Blocking period: 15.05.2012

PRESS BRIEFING VET 2011

This paper presents the main results of CO_2 emissions reporting for Germany in 2011. As in past years, it represents developments for stationary plants in the energy and industrial sectors (Part 1).

For the first time the VET report presents data for aircraft operators subject to emissions trading (Part 2). Although allowances were not required for emissions from aviation in 2011 (it starts in 2012), aircraft operators had been required to report on the emissions from 2010 and 2011 under the Data Collection Ordinance 2020 (Datenerhebungsverordnung 2020 – DEV 2020).

CARBON DIOXIDE EMISSIONS FROM FACILITIES SUBJECT TO EMISSIONS TRADING IN 2011

Summary

Stationary installations in Germany which were subject to emissions trading emitted some 450 million tonnes of climate-damaging carbon dioxide in 2011. This is one percent less than in the previous year 2010. Emissions still remain at around 22 million tonnes, or five percent below the level of 2008. Despite continued strong economic growth the reducing trend of the second trading period still continues.

The German emissions trading budget comprises approximately 452 million emission allowances annually. Of these, about 402 million were issued to plant operators subject to emissions trading in 2011. An additional 41 million allowances were auctioned off at the European Energy Exchange in Leipzig. Total emissions reported in 2011 exceed the total of 443 million emission allowances issued by 7 million, but remain below the national budget of 452 million. German plant operators are therefore small scale buyers of allowances. Taking into account allowances surrendered from projects in the Clean Development Mechanism (CDM) or Joint Implementation (JI) totalling 74 million credits (CERs/ERUs), a 2011 surplus of 67 million newly-issued national emission allowances is the result.

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 must obtain additional allowances to the sum of allowances received free of charge. All other industries have a mathematical allocation surplus and can retain or sell these allowances. Overall, plant operators in the industrial sectors have an allocation surplus of more than 86 million allowances for 2008 to 2011. This amount has a current market value of € 600 million (as of May 2012, at an assumed price of seven euros).

In 2011, operators of a total of 1651 stationary installations participating in emissions trading in Germany were required to report their carbon dioxide emissions for that year. The operators had until 30.04.2012, to balance their emissions in the registry by surrendering the corresponding allowances for 2011. Everyone met this requirement.

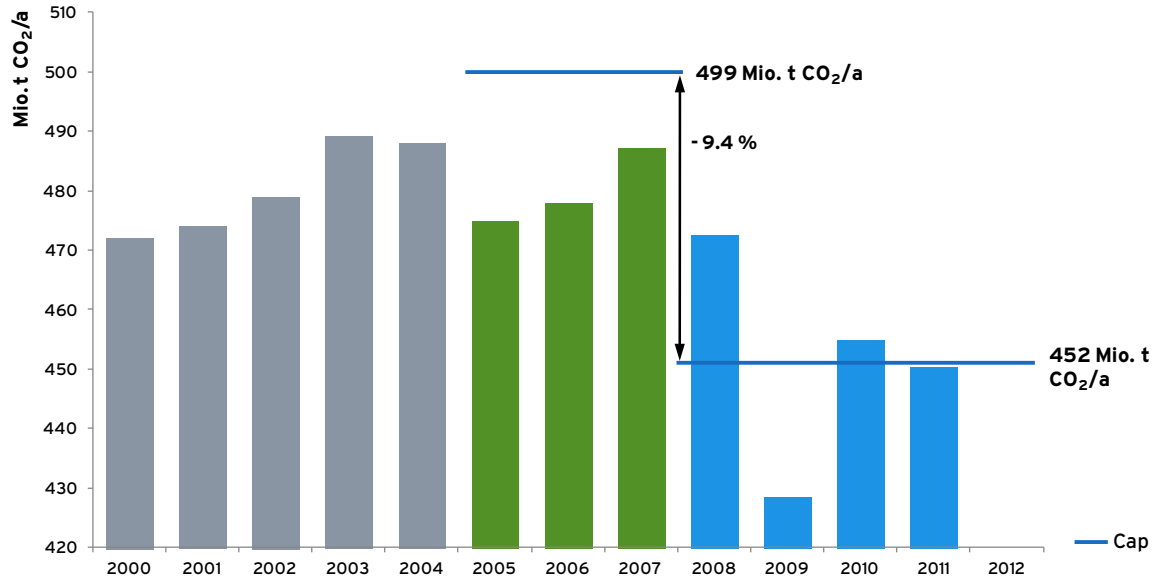

Figure 1: Emissions of installations subject to emissions trading in Germany 2000 to 2011. Comparison of the first and second trading period with the respective national cap and CO2 emissions of installations subject to emissions trading before the start of the European emissions trading scheme 2005th.

Existing plants

In 2011 in Germany, 1651 installations were subject to emissions trading (as of 28/02/2012) – six more plants than in the previous year. However, the report could only take into account the data from 1,648 plants - 1104 power generation plants and 544 industrial installations. Of these, a VET entry was made in the registry for 1631 installations in time for the 03.31.2012 deadline. For eight installations emissions were calculated from emissions reporting, and zero emissions were assumed for nine plants, due to closures, bankruptcies or similar.

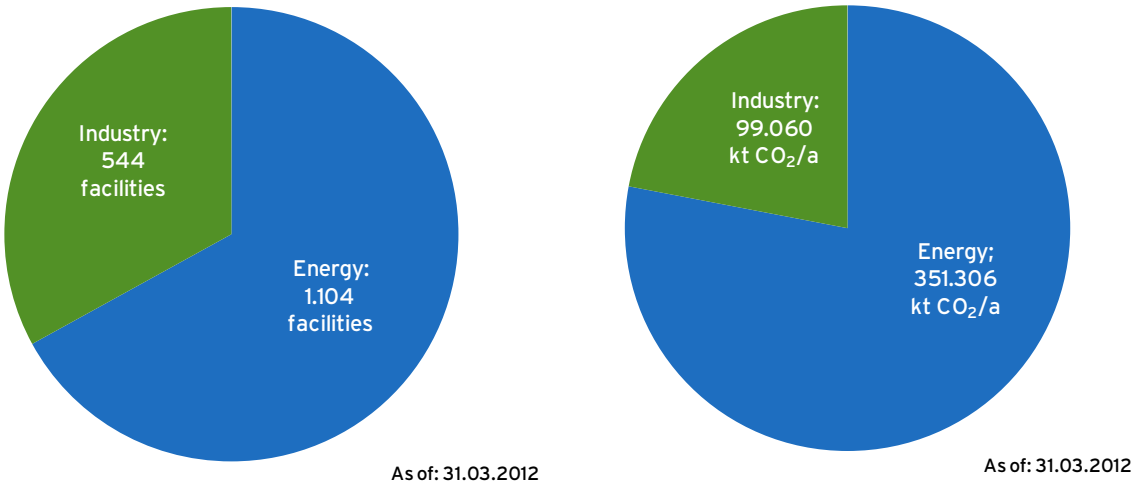

Figure 2: Ratio between energy and industrial sectors: number of plants and carbon dioxide emissions

Emissions trading budget

The German Emissions Trading budget is approximately 452 million emission allowances annually. At 450 million tonnes, 2011 emissions are about two million tonnes lower. Last year, plant operators received around 402 million free allowances from the German budget - compared with about 396 million in 2010. Due to changes at existing facilities, such as capacity expansion, plants received just under 4.2 million allowances more than in 2010. 24 plants were newly added, which were granted a free allocation of 1.5 million allowances.
In addition, around 41 million allowances were auctioned at the European Energy Exchange in Leipzig. The market therefore had access to a total of 443 million allowances from the German budget.

Annual emissions in 2011 exceed this national market volume by around two percent. German companies, however, surrendered 74 million carbon credits (CERs/ERUs) from CDM or JI projects to meet their obligations. Offset against the 443 million newly issued emission allowances from Germany, a surplus of 67 million allowances resulted in 2011. The situation is quite different for individual installations and industries: In total the operators of large energy plants must acquire additional allowances. All other industries can mathematically keep or sell part of the emission allowances received free of charge.

Up to 30 April the operators had time to offset the emissions from their plants in 2011 with the corresponding quantity of emission allowances. All installations subject to emissions trading have complied with this requirement within the prescribed period.

In addition to allowances, plant operators have used certificates (CERs and ERUs) from international climate protection projects to offset their emissions. According to statutory regulations, German firms may in total use CERs and ERUs in the amount of 22 percent of their individually allocated allowances throughout the second trading period 2008-2012.They have made use of a little more than a third of this capacity.

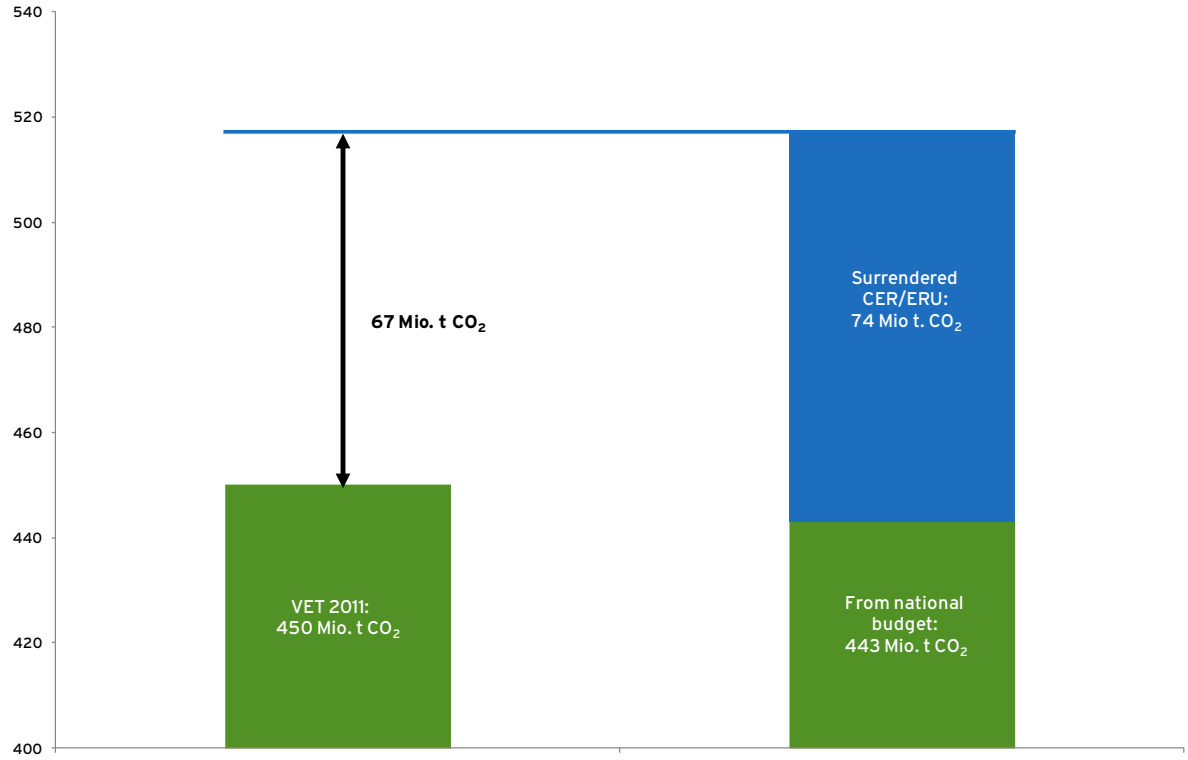

Figure 3: Use of CERs / ERUs for VET 2011

Overall, industrial sector plants have received an allocation surplus of more than 86 million allowances between 2008 and 2011. This represents a current market value of around 600 million €. (As of May 2012, at an assumed price of seven euros)

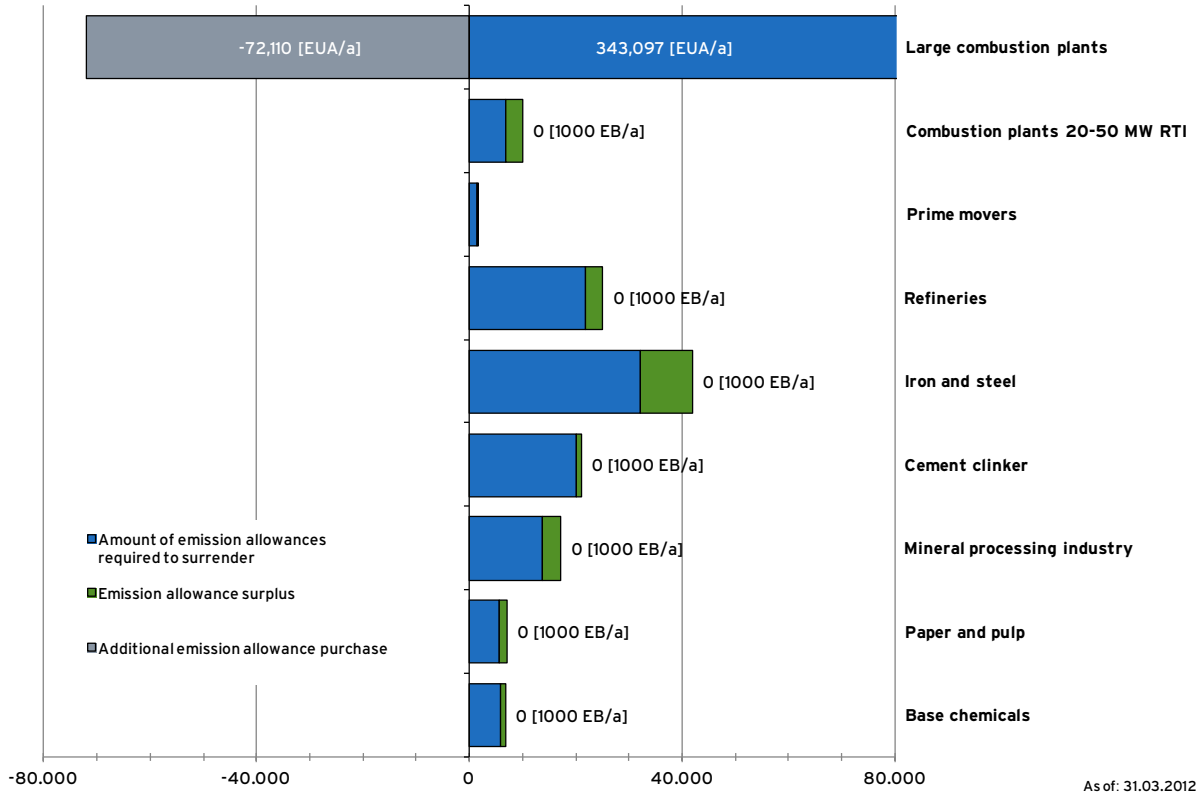

Figure 4: Emission allowances of each activity in emissions trading in Germany 2011

Power plants

In 2011, the 1104 plants of the energy industry emitted 351 million tonnes of carbon dioxide. Compared to the previous year 2010, this is about two percent less. Previously, emissions in 2010 had increased by six percent compared to 2009, after they had dropped by eight percent in 2009 compared to 2008. Emissions have been reduced by 17 million tonnes of carbon dioxide compared to the first year of the current trading period (2008: 368 million tonnes). Linearly distributed over these three years, this represents a reduction of 5.6 million tonnes or 1.5 percent per year.

Overall, the energy sector accounts for 78 percent of carbon dioxide emissions in German Emissions Trading. 67 percent of the installations subject to emissions trading are power plants (Activities I to V in Annex 1 of the TEHG). At 319,000 tonnes per year, the energy sector‘s average emissions per installation are significantly higher than in industry (183,000 tonnes per plant per year).

The majority of emissions from the energy sector come from large combustion plants producing electricity and heat (Activity I in Appendix 1 of the TEHG). The development of emission levels is closely linked to demand and thus influenced by economic performance and the weather. The 522 large combustion plants emitted 343.1 million tonnes of carbon dioxide. They represent 32 percent of all plants and 76 percent of all emissions subject to trading in Germany. Emissions decreased by two percent compared to 2010.

In addition to the allowances allocated free of charge and those transferred via blast furnace gases[1], plant operators need an additional 73 million allowances to offset 2011emissions. In 2010 they needed 80.7 million.

1 The redistribution of emission allowances for the generation and utilisation of blast furnace gases is specified in § 11 paragraph 4 ZuG (Allocation Statute) 2012

The Big Five

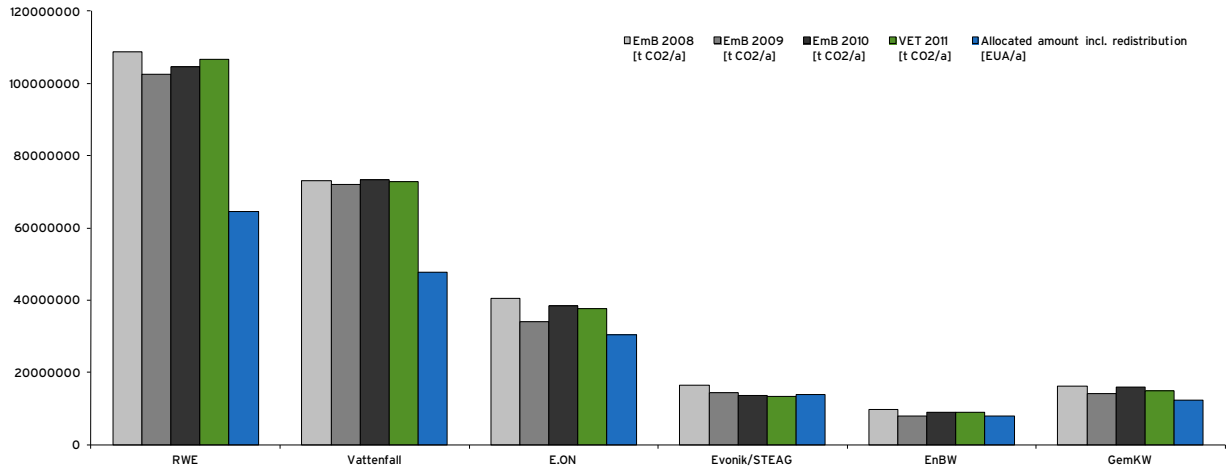

Figure 5: Emissions of five major energy suppliers in Germany 2011. For comparison, the emissions of joint venture power plants (GemKW) are reported.

At roughly 107 million tonnes, RWE emitted the most carbon dioxide of all businesses in Germany. About 60 percent of these emissions are covered by free allowances. Most of the emissions come from the Rhineland lignite power plants.

As an operator of several large lignite power plants, Vattenfall is the second largest emitter, with 73 million tonnes of carbon dioxide. For just under a third of the emissions, Vattenfall has to acquire additional allowances.

In Germany, E.ON is in third place among operators with installations subject to emissions trading in the energy sector. In 2011, 38 million tonnes of carbon dioxide was emitted from plants operated by E.ON Kraftwerke GmbH. Their free allocation covers just over 80 percent of these emissions. The slightly better allocation rate is due to greater use of coal and natural gas.

From Evonik/STEAG power plants, about 13 million tonnes of carbon dioxide was emitted. Due to the high proportion of natural gas and coal, often in combined heat and power production, the plant in total received a slightly higher allocation of free emission allowances than it is required to surrender to the registry.

The EnBW plants subject to emissions trading emitted almost nine million tonnes of carbon dioxide. These plants are fueled with coal or natural gas and often use the energy in combined heat and power production. They thus get 90% of their emissions covered by free allowances.

Together, the joint venture power plants (three) referred to in the figure, emitted nearly 15 million tonnes of carbon dioxide in 2011. The free allowances cover about 80 percent of the amount to be surrendered for the reporting year.

Small power plants

Activity according to Annex 1 of the TEHG	Emissions – previous year – allocation
II and III: 20 to 50 megawatt combustion plantst	▪ 517 of activity II and eight activity III plants were subject to emissions trading in 2011. ▪ Their overall emissions of 6813 million tonnes of CO2 are about six percent lower than in 2010. Their relative reduction is therefore significantly greater than in large combustion plants. ▪ Overall, this plant type may retain or sell a total of 3.2 million, or 32 percent of their allowances. However, 106 plants are included which need to acquire half a million additional 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 CO_2. Compared to 2010, in 2011 their emissions have decreased by a total of around 2,000 tonnes of carbon dioxide, or 0.1 percent. ▪ Within this group there are large differences in emissions increases and reductions. ▪ The allocation of free emission allowances exceeded demand by a total of 325,000 tonnes of carbon dioxide, equivalent to around 19 percent.

Industrial facilities

In 2011, industrial facilities subject to emissions trading in Germany emitted 99 million tonnes of carbon dioxide. This is an increase of 1.5 million tonnes or 1.5 percent over the previous year. The emissions were still below those in 2008 when 104 million tonnes of carbon dioxide had been released in Germany from industrial facilities subject to emissions trading. Therefore, surplus emission allowances allocated could be sold by the companies directly and financially exploited or put aside for more emission-intensive years.

Activity as per Annex 1 of TEHG	Emissions – previous year – allocation
VI: Refineries	▪ Carbon dioxide emissions of 26 refineries dropped by two percent from 22.3 million to 21.8 million tonnes. ▪ The reducing trend has continued since the beginning of the first trading period. Overall, the level of emissions from refineries is the lowest since the start of emissions trading in 2005. ▪ Free allocations exceeded the amount required for 2011 by 3.3 million allowances or 13 percent. As a result, the number of surplus emission allowances increased by 54 percent to 9.4 million.
VII to IXb: Iron and steel	▪ 46 iron and steel plants emitted 32.17 million tonnes of CO_2. ▪ Carbon dioxide emissions were higher by 379,000 tonnes or one percent more than in the previous year. Nevertheless, the allocation level has not been reached: there is still a surplus of 9.7 million emission allowances. ▪ 18.1 million emission allowances which had to be surrendered to equipment utilising blast furnace gas within Activity I in the 2011 reporting year have already been subtracted from the free allocation.
X: Cement clinker	▪ 38 facilities in the cement industry emitted 19.98 million tonnes of CO_2. The emissions increased by about 1.4 million tonnes or eight percent compared to 2010. ▪ The surplus of free emission allowances allocated was about five percent in 2011, so the industry was able to put aside about one million allowances in 2011. In the sum total of the second trading period, the industry produced a surplus of about 5.5 million.

Activity as per Annex 1 of TEHG	Emissions – previous year – allocation
XI: Lime und dolomite	▪ Compared to 2010, the emissions of 68 facilities increased by 0.4 million tonnes or five percent to 8.1 million tonnes. ▪ The facilities received a sum total of 2.1 million emission allowances more than necessary to compensate for carbon dioxide emissions. But a third of the facilities must acquire 74,000 emission allowances in addition to the free allocation.
XII and XIIa: Glass and mineral fibres	▪ 85 facilities in the glass and eight facilities in mineral fibre manufacturing emitted about 4.2 million tonnes of CO2. This was only about 29,000 tonnes more than in the previous year. ▪ The allocated amount of free emission allowances is still not exhausted. A total of 828,000 emission allowances or 16 percent of the allocation can be sold or put aside by the industry. Only one third of the facilities require additional allowances or credits.
XIII: Ceramic	▪ 130 facilities emitted a total of 1.4 million tonnes of carbon dioxide which is a six-percent increase. ▪ Nevertheless, in 2011, the free allocation was on average 27 percent higher than the emissions.
XIV and XV: Pulp and paper	▪ The carbon dioxide emissions of five pulp and 125 paper mills fell by about five percent to 5.5 million tonnes. ▪ On average, 21 percent of emission allowances (1.4 million) can be put aside or sold.
XVI: Propylene, ethylene and carbon black	▪ The eight propylene and ethylene production facilities and the five carbon black plants emitted 5.9 million tonnes of CO_2. ▪ Emissions from propylene/ethylene production remained almost unchanged compared to 2010. ▪ The operators have a surplus of 800,000 certificates or 12 percent of the free allocation at their disposal.

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

A year before the end of the second trading period for industrial sector facilities, an overall surplus allocation of approximately 86 million emission allowances (see following Table 1) was recorded.

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 suffered only a moderate statutory reduction of 1.25 percent of the free allocation (§ 6 paragraph 1 p. 1 ZuG2012). In general, industrial facilities received only a relatively small reduction to their historical emissions.

With cumulated allocation surpluses of several million emission allowances each, refineries, the iron and steel industry, cement clinker and lime 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 transfers of free emission allowances (§ 11 para 7 ZuG2012) have already been subtracted from blast furnace gas producing facilities and allocated to blast furnace gas utilising facilities. Since the amount of blast furnace gases produced varied, and dramatically decreased, in particular in the financial and economic crisis in 2009, it has an effect on the allocations shown here for these activities. In return, it absorbs some of the production losses in the financial and economic crisis again.

Table 1: Emissions and allocations of industrial activities subject to emissions trading in 2008 to 2011 and cumulated surplus allocation in Germany by 2011

Main activity	Activity	Number of facilities	Emissions				Allocation[2]				„Surplus allocation [2] 2008-2011 [Mio. EUA/a]“
			2008 [Mio. t CO_2/a]	2009 [Mio. t CO_2/a]	2010 [Mio. t CO_2/a]	2011 [Mio. t CO_2/a]	2008 [Mio. EUA/a]	2009 [Mio. EUA/a]	2010 [Mio. EUA/a]	2011 [Mio. EUA/a]	
VI	Refineries	26	23,2	22,9	22,3	21,8	24,4	25,0	25,1	25,1	9,4
VII	Coking plants	4	3,6	3,0	3,6	3,6	4,0	3,8	4,0	4,1	2,1
VIII	Iron ore sintering	0									
IX	Pig iron and steel production	26	7,6	5,0	5,9	6,5	8,3	8,9	9,0	7,7	8,8
IXa	Integrated iron and steel works	6	21,6	16,4	21,4	20,7	28,5	34,7	27,1	28,8	39,0
IXb	Steel processing	10	1,1	0,8	1,0	1,3	1,1	0,8	1,0	1,2	-0,1
X	Cement clinker	38	20,4	18,8	18,6	20,0	20,5	20,8	20,9	21,0	5,5
XI	Lime	68	8,3	6,6	7,7	8,1	9,3	9,6	9,9	10,2	8,4
XII	Glass	85	3,8	3,6	3,8	3,8	4,0	4,2	4,3	4,6	2,0
XIIa	Mineral fibres	8	0,3	0,3	0,4	0,4	0,4	0,4	0,4	0,4	0,2
XIII	Ceramic	130	1,4	1,2	1,3	1,4	1,9	1,9	1,9	1,9	2,4
XIV	Pulp	5	0,2	0,1	0,1	0,1	0,5	0,2	0,2	0,2	0,6
XV	Paper	125	6,0	5,4	5,7	5,4	6,6	6,7	6,7	6,8	4,3
XVI	Propylene/Ethylene	8	5,1	4,8	5,2	5,3	5,6	5,8	5,9	5,9	2,9
XVII	Carbon black	5	0,7	0,6	0,7	0,7	0,8	0,8	0,8	0,8	0,6
XVIII	Flaring	0									
Total industry		**544**	**103,3**	**89,7**	**97,6**	**99,1**	**115,9**	**123,7**	**117,2**	**118,8**	**86,1**

[2] incl. redistribution of emission allowances for forwarded blast furnace gases
As of: 31.03.2012

Prices for emission allowances

Figure 6 shows the daily settlement prices at EEX for various contracts on emission allowances (EUA). In addition to spot contracts, the futures contracts due in December 2012 („Future-Dec12“) and December 2013 („Future-Dec13“) are also indicated. Trading on the spot market only started in January 2009. The continuously traded Future-Dec12 can give information about the market value of emission allowances over the entire current second trading period. The prices of the Future-Dec12 reflect market expectations about the prices at the end of the current trading period. Future-Dec13 refers to trade in emission allowances of the third trading period (2013-2020), due in December 2013.

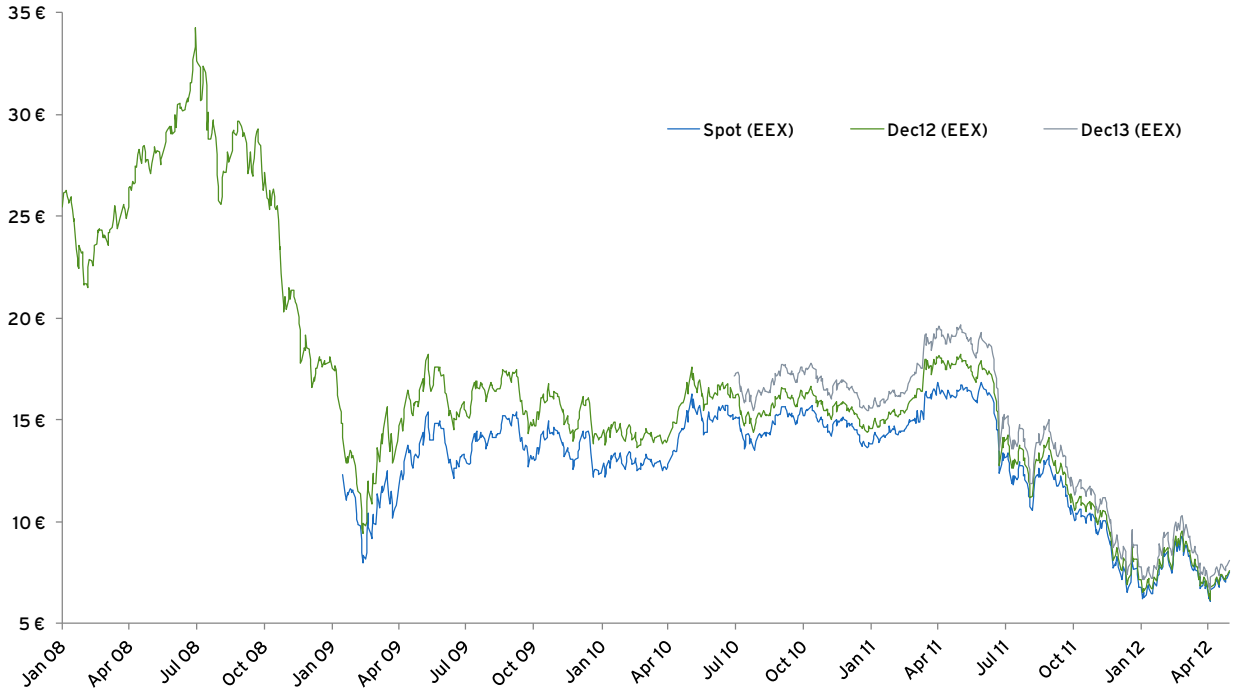

Figure 6: Prices from January 2008 to April 2012

The price trend at the beginning of the trading period was very dynamic. After trading started, the price of Future-Dec12 first dropped within a month from well over € 25 to under € 22 per emission allowance. But by early July, after steady growth, the price reached an all time high of about € 34 and then fluctuated between € 25 and € 30 until after the beginning of the financial and economic crisis. During the crisis in February 2009, the price fell to around ten euros per emission allowance, but then recovered again to over € 18 by May 2011, as a result of the economic upswing. Compared to the strong dynamics at the beginning of the second trading period, the period between May 2009 and May 2011 was marked by relative price stability (the fluctuation range was between €14 and € 18). The second half of 2011, however, was significantly influenced by a steady decline in prices on the carbon market. According to market observers, the primary reasons for this were the worsening crisis in the Euro group and the potentially negative economic effects associated with the discussion about stricter efficiency measures within the EU. By the turn of 2011/2012, Future-Dec12 fell below the mark of seven euros, recovered by the end of February again to nine euros and finally slid to the initial level of under seven euros.

The price range of Future-Dec12 was between € 6.90 and € 18.30 in 2011 (Table 2). The price range for the current year 2012 is now at € 6.20 to € 9.50. The arithmetic mean values shown in Table 2 describe the average settlement price for all trading days of each calendar year.

Table 2: Future-Dec12 price range (EEX settlement price) in the second trading period (02.01.08 - 30.04.12)

Year Value	2008 [Euro/EUA]	2009 [Euro/EUA]	2010 [Euro/EUA]	2011 [Euro/EUA]	2012 [Euro/EUA]
Minimum	16.58	9.40	13.63	6.90	6.18
Maximum	34.25	18.22	17.57	18.25	9.52
Average*	**25.76**	**15.26**	**15.40**	**13.80**	**7.69**

* (Settlement price)

Future-Dec12 is a suitable reference price to determine the current market value. In the period between VET registration (31 March) and surrendering the appropriate amount of emission allowances (30 April), the volume-weighted average of Future-Dec12 was € 7.02.[2] For simplicity's sake, a price of seven euro has been used for the current market value in this report. The cumulated surplus allowances of industrial facilities (86 million emission allowances) therefore have a current market value of about € 602 million.

CARBON DIOXIDE EMISSIONS OF AIRCRAFT OPERATORS SUBJECT TO EMISSIONS TRADING IN 2011

Although allowances were not required for emissions from aviation in 2011 (it starts in 2012), aircraft operators had been required to report on the emissions from 2010 and 2011 under the Data Collection Ordinance 2020 (Datenerhebungsverordnung 2020 – DEV 2020).

A total of 148 aircraft operators filed their verified emission reports for 2011 by 31.3.2012 (see Table 3). There were nine aircraft operators among them who did not file any emission report for 2010 and failed to submit an application for free allocation of allowances starting in 2012. Four of them were already on the list of Administering Member States in 2010 and five are new aircraft operators. Since a comparison with the data of 2010 is not possible, they are not included in the evaluation. The remaining 139 aircraft operators have filed an emission report for both 2010 and 2011.

Table 3: Number of aircraft operators with emission reports and operators considered in the report

		Reported emissions	
Emission reports filed [1]	**Number of operators**	**2010 [t CO_2]**	**2011 [t CO_2]**
2010 and 2011	139	49,908,494	52,452,084
only 2011	9	0	89,920
only 2010	18	1,909,470	0
Total	**166**	**51,817,964**	**52,542,004**

[1] As of 31.3.2012

A thorough check indicated that, out of the 18 operators without any emission report for 2011, only seven operators remained whose emission reports were missing and which may still be submitted. Five of the operators have „non-commercial" status and two of them „commercial" status. Their estimated emissions in 2011 were approximately 1.85 million tonnes of carbon dioxide[3] or about 3.4 percent of the emissions managed by Germany[4]. The two commercial aircraft operators have their headquarters in China, three of the non-commercial operators come from the USA, one from Germany and another one from Switzerland.

Aviation emissions are caused by operators of commercial and non-commercial aircraft flights. The key difference between the two operator types is that non-commercial aircraft operators do not provide flights to the public[5]. The non-commercial aircraft operators also include 87 small emitters.

2 The listed price is calculated as the average from the „ICE/ECX European Emissions Index" for Future-Dec12 between 2 and 30 April 2012. The index used is calculated as the volume-weighted average price of all traded Future-Dec12 contracts per trading day at the ICE/ECX in London. Thus, simplifying, a sale of the surplus allowances by the operators in the period between filing the verified emission reports and surrendering the emission allowances is assumed according to the actual emissions.

3 Total emissions of the aircraft operators in 2011 estimated by EUROCONTROL.

4 Taking into account the 1.85 million tonnes of carbon dioxide, the sum of emissions managed by Germany is 54.3 million tonnes of carbon dioxide.

5 A detailed description of the division of aviation from the emissions trading point of view is available in the DEHSt publication „Die Zuteilung von Emissionsberechtigungen an Luftfahrzeugbetreiber für die Handelsperioden 2012 und 2013-2020 (The allocation of emission allowances to aircraft operators for the trading periods 2012 and 2013-2020)".

Table 4: Reported emissions in 2010 and 2011 according to operator status

Operator type	Operator		Emissions			
	Number	Share Number [%]	2010 [t CO_2]	Share 2010 [%]	2011 [t CO_2]	Share 2011 [%]
commercial	50	35.97%	49,804,427	99.79%	52,347,217	99.80%
non-commercial	89	64.03%	104,067	0.21%	104,867	0.20%
Total	**139**	**100%**	**49,908,494**	**100%**	**52,452,084**	**100%**

Table 4 shows commercial and non-commercial aircraft operators with the associated emission amounts. Overall, the 139 operators caused 52.452 million tonnes of carbon dioxide in the past year. This is 5.1 percent higher emission than in the year before. Commercial aircraft operators represented only 36 percent of the operators considered, but emitted 99.8 percent of the emissions last year.

Table 5: Comparison of free allocations in 2012 with the emissions in 2010 and 2011

Operator type	Operator		Emissions			free allocation
	Total	with free allocation	2010 [t CO_2]	2011 [t CO_2]	2012 [EUA/a]	Coverage[1]
commercial	50	50	49,804,427	52,347,217	40,950,452	80.18%
non-commercial	89	70	104,067	104,867	6,075	5.82%
Total	**139**	**120**	**49,908,494**	**52,452,084**	**40,956,527**	**80.02%**

[1] Coverage. Allocation in relation to the average emissions of 2010 and 2011

Since emission allowances must only be submitted from the reporting year 2012, no free emission allowances were allocated for 2011. The allocation amounts for 2012, however, are already known. They allow an estimation of the likely demand by aviation for emission allowances in 2012. 120 operators of the 139 operators considered received free allowances for 2012 (see Table 4). A comparison with the average annual emissions in 2010 and 2011 shows 80-percent coverage. If the air transport emissions do not decrease in 2012 compared to the previous years, the operators must acquire at least 10 million additional emission allowances. The coverage referring to the individual years is 82 percent (2010) and 78 percent (2011). Assuming that emissions grow at a rate of five percent, they amount to about 55 million tonnes of carbon dioxide in 2012. The coverage is then approximately 74 percent and aviation would have to purchase about 14 million additional emission allowances.