Tendances Carbone

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cdc climat research

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A 2030 framework for climate and energy policies: CDC Climat Research's answer

At the time of the debate on structural reforms of the EU ETS by 2020, discussions on climate and energy policy in the EU in 2030 are welcome. The climate and energy package for 2020 has been an important step in European policy by combining the famous targets "3 x 20%" in 2020. The future climate and energy package by 2030 is discussed in a new perspective: it must establish a sufficiently ambitious legislation to put the EU on track on its long-term climate objectives set out in its 2050 Roadmap and in line with scientific recommendations.

The climate and energy package in 2030 must also reflect a number of main changes such as the European economic crisis, the shift in the global energy game or the stalled international climate negotiations. It must also draw lessons from the climate and energy package in 2020. Three of the four initial promises should be kept:

- A 20% reduction in CO_2 emissions by 2020: these CO_2 emissions were reduced by 18% in 2011 compared to 1990 and projections show that the target will be reached a priori, with a major contribution in the development of renewable energy that will reduce more than 60% of the effort in 2008 to 2020.
- Reducing CO_2 emissions at lower cost and without major effect on competitiveness. The EU ETS provides the conditions for reducing compliance cost: an increasing liquidity and a CO_2 price that reacts to its fundamentals. The operators of the EU ETS also surrendered 1 048 million Kyoto credits between 2008 and 2012, achieving a minimum savings of 4 billion euros. Finally, today there is no empirical evidence of carbon leakage induced by the CO_2 price.
- The EU action in favor of an international climate agreement. The EU has played a major role in the implementation of the second period of the Kyoto Protocol and the development of CDM and JI projects. The experience of the EU ETS has also had a ripple effect on the development of other emission trading schemes around the world. However, the strategy promising a greater EU commitment conditioned at equivalent action from other countries has not functioned.
- Promotion of clean technologies and innovation support beyond 2020. This pledge will not be totally satisfied. Indeed, the EU ETS, marginalized by the strong interaction of the three objectives and as a result of the economic crisis revealed a too low CO_2 price to support low carbon investments. The balance of funding for CCS projects by the "NER 300" is also mixed.

Thus, to establish a climate and energy policy in the EU in 2030, CDC Climat Research addresses three main recommendations to the European Commission:

1. **Establish a binding, single and ambitious CO_2 emission reduction target of at least 40% in 2030.** The effort sharing between the EU ETS sectors and other sectors should be kept and the effort of EU ETS sectors higher than other sectors respectively in line with their 2050 targets.
2. **Put the EU ETS as the central and non-residual instrument aimed at promoting cost-effective reductions in Europe and other parts of the world.** It must have a clear and transparent governance to ensure its well-functioning. As all the other emissions trading schemes do, the EU ETS should be a source of demand for domestic offset projects to extend the price signal to other sectors and expand options for compliance under the EU ETS. If setting sectoral targets should remain the exception, economic instruments may be different in non-ETS sectors.
3. **Define a stable, predictable and flexible climate regulation to limit carbon leakage and encourage innovation.** As a border carbon adjustment mechanism has not been established, there is no realistic alternative to differential treatment for sectors exposed to carbon leakage. The allocation of free allowances by benchmark remains the best approach, although it inhibits competition between materials based on their carbon content. The compensation scheme of direct and indirect CO_2 costs must be more centralized, with specific sources of funding. Finally, the support for innovation in clean technologies should be strengthened: via a base for industrial innovation?

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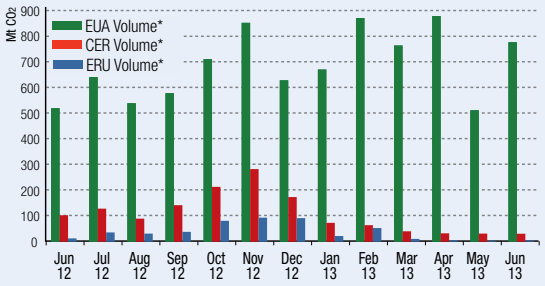
Key points

- **The European Parliament has adopted backloading: 1.85 billion EUAs will be sold at auction between now and 2015 instead of 2.75 billion**
- **Phase 2 compliance: a surplus of 1,742 million tonnes (excluding the aviation sector) including auctions.**
- **Energy Efficiency Directive: 22 of the 27 Member States have forwarded indicative targets for 2020 to the European Commission; these targets will be assessed in early 2014.**

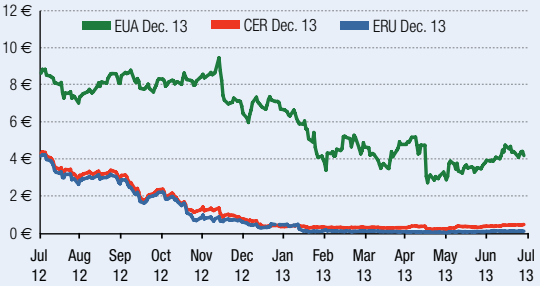
Trading volumes: EUA +51.8%, CER –1.8% ERU +23.0%



* Spot & futures, exchanges & OTC cleared

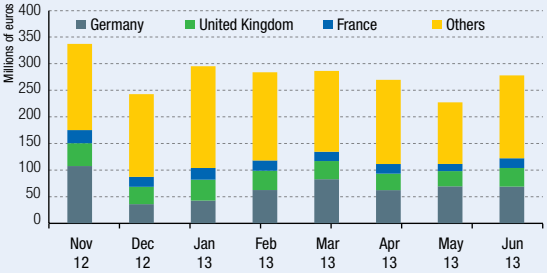
Source: CDC Climat Research calculation, based on data from BlueNext, EEX, ICE Futures Europe, NYMEX, Nasdaq OMX, and LCH Clearnet

Price of the Dec. 13 contract: EUA +6.6%



Source: CDC Climat Research, ICE Futures Europe

Income from Phase 3 auctions: €278.4 million (+22%)



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

Energy

Primary energy prices and electricity prices

			June 2013	
Coal	API # 2 CIF ARA (First month in USD/t)		75.8	▼
Natural gas	NBP (spot in €/MWh)		24.3	▼
	TTF (spot in €/MWh)		26.3	▼
Crude oil	Brent (First month in USD/b)		103.3	=
Electricity	Germany (€/MWh)	Spot	31.0	▼
		Calendar	38.0	▼
	United Kingdom (€/MWh)	Spot	55.5	▼
		Next summer	57.5	▼
		Next winter	64.5	▼

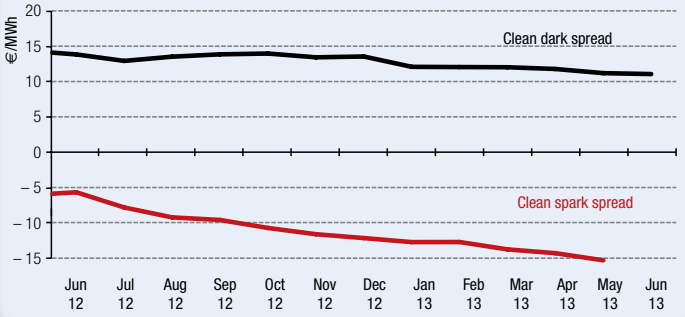
Sources: CDC Climat Research, Thomson Reuters

Clean dark, clean spark spreads and switching price

	Clean spark (€/MWh)		Clean dark (€/MWh)		Switching Price (€/tCO2)	
	spot	futures	spot	futures	spot	futures
Germany*	–23.1	–16.6	7.3	11.0	32.5	31.0
United Kingdom*	12.3	3.7	31.1	30.7	28.7	29.6

** 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

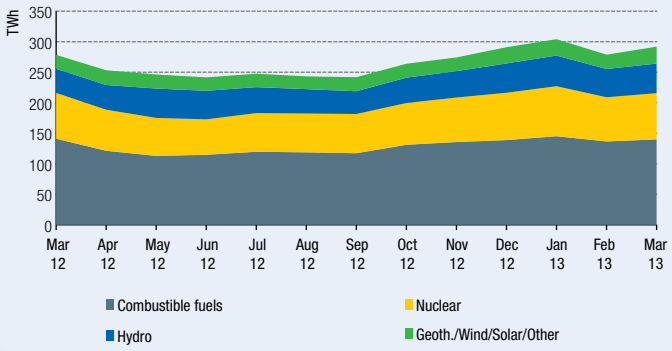
The spot gas price continued to fall, in line with the trend for the previous two months, posting a 5.3% decline for TTF gas and a 5.7% decline for NBP gas in June (the falls were of the same magnitude as those in May), mainly as a result of the seasonal fall in demand. Meanwhile, the price of Brent Crude remained particularly stable at around USD 103 per barrel, a level that it has held since April. Lastly, the price of month-ahead CIF ARA coal saw a sharp 9.7% drop over the month, confirming its low level and the over-supply on the international market. Electricity demand fell as summer arrived, resulting in a 12.5% fall in the spot electricity price in the United Kingdom, despite signs of an economic recovery in that country. The forward delivery (2014) price in Germany saw a slight 3.2% decrease to €37.40 per MWh, which was still at historically low levels, and remained almost unchanged in the United Kingdom (–0.7%). Under these conditions, clean dark and spark prices continued to fall in Germany. Although the forward differential between clean dark and spark prices widened in the United Kingdom, it narrowed on the spot market. The profitability of coal-fired power stations remained higher in both countries.

Production

Electricity generation (TWh)

EU 20 (in TWh)	Jan.- Mar. 13	Jan.- Mar. 12	Year-on-Year (% change)
Production	290.8	277.3	4.8%
of which - Combustible fuels	139.4	140.6	– 0.8%
- Nuclear	75.5	74.8	0.9%
- Hydro	48.3	39.4	22.6%
- Geoth./Wind/Solar/Other	27.6	22.6	22.1%

** Gas, coal, oil.*

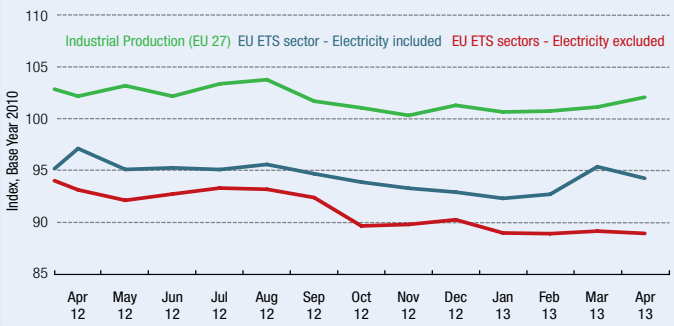


Source: CDC Climat Research, from IEA data

Production indices (Index base year 2010)

EU 27	Apr. 13	Last month (pts)	Year-on-Year (pts)
Indust. Prod (excl. construction)	102.1	0.9	0.3
EU ETS sectors production* (incl. electricity)	94.3	–1.1	–0.2
EU ETS sectors production* (excl. electricity)	89.0	–0.2	–2.0
Electricity. gas and heating	97.0	–1.6	0.8
Cement	75.0	–0.1	–4.1
Metallurgy	96.3	0.9	–0.8
Oil refinery	93.7	–1.9	–1.4

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

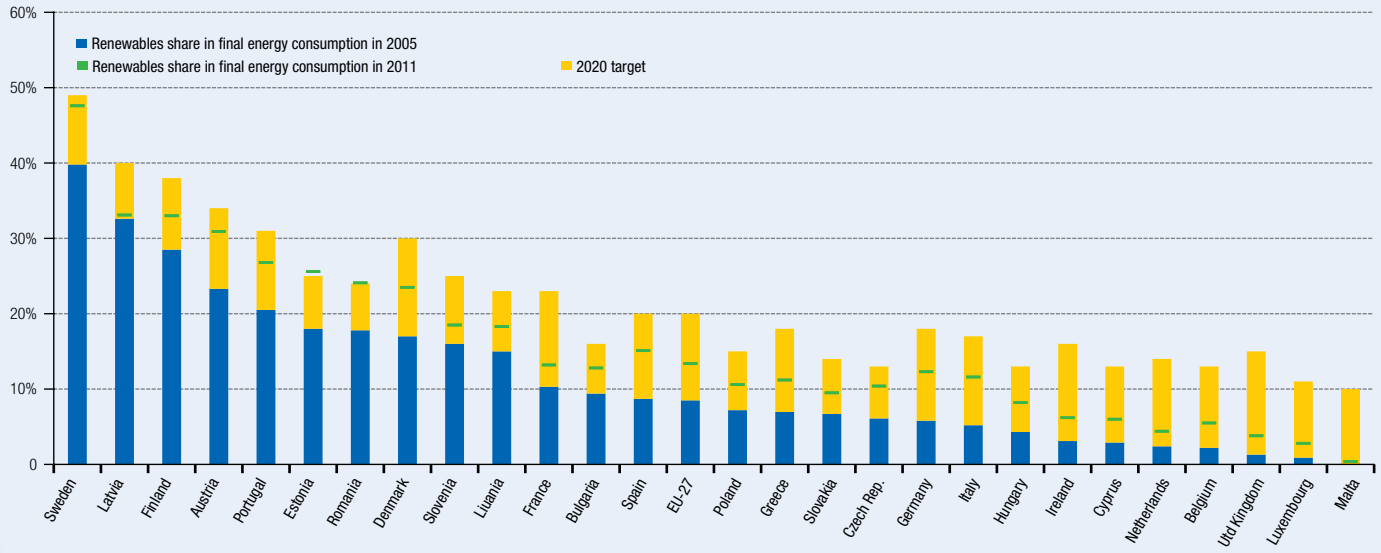


Source: CDC Climat Research from Eurostat data

The economic outlook in Europe improved slightly in June, as the business confidence index continued its recovery (+1 pt), although it remains at a very low level. The improvement was particularly visible in Germany, where the index rose by 3.4 pts. In keeping with this trend, the business climate index rose to –0.68 in June compared with –0.75 in May. Lastly, consumer confidence improved more than expected in June, adding weight to the scenario of a possible return to growth at the EU-27 level during the year. However, the possibility of another political crisis in Portugal may stoke fears of a return of the European sovereign debt crisis, especially in Greece, which remains fragile. In April, our EU ETS sector output index fell by 1.1 pts, primarily due to a 1.6 pt decrease in business volumes in the electricity sector. Meanwhile, the output index for the manufacturing sector increased by 0.9 pt on a stand-alone basis. Gross power generation in EU-27 countries in March amounted to 290.8 TWh, an increase of 4.8% compared with the same month last year; nuclear power generation rose by 0.9%, while hydropower and renewable energy generation increased sharply by 22.6% and 22.1% respectively.

Coordination with the 20-20-20 policies

Renewable energy trend in Europe



Source: CDC Climat Research, based on Directive 2009/28/EC and Observ'ER (2012)

At the end of March 2013, the European Commission (EC) published its 1st interim report on renewable energy (RE) within the framework of its 2009 Directive. RE's share of energy end-consumption in Europe increased by one point in 2012 compared with 2011, and amounted to 13.4%, in line with the 2020 target of 20%. This share nonetheless gives cause for concern, in terms of the downward revisions to Member States' support policies and of the enduring administrative and technical obstacles to the roll-out of RE. In fact, achieving this 20% RE target would contribute to saving 2 $GtCO_2$. As far as the target to improve energy efficiency by 20% by 2020 is concerned, Member States' compliance with the Energy Efficiency Directive, which was approved in 2012, is underway. At the end of June 2013, 22 of the 27 Member States had forwarded indicative 2020 targets for primary and final energy consumption to the EC, which the latter will assess in early 2014. Member States will then be required to forward their forthcoming energy efficiency action plans, including the implementation of the measures approved as part of the Directive in 2012.

Institutional environment

Phase 2 balance

	2008	2009	2010	2011	2012	Total
Free allowances (A)	1,958	1,974	1,998	2,016	2,049	9,996
Auctioned allowances (E)	44	78	92	93	99	407
Verified emissions (VE)	2,120	1,880	1,939	1,904	1,867	9,709
Compliance position (A + E – VE)	**–117**	**172**	**152**	**205**	**282**	**694**
Allowance /credits surrendered						
EUA (R)	2,010	1,839	1,793	1,637	1,383	8,662
URCE	84	77	117	178	214	670
URE	0	3	20	76	279	378
EUA excess (+) or shortfall (–) (A + E – R)	**–7**	**213**	**297**	**472**	**766**	**1,742**

Sources: CDC Climat Research based on EUTL, ICE Futures Europe, EEX

CER and ERU supply

	July 13	Last month change
Number of CDM projects	**10,982**	**–15**
of which - registered	6,989	+93
with - CER issued	2,378	+41
Cumulative volume of CER issued (Mt)	**1,353**	**+18**
CERs available until 2015, EU ETS eligible – CDC Climat Research estimate (Mt)*	2,109	0
Number of JI projects	**784**	**0**
of which - registered	599	0
Cumulative volume of ERU issued (Mt)	**781.7**	**+43**
via - Track 1	757.0	+43
via - Track 2	27.7	+4

** 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

Following a lively debate after the rejection of the backloading proposal on 16 April this year, the European Parliament adopted the European Commission's proposal to defer 900 million allowances into the Phase 3 auction timetable. Euro MPs approved the amendments that make this measure conditional on a single intervention under exceptional circumstances, involving an amount that does not exceed 900 million, and has no material assessed impact for sectors exposed to a risk of carbon leakage. As a result, the amount of allowances auctioned by Member States will be lower: 1.85 billion allowances will be sold between now and 2015 instead of 2.75 billion. On 10 July, Member States will decide on the EC's proposed regulation regarding the limits on international carbon credits used by the EU ETS in Phase 3, i.e. at least 11% of the free allowances allocated between 2008 and 2020. On 21 June, the EC launched a consultation process on market instruments for the international aviation sector, which will run until 13 September.

Carbon markets dashboard

Primary market - EUA auctions in Phase 3

		Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Common Auction Platform + United Kingdom & Germany	Price (€/t)	-	-	-	-	7.54	7.01	6.31	5.05	4.37	4.06	3.85	3.40	4.23
	Volume (Mt)	-	-	-	-	3.00	48.19	38.51	59.63	65.03	70.61	70.19	66.45	65.89
Auction Revenues (M€)	Germany	-	-	-	-	22.62	107.67	35.89	42.61	62.46	82.86	62.31	69.46	68.98
	United Kingdom	-	-	-	-	-	43.03	32.71	39.40	36.38	34.23	31.05	28.69	35.06
	France	-	-	-	-	-	24.73	18.73	21.97	19.37	17.50	18.14	13.58	18.29
	Others	-	-	-	-	-	162.35	155.78	191.70	166.09	152.26	158.58	116.04	156.10
	Total	-	-	-	-	22.62	337.79	243.11	295.68	284.30	286.86	270.07	227.66	278.43

Sources: EEX, ICE Futures Europe

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

		Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
Cumulative volume of CER issued UNEP-Risoe (Mt)		959	974	995	1 009	1 036	1 094	1 155	1 198	1 208	1 271	1 308	1 335	1 353
Cumulative volume of ERU issued (Mt)	Track 1 (Mt)	152.8	157.1	206.2	214.0	232.7	233.2	385.7	564.6	600.0	651.3	651.3	714.5	757.0
	Track 2 (Mt)	16.8	17.3	18.8	19.1	19.4	20.0	363.8	22.6	22.7	22.9	22.9	23.9	24.7

Sources: UNEP-Risoe, CDC Climat Research

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

			Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13
ICE Futures Europe	Daily spot	Price EUA phase 2	7.15	7.45	7.55	7.75	7.86	7.46	6.64	5.18	4.59	4.07	3.88	3.51	4.24
		Volume EUA phase 2	-	-	-	-	-	-	265	635	17 518	3 429	7 368	3 930	9 465
		Price EUA phase 3	-	-	-	-	-	-	6.79	5.19	4.59	4.09	3.88	3.51	4.25
		Volume EUA phase 3	-	-	-	-	-	-	59	322	1 579	6 023	78 306	10 801	28 962
		Price CER	3.65	3.34	2.90	2.10	1.49	0.89	0.40	0.17	0.15	0.17	0.09	0.39	0.44
		Volume CER	-	-	-	-	-	-	-	327	1 099	1 541	1 901	0	112
	Dec.13	Price EUA	7.69	7.98	8.05	8.18	8.24	7.78	6.88	5.35	4.71	4.18	3.94	3.56	4.29
		Volume EUA	86 167	100 827	99 723	125 361	172 430	200 276	189 911	418 524	577 206	443 144	494 819	321 897	416 664
		Price CER	3.96	3.66	3.24	2.35	1.68	1.07	0.52	0.38	0.34	0.33	0.32	0.36	0.45
		Volume CER	14 262	13 537	16 445	26 805	38 256	34 684	52 279	41 549	26 190	21 420	20 693	21 014	15 073
		Price ERU	3.73	3.44	3.01	2.17	1.46	0.76	0.44	0.25	0.14	0.13	0.09	0.11	0.14
		Volume ERU	100	500	665	5 343	12 815	18 506	24 314	9 407	7 344	1 425	4 804	2 940	5 062
	Dec.14	Price EUA	8.22	8.48	8.56	8.71	8.69	8.20	7.22	5.61	4.94	4.37	4.11	3.72	4.46
		Volume EUA	36 878	58 473	50 089	37 884	59 562	69 731	42 296	70 721	78 927	79 675	112 934	59 334	95 104
		Price CER	4.18	3.79	3.43	2.51	1.78	1.15	0.59	0.43	0.38	0.37	0.35	0.39	0.48
		Volume CER	4 081	12 152	8 270	5 157	11 757	7 128	3 505	5 883	4 361	2 089	3 885	1 949	8 891
	Dec.15	Price EUA	8.68	8.98	9.04	9.20	9.08	8.61	7.57	5.87	5.15	4.55	4.28	3.88	4.67
		Volume EUA	9 110	20 847	22 887	16 553	21 338	24 491	28 890	41 647	57 190	49 718	61 556	34 689	91 861
		Price CER	4.40	3.91	3.50	2.62	1.89	1.23	0.68	0.51	0.43	0.41	0.38	0.46	0.55
		Volume CER	2 980	2 776	2 493	2 520	5 030	4 094	2 738	2 281	2 767	710	1 706	4 087	6 792

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	–76.9	–40.6
Oil refining	–1.4	7.6	14.3	16.0	24.2
Coking plants	1.5	6.8	2.9	3.1	5.7
Metal ores	4.3	11.0	8.8	8.9	9.8
Steel production	51.6	89.3	71.4	72.8	74.0
Cement	20.9	61.4	61.0	62.8	74.1
Glass	2.5	6.1	5.5	5.4	6.4
Ceramic products	5.3	10.0	10.2	9.6	10.4
Paper	6.9	11.3	10.0	11.1	12.9
Other activities	0.2	4.3	1.3	–0.7	6.2
Total (Mt)	**–161.3**	**94.2**	**59.8**	**112.1**	**183.2**

Source: CITL

	2008	2009	2010	2011	2012
Germany	–84.0	–36.6	–54.4	–49.5	–27.8
United Kingdom	–50.8	–15.0	–16.8	2.5	–2.2
Italy	–8.5	24.1	8.5	5.3	12.8
Poland	–3.1	10.8	5.9	4.2	16.1
Spain	–9.6	13.7	29.5	18.4	17.4
France	5.5	17.5	23.4	33.9	35.8
Czech Republic	5.2	12.2	10.6	12.2	17.1
The Netherlands	–6.8	2.8	0.1	8.9	10.6
Romania	7.7	24.9	27.7	23.6	26.9
Others	–17.0	39.8	25.3	52.7	76.6
Total (Mt)	**–161.3**	**94.2**	**59.8**	**112.1**	**183.2**

Source: CITL

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