State aid for indirect CO_2 costs of emissions trading (electricity price compensation) in Germany for 2015

(EPC Report 2015)

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Publisher
German Emissions Trading Authority (DEHSt)
at the German Environment Agency
Bismarckplatz 1
D-14193 Berlin
Phone: +49 (0) 30 89 03-50 20
Fax: +49 (0) 30 89 03-50 10
strompreiskompensation@dehst.de
Internet: www.strompreiskompensation.de

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Responsible Editors: Section E 2.3

English by: Nigel Pye, npservices4u@gmail.com

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Content

State aid for emissions trading-related indirect carbon dioxide (CO_2) costs is supposed to prevent the risk of carbon leakage outside the European Union[1]. The aid can be retrospectively applied for after the end of a calendar year and is intended to compensate for a part of the indirect CO_2 costs of the previous year in arrears. The application period for the 2015 accounting year was from 01.03.2016 to 31.05.2016 (deviating from Section 5.3(1) of the State Aid Directive, based on the Implementing Decree of the Federal Ministry for Economic Affairs and Energy and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety). This deadline was a cut-off deadline.

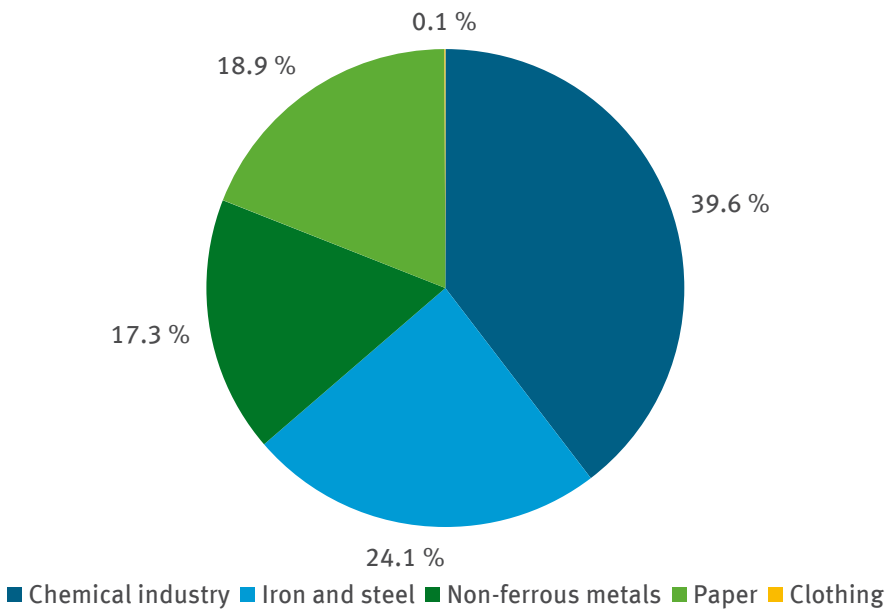
1 Results of the application processes for electricity price compensation in 2015

A total of 337 applications were received for 2015. After verifying the applications, 330 undertakings with 909 installations received around € 244 million in aid. The EEA price applied for the calculation of the aid (see explanatory notes in Section 2, p. 5 onwards) amounted to € 6.17 in 2015. Therefore, the total approved aid amount for 2015 is higher than 2014 at € 186 million.

In certain circumstances, the so-called difference carried forward (see explanatory notes in Section 2, p. 5 onwards) was applied to determine the aid amount for the 2015 accounting year, as was the case for the 2014 accounting year. In 2015, this amounted to around € 700,000 (about € 600,000 for the 2014 accounting year) and has already been offset against the allocated aid sum of € 244 million.

In 2015, 60 undertakings benefited from the difference carried forward due to the development of production and electricity consumption in 82 of their installations.

Undertakings in the chemical industry received 40 percent, which was the largest share of the compensation for 2015. Undertakings in the iron and steel industry followed with 24 percent, paper industry with 19 percent, and the non-ferrous metal industry with 17 percent (see Figure 1). The shares of the individual industries have changed only slightly compared to the 2014 accounting year.



As of 14/12/2016

Figure 1: Distribution of aid for electricity price compensation in 2015 for individual industries

1 Article 10a(6), Directive 2003/87/EC of 13.10.2003, as of 25/06/2009 (EC Emissions Trading Directive).

Of the 909 installations for which aid has been granted, 471 participate in the European Emissions Trading Scheme (EU ETS). Their share of the total aid is almost 70 percent (see Table 3, p. 14). Many installations, particularly in the chemical industry and the non-ferrous metal industry, do not fall within the scope of the ETS. On the other hand, installations of the paper as well as iron and steel industry are largely covered by the European Emissions Trading Scheme.

As a basis for the calculation of aid for 2015, product-specific electricity consumption efficiency benchmarks (hereinafter called „benchmarks“) are just as important as the so-called fall-back factor: about half of the total aid results from the production of products for which a benchmark exists and from the manufacture of products whose electricity consumption have the fall-back factor applied to (see explanatory notes in Section 2, p. 5 onwards) in order to determine the aid amount. The largest share in the aid for the 2015 accounting year are held by the benchmarks chlorine (16 percent) and primary aluminium (12 percent), as well as the fall-back calculation elements of the sectors“ Manufac¬ture of paper and paperboard “[2] (15 percent) and „Manufacture of basic iron and steel and of ferro-alloys“[3] (11 percent).

Section 2 of the report provides information on electricity compensation in general. Section 3 describes some evaluation methods. Section 4 addresses the electricity compensation at the application level, i.e. at undertakings level. Section 5 additionally contains evaluations at the installation level. Section 6 comprises evaluations at the level of the calculation elements. Finally, Section 7 provides an outlook on the electricity compensation for the 2016 accounting year.

2 State aid for indirect CO_2 costs of the EU Emissions Trading Scheme

State aid for indirect CO_2 costs should prevent the risk of shifting CO_2 emissions (so-called carbon leakage) at locations outside the geographical scope of the EU Emissions Trading Directive (EHRL)[4]. Indirect CO_2 costs are caused by the fact that electricity generators are passing on the costs of emission allowances to their customers via the price of electricity. The aid is intended to compensate for some of these costs for undertakings in certain electricity-intensive sectors and subsectors mentioned in Annex II of the EU State Aid Guidelines[5]. The aid is therefore linked to the electricity consumption of installations. It is not decisive whether the installations are covered by the emissions trading system or not. The granting of aid is based on the State Aid Directive adopted by the Federal Ministry of Economics and Technology (now Federal Ministry for Economic Affairs and Energy)[6].

The European Commission has identified the sectors and subsectors in which it detected such risks of indirect carbon leakage[7]. These sectors include particularly energy-intensive production processes and are subject to strong international competition (see Table 1). Thus, it is the products manufactured by an undertaking that determine the authorization of the application. If these products are eligible for aid, the assignment of an undertaking to a particular industry is not decisive.

Product-specific benchmarks are set out in Annex III of the EU State Aid Guidelines for some of the products eligible for aid. They determine the amount of electricity consumed in megawatt-hours per produced tonne of product used to calculate the aid. The calculation of the aid in these cases is therefore based on the quantity produced, indicated in tonnes of product (see No. 5.2.1 of the State Aid Directive). For products eligible for aid without a benchmark, the aid is based on the electricity consumption for the production of these products (see No. 5.2.2 of the State Aid Directive). However, the electricity consumption is multiplied by a uniform fall-back electricity efficiency benchmark factor (hereinafter fall-back factor) which is 0.8. The products produced within an installation are grouped together into calculation elements for further calculation. A calculation element contains products with an identical benchmark or, in the case of fall-back products, products belonging to the same sector.

2 Code 2112 according to NACE-Rev. 1.1.

3 Code 2710 according to NACE-Rev. 1.1.

4 Article 10a (6), Directive 2003/87/EC from the 13/10/2003, as of 25/06/2009 (EC Emissions Trading Directive).

5 European Commission Guidelines for certain State aid measures in the context of the greenhouse gas emission allowance scheme post-2012 (Communication 2012/C 158/04, Official Journal of the European Union (OJ. EU) C 158, 05/06/2012, p. 4), amended by Communication 2012/C 387/06 (OJ. EU C 387, 15/12/2012, p. 5), as corrected by Communication 2013/C 82/07 (OJ. EU C 82, 21/03/2013, p. 9).

6 Directive for aid to undertakings in sectors or subsectors where it is assumed that there is a significant risk of carbon leakage as a result of the costs associated with the EU ETS certificates, which are shifted to the price of electricity (aid for indirect CO_2 costs) of 23/07/2013, official part of the Bundesanzeiger (Federal Gazette AT) 06/08/2013 B2.

7 Annex II of the EU State Aid Guidelines.

According to the EU State Aid Guidelines and the German State Aid Directive, a total aid amount per applicant is calculated by using these variables and the applicable price for emission allowances (EUA price)[8], the CO_2 emission factor (0.76 tonnes of carbon dioxide per megawatt-hour) and the aid intensity (0.85 between 2013 and 2015).

The German State Aid Directive for electricity compensation stipulates that the CO_2 costs of the electricity purchase of one gigawatt hour per year and the installation considered are deducted from the total aid amount of a company. This retention is calculated based on the EUA price for 2015 (€ 6.17) and the CO_2 emission factor of 0.76 tonnes of carbon dioxide per megawatt-hour. For the electricity purchase of one gigawatt-hour, this results in CO_2 costs of € 4,689.20 as retention per installation for the year 2015.

In certain circumstances, the so-called difference carried forward[9] was used to determine the amount of aid for the 2015 accounting year. In principle, the aid is determined based on the data of the accounting year. However, this is limited by the aid which would have resulted based on the data of the baseline – as a rule the period 2005 - 2011.

If the amount of electricity actually purchased in a previous accounting year exceeded the aid based on the data of the baseline, the carryover was credited as a positive balance to the difference account. If the electricity amount for a later accounting year, in this case 2015, is lower than the electricity amount based on the data of the baseline, the aid is increased by the difference carried forward. However, the increase is limited to the aid amount based on the baseline.[10]

3 Assessment methods

3.1 Combining sectors of industries

To make the analysis and presentation transparent, this report combines sectors and subsectors eligible for aid into industries (see Table 1). This enables an unambiguous assignment to industries at a calculation-element level (see Section 6). Each calculation element belongs precisely to one of the sectors and subsectors eligible for aid. At the undertakings level (see Section 4), the assignment usually depends on which sectors have the largest share of the aid amount. The assignment at the undertaking level was subsequently transferred to that undertaking's installations (see Section 5).

Table 1: List of sectors and subsectors eligible for aid according to NACE Revision 1.1 (2007) in accordance with the EU State Aid Guidelines (Annex II)

Sectors according to NACE [11] Revision 1.1	Identification	Industry
1310	Mining of iron ores	Iron and steel
1430	Mining of chemical and fertiliser minerals	Chemical industry
1711	Spinning of cotton-type fibres	Clothing
1810	Manufacture of leather clothes	
211114	Parts of the industry "Manufacture of pulp": mechanical pulp	Paper
2112	Manufacture of paper and paperboard	

8 The added EUA price for an accounting year is determined from the previous year's average of daily trade closing bid prices of the reference contract. For the 2015 accounting year, this was the ICE futures Europe with delivery in December of the respective year (see No. 5.1 k) of the State Aid Directive).

9 Difference carried forward in euro at installation level pursuant to No. 5.2.1 (a) and (b) of the State Aid Directive in connectionwith No. 1 of the Decree from 27/12/2013.

10 See DEHSt 2016, Section 3.5 Limitation of aid by baseline and difference carried forward.

11 NACE (Nomenclature générale des activités économiques dans les Communautés Européennes) Rev. 1.1 is the Statistical Classification of Economic Activities in the European Community, published by Commission Regulation (EEC) No. 29/2002 of the Commission of 19/12/2001.

Sectors according to NACE [11] Revision 1.1	Identification	Industry
2413	Manufacture of other inorganic chemicals	Chemical industry
2414	Manufacture of other organic basic chemicals	
2415	Manufacture of fertilisers and nitrogen compounds	
2416 (Parts)	Parts of the industry "Manufacture of plastics in primary forms": ▸ 24161039 Low-density polyethylene (LDPE) ▸ 24161035 Linear low-density polyethylene (LLDPE) ▸ 24161050 High-density polyethylene (HDPE) ▸ 24165130 Polypropylene (PP) ▸ 24163010 Polyvinyl chloride (PVC) ▸ 24164040 Polycarbonate (PC)	
2470	Manufacture of man-made fibres	
2710	Manufacture of basic iron and steel and of ferro-alloys	Iron and steel
272210	Parts of the industry "Manufacture of steel pipes, steel tube fittings": seamless steel pipes	
2742	Aluminium production	Non-ferrous metals
2743	Lead, zinc and tin production	
2744	Copper production	

In Section 5.1, the installations are apportioned according to whether they are subject to emissions trading or not. The assignment to industries will continue to be oriented on the method mentioned above and not on assignments that may have originated from emissions trading assessments.

3.2 Assignment of the aid amount at the calculation-element level

The aid amount cannot be assigned to individual calculation elements without conversion because of the per-installation retention (see Section 2). The per-installation retention was therefore apportioned to the calculation elements of an installation.

4 Overview by undertakings

For 2015, a total of 337 applications for electricity price compensation were submitted to the German Emission Trading Authority (DEHSt) at the German Environment Agency, of which seven applications were rejected. The reason for this was often that the manufactured products were not eligible for aid. Thus 330 applications including 909 installations were approved in total. The aid granted was € 244 million for 2015 (see Table 2).

The increase in the aid amount by € 186 million compared to the previous year is due to a higher EUA price for the aid calculation for 2015, which was € 6.17 in 2015 compared to € 4.68 in 2014. The shares of individual industries in the aid amount have changed only slightly compared to 2014.

Table 2: Number of approved applications and number of installations according to industries and sum of aid paid in 2015

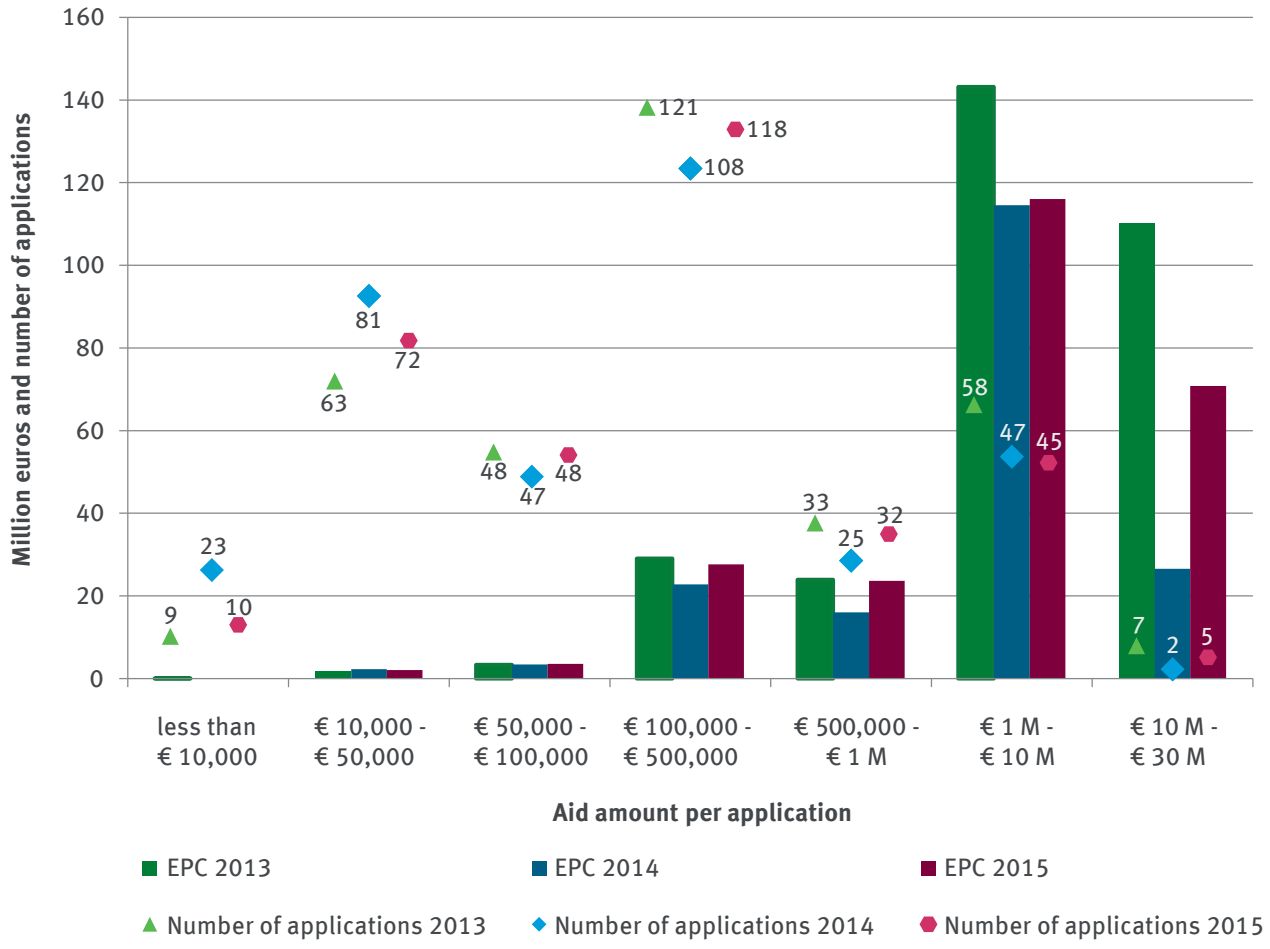
Industry (EPC)	Number of applications	Number of installations	EPC 2015 [euro]
Clothing	8	8	152,301.63
Chemical industry	117	486	96,547,976.64
Iron and steel	51	164	58,727,446.33
Non-ferrous metals	47	109	42,217,586.52
Paper	107	142	46,202,767.68
Total	**330**	**909**	**243,848,078.80**

As of 14/12/2016

Table 2 shows the distribution of the total aid amount to individual industries. With about € 96 million and a share of 40-percent the chemical industry continues to have the largest share in the aid amount. This is followed by the iron and steel industry with about € 59 million, which accounts for a share of about 24 percent. The paper industry accounted for about € 46 million in 2015. Its 19-percent share is still about the third largest of total aid. The non-ferrous metal industry received about € 42 million in 2015, still about 17 percent of the total aid in 2015. The clothing industry received about € 152,000 or 0.1 percent, which is a very small proportion of the 2015 electricity price compensation.

The average aid amount for a undertaking was about € 739,000 in 2015 (2014: € 558,000). However, the scattering of the aid per company is very broad.

Figure 2 shows the distribution of the number of undertakings and the aid amount according to differentiated types of aid. With € 4.68 in 2014, a lower EUA price was relevant for the calculation of the aid amount than with € 7.94 in 2013. Therefore, the number of undertakings in the highest aid category (€ 10 million to € 30 million) decreased from seven to two undertakings. At € 6.17, the EUA price for 2015 was once again above the EUA price of the previous year, which is why the number of undertakings in the highest aid category dropped once again to five. For 2013, each of the 65 undertakings – about 19 percent – received more than € 1 million, or about 80 percent of the total aid amount. Due to the lower effective EUA price, the number of undertakings receiving aid of over € 1 million decreased to 49 in 2014. This number increased to 50 undertakings in 2015. In all three years, about 20 percent of the undertakings received about 80 percent of the total aid amount.



As of 14/12/2016

Figure 2: Number of applications and total aid according to aid amount per application

While the total aid of the 2013 to 2015 accounting years has so far differed significantly (see Table 6 to Table 8 in the Annex), the carbon dioxide used for the calculation of the aid for each of the years amounted to about 46.5 million tonnes of CO_2.[12] This means that the high fluctuations of the total aid can only be attributed to the volatile EUA price and not to a changed carbon dioxide quantity. Figure 3 shows the number of applications and the total CO_2 quantity used for calculating the aid, according to the CO_2 quantity category per application. Slight changes can be observed over the course of time in the individual categories, while the number of applications changed slightly. For example, the number of applications in the 500,000 to 1 million tonnes of CO_2 category increased from six to seven between 2013 and 2014. This is accompanied by an increase in the CO_2 quantity used for the aid calculation. The increase between 2013 and 2015 in the CO_2 quantity in the category of 1 to 10 million tonnes of CO_2 is clearly visible, even though the number of applications remained the same. This means that the average CO_2 emission quantity per application used for the calculation of the aid per application in this category has increased since 2013.

12 This value is determined using the disbursed aid sum, the EUA price Pt to be added and the aid intensity Ait: The values for the EUA price result from the provisions of the State Aid Directive, i.e. P_{2013}=€ 7.94, P_{2014}=€ 4.68, P_{2015}=€ 6.17. The aid intensity is also stipulated, i.e. $Ai_{2013\text{-}2015}$=0.85.

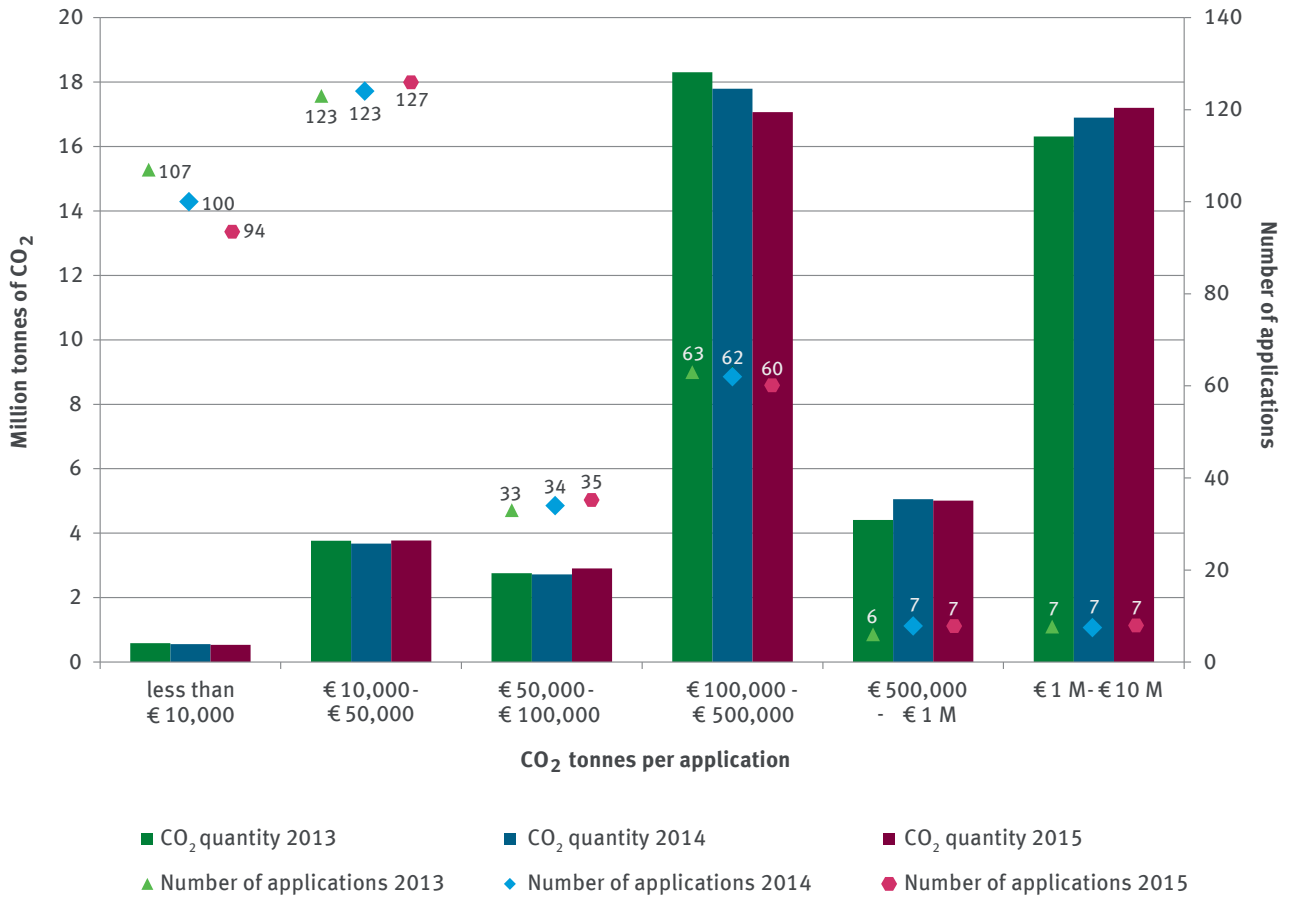


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Figure 3: Number of applications and total CO_2 amount used for the aid calculation, according to CO_2 amount per application

5 Results at installation level

5.1 Electricity price compensation and emissions trading

The 330 undertakings that received aid in the 2015 accounting year produced products eligible for aid in 909 installations. More than half of these installations (around 68 percent) participate in the emissions trading scheme (see Table 3). The proportion of installations subject to emissions trading that were eligible for aid was on the same level in 2013 as in 2014.

In the chemical industry, 289 out of 486 installations (60 percent) are not subject to emissions trading. These installations receive approximately 70 percent of the aid amount in this industry. The reason for this is that many electricity-intensive processes here do not discharge relevant amounts of greenhouse gases and are therefore not subject to emissions trading. In addition, many chemical sites are supplied from centralised power and steam sources, to which the emission trading obligation is limited.

The same applies to the non-ferrous metal industry – about 75 percent of the installations here (85 out of 109) are not included in the emissions trading scheme. These installations count for a share of only twelve percent of the aid amount available to this industry. This is mainly due to the fact that the major beneficiaries in the non-ferrous metal industry – the installations for aluminium production through electrolysis – are also subject to emissions trading.

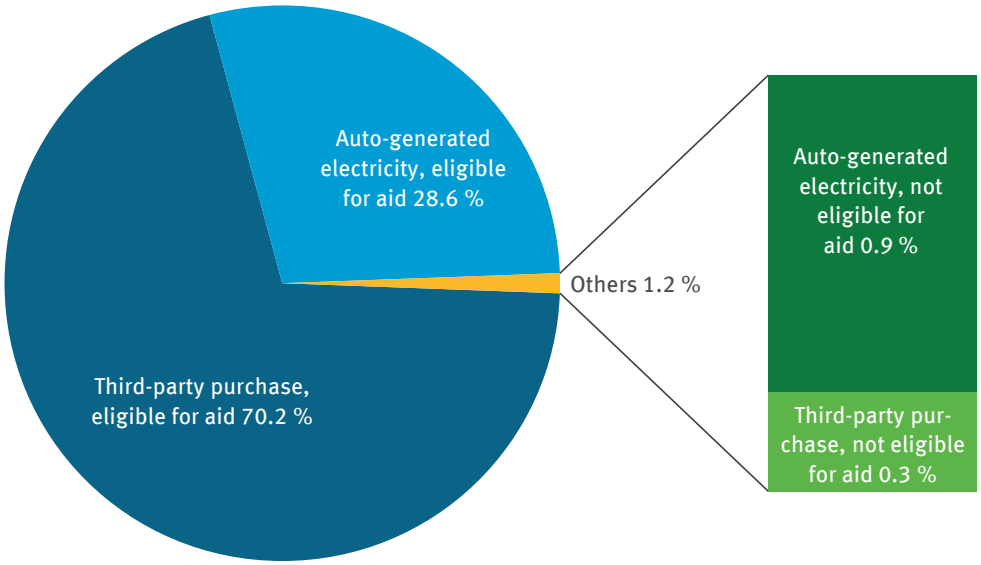
Table 3: Number of installations per industry in 2015, showing those subject to emissions trading and those not

Industry (EPC 2015)	Number of installations	Of which		Share of aid in industry	
		ETS	Non-ETS	ETS	Non-ETS
Clothing	8	0	8	0 %	100 %
Chemical industry	486	197	289	30 %	70 %
Iron and steel	164	114	50	92 %	8 %
Non-ferrous metals	109	27	82	88 %	12 %
Paper	142	133	9	98 %	2 %
Total result	**909**	**471**	**438**	**68 %**	**32 %**

As of 14/12/2016

5.2 Source of electricity

The basis for calculating aid is a CO_2 emission factor of 0.76 tonnes of CO_2 per megawatt-hour of electricity, which is the same for all German undertakings. When no CO_2 costs are incurred in connection with the electricity consumed, no aid will be granted. This is the case, for example, when undertakings generate their own electricity from installations not subject to emissions trading. Figure 4 shows the share of individual electricity sources in the total electricity consumption of the installations for which electricity price compensation has been granted. Overall, 1.2 percent of total electricity consumption is not eligible for aid because no connected CO_2 costs are incurred. The share was still 1.5 percent of total electricity consumption in 2014 (see DEHSt 2016b). About 29 percent of electricity consumed is auto-generated in installations subject to emissions trading by undertakings that have received aid. Approximately 70 percent of electricity consumption is electricity eligible for aid generated by other undertakings. According to the applicants, CO_2 costs in the electricity supply contract were explicitly stated for only a small part (about 3 percent) of the third-party purchased electricity eligible for aid. For a large part of the third-party purchased eligible electricity (79 percent), the associated CO_2 costs were certified by means of electricity labelling according to Section 42 of the German Energy Industry Act (EnWG).[13] In addition, 13 percent of the third-party purchased eligible electricity stems directly from an electricity exchange, which means that the stock exchange price that usually contains CO_2 costs was paid.



As of 14/12/2016

Figure 4: Source of electricity in 2015

13 This means that it is not exclusively CO_2-free electricity (nuclear power or renewable energy), but part of the electricity supplied stems from fossil fuels. In this case, the electricity supplied within such an energy supply contract is fully eligible for aid.

Depending on the industry, the share of auto-generated electricity in the total electricity consumption, however, varies quite significantly. The clothing industry purchases electricity only from other undertakings. Hardly any electricity is produced in the field of non-ferrous metals: less than three percent of eligible electricity consumption is auto-generated. The share of in-house production in the paper industry is about a quarter of the eligible electricity consumption. In the iron and steel industry, in-house generation makes up 40 percent of eligible electricity consumption. In the chemical industry, the in-house generation share is about one third.

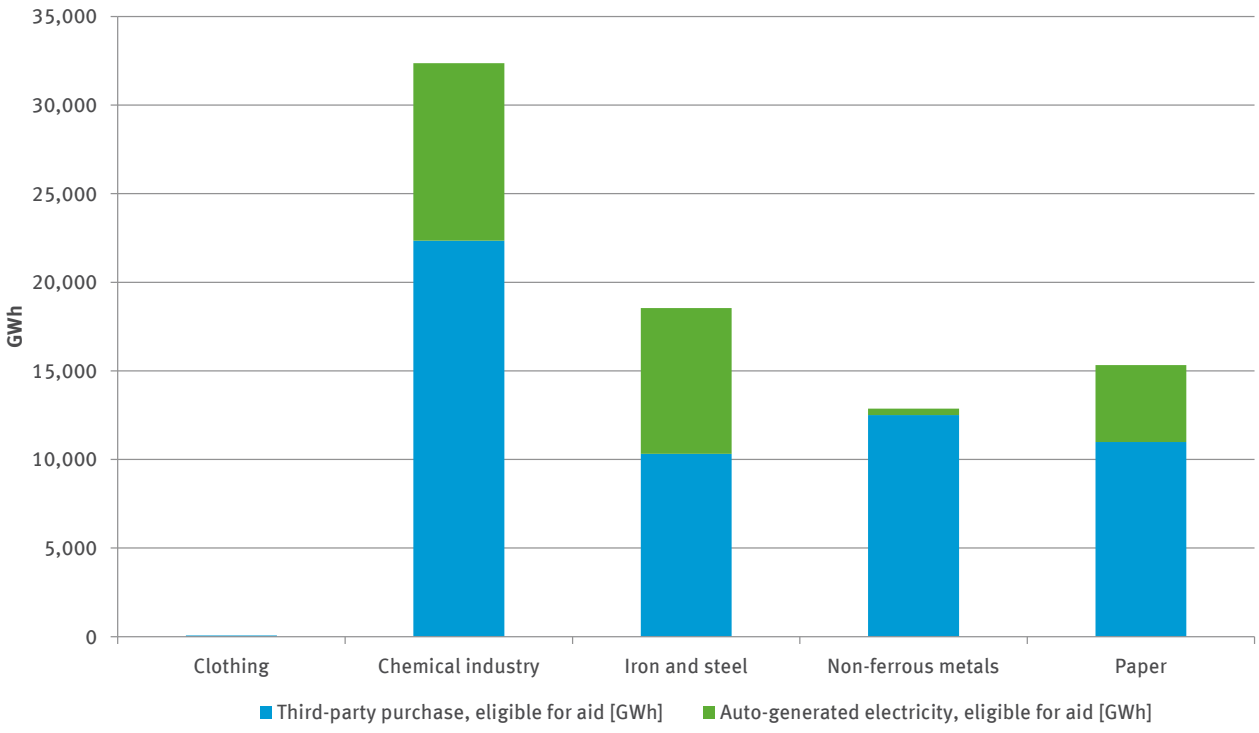


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Figure 5: Source of electricity of eligible electricity consumption, by industry (2015)

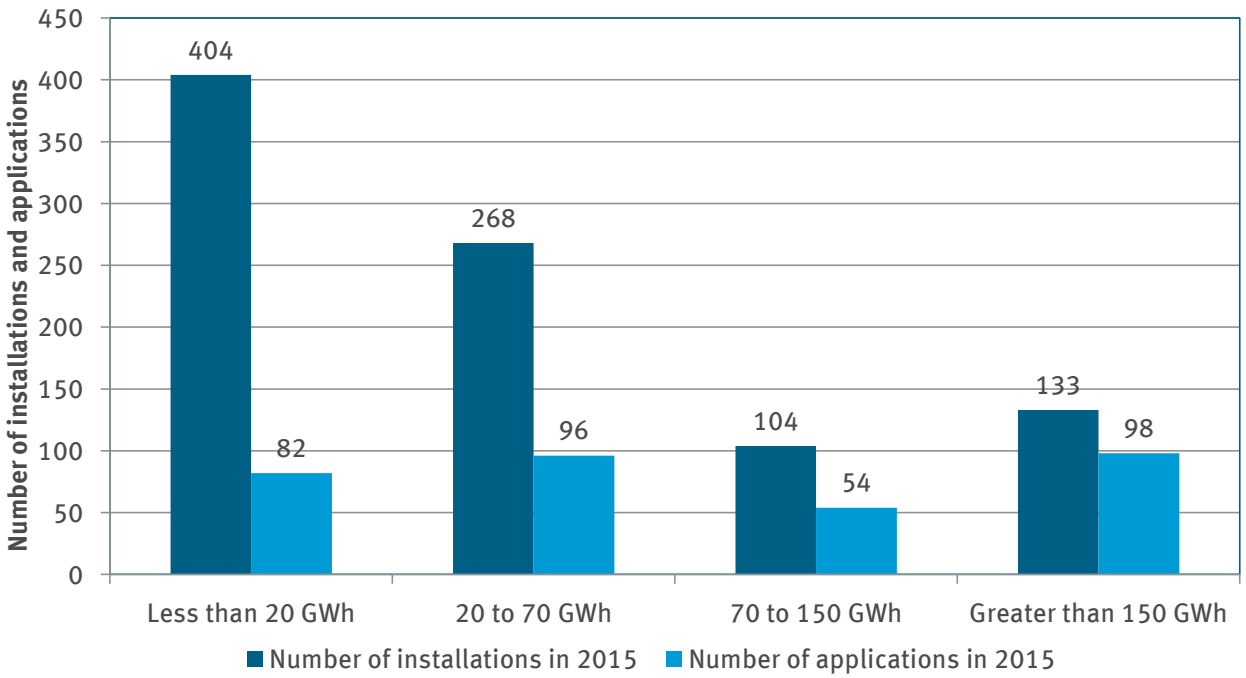
5.3 Installations by electricity consumption

Figure 6 shows the number of installations and applications grouped according to the total electricity consumption of the respective undertakings or installations[14]. The total electricity consumption does not reflect the eligible electricity consumption and may also contain electricity consumption for the production of non-eligible products. This serves only to illustrate the actual size of the undertaking or the installation.

Most installations fall in the range of electricity consumption of less than 20 gigawatt-hours per year, or 20 to 70 gigawatt-hours per year. However, considering the number of applications (i.e., those from undertakings in each category), the highest number belongs to the category of large consumers with an annual electricity consumption of more than 150 gigawatt-hours. The number of applications in the remaining categories is similarly high and is only somewhat less in the category of electricity consumption between 70 and 150 gigawatt-hours.

14 The categories are based on the Eurostat methodology "Energy statistics – electricity prices for domestic and industrial consumers, price components", Section 3.4. Statistical concepts and definitions, New Methodology (from 2007 semester 2 onwards), Industry, Volume-IA, -IB, -IC, -ID summarised < 20 GWh, Volume-IE 20 to 70 GWh, Volume-IF 70 to 150 GWh, Volume-IG above 150 GWh, cf. http://ec.europa.eu/eurostat/cache/metadata/DE/nrg_pc_204_esms.htm (accessed on 19/12/2016).

Compared to the 2014 figures it is striking that the number of installations has decreased considerably in the two lower electricity consumption categories. In 2014, 430 installations fell in the less than 20 gigawatt-hours electricity consumption category. In 2015, however, this was down to 404 installations, i.e. 26 fewer (see DEHSt 2016b). The reasons for this decline may be down to the effort of making an application compared to the resulting amount of aid and the retention corresponding to the CO_2 costs of one gigawatt-hour electricity.



As of 14/12/2016

Figure 6: Number of installations and applications according to electricity consumption in 2015

6 Results at calculation-element level

As described in Section 2, products manufactured within the same installation are combined to form calculation elements for the purpose of calculating the aid. The prerequisite for combining various products into one calculation element is an identical benchmark, or they must belong to the same sector if they are fall-back products. There are 19 product-specific benchmarks and 16 fall-back combinations. Overall, the aid decisions in 2015 were based on about 1,000 calculation elements.[15]

Figure 7 shows the shares for both the fall-back approach and benchmark approach in the total amount of aid granted for 2015. Just over 50 percent of the total aid was given for the manufacture of products for which a product-specific benchmark applies. Once more, 50 percent of the total aid was due to the production of products where the fall-back factor was used for electricity consumption to determine the aid amount.

Depending on the industry these shares are very different. There are no benchmarks in the mining and paper industries, and the aid amount is calculated using the fall-back factor. In the non-ferrous metal industry, about 76 percent of the aid amount is determined through benchmarks. This figure is over 60 percent in the chemical industry and around 50 percent for iron and steel due to a slight decrease in benchmark products and an increase in fall-back products.

15 However, there was no application from the „1810 – Leather clothing“ sector. The product benchmarks silicon carbide, high-carbon ferromanganese and silico-manganese were also not applied.

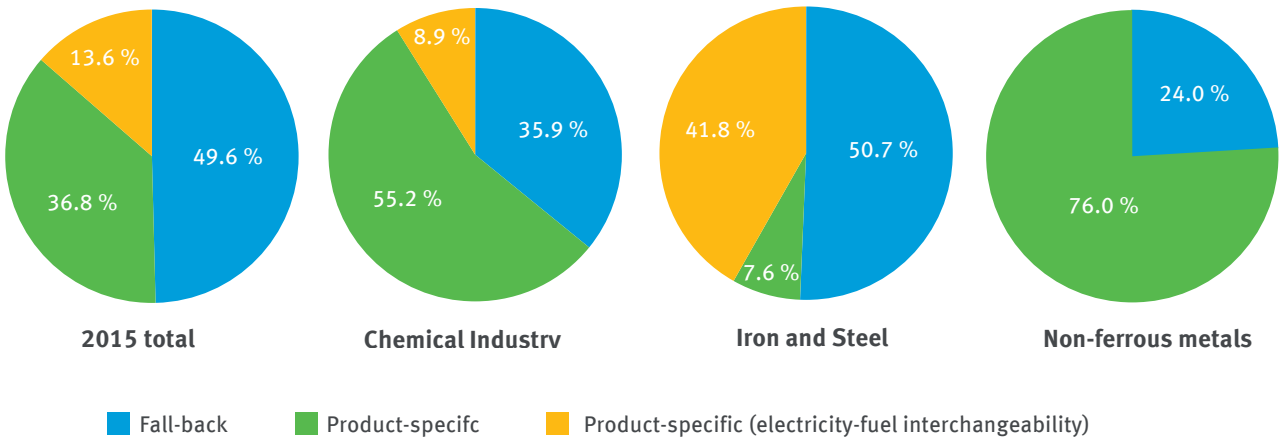


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Figure 7: Shares of fall-back approach and benchmark approach in the 2015 total aid amount and in aid amounts of selected industries

In the chemical industry and the iron and steel industry, the EU State Aid Guidelines provide compensation based on benchmarks while taking into account the interchangeability of electricity and fuels. Typically, these benchmarks are used in installations which are also subject to emissions trading. If a benchmark product is produced in a fairly electricity-intensive way, the installation receives a higher electricity price compensation. However, if a product is manufactured in a fuel- or heat-intensive way, for example using a large amount of steam, it receives more free allowances. However, benchmarks with interchangeability of electricity and fuels can also be used in cases when emissions trading obligation does not apply.

Most of the electricity-intensive products in the chemical industry from installations that also participate in emissions trading, are produced by using more heat than electricity, thus the resulting electricity price compensation is relatively low and the free allowances predominate. In addition, more than 60 percent of the installations in the chemical industry that receive electricity price compensation are not subject to emissions trading (see also Section 5.1, from p. 13). Therefore, the share of benchmarks with interchangeability of electricity and fuels in the overall aid amount in the industry is relatively low.

In the iron and steel industry, electric steel plants in particular benefit from the electricity price compensation. Benchmarks taking into account the interchangeability of electricity and fuel also exist for the production of electrical steel; however, electricity use clearly dominates among them, even compared to other installations in the iron and steel industry which receive aid. This is reflected in the high share of benchmarks with interchangeability of electricity and fuel in the industry's overall aid amount.

Table 4 shows the shares of the individual product benchmarks in the aid amount for the 2015 accounting year. Just as in the previous year, the production of chlorine (Cl2) has the largest share (16 percent), followed by the production of primary aluminium (about 12 percent). Five other benchmarks account for 1.7 to 5.7 percent of the aid amount. They include the benchmarks of the iron and steel industry (carbon steel, high-alloy steel, oxygen steel). The remaining nine product benchmarks account for a total of 3.5 percent of the aid amount for 2015. Compared to the previous year, the shares of these major benchmarks have changed slightly. Only the share of the benchmark for high-alloy steel decreased significantly from 5.0 to 4.4 percent of the total aid compared to the previous year, thus reversing the position of this benchmark with the „hyperpure polysilicon" benchmark. The remaining rankings of the largest benchmarks have not changed compared to the previous year.

Table 4: Shares of benchmark calculation elements in the 2015 aid amount

Name of calculation element	Share of 2015 total EPC
Chlorine (Cl_2)	16.4 %
Primary aluminium	11.8 %
EAF (Electrical Arc Furnace) carbon steel	5.7 %
Hyperpure polysilicon	4.9 %
EAF high-alloy steel	4.4 %
Highvalue chemicals	1.9 %
Oxygen steel	1.7 %
Other nine benchmarks	3.5 %
Total result	**50 %**

As of 22/01/2016

Table 5 shows the shares of fall-back calculation elements in the aid amount. The largest shares are held by the sectors ”2112 – Manufacture of paper and paperboard “ (14.5 percent) and ”2710 – Manufacture of basic iron and steel and of ferro-alloys” (11 percent). Seven other sectors and subsectors have shares from 1.8 to 5.6 percent of the aid amount. The remaining six sectors and subsectors account for 2.9 percent of the aid amount.

Table 5: Shares of fall-back calculation elements in the 2015 aid amount

Name of calculation element	Share of 2015 total EPC
Fall-back 2112 - Manufacture of paper and paperboard	14.5 %
Fall-back 2710 - Manufacture of basic iron and steel and of ferro-alloys	10.8 %
Fall-back 2414 - Manufacture of other organic basic chemicals	5.6 %
Fall-back 2111 (subsector) - Mechanical pulp	4.4 %
Fall-back 2416 (subsector) - Manufacture of plastics in primary forms	2.9 %
Fall-back 2413 - Manufacture of other inorganic chemicals	2.7 %
Fall-back 2744 - Copper production	2.1 %
Fall-back 2742 - Aluminium production	1.8 %
Fall-back 2415 - Manufacture of fertilisers and nitrogen compounds	1.8 %
Other six sectors and subsectors (fall-back)	2.9 %
Total result	**50 %**

As of 14/12/2016

7 Outlook

A budget of € 245 million for electricity price compensation was available in the 2015 accounting year under the Energy and Climate Fund. This budget has been exhausted by more than 99 % without budgetary reductions in state aid sums being necessary.

The application process for the 2016 accounting year began on 01.03.2017. Operators can submit applications by 31.05.2017. The EUA price to be applied in the aid calculation for the 2016 accounting year is € 7.80. It is thus higher than the 2015 price. This will again lead to a rise in the overall level of state aid. The Federal Ministry for Economic Affairs and Energy therefore provided € 300 million for the 2016 accounting year.

8 Annex

The 2013 and 2014 figures may differ from previous publications due to retrospective amendments to aid payments because of legal steps such as appeals, lawsuits and reclamations.

Table 6: Number of approved applications and number of installations according to industries and sum of aid paid in 2013

Industry (EPC)	Number of applications	Number of installations	EPC 2013 [euro]
Clothing	8	8	294,916.01
Chemical industry	117	534	119,812,465.10
Iron and steel	54	168	76,748,442.39
Non-ferrous metals	49	113	51,415,533.52
Paper	111	147	63,085,807.67
Total	**339**	**970**	**311,357,164.69**

As of 14/12/2016

Table 7: Number of approved applications and number of installations according to industries and sum of aid paid in 2014

Industry (EPC)	Number of applications	Number of installations	EPC 2014 [euro]
Clothing	8	8	112,527.51
Chemical industry	114	498	73,549,529.42
Iron and steel	52	163	45,233,232.86
Non-ferrous metals	49	113	31,706,259.93
Paper	110	146	35,200,704.98
Total	**333**	**928**	**185,802,254.70**

As of 14/12/2016

Table 8: Number of approved applications and number of installations according to industries and sum of aid paid in 2015

Industry (EPC)	Number of applications	Number of installations	EPC 2015 [euro]
Clothing	8	8	152,301.63
Chemical industry	117	486	96,547,976.64
Iron and steel	51	164	58,727,446.33
Non-ferrous metals	47	109	42,217,586.52
Paper	107	142	46,202,767.68
Total	**330**	**909**	**243,848,078.80**

As of 14/12/2016

9 Literature und sources

DEHSt 2016a German Emissions Trading Authority [eds.], „Leitfaden zur Erstellung von Anträgen auf Beihilfen für indirekte CO_2-Kosten (Strompreiskompensation),“ (Guidelines for applications for state aid for indirect CO_2 costs (electricity price compensation), Berlin, February 2016
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German Emissions Trading Authority (DEHSt) at the German Environment Agency
Bismarckplatz 1
D-14193 Berlin

www.strompreiskompensation.de | strompreiskompensation@dehst.de