Tendances Carbone

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Free allocations under Phase 3 benchmarks: early evidence of what has changed

One of the most controversial changes to the EU ETS in Phase 3 (2013-2020) has been the introduction of emissions-performance benchmarks for determining free allocations to non-electricity producers. Phases 1 and 2 used National Allocation Plans (NAPs). For practical reasons NAPs were drawn up by each Member State, but this led to problems, including over-generous allowance allocation, insufficiently harmonised allocations across countries and distorted incentives to reduce emissions. Benchmarking tries to fix things by allocating the equivalent of 100% of allowances needed if every installation used the best available technology. But this is not universally popular and industries say that they might lose international competitiveness. So a new study by CDC Climat and the Climate Economics Chair examined the data from the preliminary Phase 3 free allocations of 20 EU Member States and asked: how much are free allocations actually going to change with benchmarking?

The study of over 4,000 benchmarked installations found that, compared to Phase 2, the aggregate decline in free allocation (for non-electricity sectors) is 20.6% on average over Phase 3. In the key, and internationally competing, sectors of cokery, refining, glass, ceramics, cement, lime, pulp and paper and iron and steel, average allocations decline by 13 to 24%. These estimates don't take account of a possible "uniform linear-adjustment factor", which may be a few percentage points. Thus, the declines in allocations for most sectors are larger than 14%, which is the overall decline in the total EU ETS emissions cap from the end of Phase 2 to the end of Phase 3. This means that benchmarking will lead to larger reductions in free allocations to concerned sectors than if they had kept the NAP-system, under which we can assume allocations would have been reduced by the level of the cap at the most. Consequently at least an additional 670 million EUAs will be auctioned under benchmarking rather than allocated for free, with revenues going to Member States.

So does industry get a raw deal? In short: no. While the declines in free allocation may seem big, much of it reflects a correction for over-allocations in Phase 2. For example, the pulp and paper sector sees a decline of 21% of its free allocation in Phase 3, but it was allocated 22% more allowances than emissions in 2008, before the economic crisis reduced emissions. The study also found that even if the EU economy recovers quickly and emissions of EU energy-intensive sectors return to pre-crisis levels on average over Phase 3, most benchmarked sectors would need to purchase only a tiny share, if anything, of their emissions on the market. The iron and steel sector would have a allowance deficit of only -1% of emissions after free allocation, cokery, -5%, ceramic and brick, -6%, lime, -6%, cement, -8%, glass and pulp and paper, -15 %, while oil refining would see a deficit of -20% (largely because of its electricity auto-production activities which receive no free allocation). But the actual compliance deficits for each of these sectors will probably be smaller to the extent that they hold banked allowances from Phase 2, which they can use in Phase 3 to cover any shortfall. On our estimates, these banked amounts could range from 3 to 15% of Phase 3 emissions.

Now, in any given sector there will be a percentage of (more CO_2-intensive) installations with greater compliance costs than others. However, the key sectors as a whole will only be paying for a very small percentage of the carbon they use, so they will be protected from carbon leakage. But perhaps now they'll have reinforced marginal incentives to reduce emissions.

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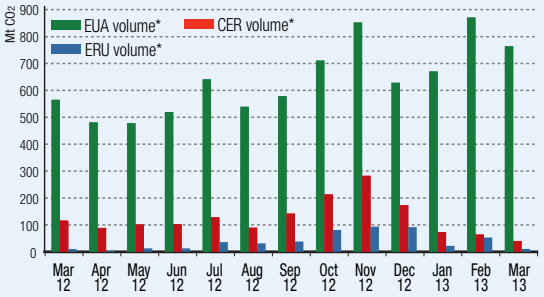
Key points

- **2012 compliance data: compared with 2011, CO_2 emissions in the EU ETS sectors fell by 1.4%. EUA demand for the electricity sector rose by 0.9% while that of other industries declined by 4.6%.**
- **Hungary, Ireland, Slovenia and Bulgaria have announced their support for back-loading ahead of the vote on 16 April.**
- **The European Commission published its Green Paper on "A 2030 framework for climate and energy policies" on 27 March.**

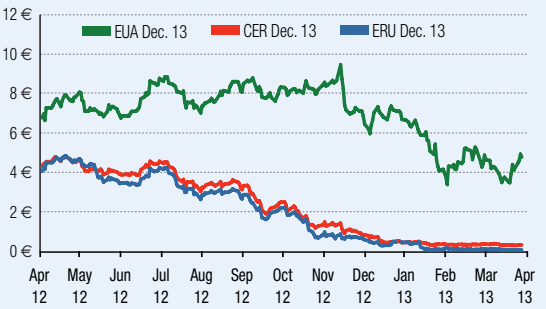
Trading volumes: EUA –12.3%



* Spot & futures, exchanges & OTC cleared

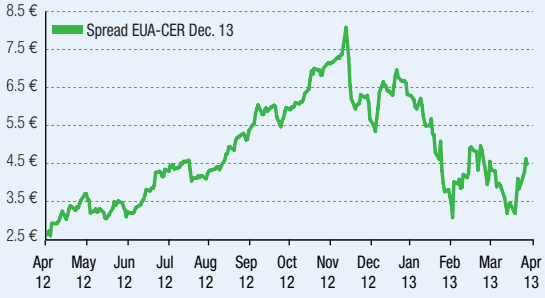
Source: CDC Climat Research calculation, based on data from BlueNext, EEX, ICE Futures Europe, NYMEX, Nasdaq OMX, and LCH Clearnet

Contract price Dec. 2013: EUA –1.8%



Source: CDC Climat Research, ICE Futures Europe

Increase in the Dec.13 EUA-CER spread: –1.5%



Source: CDC Climat Research, ICE Futures Europe

Energy

Primary energy prices and electricity prices

			March 2013	
Coal	API # 2 CIF ARA (First month in USD/t)		87.1	▼
Natural gas	NBP (spot in €/MWh)		34.5	▲
	TTF (spot in €/MWh)		32.3	▲
Crude oil	Brent (First month in USD/b)		109.5	▼
Electricity	Germany (€/MWh)	Spot	42.1	▼
		Calendar	41.1	▼
	United Kingdom (€/MWh)	Spot	71.4	▲
		Next summer	60.1	▲
		Next winter	66.2	▲

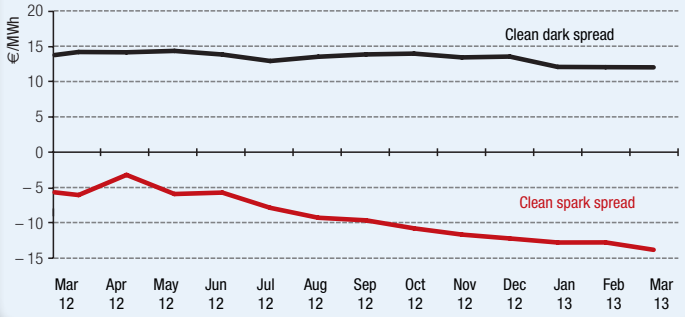
Sources: CDC Climat Research, Thomson Reuters

Clean dark, clean spark spreads and switching price

	Clean spark (€/MWh)		Clean dark (€/MWh)		Switching Price (€/tCO2)	
	spot	futures	spot	futures	spot	futures
Germany*	–24.0	–13.8	15.5	12.0	40.7	30.0
United Kingdom*	6.4	5.3	43.8	30.2	43.8	28.6

** Germany, 2014 calendar contract, United Kingdom, summer 2014 contract.*

German baseload – monthly average of Cal. 2014 clean dark and clean spark spreads



Sources: CDC Climat Research, Thomson Reuters

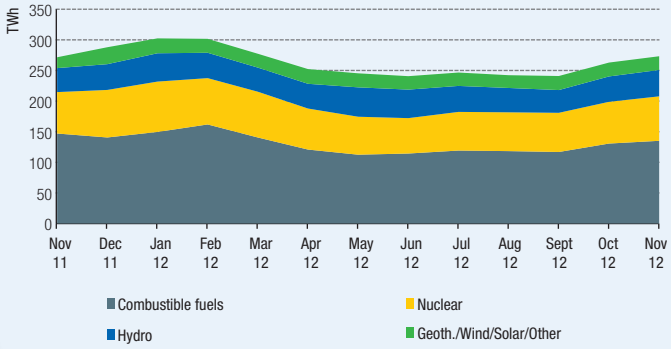
The price of Brent Crude fell by 1.2% in March, when it ranged between USD 107 and 111. The risks of contagion from the Cyprus crisis and an upturn in wariness following the Italian elections heightened the instability in the euro zone, and resulted in a 2.5% decline in the EUR-USD exchange rate. Due to the strong demand for gas linked to the cold snap in Europe and to technical incidents, short-maturity gas prices increased sharply in Germany (TTF day ahead +36.7%) and in the United Kingdom (NBP week ahead +33.6%). The price of coal fell again due to the abundance of supply (2014 CIF ARA –5.4%). The price of long-term electricity fell by 2.3% for the Cal. 2014 contract following the fall in the EUA price, as the EU ETS players remain sceptical about the adoption of the back-loading proposal in April. In Germany, the fall in the electricity price, combined with an increase in the gas price, resulted in a decrease in the average cash clean spark price, which hit a record low of –€24 per MWh and pushed the cash CO_2-switch price to a record high of €40.00.

Production

Electricity production (TWh)

EU 20 (in TWh)	Dec. 12	Since Jan. 12	Past year (% change)
Production	289.8	3 175.5	0.9%
of which - Combustible fuels	138.3	1 558.2	– 3.3%
- Nuclear	77.3	828.1	– 2.7%
- Hydro	47.8	513.6	11.7%
- Geoth./Wind/Solar/Other	26.4	275.7	21.5%

** Gas, coal, oil.*

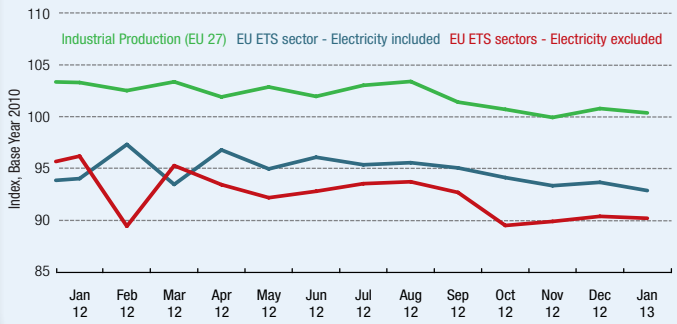


Source: CDC Climat Research, from IEA data

Production indices (Index base year 2010)

EU 27	Jan. 13	Last month (pts)	Year-on-Year (pts)
Indust. Prod (excl. construction)	100.4	–0.4	–1.8
EU ETS sectors production* (incl. electricity)	92.9	–0.8	–2
EU ETS sectors production* (excl. electricity)	90.2	–0.2	–2.4
Electricity. gas and heating	94.3	–1.1	–1.8
Cement	80.6	n.a.	–1.5
Metallurgy	94.4	–0.1	–4.2
Oil refinery	93.4	–1.6	–2.5

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



Source: CDC Climat Research from Eurostat data

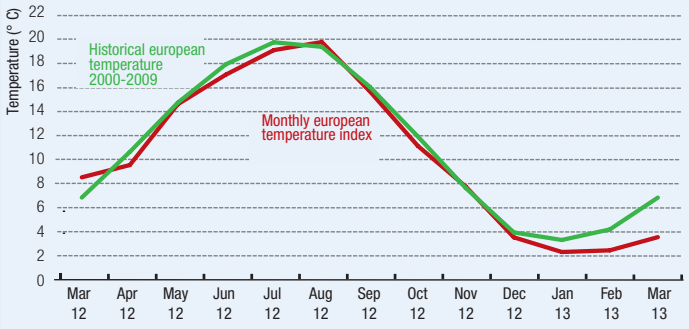
Our EU ETS sector output index posted a month-on-month fall of 0.8 pt, i.e. a steeper fall than that of the manufacturing sector as a whole (–0.4 pt). The ceramic products sector posted a monthly rise of 3.4 pts. Over the past 12 months, all the EU ETS production indices have declined, while the steel sector is the one that recorded the steepest monthly decrease (–4.2 pts). In the euro zone, GDP declined by 0.9% on a year-on-year basis, the worst quarterly performance since the 2009 recession, while internal demand remained heavily constrained by ongoing budgetary austerity and the deterioration in the labour market. The European business confidence index posted another fall in March, falling to –11.8, a 1.1 pts decline compared with December. The French business confidence index declined sharply, dropping from –13.4 pts in February to -16.6 pts in March. Aggregate European electricity generation amounted to 3,175 TW in 2012, an increase of 0.9% compared with 2011. This rise was accompanied by increased use of hydraulic power (+11.7%) and other renewable energies (+21.5%), and by a decline in the use of nuclear power (–2.7%) and fossil fuels (–3.3%).

Temperature impact

European temperature index (°C)

- Average of the Climpact Metnext indices for 18 European countries, weighted according to the emission allowances allocated to each country.

	Feb. 13	Mar. 13
Monthly average (°C)	2.4	3.5
Monthly average (°C) 2000-2009	4.2	6.8
Monthly minimum (°C)	0.0	0.3
Monthly maximum (°C)	6.5	8.2

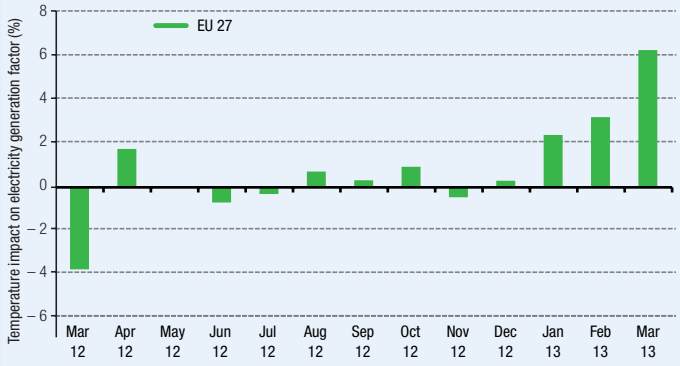


Source: Climpact Metnext

Temperature impact on electricity generation factor (%)

- The impact factor, which is calculated on the basis of a statistical electricity generation model, expresses the temperature impact in relation to average weather patterns for the 10 years between 2000 and 2009.

	Feb. 13	Mar. 13
EU 27	3.2	6.3



Source: Climpact Metnext

In March 2013, the average weather & economy index within the EU-27 was below its ten-year trend of 3.3°C. Most European countries experienced temperatures that were well below the seasonal average, with divergences from the historical trend of –4.7°C in Poland, –4.6°C in Sweden, –4.0°C in the Netherlands and the United Kingdom, and –2.7°C in France. The average monthly temperatures for Southern European countries were slightly below the ten-year trend (–1.2°C in Portugal, and –0.2°C in Spain). According to the Climpact MetNext weather and economy model, the impact of the temperatures recorded was to increase gross European electricity generation by 6.3% compared with normal weather conditions. The temperatures increased electricity generation by 19.7% in the Netherlands, 8% in the United Kingdom, 7.2% in Germany and 6.6% in France due to the increased use of central heating. The average dam fill level in the Nordic region was 6.9 pts below its ten-year level.

Institutional environment

EUA supply

	2008	2009	2010	2011	2012
Total free allocations (Mt)	**1,958.5**	**1,973.7**	**1,998.3**	**2,001.2**	**2,049.5**
Combustion	1,259.5	1,269.3	1,289.6	1,293.0	1,331.8
Oil refining	152.7	152.9	156.7	155.4	159.0
Coking plants	22.5	22.5	22.8	22.7	22.5
Metal ores	21.9	22.0	22.0	22.1	22.1
Steel production	185.0	184.8	185.2	185.4	186.2
Cement	211.4	214.2	214.6	214.3	215.5
Glass	25.2	25.5	25.7	26.2	26.3
Ceramic products	18.8	19.1	19.2	18.4	18.3
Paper	28.5	39.2	40.1	39.6	40.6
Other activities	22.9	24.2	22.3	23.9	27.3
Total allocations auctioned (Mt)	**44.4**	**78.4**	**92.1**	**93.1**	**87.5**

Sources: CITL, UK Debt Management Office, EEX

CER and ERU supply

	Mars 13	Last month change
Number of CDM projects	**10,998**	**+14**
of which - registered	6,660	+104
with - CER issued	2,200	+105
Cumulative volume of CER issued (Mt)	**1,271**	**+63**
CERs available until 2015, EU ETS eligible – CDC Climat Research estimate (Mt)*	2,110	+30
Number of JI projects	**782**	**0**
of which - registered	597	+2
Cumulative volume of ERU issued (Mt)	**674.2**	**+51.6**
via - Track 1	651.3	+51.3
via - Track 2	22.9	+0.2

** CDC Climat Research's model: http://www.cdcclimat.com/The-risks-of-CDM-projects-how-did-only-30-of-expected-credits-come-through,900.html?lang=fr*

Sources: CDC Climat Research, UNEP Risoe

The European Parliament has adopted two laws that improve the mechanism for monitoring and declaring Member States' GHG emissions and strengthen their obligations, primarily through introducing a process for reporting on the use of the proceeds from the EU ETS auctions. In the aviation sector, the Commission announced that the allowance auctions will not be held before June, and that the free allowances will not be allocated before October, in order to take the progress expected at the ICAO's 38th GM into account. The Parliament is expected to vote on the "Stop the Clock" proposal voted by the ENVI Committee at the end of March on 19 April. The Commission has launched two public consultations relating to the EU's post-2020 climate policy. It published its Green Paper entitled *"A 2030 framework for climate and energy policies"* on 27 March, and has launched a consultation process for stakeholders that will last until 2 July, before drawing up an official communication at the end of the year. This document was accompanied by the publication of a report on the state of development of renewable energies, and by a consultative communication on carbon capture and storage technology. On 26 March, the Commission launched a public consultation on the drafting of a new international climate agreement, which is expected to be finalized by 2015, in order to enter into effect as from 2020.

Carbon markets dashboard

Primary market - EUA auctions in Phase 3

		Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13
Common Auction Platform + United Kingdom & Germany	Price (€/t)	-	-	-	-	-	-	-	7.54	7.01	6.31	5.05	4.37	4.06
	Volume (Mt)	-	-	-	-	-	-	-	3.00	48.19	38.51	59.63	65.03	70.71
Auction Revenues (M€)	Germany	-	-	-	-	-	-	-	22.62	107.67	35.89	42.61	62.46	82.86
	United Kingdom	-	-	-	-	-	-	-	-	43.03	32.71	39.40	36.38	34.23
	France	-	-	-	-	-	-	-	-	24.73	18.73	21.97	19.37	17.50
	Others	-	-	-	-	-	-	-	-	162.35	155.78	191.70	166.09	152.26
	Total	-	-	-	-	-	-	-	22.62	337.79	243.11	295.68	284.30	286.86

Sources: EEX, ICE Futures Europe

Primary market - CER and ERU issued ($MtCO_2$)

		Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13
Cumulative volume of CER issued UNEP-Risoe (Mt)		895	919	943	959	974	995	1,009	1,036	1,094	1,155	1,198	1,208	1,271
Cumulative volume of ERU issued (Mt)	Track 1 (Mt)	114.2	126.8	151.3	152.8	157.1	206.2	214.0	232.7	233.2	363.8	564.6	600.0	651.3
	Track 2 (Mt)	16.0	16.6	16.6	16.8	17.3	18.8	19.1	19.4	20.0	21.9	22.6	22.7	22.9

Sources: UNEP-Risoe, CDC Climat Research

Secondary market - Prices (€/t) and volumes: EUA, CER, ERU ($ktCO_2$)

			Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13
ICE Futures Europe	Daily spot	Price EUA phase 2	7.61	6.93	6.67	7.15	7.45	7.55	7.75	7.86	7.46	6.64	5.18	4.59	4.07
		Volume EUA phase 2	-	-	-	-	-	-	-	-	-	265	635	17,518	3,429
		Price EUA phase 3	-	-	-	-	-	-	-	-	-	6.79	5.19	4.59	4.09
		Volume EUA phase 3	-	-	-	-	-	-	-	-	-	59	322	1,579	6,023
		Price CER	4.14	3.88	3.58	3.65	3.34	2.90	2.10	1.49	0.89	0.40	0.17	0.15	0.17
		Volume CER	-	-	-	-	-	-	-	-	-	-	327	1,099	1,541
		Spread EUA-CER	3.47	3.05	3.09	3.50	4.11	4.65	5.65	6.37	6.57	6.24	5.01	4.44	3.90
	Dec.13	Price EUA	8.41	7.54	7.21	7.69	7.98	8.05	8.18	8.24	7.78	6.88	5.35	4.71	4.18
		Volume EUA	97,018	117,472	115,382	86,167	100,827	99,723	125,361	172,430	200,276	189,911	418,524	577,206	443,144
		Price CER	4.82	4.39	3.90	3.96	3.66	3.24	2.35	1.68	1.07	0.52	0.38	0.34	0.33
		Volume CER	12,558	10,353	17,842	14,262	13,537	16,445	26,805	38,256	34,684	52,279	41,549	26,190	21,420
		Spread EUA-CER	3.59	3.15	3.31	3.73	4.32	4.81	5.83	6.56	6.71	6.36	4.97	4.37	3.85
		Price ERU	4.71	4.60	3.97	3.73	3.44	3.01	2.17	1.46	0.76	0.44	0.25	0.14	0.13
		Volume ERU	-	-	-	100	500	665	5,343	12,815	18,506	24,314	9,407	7,344	1,425
		Spread CER-ERU	0.11	–0.21	–0.07	0.23	0.22	0.23	0.18	0.22	0.31	0.08	0.13	0.20	0.20
	Dec.14	Price EUA	9.06	8.11	7.69	8.22	8.48	8.56	8.71	8.69	8.20	7.22	5.61	4.94	4.37
		Volume EUA	33,838	36,978	38,724	36,878	58,473	50,089	37,884	59,562	69,731	42,296	70,721	78,927	79,675
		Price CER	5.05	4.63	4.14	4.18	3.79	3.43	2.51	1.78	1.15	0.59	0.43	0.38	0.37
		Volume CER	4,716	5,105	2,552	4,081	12,152	8,270	5,157	11,757	7,128	3,505	5,883	4,361	2,089
		Spread EUA-CER	4.01	3.48	3.55	4.04	4.69	5.13	6.20	6.91	7.05	6.63	5.18	4.56	4.00
	Dec.15	Price EUA	9.78	8.68	8.10	8.68	8.98	9.04	9.20	9.08	8.61	7.57	5.87	5.15	4.55
		Volume EUA	10,255	14,654	28,946	9,110	20,847	22,887	16,553	21,338	24,491	28,890	41,647	57,190	49,718
		Price CER	5.27	0.49	4.40	4.40	3.91	3.50	2.62	1.89	1.23	0.68	0.51	0.43	0.41
		Volume CER	1,079	1,330	1,542	2,980	2,776	2,493	2,520	5,030	4,094	2,738	2,281	2,767	710
		Spread EUA-CER	4.51	8.20	3.70	4.28	5.07	5.54	6.58	7.19	7.38	6.89	5.36	4.72	4.15

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
Combustion	–253.1	–113.5	–125.8	–79.4	–42.4
Oil refining	–1.4	7.6	14.3	14.6	20.2
Coking plants	1.5	6.8	2.9	3.2	5.7
Metal ores	4.3	11.0	8.8	9.0	9.7
Steel production	51.6	89.3	71.4	71.9	73.9
Cement	20.9	61.4	61.0	62.4	70.3
Glass	2.5	6.1	5.5	5.4	5.0
Ceramic products	5.3	10.0	10.2	9.4	9.2
Paper	6.4	10.7	10.0	11.0	11.6
Other activities	0.2	4.3	1.3	–1.8	1.4
Total (Mt)	**–161.3**	**94.2**	**59.8**	**105.9**	**164.5**

Source: CITL

	2008	2009	2010	2011	2012
Germany	–84.0	–36.6	–54.4	–49.6	–28.6
United Kingdom	–50.8	–15.0	–16.8	2.6	–2.5
Italy	–8.5	24.1	8.5	5.2	12.2
Poland	–3.1	10.8	5.9	4.2	15.6
Spain	–9.6	13.7	29.5	18.2	17.0
France	5.5	17.5	23.4	27.2	25.2
Czech Republic	5.2	12.2	10.6	12.3	17.1
The Netherlands	–6.8	2.8	0.1	8.9	10.5
Romania	7.7	24.9	27.7	23.7	25.8
Others	–17.0	39.8	25.3	53.4	72.3
Total (Mt)	**–163.3**	**94.2**	**59.8**	**105.9**	**164.5**

Source: CITL

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