

COP21: and now, action!

After an unprecedented political process initiated at COP17 in Durban in 2011, 195 countries adopted at COP21 in Paris in December 2015 the first universal agreement for the fight against climate change. Contrary to expectations of some observers, the role of such a process was not to define the actions that each State must undertake. Rather, its role was to put in place a framework for multilateral coordination accepted by all. Furthermore, both the process leading up to and the resulting agreement marked a paradigm shift from a top-down model – led by internationally-set objectives disseminated at the national and local level – towards a more hybrid approach building on the willingness of all economic actors – state and non-state alike – to take action. Nevertheless, some critics point to a possible lag between political declarations and concrete implementation. So how do we know if we are on the right track?

First, the COP21 negotiation process focused principally on political ambition rather than on the means of action. The history of climate negotiations shows that the reverse was not feasible. Indeed, the Paris Agreement needed to send strong political signals, rather than determine the concrete actions to be undertaken by 195 countries. The diversity of needs and potentials of countries to reduce their GHG emissions and to adapt their societies to consequences of climate change makes a common approach de facto politically difficult and economically unwise – or even unjust.

Second, for the first time, nationally established climate action roadmaps (Nationally Determined Contributions or NDCs) have been introduced for almost all countries worldwide. This new model also allowed the emergence of a plethora of initiatives from non-state actors (companies, investors, cities, regions or civil society more generally): in total, more than 11,000 climate action commitments have been noted. Nevertheless, several studies indicate that at this stage the sum of these commitments does not yet ensure the achievement of the objectives set by the Paris Agreement, including maintaining temperature increase well below 2°C, and ultimately global decarbonization of the economy. Achieving these objectives will require structural changes that need time to emerge. It means that in the future both national and non-state stakeholders should make more ambitious commitments. These in turn should be supported by the deployment of new technologies and coherent climate policies.

To encourage action, the Paris Agreement therefore aims to frame and catalyze this dynamic. By developing a governance system that improves transparency on what countries plan to do and have achieved concretely, the Paris Agreement puts in place the necessary tools for an effective coordination. To foster new actions and commitments, the negotiation process is expected to focus on further political mobilization. On the one hand, a global assessment of the impacts of intended actions found in NDCs is planned every five years from 2018. This will be followed two years later by a political deadline for the submission of further – more ambitious – commitments by national governments. On the other hand, non-State actors can now clearly see and match the level of a given country's ambition as embodied in these updated NDCs.

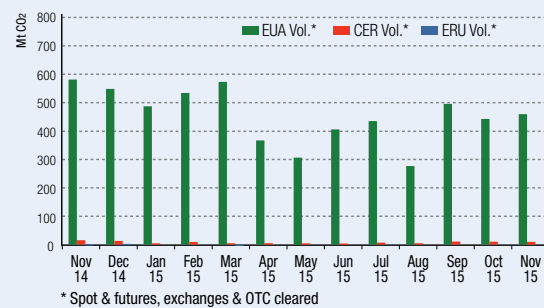
This five-year cycle is a compromise between the need to move increasingly more quickly and the time required to develop and implement national action plans. This process, however, should be seen as a minimum as nothing will prevent groups of countries to move faster on specific issues. Moreover, COP decisions – which have immediate effects unlike the Agreement itself – will most likely implement the progressive steps in the Paris Agreement before the end of the ratification process itself.

The Paris Agreement's largest diplomatic achievement lies in confronting both state and non-state actors with their respective responsibility by removing the historical excuse of the lack of international coordination. Nevertheless, it is not an end in itself: only the translation of commitments at all levels into concrete actions will make COP21 a success in practice. As such, the evolution of discussions at the European level – where positions continue to differ between Member States – is one of the next important steps. Indeed, the EU Commission and the Council are charged with assessing the outcome of the COP21 and preparing the next steps by March 2016. The resulting debates will give an initial indication of the Agreement's impact on the willingness of European stakeholders to define a long-term roadmap to decarbonize their economies.

Key points

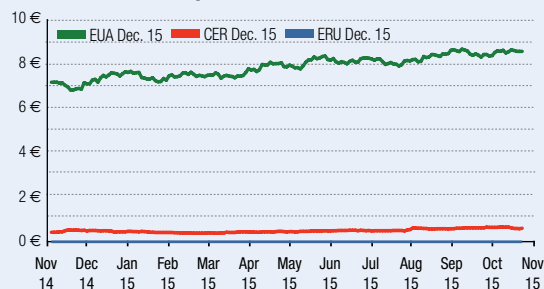
- **EU ETS – auctioning:** publication of the auctioning calendar for 2016, overall amounting to 733 million allowances.
- **State of the Energy Union:** the EU Commission published on 18th November, the State of the Energy Union report.
- **EU ETS:** on 18th November, the EU Commission published the second report on the functioning of the EU ETS outlining challenges faced in 2013 and 2014 and reforms undertaken in 2015.

Trading volumes: EUA +3.8%, CER -5.7%



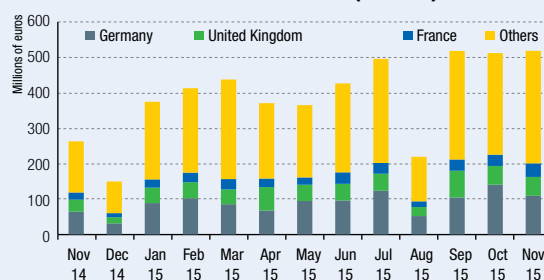
Source: I4CE calculation, based on data from EEX, ICE Futures Europe, NYMEX, Nasdaq OMX, and LCH Clearnet

Dec 15 contract price: EUA +1.33%



Source: I4CE, ICE Futures Europe

Monthly proceeds from Phase 3 auctions: 515.15 M€ in November 2015 (+1.2%)



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

Energy

Primary energy prices and electricity prices

		Nov. 2015	
Coal	API # 2 CIF ARA (First month in USD/t)	53.55 ▲	
Natural gas	NBP (spot in €/MWh)	17.4 ▼	
	TTF (spot in €/MWh)	17.2 ▼	
Crude oil	Brent (First month in USD/b)	45.9 ▼	
Electricity	Germany (€/MWh)	Spot	34.4 ▼
		Calendar	29.1 ▼
	United Kingdom (€/MWh)	Spot	53.9 ▼
		Next summer	52.0 ▼
		Next winter	59.1 ▼

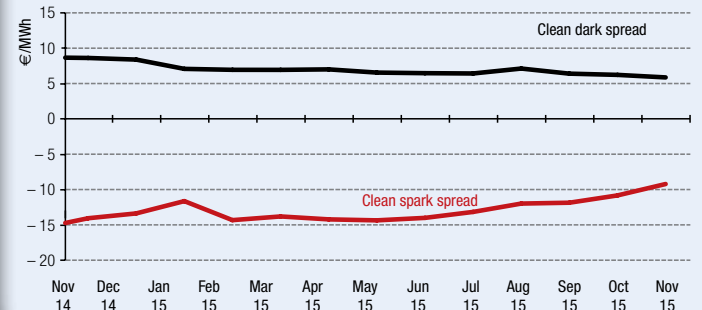
Sources: IACE, Thomson Reuters

Clean dark, clean spark spreads and switching price

	Clean spark (€/MWh)		Clean dark (€/MWh)		Switching Price (€/tCO ₂)	
	spot	futures	spot	futures	spot	futures
Germany*	-3.1	-9.1	9.2	6.0	29.5	34.2
United Kingdom*	15.3	14.3	28.1	28.4	29.8	31.8

* Germany, 2016 calendar contract

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



Sources: IACE, Thomson Reuters

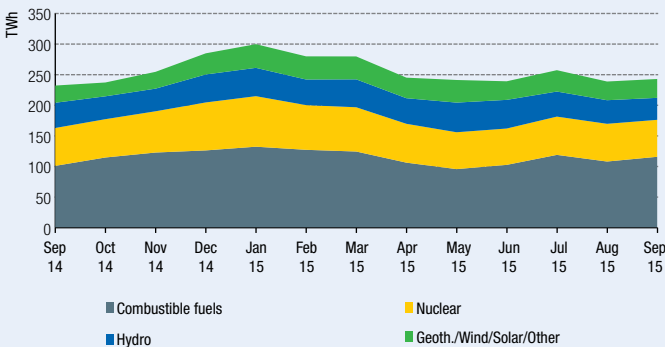
The price of Brent continued to decrease in November, reaching a monthly average of \$45.9/bl, in a context marked by a global low demand, and abundant American and OPEC productions. Coal prices recovered slightly to \$53.55/t. In the wake of lower oil prices, gas prices continued to fall, to €17.4/MWh for NBP spot prices, and €17.2/MWh for the TTF spot prices. Electricity prices on the German spot market came down to €34.4/MWh due to particularly high temperatures and abundant supply. The contract for delivery in December 2016 remained below €30/MWh with a monthly average of €29.1/MWh. This is due to the continued decline in prices of coal and gas, low demand and the increasing share of RES. The German clean dark spread fell to €9.2/MWh on spot markets and stood at €6.5/MWh on the futures markets. The clean spark spread was down to -€3.1/MWh on spot markets and remained at -€9/MWh in the future markets. The theoretical CO₂ «switch» price was calculated to 29.5 €/tCO_{2e} in the German spot power market and 29.8 €/tCO_{2e} in the British spot power market.

Production

Electricity generation (TWh)

EU 20 (in TWh)	Sept. 15	Cumulative from Jan. 15	Year-on-Year (% change)
Production	242.7	2,314.4	3.3%
of which - Combustible fuels	115.3	1,027.1	4.8%
- Nuclear	60.5	596.5	-1.2%
- Hydro	36.0	386.7	-4.5%
- Geoth./Wind/Solar/Other	30.9	311.6	24.4%

* Gas, coal, oil.

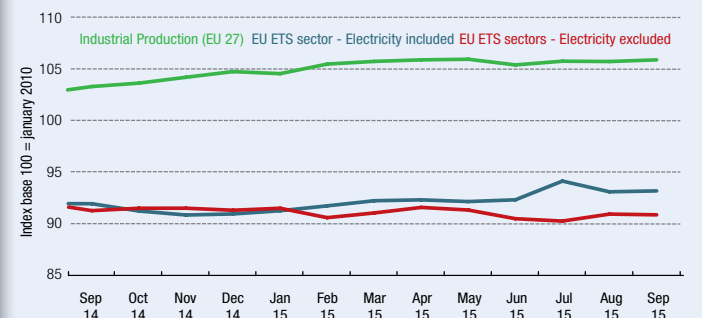


Source: IACE, from IEA data

Production indices (Index base year 2010)

EU 27	Sept. 15	Last month (pts)	Year-on-Year (pts)
Indust. Prod. (excl. construction)	105.9	0.16	2.59
EU ETS sectors production* (incl. electricity)	93.2	0.09	1.25
EU ETS sectors production* (excl. electricity)	90.9	-0.07	-0.40
Electricity, gas and heating	94.4	0.17	2.11
Cement	74.0	-1.07	-5.67
Metallurgy	101.2	-1.65	-1.90
Oil refinery	98.4	4.00	6.15

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

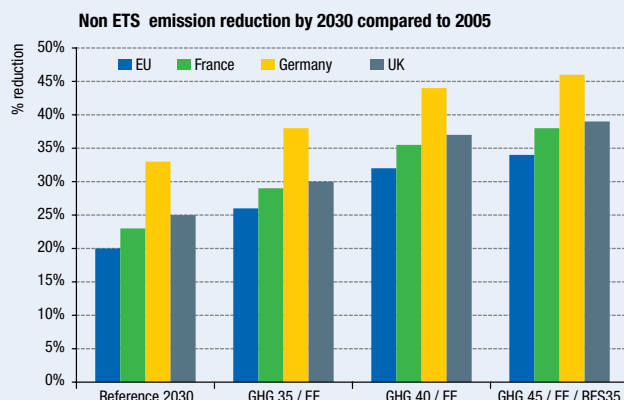
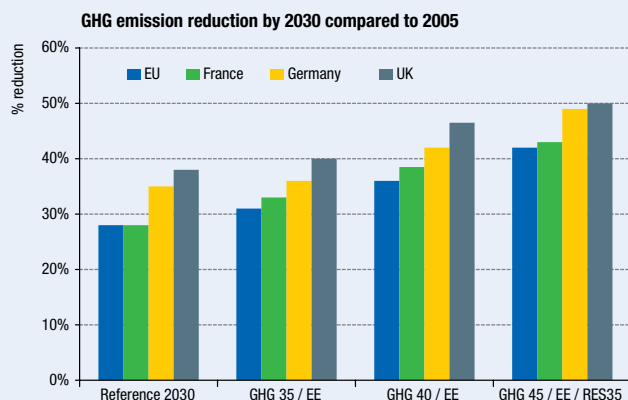


Source: IACE from Eurostat data

Industrial production of EU 27 countries remained constant in September 2015 and were up 2.6 pt compared to September 2014. Production of consumer durables was down 3.9%, in a context of increased production of energy by 1.2%; while production of capital goods remained stable. The largest decreases in industrial production were registered in Ireland (-2.4%), Lithuania (-2.3%), Greece (-1.9%), and the highest increases in Croatia (+5.9%), Hungary (+2.9%), the Czech Republic (+2.6%) and Slovakia (+2.2%). Our production index sectors of the EU ETS (including electricity) increased to 93.2 pt, while the index excluding the production of electricity decreased to 90.9 pt. Electricity production in the EU's 20 countries was 242.7 TWh in September 2015, up 1.7% compared to August 2015. Compared to 2014, the cumulative annual production increased by 3.3%. The cumulative production of renewable electricity has increased by about 24.4%. The production of fossil fuels based electricity increased by 4.8%. Hydropower production was down slightly (-4.5%).

Coordination of CO₂, 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.

The State of the Energy Union was released on 18th November 2015. Further efforts are needed to ensure renewable energy is better integrated into the power market and to ensure consistency between support schemes. The new Renewable Energy Directive and the bioenergy sustainability policy for 2030 will provide the framework to achieve the binding EU-level target. It highlights that the energy efficiency targets of 20% is expected to be missed, and encourages forceful implementation of the existing legislation. In 2016, the European Commission will make proposals to align the Energy Efficiency Directive to the 2030 perspective, and will have a particular focus on buildings. A dedicated strategy for heating and cooling is planned for early 2016. The Commission will publish in 2016 a report on energy prices and costs, to provide an overview of the cost of energy, taxes, levies, but also subsidies. As part of the 2016 Energy Union package, the Commission will present a comprehensive Energy Union strategy for research, innovation and competitiveness. Only around a third of Member States have comprehensive energy and climate strategies in place beyond 2020. Member States should present draft plans in 2017 that should be operational well before 2020 in order to provide certainty and predictability to project developers and investors. In 2016 the Commission will come forward with guidance on how to strengthen regional cooperation and how the Commission can facilitate regional approaches. In order to track progress, a transparent monitoring system will be put in place based on key indicators as well as on Member States' biannual reports.

Institutional environment

Phase 3 supply balance table

	2013	2014	2015*	2016*	2017*	2018*	2019*	2020*
Auctions (MtCO₂)	804	532	644	763	969	976	985	1,016
Free allocation (MtCO₂)	862	815	793	769	745	721	697	673
Total	1,666	1,347	1,437	1,532	1,714	1,697	1,682	1,689

* Estimations

Free allocation status table

EU Member State	2013	2014	2015*
France	82	81	77
Germany	169	163	159
United Kingdom	66	64	57
Others	526	459	437
TOTAL	843	767	730

* Until 31st March

CER and ERU supply

	Nov. 15	Last month change
Number of CDM projects	12,332	+6
<i>of which - registered</i>	7,681	+4
<i>with - CER issued</i>	2,854	+11
Cumulative volume of CER issued (Mt)	1,634	+7
Number of JI projects	788	-
<i>of which - registered</i>	604	-
Cumulative volume of ERU issued (Mt)	864	-
<i>via - Track 1</i>	838	-
<i>via - Track 2</i>	25	-

Sources: IACE, European Commission, IACE Futures Europe, EEX

Sources: IACE, UNEP-DTU

On 9th November, the European Commission has informed that 387.64 million of international credits were exchanged for allowances by EU ETS operators by 31 October 2015 since March 2014 (when the exchange function became available). On 10th November, the UK has published its views on the ETS revision proposal for Phase IV demonstrating support for the proposed 57%/43% split between auctioning & free allocation of allowances, for a broader scope of the new Innovation Fund, for a more targeted approach concerning carbon leakages provisions. On 23rd November, the timetable for the ITRE Committee has been confirmed: submission of a draft report and ENVI hearing on 18th February, vote on 14th June before the ENVI vote on 29th September. The auction calendars for EU allowances and aviation allowances for 2016 have been published. The total quantity of general allowances to be auctioned in 2016 amounts to 733,7 million (compared to 632,7 million in 2015). This volume is based on the estimated amount of general allowances to be auctioned, and takes into account a reduction of 200 million allowances for 2016 due to the backloading Decision, as well as general allowances that have been withheld from auctioning pursuant to Article 10c of the ETS Directive but not allocated in previous years (this represents a total of 8.45 million general allowances to be auctioned in 2016).

Carbon markets dashboard

Primary market - EUA auctions in Phase 3

		Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
Common Auction Platform + United Kingdom & Germany	Price (€/t)	6.78	6.74	6.89	7.20	6.72	7.01	7.39	7.44	7.70	8.06	8.06	8.35	8.48
	Volume (Mt)	38.56	22.04	54.06	57.00	64.67	52.55	49.09	56.97	63.96	27.03	63.88	60.95	60.76
Auction Revenues (M€)	Germany	63.97	31.17	88.04	101.65	84.94	67.35	93.96	95.40	122.71	51.63	103.55	139.71	108.48
	United Kingdom	33.78	17.15	43.38	44.97	41.54	65.55	45.63	46.75	47.78	25.22	75.33	52.53	52.97
	France	20.03	11.51	23.14	26.76	28.96	23.96	20.46	32.18	30.10	16.12	31.52	31.47	38.11
	Others	143.52	88.78	217.71	236.84	279.33	211.53	202.74	249.46	291.99	124.97	304.54	285.22	315.59
	Total	261.30	148.61	372.27	410.23	434.77	368.40	362.79	423.79	492.57	217.94	514.94	508.93	515.15

Sources: EEX, ICE Futures Europe

Primary market - CER and ERU issued (MtCO₂)

		Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
Cumulative volume of CER issued UNEP-DTU (Mt)		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	1,627	1,634
Cumulative volume of ERU issued (Mt)	Track 1 (Mt)	824.5	824.5	838.1	838.1	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 (ktCO₂)

			Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15
ICE Futures Europe	Daily spot	Price EUA phase 3	6.91	6.97	6.97	7.27	6.80	7.10	7.44	7.46	7.73	8.08	8.10	8.38	8.51
		Volume EUA phase 3	7,793	10,180	9,324	25,327	23,640	23,244	13,768	16,321	19,536	16,810	17,760	11,058	17,160
		Price CER	0.08	0.04	0.46	0.42	0.41	0.49	0.45	0.40	0.44	0.48	0.51	0.59	0.64
		Volume CER	319	8,622	860	4,436	3,202	833	161	83	726	11	1,159	719	1,277
	Dec.15	Price EUA	7.03	7.15	7.06	7.35	6.85	7.14	7.48	7.50	7.76	8.11	8.13	8.40	8.51
		Volume EUA	140,392	180,590	356,677	377,226	394,219	268,144	200,863	211,772	256,749	170,592	285,220	264,064	262,403
		Price CER	0.52	0.54	0.46	0.42	0.41	0.49	0.45	0.40	0.44	0.48	0.51	0.59	0.64
		Volume CER	3,724	2,654	1,863	2,796	1,408	3,440	3,048	2,108	4,996	3,265	7,607	3,684	0
	Dec.16	Price EUA	7.17	7.35	7.17	7.47	6.93	7.22	7.56	7.58	7.85	8.19	8.21	8.47	8.58
		Volume EUA	40,926	39,009	55,893	46,588	50,070	39,148	35,365	72,609	65,575	38,537	43,022	76,818	116,680
		Price CER	0.52	0.54	0.52	0.42	0.40	0.49	0.44	0.39	0.42	0.46	0.49	0.52	0.56
		Volume CER	500	550	500	0	0	200	298	654	979	979	1,769	4,300	3,490
	Dec.17	Price EUA	7.17	7.35	7.34	7.63	7.06	7.34	7.67	7.68	7.96	8.31	8.32	8.58	8.69
		Volume EUA	40,926	39,009	15,087	19,340	28,076	8,049	27,783	32,838	36,075	28,925	24,543	27,696	32,041
		Price CER	0.52	0.54	0.46	0.42	0.40	0.49	0.44	0.39	0.41	0.45	0.48	0.52	0.56
		Volume CER	500	550	0	0	0	0	0	0	2	500	112	600	1

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: 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
Total (Mt)	-161.3	94.2	59.8	112.1	164.5	-107.1

Source: CTL