	-42.4	-137.8
Oil refining	-1.4	7.6	14.3	16.0	20.2	-36.7
Coking plants	1.5	6.8	2.9	3.1	5.7	-1.5
Metal ores	4.3	11.0	8.8	8.9	9.7	-0.2
Steel production	51.6	89.3	71.4	72.8	73.9	38.5
Cement	20.9	61.4	61.0	62.8	70.3	26.7
Glass	2.5	6.1	5.5	5.4	5.0	-1.2
Ceramic products	5.3	10.0	10.2	9.6	9.2	2.0
Paper	6.9	11.3	10.0	11.1	11.6	4.1
Other activities	0.2	4.3	1.3	-0.7	1.4	-1.0
<b>Total (Mt)</b>	<b>-161.3</b>	<b>94.2</b>	<b>59.8</b>	<b>112.1</b>	<b>164.5</b>	<b>-107.1</b>

Source: CTL

	2008	2009	2010	2011	2012	2013
Germany	-84.0	-36.6	-54.4	-49.5	-28.6	-106.3
United Kingdom	-50.8	-15.0	-16.8	2.5	-2.5	-52.0
Italy	-8.5	24.1	8.5	5.3	12.2	21.5
Poland	-3.1	10.8	5.9	4.2	15.6	-76.4
Spain	-9.6	13.7	29.5	18.4	17.0	31.7
France	5.5	17.5	23.4	33.9	25.2	24.8
Czech Republic	5.2	12.2	10.6	12.2	17.1	-18.3
The Netherlands	-6.8	2.8	0.1	8.9	10.5	-3.0
Romania	7.7	24.9	27.7	23.6	25.8	15.1
Others	-17.0	39.8	25.3	52.7	72.3	55.7
<b>Total (Mt)</b>	<b>-161.3</b>	<b>94.2</b>	<b>59.8</b>	<b>112.1</b>	<b>164.5</b>	<b>-107.1</b>

Source: CTL