VIK-Response

Verband der Industriellen Energie- & Kraftwirtschaft
Energie für die Industrie

Targeted Consultation of Interested sectors on the Revision of the State aid Guidelines in the context of the amended EU Emissions Trading Scheme

09.04.2019

1. Please describe the main activities of your company/organisation/association, if applicable.

VIK is the association of industrial energy consumers in Germany. For more than 70 years VIK represent in his role as industry-wide association the interests of companies from e.g. aluminum, chemicals, glass, paper steal and cement. VIK advises it´s members in all energy and energy-related environmental issues. About 80 percent of the industrial electricity consumption as well as nearly 90 percent of the supplier-independent industrial energy use and about 90 percent of the supplier-independent power generation in Germany is combined in the association.

2. Please specify whether you have received indirect emissions cost compensation in the past and, if so, the amount per year:

The information on the received indirect emission costs have been derived from the annual reporting by the German Emissions Trading Authority. In the report, payments to the chemical industry, iron and steel, non-ferrous metals and paper have been taken into account.

2012:	
2013:	311 Mio. Euro
2014:	186 Mio. Euro
2015:	243 Mio. Euro
2016:	288 Mio. Euro
2017:	
2018:	

VIK Verband der Industriellen Energie- und Kraftwirtschaft e.V.
Hauptgeschäftsstelle Essen: Richard-Wagner-Straße 41 • 45128 Essen
VIK-Büro Berlin: Friedrichstraße 187 • 10117 Berlin
Tel.: +49 (0)2 01/ 8 10 84-0 • Fax. +49 (0)2 01 / 8 10 84-30
Vorsitzender des Vorstands: Dr. Günter Hilken
Hauptgeschäftsführung: Barbara Minderjahn
Amtsgericht Essen: Registernummer 1813 VR
info@vik.de • www.vik.de

3. Please also specify how the share of indirect emissions costs over the total energy and operating costs of your undertaking has evolved since 2012 (if applicable).

The profit margins of our member companies diverge widely as they belong to different sectors. But the reduction of the profit margin per MWh of power consumed is identical since each MWh contains the marginal cost of CO2 produced in the merit order. However only a part of the power consumed by our member companies is compensated. First of all, only power consumed by ETS installations is subject to compensation. Auxiliary installations vital to operations like wastewater treatment etc. are not eligible for compensation. Furthermore, the power consumption of fall back installations (were no benchmark is applicable) is cut by a factor of 0.8. What is more, the aid intensity factor of 0.85 to 0.75 cuts the effective power compensation to 60-70% of the eligible power consumption. Finally, were production is growing, only the power consumption of the past is compensated while companies with shrinking production and power demand get compensated for the present power consumption.

If you consider that a specific sector should or should not be on the list of eligible sectors for the Phase 4 of the EU ETS, please fill the following questionnaire. When replying to the following questions, please substantiate your answers with all the data underlying your statement.

Sectoral Eligibility

1. What are the market characteristics of the sector concerned affecting the risk of carbon leakage due to indirect emissions costs? Please substantiate your answer by providing in particular data on output prices compared to input/production costs; expected growth of

Companies in the energy-intensive industry operate in markets characterised by international competition. As a result of the competitive situation, it is hardly possible to pass on any additional costs.
Numerous attempts have been made in the past to assess the ability of a sector to pass the indirect emission costs on to product prices. In particular, the assessment of the interaction between CO2 costs and market price developments has so far been unsuccessful.
Therefore, the following parameters should be considered at product level:
1) Price elasticity in demand: If price elasticity is high, it is not possible to pass on the CO2 costs because even small price increases have a negative impact on market share.
2) Goods for which the same prices apply worldwide: For example, when product prices are set on the stock market, there is no possibility of passing on CO2 costs.
3) Product homogeneity: Homogeneous products are exposed to increased competition and therefore cost cannot be passed on.
4) Transport costs: A low share of transport costs in total production costs prevents the possibility of passing on CO2 costs.
Furthermore, many energy intensive industry installations belong to multinational or global companies. In these companies, there is a threat of “investment leakage”. Investment leakage describes the outcome of a company’s internal competition for investments. Investments are assigned to the installations, were the return of investment is best. Unilateral cost burdens like the ETS lead to disadvantages in a company’s internal competition for investment –with missing investments leading to even higher costs.

demand and trade patterns (import levels and trends).

2. To what extent are undertakings in the sector able to pass higher carbon costs on to their customers? Please substantiate your answer by providing in particular data on the bargaining position of the sector, and whether EU producers in the sector should be viewed as price takers.

Companies in the energy-intensive industry operate in markets characterised by international competition. As a result of the competitive situation, it is hardly possible to pass on any additional costs.
For the reasons see answer No. 1.

3. What are the profit margins of EU undertakings in the sector as a potential driver for long-run investment or relocation decisions? Please substantiate your answer by providing in particular projections for future costs/prices/profit margins, data on the investment in the sector in the EU, the net trade balance and the business demography in the sector.

Since low carbon technologies are expensive, the highest possible return is required. Moreover, long-term corporate decisions require planning security over several years. The profit margin is not an appropriate indicator for long-term investments, as it only provides a snapshot of the situation at a given point in time.

4. To what extent is there a scope for energy efficiency investments in the sector, the incentives for which could be distorted by granting compensation for indirect emissions costs? Please substantiate your answer by providing in particular the electricity consumption intensity of the sector, its indirect emissions intensity, its current fuel mix, the penetration of best available technologies in the sector and the opportunity costs of foregone investment in existing technologies.

The rationale for adopting financial measures under article 10a(6) of the ETS Directive is to offset economic disadvantages resulting from greenhouse gas emission costs passed on in electricity prices and to protect European companies from economic imbalances that stem from differences in the level of ambition of the EU's climate policy framework and less ambitious climate policies of third countries. Thus, article 10a(6) of the ETS Directive provides EU member states with an instrument to counterbalance these factors.

With the EU Governance Regulation and the EU Energy Efficiency Directive, the EU has developed a robust legal framework to raise the remaining potentials regarding energy efficiency improvements in the industrial sector and monitor the progress made at the national and at EU level. Regulating energy efficiency through this delegated act is therefore not only unnecessary, but also beyond the legal competence of the European Commission.

In Germany, the federal government has implemented the EU Energy Efficiency Directive e.g. by introducing new legislation such as the obligation for companies with a status as a non-SME to conduct energy audits on a regular basis. Moreover, in 2014 the federal government and the industrial sector entered into an agreement to promote energy efficiency in the industrial sector on a voluntary basis: Under the so-called "Initiative Energieeffizienz-Netzwerke" companies found sector or cross-sector networks and implement measures to improve their energy efficiency within a period of two years. Since the start of the initiative in 2014, more than 1800 companies have joined a network. The total number of networks has grown to 221 in March 2019. The monitoring of the first 21 networks revealed that these companies have reduced their CO2-emissions by 106 kt CO2 p.a. and contributed to reduce Germany's energy consumption by 249 GWh p.a. in terms of final energy and 356 GWh p.a. in terms of primary energy consumption. The initiative has so far proven to be very successful and shows that voluntary policy measures are key for improving energy efficiency.

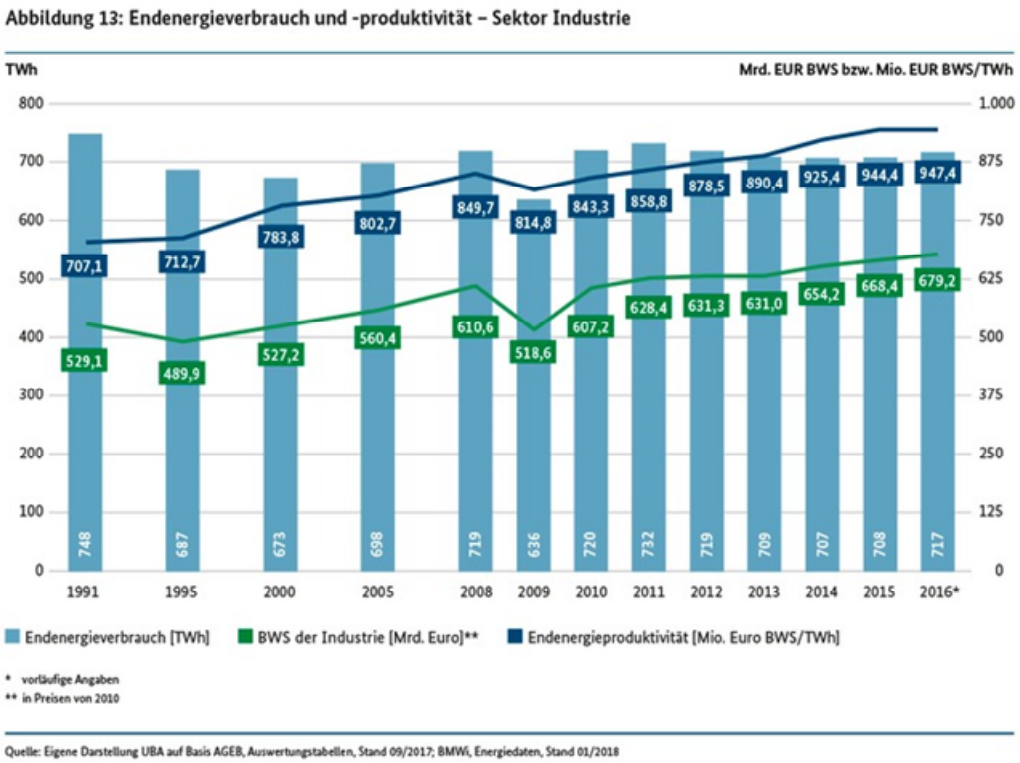
The initiative also shows that companies have a genuine interest in being as energy efficient as possible. The industrial sector has continuously increased its energy efficiency over the past decades and achieved further improvements in energy efficiency due to an overall increase of investments in energy efficient technologies during the last decade. The final energy consumption of the German industrial sector has decreased on average by 0.2 percent per year from 748 TWh in 1991 to 717 TWh in 2016 (see figure 1). During the same period, the gross value added by industry increased by 1 percent per year from 529.1 billion Euro in 1991 to 678.2 billion Euro in 2016. The energy productivity of the industrial sector increased on average between 1991 and 2016 by 1.1 percent.

The increase in energy productivity can be attributed to investments in energy efficient equipment for the production of energy and products. Whereas investments of the industry in energy efficiency amounted to 0.13 billion Euro in 2006, this value has increased to 0.85 billion Euro in 2014. In 2012 and 2013 this number was even higher with 0.93 billion Euro and 0.94 billion Euro respectively. These investments relate to "the penetration of best available technologies" such as heat exchangers, heat pumps, combined heat and power generation, thermal insulation of installations and production buildings, the replacement of heating and heating technology by more environmentally friendly or alternative technologies, and efficient networks.

In the industrial sector, the use of fuels based on petroleum products and the use of coal has been cut in 2016 compared 1990, whereas the use of more efficient and more environmentally friendly types of energy increased. The latter includes, natural gas, electricity from renewable energy sources, renewable heat and district heating (see figure 2). The electricity consumption of the industrial sector has remained stable over the last decade but could increase in the future due to the national climate policy of Germany's federal government that promotes a fuel shift from fossil fuels to the direct use of electricity.

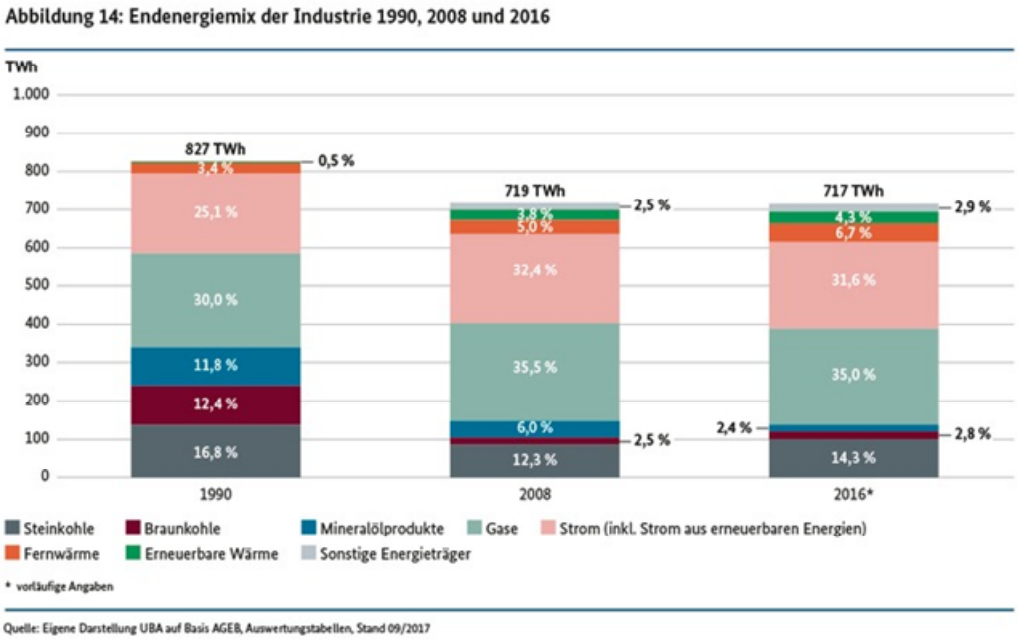
In 2016, approximately 77 percent of the electricity consumed by the industry was provided by external energy producers (source: own calculation, based on VIK energy statistics 2018). As for the remaining 23 percent of the electricity consumed, the German industry improved the electricity efficiency of its power generation plants continuously over the last decade (see figure 3).

Figure 1: Energy consumption and energy productivity of the German industrial sector



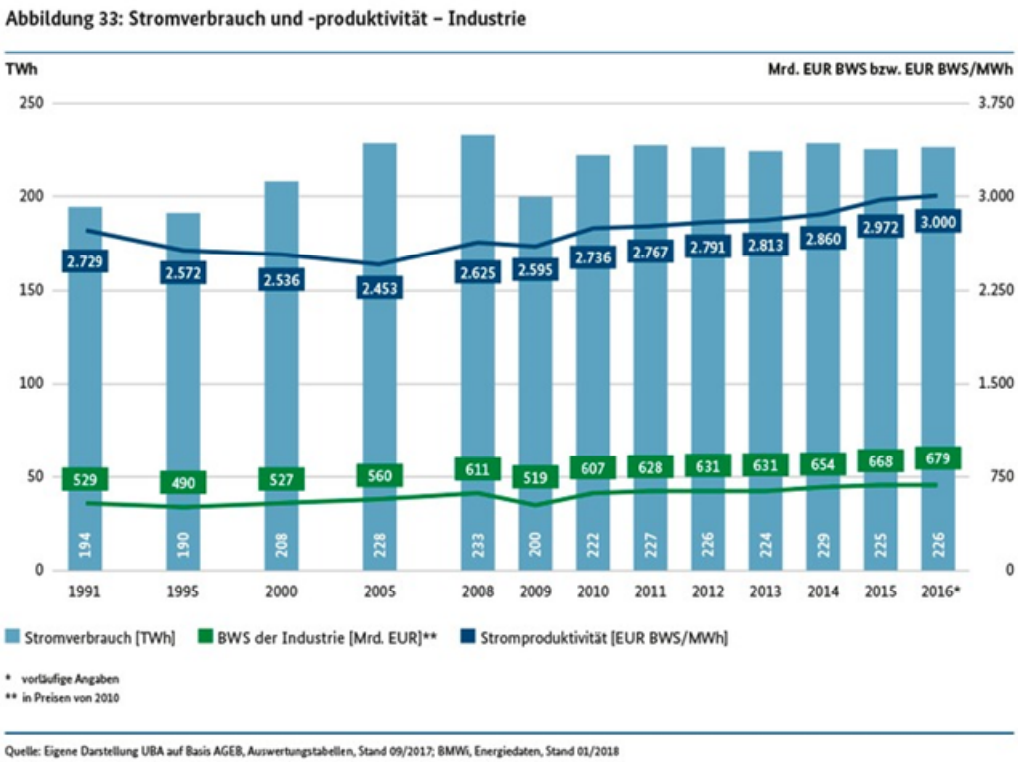
Source: Federal Ministry of the Economy, 2018.

Figure 2: Energy mix of the German industrial sector



Source: Federal Ministry of the Economy, 2018.

Figure 3: Electricity consumption and energy productivity of the German industrial sector



Source: Federal Ministry of the Economy, 2018.

5. To what extent are the products of the sector substitutable with other products (inter-sector competition), the producers of which may be eligible for indirect emissions cost

When considering intersectoral competition, value chains must be taken into account. For example, in the chemicals sector: Products from one sub-sector are raw materials from another sub-sector within the chemicals sector. Thus, indirect costs of emissions trading must be offset across these value chains. In order to ensure the equal treatment of plants and a full relief of the overall process within electricity price compensation, power consumption required for the production of media such as compressed air and demineralised water/cooling water required for the manufacture of a product that is eligible for electricity price compensation must also be eligible for electricity price compensation, irrespective of whether these media are produced in the "own" plant of the product eligible for electricity price compensation or procured from another plant. This must at least be ensured for the media produced at the production site of the product eligible for electricity price compensation.

There are also examples of manufacturing processes where indirect emissions compete with direct emissions. For example, in the cases of steel and glass production, indirect emissions from the production of oxygen compete with the direct emissions that alternatively arise from the consumption of additional fuels. These products shoul also be eligible to compensation.

compensation?

6. To what extent are companies in the sector competing with undertakings based in other EU Member States? How significant is the risk of competition distortions in the sector if not all of the relevant Member States were to grant compensation for indirect costs or if they do so to a different degree?

As a consequence of the different energy costs within Europe the competition in the different industry branches is clearly noticeable. This fact was also taken into account in the reform of the European Emissions Trading Directive.
Under the previous European Emissions Trading Directive, member states could grant

The electrification of industrial production processes is a core element of the federal climate strategy towards decarbonisation. It can therefore be assumed that electricity intensity will continue to increase in the future. In the chemicals sector, for example, such electrification would result in an increase in electricity demand of more than 1000 TWh per year. In order for companies to remain globally competitive, they need access to affordable electricity. Until the electricity sector will be transformed into a predominantly renewable one, an adequate and sufficient compensation of indirect CO2-costs is necessary to enable the industry to facilitate electrification.

7. To what extend do undertakings in the sector diverge as regards their share of direct vs indirect emissions? In particular: are undertakings in the sector using different production technologies which lead to a situation where some undertakings face a higher share of indirect emissions costs (electrification of production processes)?

Aid intensity and degressivity

8. Depending on the sector's overall market characteristics, what level of indirect emission costs compensation would be necessary to address the carbon leakage risk?

The price development in the EU ETS during the last year (price increase from almost 7 Euro to 25 Euro and a further increase is predicted) has shown the compensation is not adequate in its present form. As long as there is a risk of indirect CL, the compensation must be designed in such a way that it offers complete protection. Therefore, a full extent compensation level, the retention of the current CO_2-factors, and the cessation of the degressive approach should set the framework for the upcoming fourth trading period.

9. What level of aid intensity would best maintain the sector's incentives for energy efficiency investments? What parameters besides the efficiency benchmarks[7] should be used to promote sector's incentives for energy efficiency investments?

The purpose of electricity price compensation is to relieve companies of the burden of higher electricity prices and the associated carbon leakage risk. For this reason, measures to increase energy efficiency must not be a criterion for maintaining electricity price compensation. In addition, there are other reasons why energy efficiency should not be a criterion for maintaining electricity price compensation. First, the targets and measures for increasing energy efficiency in the industrial sector are already regulated at EU level in the EU Energy Efficiency Directive and the EU Governance Regulation. As shown in question 4, the requirements to increase energy efficiency are already effective. Second, companies have an intrinsic interest in increasing energy efficiency due to economic viability. Therefore, further obligations at EU level within the framework of electricity price compensation would not deliver any added value.

The calculation formula defined under the 2012 ETS Guidelines refer to electricity consumption efficiency benchmark to establish the level of aid that can be granted to compensate indirect emission costs. These benchmarks represent the product-specific electricity consumption per tonne of output achieved by the most electricity-efficient methods of production for the product considered.

10. What level of aid intensity would best safeguard (minimise) the risk of competition distortions between different undertakings, i.e. due to the fact that some Member States would be able to grant full compensation whilst other may decide to grant no compensation or due to the gap between the treatment of sectors offering substitutable products?

Only comprehensive compensation can level out the differences in the niveau of electricity prices within the EU. The Emissions Trading Directive for the fourth trading period takes this fact into account. According to the reformed Emissions Trading Directive, EU member states *should* introduce financial measures in favour of those sectors or subsectors for which a significant risk of carbon leakage has been identified through costs of greenhouse gas emissions passed on to the electricity price. The wording differs from the previous version of the Emissions Trading Directive for the third trading period, where EU Member States *could* introduce such support and is therefore a clear call to use offsetting measures.

11. How would a degressive indirect emissions cost compensation, e.g. starting at 75% of the aid intensity, affect the risk of carbon leakage in the sector?

See answer provided to question 10.

12. How would a degressive cost compensation, e.g. starting at 75% of the aid intensity, affect the sector's incentives for energy efficiency improvements?

See answer provided to question 9.

13. How would a degressive cost compensation, e.g. starting at 75%, affect the risk of competition distortions between different undertakings, e.g. due to the fact that some Member States would be able to grant full compensation whilst others may decide to grant no compensation or due to the gap between the treatment of sectors offering substitutable products?

See answer provided to question 10.

14. Based on the situation of the sector concerned, what is the likelihood that – following the update of the efficiency benchmarks - further efficiency gains will be possible?

The methodology for calculating the product-specific energy efficiency benchmarks for offsetting indirect CO2 costs should be based on the methodology for calculating the product benchmarks for free allocation. In the future, the benchmarks should reflect the average performance of the 10 percent most efficient plants. Non-representative installations whose process or operating conditions cannot be replicated should not be taken into account in the calculation. For eligible products that do not have a product benchmark, the compensation aid is based on electricity consumption for the production of those products. The fallback benchmark is currently set at 80 percent electricity consumption. Due to continuous improvements in energy efficiency, the reduction potential decreases as the thermodynamic optimum is approached. The fallback benchmark should therefore be raised.

15. What are the merits of modulating the aid intensity based on the different sectors' trade intensity?

All beneficiary sectors must be treated equally as regards the level of compensation, irrespective of their trade intensity. The intensity of trade should be taken into account as early as the establishment of the group of beneficiaries. As a methodology for defining the group of beneficiaries, we propose an approximation to the method for developing the carbon leakage list. This means that in order to determine the beneficiary group of the electricity price compensation, all economic sectors should be analysed as to whether their product of trade intensity and emission intensity of indirect emissions exceeds a threshold value to be defined.

16. What was the baseline output of the companies of your sector observed over Phase 3 of the EU ETS? How did it compare to actual output? Please provide output figures.

In order to reflect the dynamic character of the reformed EU ETS, a baseline approach for electricity price compensation is to be rejected. Rather than that, a company should be compensated for the indirect emission costs that it faced during the previous year and therefore for the actual production that took place in that year. This approach uses real data and, hence, is the most dynamic methodology. Furthermore, it avoids over- and under-compensation due to unpredictable fluctuations in the level of production.

17. How do you expect the output of the companies of your sector to evolve during Phase 4 of the EU ETS? Please provide output figures.

Production forecasts are always prone to errors and should therefore not be used to determine electricity price compensation. A baseline approach for electricity price compensation is to be rejected, as it does not reflect the dynamic character of the reformed EU ETS. Rather than that, a company should be compensated for the indirect emission costs that it faced during the previous year and therefore for the actual production that took place in that year. This approach uses real data and, hence, is the most dynamic methodology. Furthermore, it avoids over- and under-compensation due to unpredictable fluctuations in the level of production.

18. What are the merits of limiting the total amount of indirect emissions costs to be sustained by the beneficiary based on a certain percentage of the beneficiaries' gross value added (GVA) to address a particularly high carbon risk in a limited number of sectors?

The proposed methodology is not appropriate since companies with a long / closed value chain regularly show higher gross value added values compared to "tailored" companies with a shattered value chain and would consequently be rated as less worthy of protection. As gross value added can only be calculated at enterprise level and not at asset level, this additional cap would increase competition among companies within one sector because the share of energy-intensive processes in gross value added varies greatly. It should therefore be rejected.