Tendances Carbone
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Feedback from the New York Climate Summit: a CO_2 price is necessary, but not sufficient

A year before the Paris 2015 Climate Conference, where a new international climate agreement will be negotiated, consensus is emerging among economic decision-makers about the carbon price. Several international initiatives that were made public in September are calling for the necessary introduction of a financial value for a tonne of carbon in investment decision-making channels. The challenge is sizeable, namely keeping the increase in temperatures to below 2°C between now and 2100 by supporting the investments that need to be made in the coming decades – over US$1 trillion a year according to the International Energy Agency.

The issue of the carbon price has come a long way. It has played an important role in motivating decision-makers over the past decade, by assigning a financial value to a tonne of carbon. However, several events gave rise to a wave of suspicion regarding the implementation of this kind of public policy, including the confidence crisis in the European Union Emission Trading Scheme (EU ETS) following the steep fall in the price of CO_2, and the long negotiations on the European Commission's first intervention measure via back-loading, the collapse in the price of Kyoto carbon credits once European demand had been satisfied, with no likely recovery in the short term, and finally the fact that the international exchange for countries' Kyoto allowances never resulted in a financial value.

The return of the carbon price as the focal point of discussions was specifically encouraged by the report entitled Better growth for a better climate published in mid-September by Nicolas Stern, the economist, and Felipe Calderón, the former President of Mexico, which sets out 10 recommendations that need to be implemented by 2035 in order to keep global warming below 2°C. These recommendations include the introduction of a carbon price, which is a necessary benchmark for guiding decisions and investments towards choices that emit less greenhouse gas. Furthermore, at the Climate Summit in New York on 23 September 2014, it was the turn of Ban Ki-moon, the Secretary General of the United Nations, and around 74 States, 11 infra-national governments (regions and provinces), 11 cities and over 1,000 companies to back the introduction of a carbon price, by supporting the World Bank *Put a price on carbon* initiative.

Although a large number of decision-makers now agree on introducing a carbon price, none of them have specified the carbon price level that they consider necessary. Furthermore, they have not even specified the means by which this carbon price would be introduced. The price is likely to vary in each carbon pricing system introduced by regulatory authorities (allowance system, tax, or other means) depending on specific national or regional features, or will be defined by the operators themselves – including financial operators – when a reference value (in terms of shadow price) is involved. Make no mistake: this international support for a carbon price will not result in the emergence of an international carbon price, which will remain an "economist's dream" for a long time. However, a jigsaw of geographical and sector-based carbon prices, if those prices are sufficiently credible over the long-term, will be useful for promoting the roll-out of low-carbon technologies in the business sphere.

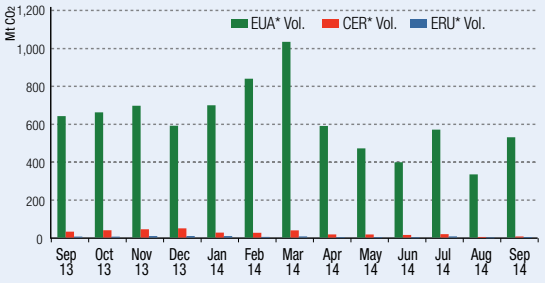
Additional instruments or policies will be essential. We will need to provide other channels that promote the offer of funding dedicated to low-carbon investments. For instance, green bonds were mentioned repeatedly in New York on 23 September, including by Ban Ki-Moon, and Jim Yong Kim – the Chairman of the World Bank – as well as by private and public financial operators. Other financial operators also committed to lowering the carbon content of their portfolio, or else to increasing their funding dedicated to combating climate change. In any event, these initiatives or tools, which are primarily aimed at lowering the cost of low-carbon debt, will only bear fruit if the overall institutional framework is favourable to green projects. This is another reason why a carbon price remains necessary.

Émilie Alberola, Benoît Leguet and Romain Morel - **CDC Climat Research**

Key points

- **New EU Energy and Climate Action Commissioner:** the Miguel Arias Canete's nomination was approved by a majority of Members of EU Parliament.
- **EU ETS - MSR timetable:** On September 23rd, the timetable was announced; deadline for amendments is 11th December 2014; ENVI committee votes on 23rd or 24th February 2015.
- **BKM Summit:** On September 23rd, the European Commission President, José Manuel Barroso stated that 20% of the EU budget for 2014-2020 (€ 180 billion) will be spent on climate action.

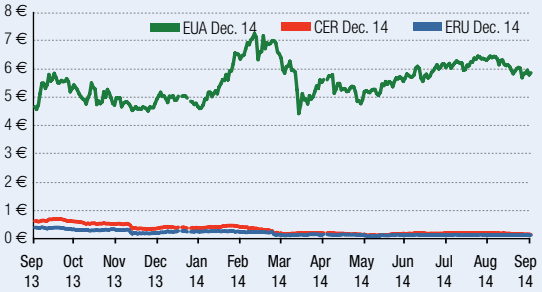
Trading volumes: EUA 58.8%, CER 87.5%, ERU 864.9%



* Spot & futures, exchanges & OTC cleared

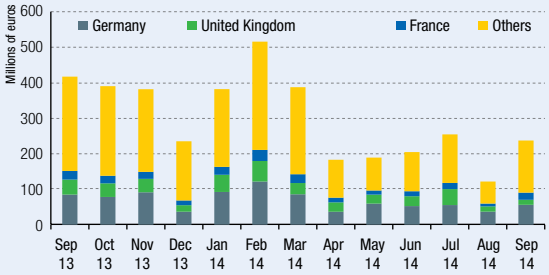
Source: CDC Climat Research calculation, based on data from EEX, ICE Futures Europe, NYMEX, Nasdaq OMX, and LCH Clearnet

Price of Dec. 14 contract: EUA –3.51%



Source: CDC Climat Research, ICE Futures Europe

Income from Phase 3 auctions: 237 M€ in September 2014 (+95%)



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

Energy

Primary energy prices and electricity prices

			Sep. 2014	
Coal	API # 2 CIF ARA (First month in USD/t)		74.6	▼
Natural gas	NBP (spot in €/MWh)		20.9	▲
	TTF (spot in €/MWh)		20.7	▲
Crude oil	Brent (First month in USD/b)		98.6	▼
Electricity	Germany (€/MWh)	Spot	36.7	▲
		Calendar	35.1	▼
	United Kingdom (€/MWh)	Spot	54.4	▲
		Next summer	62.2	▲
		Next winter	69.9	▲

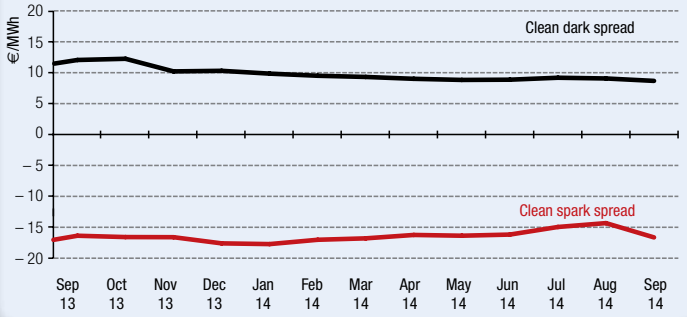
Sources: CDC Climat Research, Thomson Reuters

Clean dark, clean spark spreads and switching price

	Clean spark (€/MWh)		Clean dark (€/MWh)		Switching Price (€/tCO2)	
	spot	futures	spot	futures	spot	futures
Germany*	–6.9	–16.6	11.2	8.7	36.8	49.2
United Kingdom*	13.4	8.1	28.2	34.7	37.1	52.2

** Germany, 2015 calendar contract, United Kingdom, summer 2015 contract.*

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



Sources: CDC Climat Research, Thomson Reuters

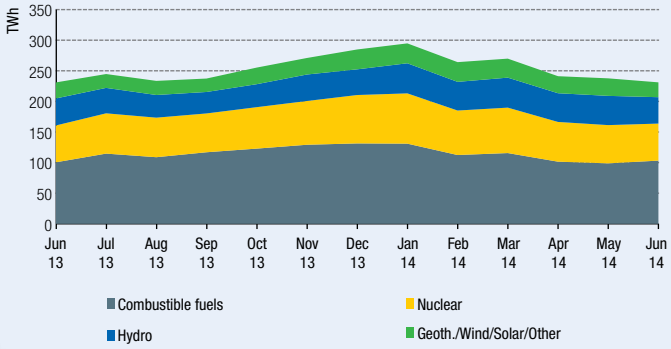
In September 2014, the average monthly price of Brent crude oil has continued its decline from August. It fell by 4.6% to reach $98.6/b. The reason for this fall is in part due to excess supply (Libyan production, Nigeria and Iraq) and in part due to weakening demand from major economies, except USA. The gas prices have risen over the month of September: NBP spot prices have risen to reach 20.9 € MWh, while TTF spot prices have risen by 18.3% to reach 20.7 €/MWh. Increase in prices could be attributed to the uncertainty over the crisis between Russia and Ukraine and reduced supply from Norway. With regards to electricity, the German power spot prices increased by 16.6% while the calendar 2015 prices decreased by 1.4%. German spot prices have increased due to lower nuclear and wind generation while the German calendar prices have reduced as a result of lower emissions and relative stability of coal. Finally, the German clean dark price has increased on the spot market and fallen on the futures market, while the clean spark price has risen on both the spot and futures markets. The theoretical switching price was calculated at 36.8 €/tCO2 for the German spot market and 37.1 €/tCO2 for the UK spot market.

Production

Electricity generation (TWh)

EU 20 (in TWh)	June 14	Cumulative from Jan. 14	Year-on-Year (% change)
Production	231.1	1,538.7	–3.5%
of which - Combustible fuels	103.2	662.4	–10.8%
- Nuclear	60.5	417.1	0.6%
- Hydro	43.1	282.8	–0.3%
- Geoth./Wind/Solar/Other	24.3	176.5	14.4%

** Gas, coal, oil.*

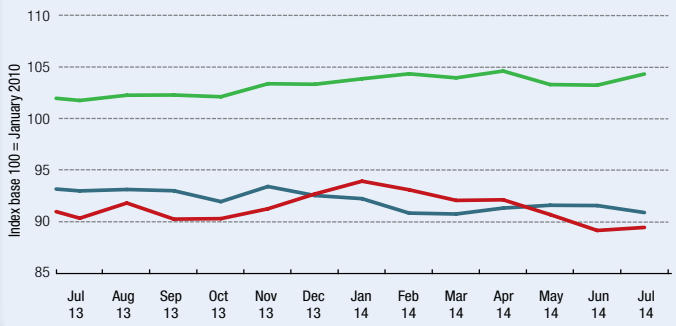


Source: CDC Climat Research, from IEA data

Production indices (Index base year 2010)

EU 27	July 14	Last month (pts)	Year-on-Year (pts)
Indust. Prod (excl. construction)	104.3	1.1	1.4
EU ETS sectors production* (incl. electricity)	90.9	–0.7	–1.5
EU ETS sectors production* (excl. electricity)	89.5	0.3	–1.8
Electricity. gas and heating	91.7	–1.2	–1.4
Cement	78.1	2.6	–0.8
Metallurgy	99.7	–0.8	–0.1
Oil refinery	87.8	0.6	–4.8

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

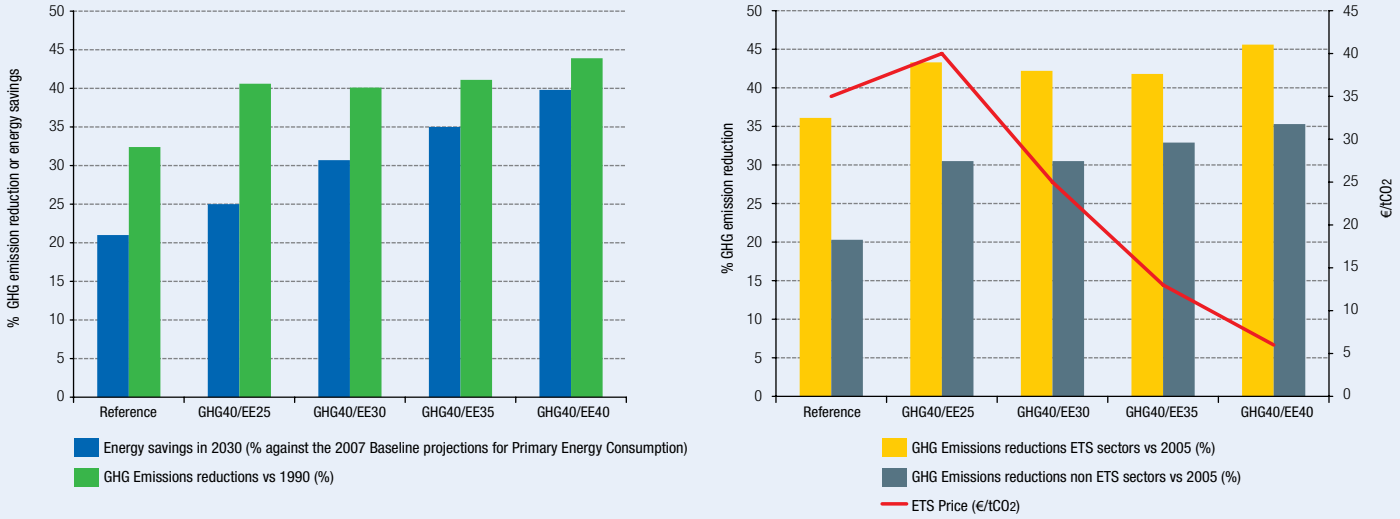


Source: CDC Climat Research from Eurostat data

The industrial production in the EU 27 countries in July 2014 has increased by 1.1%. As compared to July 2013, the industrial production grew by 2% in the EU27 countries. The increase in industrial production by 1.1% is due to an increase of 2.3% in the production of capital goods, a 0.8% increase in non-durable consumer goods and a 0.4% increase in intermediate goods, while energy fell by 0.6% and durable consumer goods by 0.8%. The largest decrease in industrial production was observed in Denmark (–4.7%), and Greece (–1.7%), while the highest increases were observed in Ireland (+11.3%), Estonia (+2.8%), Slovenia (+2.3%) and Croatia (+2.1%). Our EU ETS sector production index (including electricity) declined by 0.76% to 90.9 while the index excluding electricity increased by 0.34% to 89.5. The electricity generation in EU 20 countries was 231.1 TWh. Compared to May 2014, the electricity generation declined by 2.7% and compared to June 2013 it declined by slightly by 0.2%. The decline in electricity generation is attributed to the fall in hydro (–9.8%), nuclear energy (–3.2%) and renewables (–15.3%).

Coordination of CO_2, EE and RES policies

Impact of energy efficiency target on the GHG emissions and the price of CO_2



Note: Reference refers to the scenario with no additional climate and energy policies on the trajectory of the 2020 objectives; EE 25, 30, 35, 40 refer to the scenario with a 40% GHG target, a 27% EU level renewable energy target, and energy savings of respectively 25%, 30%, 35%, 40% in 2030 compared to the 2007 Baseline projections for Primary Energy Consumption.
Source: European Commission, Impact Assessment, Energy efficiency and its contribution to energy security and the 2030 Framework for Climate and energy policy, 2014

On September 23rd, the European Commission President, José Manuel Barroso, stated that 20% of the EU budget for 2014-2020 (€ 180 billion) will be spent on climate action. Additionally, the EU has also pledged to provide funding worth € 14 billion to its partners outside the EU to support public climate finance in their countries. On September 11th, the new Climate and Energy Commissioner Miguel Aria Canete unveiled his priorities for the next five years: completing the internal market for energy, improving Europe's energy security, developing renewable forms of energy and a binding 30% objective for energy efficiency. On September 29th, the EU Council adopted the directive on building a minimum infrastructure for alternative fuels across the EU. Each member state has two years to outline "national policy framework" for putting in place new recharge and refueling points for different types of clean fuels such as hydrogen and natural gas. Finally, the new EU Commission President, Jean-Claude Juncker has stated that he is in favor of a binding energy efficiency target set at 30% of energy savings by 2030 compared to the baseline prediction of 2007.

Institutional environment

Phase 3 supply balance table

	2013	2014*
Auctions ($MtCO_2$)	**804**	**290.6***
Free allocation ($MtCO_2$)	**843**	**767**

**till May 2014*

Free allocation status table

EU Member State	2013	2014
France	82	81
Germany	169	163
United Kingdom	66	64
Others	526	459
TOTAL	**843**	**767**

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

CER and ERU supply

	Sept. 14	Last month change
Number of CDM projects	**12,253**	**+13.0**
of which - registered	7,562	+8.0
with - CER issued	2,657	+22.0
Cumulative volume of CER issued (Mt)	**1,491**	**+11.0**
Number of JI projects	**788**	**0.0**
of which - registered	604	0.0
Cumulative volume of ERU issued (Mt)	**850.0**	**0.0**
via - Track 1	824.4	0.0
via - Track 2	25.4	0.0

Sources: CDC Climat, UNEP-DTU

On September 23rd, the timetable for the Market Stability Reserve (MSR) was announced: the deadline for the amendments has been set for 11th December 2014 and voting by the ENVI committee has been scheduled for either the 23rd or the 24th of February 2015. On 8th September, Portugal, Croatia and Czech Republic made their positions clear with regards to the MSR. Portugal is in favor of an early start for the MSR and in support of moving the backloaded allowances directly in the Reserve. Croatia and Czech Republic, however, are not in support of an early start for the MSR. On September 18th, an objection concerning the Carbon Leakage list for 2015-2019 was submitted to the ENVI committee by the MEPs belonging to the Green parties. This objected was rejected by the committee, hence the proposed list will enter into effect starting November. Denmark has demanded to extend the scope of the EU ETS by including the road transport sector. A high level of emissions coming from the road transport sector has made it difficult for Denmark to meet its Effort Sharing targets. The Commission is opened to discuss this issue with interested member states.

Carbon markets dashboard

Primary market - EUA auctions in Phase 3

		Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14
Common Auction Platform + United Kingdom & Germany	Price (€/t)	5.19	4.83	4.51	4.62	5.00	6.45	6.35	7.35	5.03	5.54	5.91	6.23	5.96
	Volume (Mt)	80.33	80.62	84.53	50.90	76.31	80.33	60.98	35.22	37.72	37.02	43.28	19.52	39.79
Auction Revenues (M€)	Germany	84.82	78.19	91.29	36.66	92.28	121.62	85.73	36.53	59.46	52.45	55.37	36.75	56.07
	United Kingdom	42.33	38.40	37.87	18.27	48.43	57.88	31.69	26.48	25.35	27.82	44.97	14.93	14.13
	France	24.28	21.28	19.65	13.43	22.21	31.21	24.78	13.13	11.65	14.01	17.35	7.90	20.14
	Others	265.65	252.38	232.84	166.63	218.98	304.96	245.15	106.82	92.56	110.32	136.70	62.03	146.78
	Total	417.08	390.25	381.64	235.00	381.89	515.66	387.35	182.96	189.02	204.60	254.39	121.61	237.13

Sources: EEX, ICE Futures Europe

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

		Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14
Cumulative volume of CER issued UNEP-DTU (Mt)		1,388	1,400	1,409	1,419	1,428	1,433	1,440	1,451	1,457	1,466	1,472	1,480	1,491
Cumulative volume of ERU issued (Mt)	Track 1 (Mt)	801.5	802.4	803.5	803.7	803.8	809.6	816.1	824	824.1	824	824.1	824.4	824.4
	Track 2 (Mt)	25.1	26.7	25.4	25.4	25.4	25.4	25.4	25	25.4	25.4	25.4	25.4	25.4

Sources: UNEP-DTU, CDC Climat Research

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

			Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14
ICE Futures Europe	Daily spot	Price EUA phase 3	5.22	4.91	4.53	4.79	4.98	6.51	6.11	5.22	5.11	5.52	5.96	6.26	6.01
		Volume EUA phase 3	14,672	10,483	7,136	14,965	14,405	21,075	35,324	49,429	19,271	20,937	11,897	5,173	17,953
		Price CER	0.65	0.56	0.42	0.36	0.39	0.36	0.19	0.17	0.12	0.14	0.16	0.17	0.15
		Volume CER	170	0	47	1,204	80	375	1,028	2,998	745	167	1,530	1	242
	Dec.14	Price EUA	5.38	5.07	4.69	4.92	5.07	6.61	6.19	5.28	5.50	5.62	6.00	6.29	6.04
		Volume EUA	93,620	135,862	163,545	240,590	450,338	527,394	640,679	360,681	469,397	254,497	336,379	210,539	315,678
		Price CER	0.62	0.52	0.41	0.35	0.37	0.36	0.18	0.16	0.23	0.12	0.16	0.17	0.14
		Volume CER	12,753	7,949	16,224	20,287	15,305	13,092	20,681	8,006	15,527	6,058	10,426	1,353	3,818
	Dec.15	Price EUA	5.59	5.28	4.89	5.10	5.26	6.91	6.41	5.46	5.50	5.80	6.16	6.44	6.16
		Volume EUA	46,207	57,629	55,672	57,784	102,312	116,329	120,993	60,524	467,135	56,911	114,684	64,504	94,922
		Price CER	0.71	0.60	0.48	0.45	0.48	0.52	0.48	0.41	0.23	0.29	0.40	0.40	0.39
		Volume CER	3,184	5,586	4,158	10,987	8,766	7,711	11,991	2,012	15,510	3,454	3,951	1,636	1,535
	Dec.16	Price EUA	5.85	5.54	5.12	5.32	5.49	7.26	6.76	5.7	5.50	6.02	6.35	6.62	6.30
		Volume EUA	26,918	21,449	16,416	17,398	36,721	62,380	101,196	45,597	466,631	33,286	61,189	28,171	47,533
		Price CER	0.74	0.62	0.50	0.46	0.50	0.55	0.49	0.42	0.33	0.29	0.40	0.41	0.39
		Volume CER	0	0	10	0	689	245	982	164	800	0	0	10	50

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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