Tendances Carbone
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Free allocation in the EU ETS by 2030: paving the way for decarbonisation of industry

In October 2014, the EU Council committed to continue free allocations until 2030, even if significant evidence of carbon leakage since 2005 has not been demonstrated. This raises the question as to whether or not the proposed free allocation mechanism can effectively mitigate carbon leakage risks through to 2030 while preserving incentives for low carbon innovation. According to our analysis[1], in order for the EU ETS to be consistent with the decarbonisation roadmap for industry, three main aspects need to be addressed.

Flexible allocation to enhance emission reduction incentives. Since 2013, allocation has been proportional to sectoral benchmarks and historical production levels, which is an important step toward maintaining economic incentives to reduce emissions. However, this allocation mechanism has been inflexible: volumes have been defined for a period of eight years (2013-20) and can be updated only if activity levels are reduced by more than 50% (partial cessation), and can be revised upward only in the case of increased production capacity. This lack of flexibility has given rise to perverse incentives, for example, gaming of the rules to maintain activity levels above the 50% threshold. Large surpluses in the face of an economic downturn have led to windfall profits. Implementing more flexible allocation measures, based on recent production data, would provide an adequate incentive to reduce emissions per unit of output, rather than reduced domestic production, and would be a more effective way to combat carbon leakage.

Targeted free allocation to ensure predictable long-term protection. Provisions for Phase IV (2021-30) propose allocating 100% of benchmark-based allocation volumes to sectors that represent more than 93% of industrial emissions, most of which are not significantly at risk of leakage. Given the dwindling free allocation cap, these provisions are likely to entail an ex-post correction which could reduce allocations by 20% to all sectors by 2030, regardless of their exposure. This would imply high carbon costs for some highly exposed sectors while moderately exposed sectors would continue to enjoy large allocation volumes. In consequence, targeted allocation aimed at the sectors most exposed to carbon leakages is of utmost importance for predictable and effective protection in the long run. Defining a more targeted list of sectors using differentiated allocation rates, depending on emission and trade intensity, could be a possible solution as illustrated by the California ETS. According to our modelling results, based on reasonable economic growth assumptions, this method would allow allocation volumes to be maintained under the free allocation cap over Phase IV without any ex-post uniform correction.

Promoting innovation while steering the market for low-carbon products. Public financial support for low-carbon innovation, through for instance the EU's Innovation Fund, is justified, given the high spill over of low-carbon technologies. Additionally, steering demand for low-carbon materials should be addressed. Producers exposed to international trade and receiving free allocation are not supposed to pass-through carbon costs, meaning that the market for products with a smaller carbon footprint may fail to emerge. Implementing a consumption charge based on the quantity of materials used, the product benchmarks, and the ETS price could help to maintain incentives along the value chain to consume materials more efficiently. Other mechanisms may also be warranted, for example labels certifying that the materials used in the end-products are low-carbon. Going forward, systems of norms could become a lever for building closer relationship between producers and intermediate consumers. This would in turn help low-carbon producers to differentiate their products, further mitigating the risk of carbon leakage.

There is room to improve free allocation rules in Europe leading to 2030 in order to forge a roadmap for the decarbonisation of industrial sectors, consistent with competitiveness objectives,. A policy mix such as that described above would be likely more appropriate to drive the decarbonisation of industrial sectors, and to improve their "low-carbon" competitiveness.

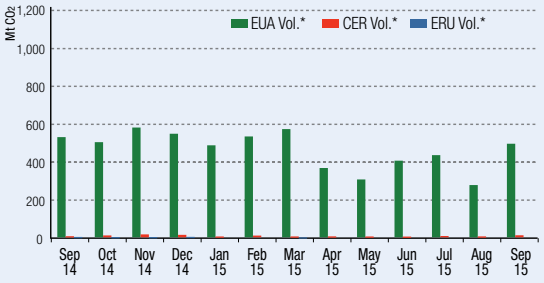
Matthieu JALARD, Émilie ALBEROLA, Lara DAHAN - I4CE – Institute for Climate Economics

1. Jalard, M. and Alberola, É., 2015, Free allocation in the European Emissions Trading System (EU ETS): Identifying efficient mechanisms through to 2030. *Climate Report* N.51, I4CE – Institute for Climate Economics

Key points

- **EU ETS – MSR :** On September 18th, EU Environment Ministers adopted the Market Stability Reserve (MSR) for a start date in 2018.
- **EU ETS – MSR:** On September, the timeline for the revision of the Directive for Phase IV of the EU ETS was detailed. A vote in plenary is expected in November 2016.
- **Energy Union :** On September 28th, a European Council meeting on Energy published draft conclusions on the governance system of the Energy Union, based on National Energy & Climate Plans to be drawn up in 2018.

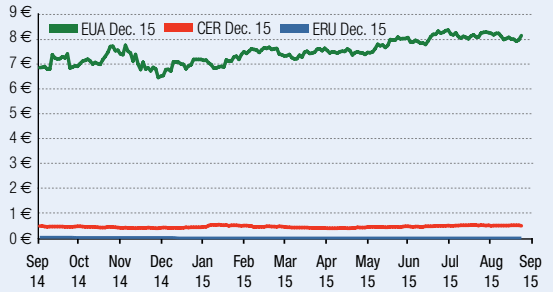
Trading volumes: EUA +79%, CER +120%



* Spot & futures, exchanges & OTC cleared

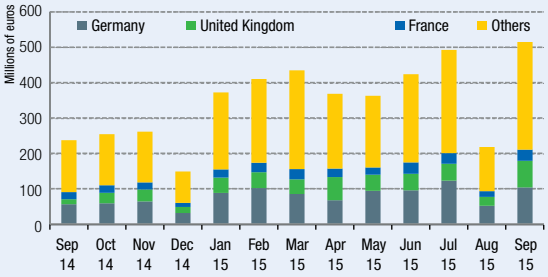
Source: I4CE calculation, based on data from EEX, ICE Futures Europe, NYMEX, Nasdaq OMX, and LCH Clearnet

Dec 15 contract price: EUA +0.2%



Source: I4CE, ICE Futures Europe

Monthly proceeds from Phase 3 auctions: 514.9 M€ in September 2015 (+136%)



Source: I4CE based on data from ICE Futures Europe, EEX

Energy

Primary energy prices and electricity prices

			Sep. 2015	
Coal	API # 2 CIF ARA (First month in USD/t)		53.77	▼
Natural gas	NBP (spot in €/MWh)		19.14	▲
	TTF (spot in €/MWh)		19.16	▼
Crude oil	Brent (First month in USD/b)		48.54	▲
Electricity	Germany (€/MWh)	Spot	33.55	▼
		Calendar	29.78	▲
	United Kingdom (€/MWh)	Spot	56.86	▲
		Next summer	56.08	▼
		Next winter	61.22	▼

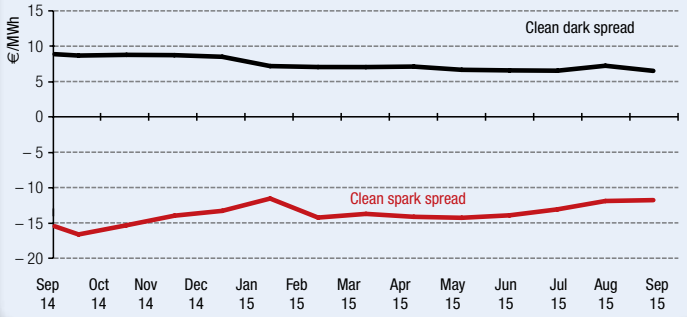
Sources: I4CE, Thomson Reuters

Clean dark, clean spark spreads and switching price

	Clean spark (€/MWh)		Clean dark (€/MWh)		Switching Price (€/tCO2)	
	spot	futures	spot	futures	spot	futures
Germany*	–7.8	– 11.8	9.4	6.5	37.3	39.2
United Kingdom*	14.8	15.2	32.1	32.3	36.9	36.6

** Germany, 2016 calendar contract*

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



Sources: I4CE, Thomson Reuters

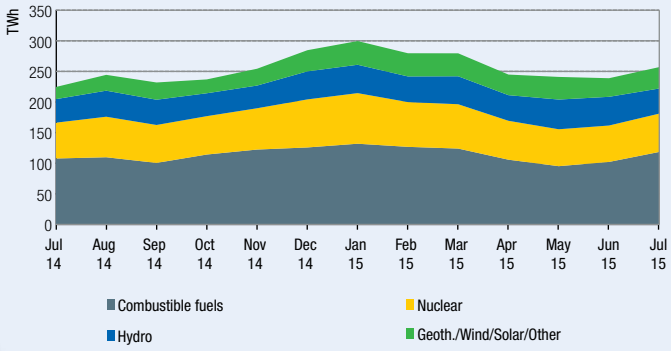
The price of Brent stood at its low level in September with a monthly average of $48.5/bl, in a context marked by a global economic slowdown, and abundant American and OPEC productions. Coal prices are also down to $53.5/t. The continuing decline in the price of Brent gives rise to a decline in gas prices averaging monthly €19.1/MWh for spot prices NBP and TTF. The price of electricity on the spot market in the German stood at €33.5/MWh, while the contract for delivery in December 2016 has traded below the €30/MWh for the first time in 12 years with a monthly average of €29 8/MWh. This follows strong wind productions recorded, as well as low coal prices. The German clean dark spread was unchanged at €9.4/MWh on spot markets and declined slightly to €6.5/MWh in the futures markets. The clean spark spread increased slightly on spot markets and futures. The theoretical CO_2 «switch» price was calculated to 37.3 €/tCO_2e in the German spot power market and 36.69 €/tCO_2e in the British spot power market.

Production

Electricity generation (TWh)

EU 20 (in TWh)	July 15	Cumulative from Jan. 15	Year-on-Year (% change)
Production	257.1	1,833.2	4.0%
of which - Combustible fuels	118.5	804.1	4.4%
- Nuclear	62.6	474.3	–0.3%
- Hydro	41.0	312.1	–2.8%
- Geoth./Wind/Solar/Other	35.0	250.1	27.4%

** Gas, coal, oil.*

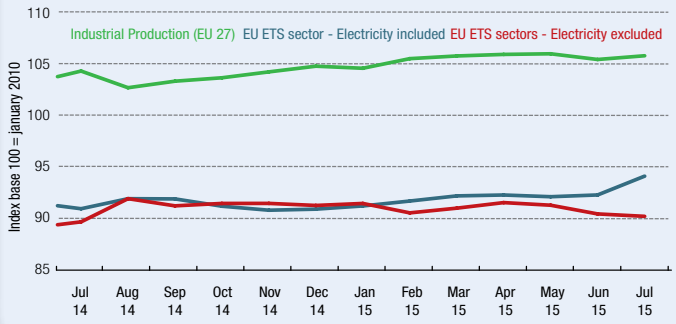


Source: I4CE, from IEA data

Production indices (Index base year 2010)

EU 27	July 15	Last month (pts)	Year-on-Year (pts)
Indust. Prod (excl. construction)	105.8	0.36	1.48
EU ETS sectors production* (incl. electricity)	94.1	1.82	3.15
EU ETS sectors production* (excl. electricity)	90.3	–0.23	0.53
Electricity. gas and heating	96.2	2.89	4.52
Cement	73.1	–2.56	–4.96
Metallurgy	102.6	–1.30	1.81
Oil refinery	95.8	2.88	8.05

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

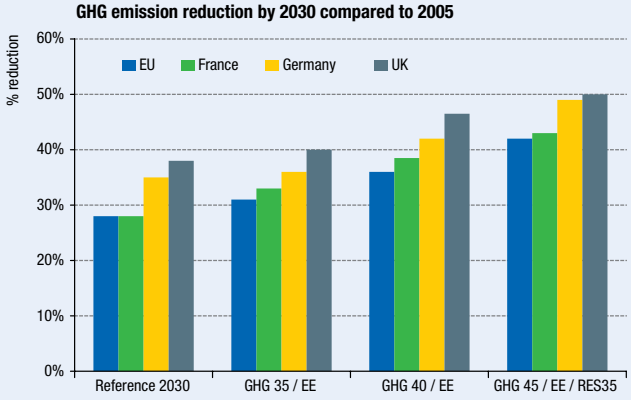


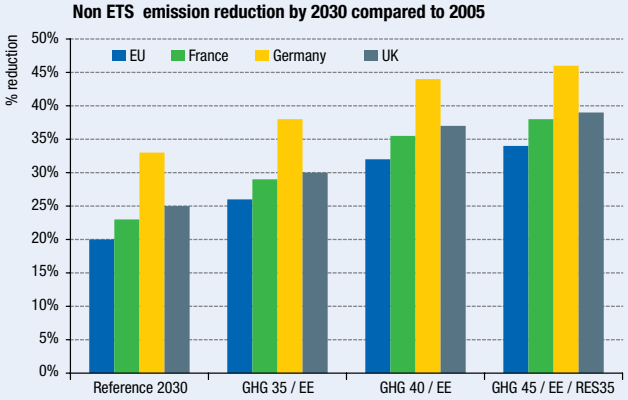
Source: I4CE from Eurostat data

Industrial production in EU 27 countries increased by 0.5% in July 2015 compared to the previous month and is up 1.5% compared to July 2014. The monthly increase of 0.5% of industrial production is driven by production of energy rising by 2.1%, capital goods by 0.7% and durable consumer goods by 0.6%, while production of intermediate goods fell by 0.6% and non-durable consumer goods by 0.2%. Among Member States for which data are available, the highest increases in industrial production were registered in Ireland (+7.2%), Greece (+4.3%), Croatia (+3.6%) and Latvia (+2.8%), and the largest decreases in Denmark (–4.6%), Sweden (–2.1%) and Malta (–1.8%). Our production index of sectors in the EU ETS (including electricity) increased slightly to 94.1 pt, while the index excluding electricity fell slightly to 90.3 pt. Electricity production in the EU's 20 countries was 257.1TWh in June 2015, dup 7.6% compared to July 2015. Compared to 2014, the cumulative annual production is up 2.4%, renewable production is up 21.9%, and production of fossil electricity has increased by 3.5%. Hydropower production was down slightly (–4.1%).

Coordination of CO_2, 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 September 28th, a Working Party meeting on Energy focused on the governance system for the Energy Union. The draft Conclusions outline the principles for the governance system of the Energy Union, and identify essential components of this governance system. National Energy & Climate Plans will be developed and the first Plans will be drawn up in 2018. There will also be Progress Reports on the implementation of these Plans that European Member States will submit every 2 years. Key performance indicators will be established to monitor progress and enable comparisons between Member States. The Commission will summarize and assess the overall progress made in its annual report on the State of the Energy Union. On September 18th, EU ministers unanimously adopted Council Conclusions establishing the EU's position for the UN climate change conference in Paris which will be held in December. This should contain a dynamic five-yearly mitigation ambition mechanism in which all Parties should be required to either submit new or updated commitments, without falling behind previous levels of commitment, or resubmit the existing ones. The Paris Agreement should also allow for the international use of markets, subject to the application of robust common accounting rules which ensure that the environmental integrity and the integrity of the mitigation commitments are maintained and double counting is avoided.

Institutional environment

Phase 3 supply balance table

	2013	2014	2015*	2016*	2017*	2018*	2019*	2020*
Auctions ($MtCO_2$)	**804**	**532**	**778**	**865**	**1,053**	**1,041**	**1,028**	**1,016**
Free allocation ($MtCO_2$)	**843**	**767**	**813**	**789**	**765**	**741**	**717**	**693**
Total	**1,647**	**1,299**	**1,488**	**1,568**	**1,750**	**1,733**	**2,019**	**2,326**

** 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
TOTAL	**843**	**767**	**630**

** Until 31st March*

Sources: I4CE, European Commission, ICE Futures Europe, EEX

CER and ERU supply

	Sep. 15	Last month change
Number of CDM projects	**12,322**	**+ 6**
of which - registered	7,671	+7
with - CER issued	2,837	+13
Cumulative volume of CER issued (Mt)	**1,619**	**–15**
Number of JI projects	**788**	**-**
of which - registered	604	-
Cumulative volume of ERU issued (Mt)	**864**	**-**
via - Track 1	838	-
via - Track 2	25	-

Sources: I4CE, UNEP-DTU

On September 18th, EU Environment Ministers adopted the Market Stability Reserve (MSR) that was agreed politically before the summer. Qualified majority was needed for an endorsement of the MSR, which was comfortably achieved. However some EU Member States (Poland, Bulgaria, Romania, Croatia, Hungary) opposed the deal and issued a statement opposing an earlier start to the MSR and placing unallocated and backloaded allowances in the reserve. They also question the legal basis for adopting the MSR through qualified majority and argue that unanimity should have been required. On September 16th the European Parliament appointed Mr. Ian Duncan (ECR) as Rapporteur for the EU ETS revision proposal in the ENVI Committee. He is member of the EU Parliament since 2014 and was the shadow rapporteur for the ECR group on the Market Stability Reserve. The timeline for the work on the file was detailed: after a public hearing during the Environment Committee on February 18th, a draft report will be considered on April 18th and deadline for amendments is set on April 26th. A vote in plenary could take place on November 2016, after a vote in the Environment Committee on September 29th. Clarity is still needed on the role of the Industry Committee (ITRE),. It is expected to vote before the ENVI Committee having the lead, *i.e* before September 2016.

Carbon markets dashboard

Primary market - EUA auctions in Phase 3

		Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15
Common Auction Platform + United Kingdom & Germany	Price (€/t)	5.96	5.99	6.78	6.74	6.89	7.20	6.72	7.01	7.39	7.44	7.70	8.06	8.06
	Volume (Mt)	39.79	42.05	38.56	22.04	54.06	57.00	64.67	52.55	49.09	56.97	63.96	27.03	63.88
Auction Revenues (M€)	Germany	56.07	58.71	63.97	31.17	88.04	101.65	84.94	67.35	93.96	95.40	122.71	51.63	103.55
	United Kingdom	14.13	29.65	33.78	17.15	43.38	44.97	41.54	65.55	45.63	46.75	47.78	25.22	75.33
	France	20.14	21.35	20.03	11.51	23.14	26.76	28.96	23.96	20.46	32.18	30.10	16.12	31.52
	Others	146.78	144.45	143.52	88.78	217.71	236.84	279.33	211.53	202.74	249.46	291.99	124.97	304.54
	Total	237.13	254.15	261.30	148.61	372.27	410.23	434.77	368.40	362.79	423.79	492.57	217.94	514.94

Sources: EEX, ICE Futures Europe

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

		Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15
Cumulative volume of CER issued UNEP-DTU (Mt)		1,491	1,504	1,512	1,512	1,525.7	1,540.8	1,544.7	1,551.3	1,595	1,598.4	1,605.0	1,614.0	1,618.8
Cumulative volume of ERU issued (Mt)	Track 1 (Mt)	824.4	824.4	824.5	824.5	838.1	838.1	838.1	838.1	838.1	838.1	838.1	838.1	838.1
	Track 2 (Mt)	25.4	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, I4CE

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

			Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15
ICE Futures Europe	Daily spot	Price EUA phase 3	6.01	6.09	6.91	6.97	6.97	7.27	6.80	7.10	7.44	7.46	7.73	8.08	8.10
		Volume EUA phase 3	17,953	5,530	7,793	10,180	9,324	25,327	23,640	23,244	13,768	16,321	19,536	16,810	17,760
		Price CER	0.15	0.13	0.08	0.04	0.46	0.42	0.41	0.49	0.45	0.40	0.44	0.48	0.51
		Volume CER	242	255	319	8,622	860	4,436	3,202	833	161	83	726	11	1,159
	Dec.15	Price EUA	6.16	6.21	7.03	7.15	7.06	7.35	6.85	7.14	7.48	7.50	7.76	8.11	8.13
		Volume EUA	94,922	119,746	140,392	180,590	356,677	377,226	394,219	268,144	200,863	211,772	256,749	170,592	285,220
		Price CER	0.39	0.38	0.52	0.54	0.46	0.42	0.41	0.49	0.45	0.40	0.44	0.48	0.51
		Volume CER	1535	3,644	3,724	2,654	1,863	2,796	1,408	3,440	3,048	2,108	4,996	3,265	7,607
	Dec.16	Price EUA	6.30	6.34	7.17	7.35	7.17	7.47	6.93	7.22	7.56	7.58	7.85	8.19	8.21
		Volume EUA	47,533	40,921	40,926	39,009	55,893	46,588	50,070	39,148	35,365	72,609	65,575	38,537	43,022
		Price CER	0.39	0.38	0.52	0.54	0.52	0.42	0.40	0.49	0.44	0.39	0.42	0.46	0.49
		Volume CER	50	850	500	550	500	0	0	200	298	654	979	979	1,769
	Dec.17	Price EUA	6.30	6.34	7.17	7.35	7.34	7.63	7.06	7.34	7.67	7.68	7.96	8.31	8.32
		Volume EUA	47,533	40,921	40,926	39,009	15,087	19,340	28,076	8,049	27,783	32,838	36,075	28,925	24,543
		Price CER	0.39	0.38	0.52	0.54	0.46	0.42	0.40	0.49	0.44	0.39	0.41	0.45	0.48
		Volume CER	50	850	500	550	0	0	0	0	0	0	2	500	112

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
Total (Mt)	**–161.3**	**94.2**	**59.8**	**112.1**	**164.5**	**–107.1**

Source: CITL

	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
Total (Mt)	**–161.3**	**94.2**	**59.8**	**112.1**	**164.5**	**–107.1**

Source: CITL

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