PRESS BRIEFING VET 2012

The German Emissions Trading Authority (DEHSt) at the Federal Environment Agency publishes the amount of CO2 emitted annually by energy and industrial installations subject to emissions trading in Germany and by aircraft operators participating in emissions trading since 01/01/2012. The base line is the quantity of last year's CO2 entered by the operators in the „Verified Emissions Table" (VET) of the European Commission.

This paper presents the key results of CO2 emissions reported in Germany for 2012 and details on existing installations, the emissions trading budget, the use of project credits (CERs / ERUs), the emissions of individual sectors, the over-allocation and price movements in the past year. Finally, this press briefing deals with emission trends and the current situation of emissions trading in aviation.

The second trading period of the European Emissions Trading (EU ETS) for stationary installations ended in 2012. In certain places, the 2012 VET Report refers to data and developments over the whole 2008-2012 period without making any firm conclusions. The full 2012 VET Report will be available at the DEHSt website http://www.dehst.de/EN from 15/05/2013.

CARBON DIOXIDE EMISSIONS FROM INSTALLATIONS SUBJECT TO EMISSIONS TRADING IN 2012

Summary

The amount of CO2 emitted by 1,629 energy and industrial installations subject to emissions trading in Germany in 2012 was around 452.6 million tonnes of carbon dioxide, slightly above the previous year's level (2011: 450.3 million tonnes). The annual German emissions cap for the second trading period is 451.8 million tonnes and has thus been marginally exceeded in 2012.

Nevertheless, with 457 million emission allowances offered, a surplus of roughly 4.6 million was available to the operators in emissions trading, which is more than was necessary for surrender for the reported 2012 emissions. Around 416 million emission allowances were issued to the operators free of charge, a further 41 million allowances were auctioned at the Leipzig Energy Exchange.

If one also considers a total of 139.9 million credits (CERs / ERUs) surrendered from projects in the Clean Development Mechanism (CDM) and Joint Implementation (JI) in 2012, an excess of 144.5 million national emission allowances were available to operators in 2012.

The situation is different for individual operators and industries: according to Appendix 1 of the Greenhouse Gas Emissions Trading Act (TEHG), the operators of Activity I power plants – large combustion plants with a rated thermal input exceeding 50 MW – must acquire additional allowances to match the sum of allowances received free of charge. All other industries have an allocation surplus in terms of numbers and can retain or sell these allowances. Overall, operators in the industrial sectors have an allocation surplus of more than 101.3 million allowances for 2008 to 2012 with a current market value of € 400 million.

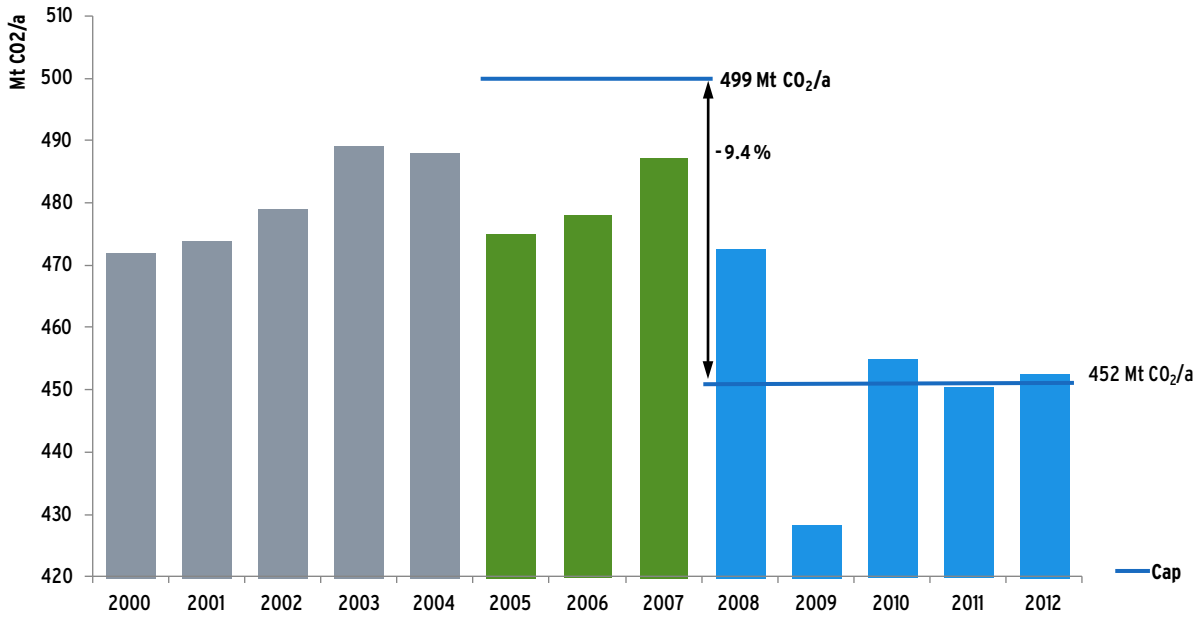

Figure 1: Emissions of installations subject to emissions trading in Germany 2000 to 2012. Comparison of the first and second trading period with the respective national cap and CO2 emissions of installations subject to emissions trading before the start of the European emissions trading scheme in 2005.

Existing installations

In Germany in 2012, 1,629 installations – 1,093 energy and 536 industrial installations – were subject to emissions trading (as of 28/02/2013) – 22 installations less than in the previous year.

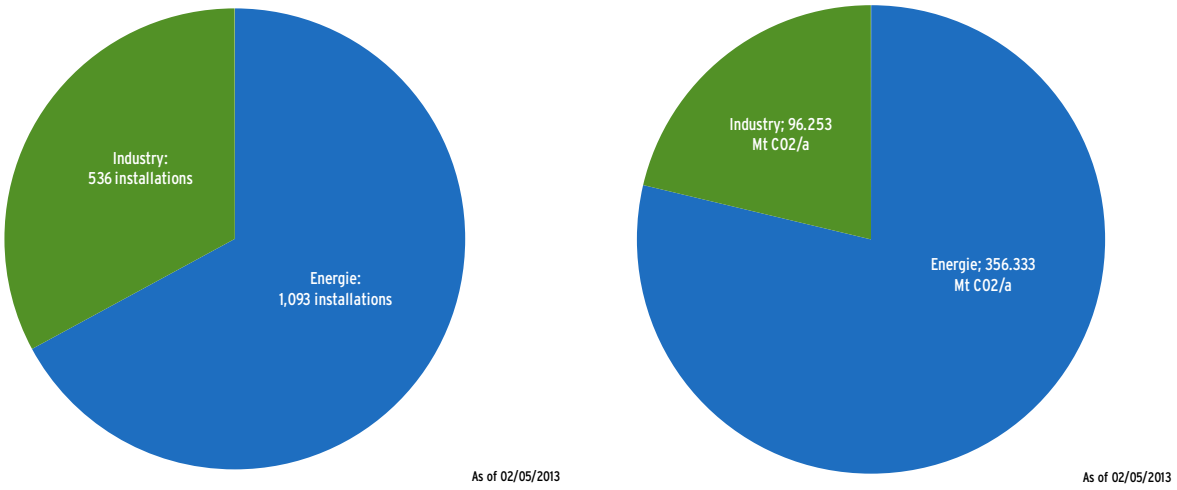

Figure 2: Relationship between energy (activities I-V) and industry (activities VI-XVIII) sectors, number of installations subject to emissions trading and their emission volume in Germany in 2012

Emissions trading budget

The German Emissions Trading budget on average amounted to 451.8 million annual emission allowances in the second trading period. The 2012 emissions were slightly higher at 452.6 million tonnes. Last year, 457 million emission allowances were available to the operators: about 416 million were issued for free, 14 million more than in 2011; the reason being changes in existing installations, such as capacity expansion. In addition, a total of approximately 41 million allowances were offered in weekly auctions at the Leipzig Energy Exchange.

Annual emissions in 2012 were 4.6 million tonnes below this national market volume. German companies surrendered 139.9 million carbon credits (CERs/ERUs) from CDM or JI projects to meet their obligations. Offset this against the 457 million newly issued emission allowances from Germany, then a surplus of 144.5 million allowances resulted in 2012. The situation is quite different for individual installations and industries: in total the operators of large energy installations must acquire additional allowances. All other industries can retain or sell some of their free emission allowances.

Background to using CERs/ERUs: According to TEHG an operator can meet his surrender obligation with project credits, i.e. credits from projects in the Clean Development Mechanism (CERs) or Joint Implementation (ERUs). The surrender of project credits is limited to a maximum of 22 percent of the 2008-2012 free allocation of emission allowances. If this proportion has not been fully expended to fulfil the obligation for the emissions in the 2008-2012 period, the remaining volume may also be added to the third trading period by 2020.

Table 1: Surrender of project credits from 2008 to 2012 in the German registry

Surrender[1]	2008	2009	2010	2011	2012	2008-2012
CER (in million)	23.7	26.0	33.4	41.1	45.1	169.3
ERU (in million)	0.0	0.7	4.2	33.2	94.8	132.9
Total volume	**23.7**	**26.7**	**37.6**	**74.4**	**139.9**	**302.2**

[1] The surrender period up to April of the following year is always taken into account.

The total amount of project credits (CERs/ERUs) that can be used in the second trading period for investments in Germany is limited to about 435 million. Of these, approximately 302 million project credits were surrendered by the end of April 2013. In 2012, 139.9 million credits from Clean Development Mechanism (CDM) and Joint Implementation (JI) projects were surrendered. This substantial increase over the previous years was expected at the end of the second trading period because the number of CDM/JI projects has increased since 2008 and correspondingly more project credits (CERs/ERUs) have been generated. Moreover, market analysts assume that companies subject to emissions trading have conducted more SWAP transactions to specifically take advantage of the price differences (spreads) between EUA and CER/ERU.

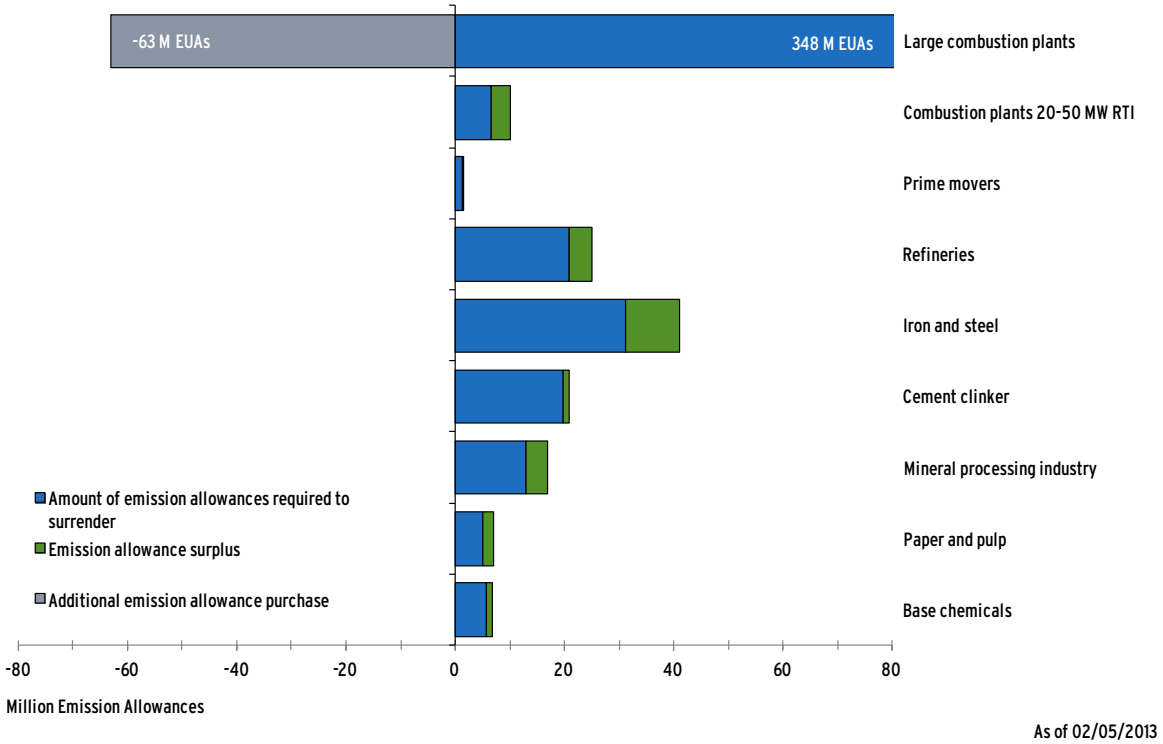

Figure 3: Emission allowances for each activity in emissions trading in Germany 2012 and compared with emissions caused

Power plants

The energy industry has a 79 % share of carbon dioxide emissions in the stationary field of emissions trading in Germany. Overall, the 1,093 power plants subject to emissions trading emitted 356.3 million tonnes of carbon dioxide in 2012, an increase of 1.5 percent over the previous year's 351.1 million tonnes (2011). Looking at the development over the entire 2nd trading period, the result compared to 2008 (368 million tonnes) is a 12-million-tonne reduction in carbon dioxide emissions, or just under three percent. Thus power plants subject to emissions trading have reduced their carbon dioxide emissions in the second trading period to a much lesser extent than specified by the linear reduction factor of 1.74 percent for the 2013-2020 third trading period for all sectors.

The Big Five

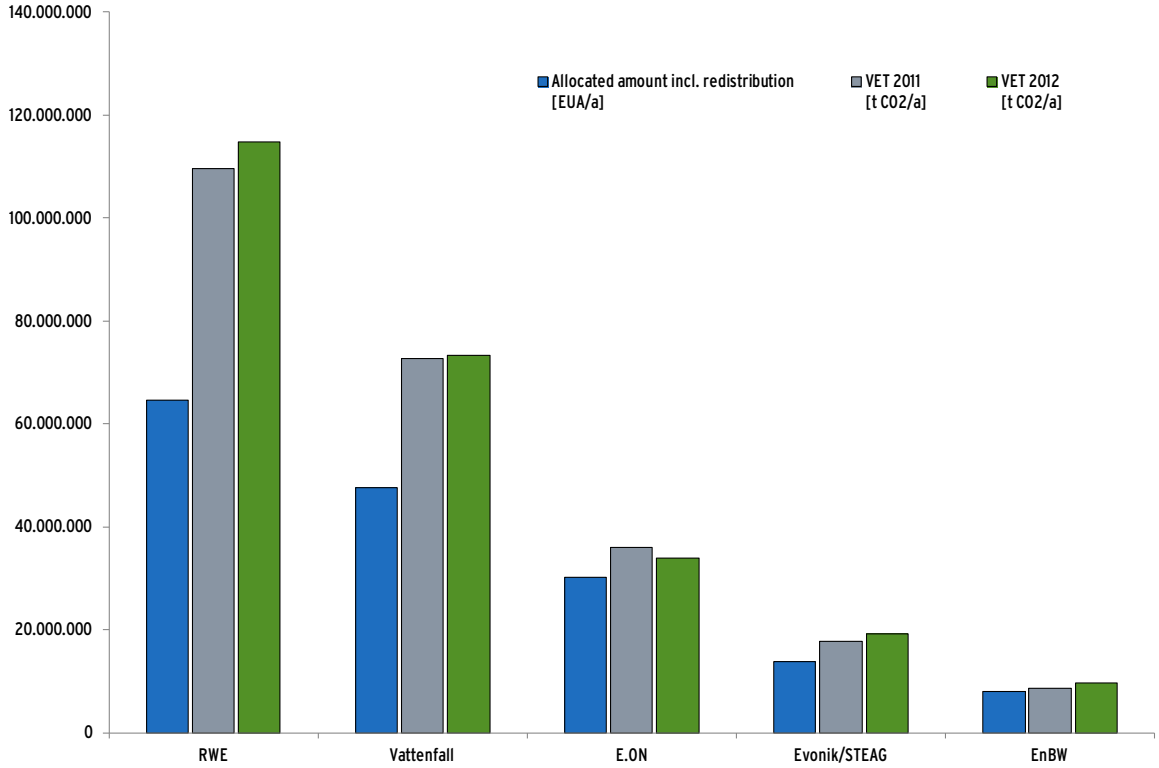

Figure 4: Emissions of five major energy suppliers in Germany 2012

The main emitters are the power companies RWE, Vattenfall, E.ON, Evonik/STEAG and EnBW. The RWE Group's power plants emitted 114.8 million tonnes of carbon dioxide in 2012, an increase of 5.1 million tonnes of carbon dioxide over the previous year.

At 73.3 million tonnes, Vattenfall also recorded an increase in emissions compared to 2011 (72.6 million tonnes), Evonik/STEAG (2012: 19.3 million tonnes compared to 2011: 17.8 million tonnes) and EnBW (2012: 9.6 million tonnes compared to 2011: 8.7 million tonnes). Only E.ON, with a number of gas-fired power plants, has reduced its emissions to 33.9 million tonnes (2012) from 35.9 million tonnes (2011).

Small power plants

Activity according to Annex 1 of the TEHG	Emissions - previous year - allocation
II and III: 20 to 50 megawatt combustion plants	▪ 511 of activity II and III plants were subject to emissions trading in 2012. ▪ Their overall emissions of just over 6.7 million tonnes of CO2 have not significantly changed compared to 2011. ▪ Overall, this plant type may retain or sell a total of 3.4 million, or 34 percent of their allowances.
IV and V: prime movers greater than 20 megawatts	▪ This group of machinery consists of 57 installations for pipeline and storage operations in natural gas networks. ▪ These natural gas compressors emitted around 1.4 million tonnes of CO2. Compared to 2011, their 2012 emissions have decreased by a total of around 25,000 tonnes of carbon dioxide or 2 percent. ▪ The allocation of free emission allowances exceeded demand by a total of 358,000 tonnes of carbon dioxide, equivalent to around 21 percent.

Industrial installations

In 2012, industrial installations subject to emissions trading in Germany emitted 96.3 million tonnes of carbon dioxide, a decrease of 2.7 million tonnes or 2.8 percent over the previous year. Thus, the emissions were around 7.7 million tonnes lower than the 104 million in 2008. On average, emission reduction of approximately 1.8 percent per year is in the order of the linear reduction factor of 1.74 percent per year in the 3rd trading period in 2013-2020. As to what extent this was a consequence of climate-friendly measures by the operators or an effect of production declines because of the financial and economic crisis, cannot be determined based on the available data.

Activity according to Annex 1 of the TEHG	Emissions – previous year – allocation
VI: Refineries	▪ Carbon dioxide emissions of 26 refineries dropped by two percent from 21.8 million to 21 million tonnes. ▪ Free allocations exceeded the amount required for 2012 by 4 million allowances or 16 percent. As a result, the number of surplus emission allowances increased to 13.5 million.
VII to IXb: Iron and steel	▪ 47 iron and steel plants emitted 31.29 million tonnes of CO2. ▪ Carbon dioxide emissions were lower than in the previous year by 805,000 tonnes or three percent. ▪ Even after the redistribution of the free allocation for the recovery of blast furnace gases, the allocation amount exceeded the required quantity of allowances to cover emissions by 10 million allowances, or 24 percent.
X: Cement clinker	▪ 38 installations in the cement industry emitted 19.85 million tonnes of CO2. The emissions dropped by about 130,000 tonnes or one percent compared to 2011. ▪ The surplus of free emission allowances allocated was about six percent in 2012, so the industry was able to put aside about 1.2 million allowances in 2012. In the sum total of the second trading period, the industry produced a surplus of about 6.7 million.
XI: Lime und dolomite	▪ Compared to 2011, the emissions of 67 installations decreased by 0.4 million tonnes or five percent to 7.6 million tonnes. ▪ The installations received a sum total of 2.6 million emission allowances more than necessary to compensate for carbon dioxide emissions.

Activity according to Annex 1 of the TEHG	Emissions – previous year – allocation
XII and XIIa: Glass and mineral fibres	▪ 94 installations in the glass and mineral fibre manufacturing emitted about 4.0 million tonnes of CO2. This was about 221,000 tonnes less than in the previous year, or five percent. ▪ The allocated amount of free emission allowances is still not exhausted. A total of 928,000 emission allowances or 19 percent of the allocation can be sold or put aside by the industry.
XIII: Ceramics	▪ 120 installations emitted a total of 1.3 million tonnes of carbon dioxide, which is a five-percent decrease. ▪ Nevertheless, in 2012, the free allocation was on average 544,000 tonnes or 29 percent higher than the emissions.
XIV and XV: Pulp and paper	▪ The carbon dioxide emissions of 131 pulp and paper mills fell by about six percent to 5.2 million tonnes. ▪ On average, 27 percent of emission allowances (2 million) can be put aside or sold.
XVI: Propylene, ethylene and carbon black	▪ The 13 propylene and ethylene production installations and carbon black plants emitted 5.8 million tonnes of CO2. ▪ Emissions from propylene/ethylene production dropped by about one percent compared to 2011. ▪ The operators have a surplus of 973,000 certificates or 14 percent of the free allocation at their disposal.

Allocation situation in the industry at the end of the second trading period

An overall surplus allocation of approximately 101.3 million emission allowances (see Figure 5) was recorded at the end of the second trading period for industrial sector installations.

Saved and tradable emission allowances are distributed differently over the various activities and years. In contrast to the energy industry and in acknowledgement of a tougher international competitive environment, industry only suffered a moderate statutory reduction in the free allocation of 1.25 percent (§ 6(1) p. 1 ZuG2012). In general, industrial installations received only a relatively small reduction to their historical emissions.

With cumulative allocation surpluses of 5 million emission allowances each, refineries, the iron and steel industry, cement clinker, lime and paper production, and integrated iron and steel works stand out from other activities. In the iron and steel industry (activities VII to IXb), the specified statutory surrender of free emission allowances has already been subtracted from blast furnace gas producing installations and the figures allocated to installations using blast furnace gas. Since the amount of blast furnace gases produced varied and decreased dramatically during the financial and economic crisis in 2009 in particular, it has an effect on the allocations for these activities shown here. Since a smaller amount of blast furnace gases was produced and transferred, a larger amount of free emission allowances remained in the installations producing blast furnace gas. This curbed part of the production losses during the financial and economic crisis. Thus, in terms of numbers, the allocation surplus was 17 million allowances for installations of IXa activity in 2009. This is approximately 40 percent of the cumulative total surplus of 39.4 million allowances for these installations between 2008 and 2012.

Table 2: Emissions and allocations of industrial activities subject to emissions trading in 2008 to 2012 and cumulated surplus allocation in Germany by 2012

Main activity	Activity	Number of installations	Emissions					Allocation [2]					Surplus allocation[2] 2008-2012 [M EA/a]
			2008 [Mt CO2/a]	2009 [Mt CO2/a]	2010 [Mt CO2/a]	2011 [Mt CO2/a]	2012 [Mt CO2/a]	2008 [M EA/a]	2009 [M EA/a]	2010 [M EA/a]	2011 [M EA/a]	2012 [M EA/a]	
VI	Refineries	26	23.2	22.9	22.3	21.8	21.1	24.4	25.1	25.1	25.1	25.1	13.5
VII	Cokeries	4	3.6	3.0	3.6	3.6	3.6	4.0	3.8	4.0	4.1	4.1	2.5
VIII	Iron ore sintering	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IX	Pig iron and steel production	26	7.6	5.0	5.9	6.5	6.1	8.3	8.9	8.3	7.7	7.8	9.8
IXa	Integrated iron and steel works	6	21.6	16.4	21.4	20.7	20.0	26.4	33.4	25.3	26.9	27.6	39.4
IXb	Steel processing	11	1.1	0.8	1.0	1.3	1.5	1.1	0.9	1.1	1.4	1.8	0.6
X	Cement clinker	38	20.4	18.8	18.6	20.0	19.9	20.5	20.8	20.9	21.0	21.1	6.7
XI	Lime	67	8.3	6.6	7.7	8.1	7.7	9.2	9.6	9.9	10.2	10.3	10.9
XII	Glass	86	3.8	3.6	3.8	3.8	3.6	4.0	4.2	4.3	4.6	4.5	2.9
XIIa	Mineral fibres	8	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.3
XIII	Ceramic	120	1.4	1.2	1.3	1.4	1.3	1.8	1.8	1.8	1.8	1.9	2.6
XIV	Pulp	5	0.2	0.1	0.1	0.1	0.1	0.5	0.3	0.3	0.3	0.3	0.8
XV	Paper	126	6.0	5.4	5.7	5.4	5.1	7.2	6.7	6.8	6.8	6.9	6.7
XVI	Propylene/ Ethylene	8	5.1	4.8	5.2	5.3	5.2	5.6	5.8	5.9	6.0	6.0	3.8
XVII	Carbon black	5	0.7	0.6	0.7	0.7	0.6	0.8	0.8	0.8	0.8	0.8	0.8
XVIII	Flaring	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total industry		**536**	**103.2**	**89.6**	**97.6**	**99.0**	**96.3**	**114.2**	**122.5**	**114.8**	**117.0**	**118.5**	**101.3**

[2] incl. redistribution of emission allowances for transferred blast furnace gases
As of: 02/05/2013

Prices for emission allowances

The price trend at the beginning of the second trading period was very dynamic. With steady growth, the price reached an all-time high of around 34 euros by early July 2008 and afterwards fluctuated between 25 to 30 euros until the beginning of the financial and economic crisis. During the crisis, the price finally dropped to around 10 euros per emission allowance in February 2009, but then recovered as a result of the economic upswing to about 18 euros in May 2011. In the second half of 2011, the carbon market was characterised by a steady price decline. According to market observers, this was due in particular to the worsening crisis of the euro group and the potentially associated negative economic effects as well as the debate on stricter energy efficiency measures within the EU. Until the turn of 2011/2012 the Futures Dec12 fell below the mark of seven euros for the first time, recovered briefly at the end of February to more than nine euros and finally slid under the four euros mark by the end of January 2013. After a brief upturn, the EUA price again stabilised above five euros in early April 2013. The European Parliament, in its vote on the first reading on 16/04/2013, rejected the backloading measure as proposed by the EU Commission so the Futures Dec13 reached an historical all-time low of 2.79 euros (settlement price).

Figure 5: Prices from January 2008 to April 2013

CARBON DIOXIDE EMISSIONS FROM AIRCRAFT OPERATORS SUBJECT TO EMISSIONS TRADING IN 2012

Basically, there has been an obligation to participate in emissions trading for flights taking off from and landing at airports within the European Economic Area (EEA)[1] since 01/01/2012. A reporting obligation for emissions has existed since 2010. This also applies to aircraft operators that have their headquarters outside the EU.

Simultaneously, negotiations on a global instrument to reduce aviation emissions are taking place at an ICAO level. The ICAO Assembly in the autumn of 2013 will be an important meeting where decisions may be taken about specific measures. To set a positive example for the negotiations, the EU decided in 2012 to refrain from sanctioning violations of the reporting and surrender obligations for flights subject to emissions trading that start or end outside the EEA and represent no connection between the EEA and Switzerland and Croatia („stop the clock“). The relevant Council and European Parliament Decision entered into force with its publication in the EU Official Journal on 25/04/2013.

In the EU emissions trading system, each aircraft operator is assigned to an administering Member State. What matters is the existence of an operational permit from a European country. If this is not the case, the aircraft operator will be allocated to the country that has the largest estimated proportion of emissions in relation to the aircraft operator's flights[2].

According to Annex 1(33) TEHG, all flights by aircraft with a take-off mass not exceeding 5,700 kg are not subject to emissions trading. Flights of military, police, customs, non-EU governments, flights for research purposes as well as sightseeing and training flights are also excluded from the scope of emissions trading. In addition, flights by commercial aircraft operators that perform fewer than 243 flights in four months or emit less than 10,000 tonnes of carbon dioxide per year are also excluded. An aircraft operator qualifies as commercial if he offers paid transportation services to the public.

1 EU 27 and Norway, Island, Liechtenstein (without airport)
2 Directive 2008/87/EC Article 18a (1)(b)

Effects of „Stop the Clock“

„Stop the clock“ waives aircraft operators from reporting emissions of certain flights and surrendering allowances for them without being penalised.

If an aircraft operator only reports emissions for flights both taking off and landing within EEA countries and for flights between the EEA and Switzerland or Croatia[3] (hereinafter „Using STC“), the operator must return that part of the allotment granted to him for non-European flights.

If an aircraft operator does not use the exemption regulation (hereinafter „Not using STC“) and reports emissions of all flights taking off or landing in EEA countries, he may keep his allocated free allowances.

There are aircraft operators who have no choice because they only perform intra-European flights for which there is a liability for emission allowances to be surrendered.

Table 3: Using „stop the clock“ (STC)

	Number of operators	VET 2012 [t CO2]	Allocation 2012 [EUAA]	Allocation waiver [EUAA]	Total emissions 2012 [t CO2] [1]
Using STC	87	9,667,047	5,933,227	26,202,936	43,223,650
No choice	16	2,709	73,102	0	3,009
Not using STC	31	6,276,839	7,710,384	0	6,228,319
Ambiguous	11	19,162	382	76	10,637
Overall result	145	15,965,757	13,717,095	26,203,012	49,465,615

As of 02/05/2013
[1] Eurocontrol estimate

Only 60 percent of the 145 aircraft operators with a VET entry have reported on their intra-European emissions. They cover 61 percent of all reported 2012 emissions by aviation managed by Germany. By choosing only to surrender allowances for a reduced amount of emissions, they have waived about 26.2 million free emission allowances. About 21 percent of aircraft operators continued to report their emissions in full. These aircraft operators are responsible for 39 percent of the 2012 emissions. Other operators have had no choice or their decision is ambiguous at this point.

Aircraft operators managed by Germany have reported about 16 million tonnes of carbon dioxide for 2012. Overall, however, the relevant aircraft operators were responsible for much higher emissions. Emission estimates and disclosures by Eurocontrol yield a magnitude of about 49.5 million tonnes of carbon dioxide for flights that take off from and land at European airports. Thus, only 30 percent of aviation emissions initially administered by Germany are regulated by emissions trading.

These figures show that the implementation of „stop the clock“ is a big concession by the EU in support of the ICAO process to negotiate a global market-based measure for the regulation of international aviation emissions.

3 Flights within Switzerland and Croatia and between them and third countries are not subject to emissions trading.