# Draft evaluation plan for the Special Compensation Scheme, EnFG 2023 (§ 28 et seq. EnFG) for submission to the European Commission

## Content

# 1 Identification of the aid scheme to be evaluated

See evaluation questionnaire.

# 2 Objectives of the aid scheme to be evaluated

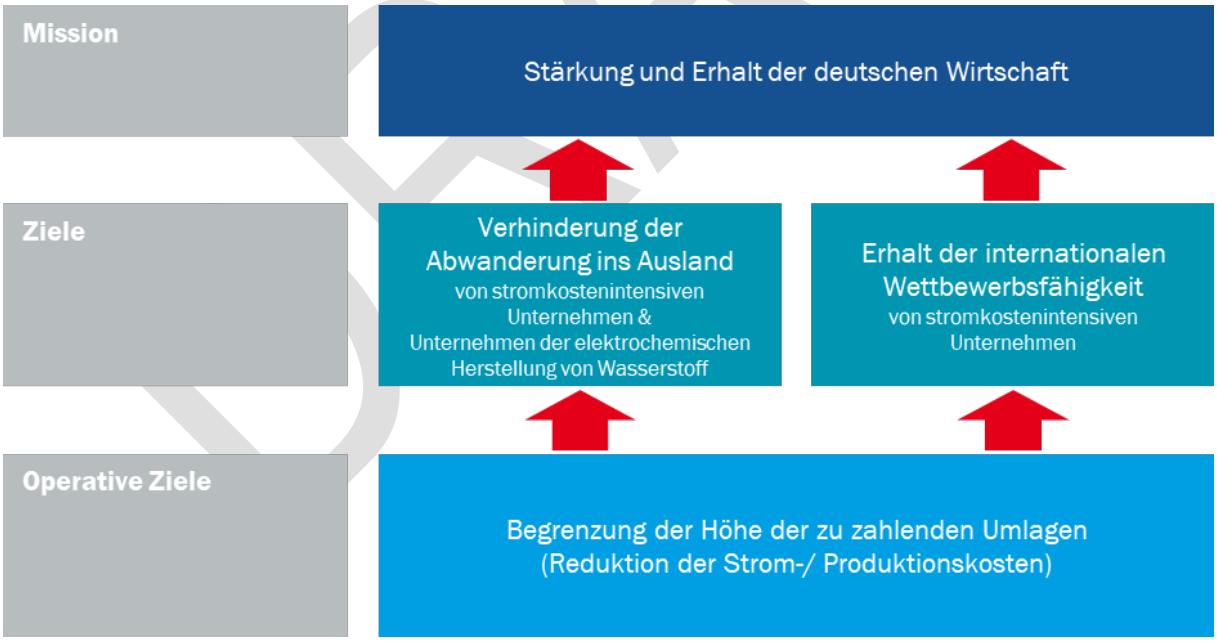
## 2.1 Description of the scheme

See evaluation questionnaire.

## 2.2 Objectives of the scheme and expected impact

The purpose of the BesAR is to limit the burden on certain end-consumers (electric-intensive companies and electrochemical hydrogen producers) resulting from the CHP and offshore grid surcharges. The aim is to maintain the international competitiveness of electro-intensive companies – which pay high electricity prices compared to international competitors – and thus prevent their migration abroad. The BesAR also aims to support the development of hydrogen production technologies. Operationally, the charges for electricity and thus the electricity/production costs are to be reduced. The (direct) and operational objectives are intended to strengthen the German economy or secure Germany's location (mission of the scheme; Figure 2-1).

**Figure 2-1: Target system BesAR**



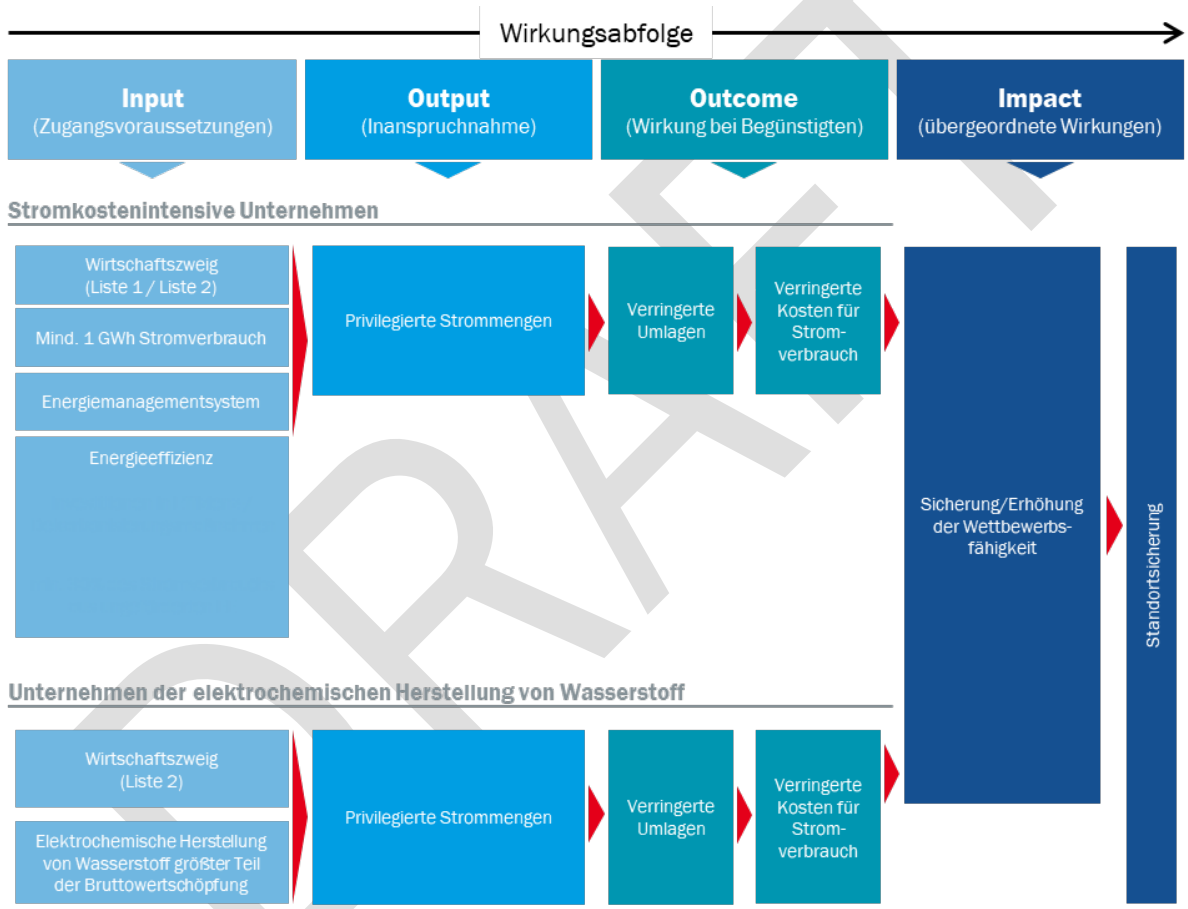

Own presentation.



The BesAR scheme in the EnFG is based on a specific impact model. A distinction should be made between a direct and an indirect action track:

The direct impact stream occurs with the beneficiaries if they comply with the access conditions and thus benefit from privileged volumes of electricity. In this case, the surcharge will be reduced and the corresponding electricity costs are therefore reduced. The reduction in electricity consumption costs affects production costs and will be reduced. Ideally, this means that the production costs of the beneficiaries are competitive with (international) competition. Competitive production secures the production and production sites of the beneficiaries in Germany. This direct impact is present both for electro-intensive companies and for electrochemical hydrogen productionFigure 2-2companies.

**Figure 2-2: Active model BesAR (direct action line)**




Own presentation.



The indirect impact track is based on the access conditions ( 2.5Section) for the use of the BesAR: The type of activity listed in List 1 or 2, the minimum annual electricity consumption, the demonstration of an energy management system and, in particular, the energy efficiency criteria. Overall, the privilege is conditional on the energy efficiency potential (identified by the EMS) being increased (through appropriate energy efficiency measures) and, where appropriate, decarbonisation measures. The BesAR scheme therefore encourages the modernisation of production sites and production technology, e.g. by using modern technologies or processes and thus replacing

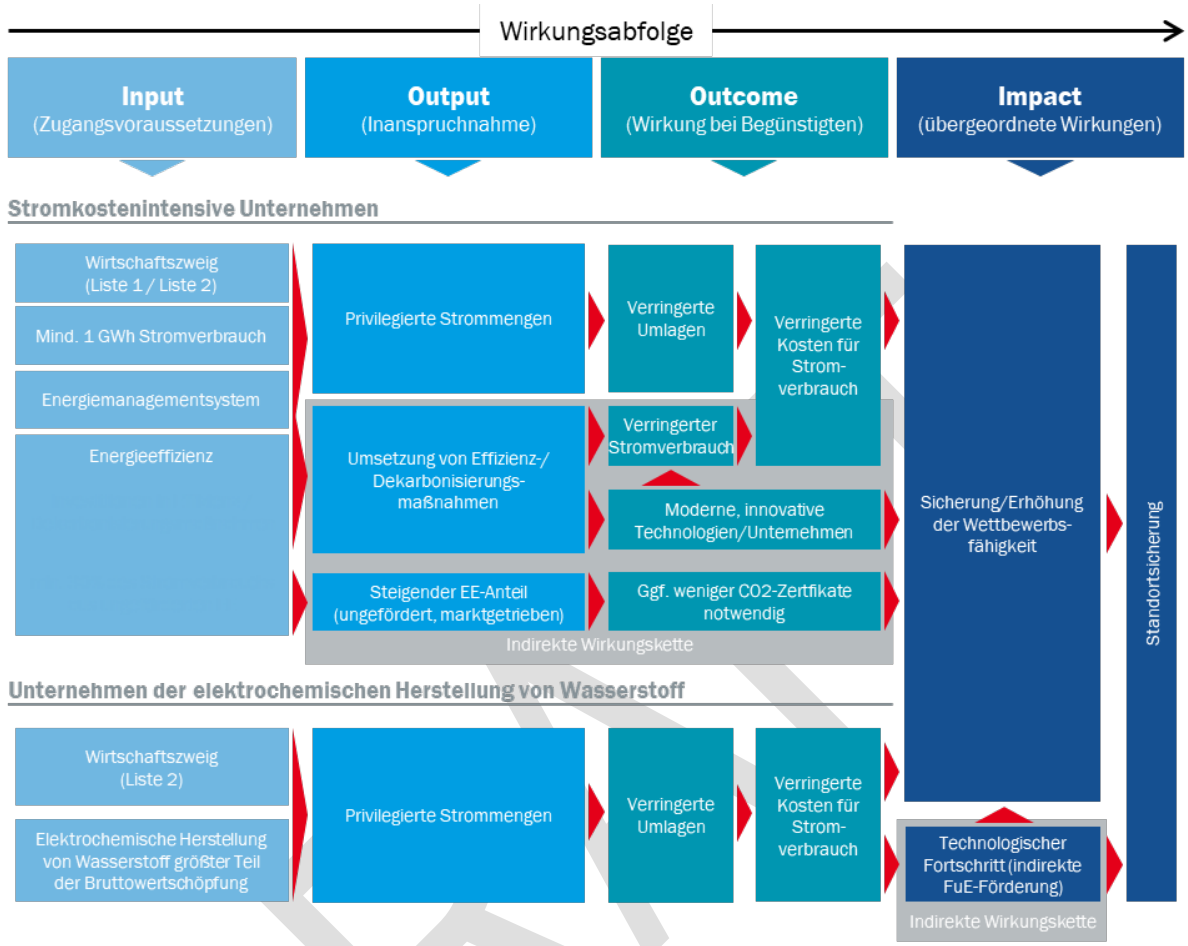
obsolete plants. This will support the competitiveness of businesses. At the same time, energy efficiency measures in particular lead to energy demand (here: Electricity demand). This reduction in electricity consumption in turn contributes to reducing (absolute) electricity consumption costs. On a case-by-case basis, further contributions to competitiveness can also be expected by improving resource efficiency through modern equipment and processes. It is conceivable that, with the increase in the share of renewable energy in the (unsupported) quantity of electricity, fewer $CO2_{allowances}$will be needed by the beneficiary companies in future. This indirectly favours the development of production costs and can thus contribute to maintaining or increasingFigure 2-3competitiveness.

Electrochemical production of hydrogen is still at the development stage, and production on a large-scale industrial scale is not yet established.[1] Nevertheless, there is in principle the same relationship of effect as shown above in the case of electro-intensive companies. In the operating model, it can be assumed that cost savings in this area may be invested in further R & D activities and that the advantage thus acts as indirect support for R & D.



[1] There are well-established processes that generate hydrogen as a by-product. However, for companies/establishments with this process, the contribution of hydrogen production to gross value added does not account for a significant share of the by-product character. This means that the conditions for access are not complied with, so it is more possible to obtain privileged volumes of electricity than an 'electro-intensive undertaking'.

**Figure 2-3: Impact model BesAR (indirect action line)**




Own presentation.



Energy efficiency measures and the increase in the share of renewable energy also reduce the GHG emissions of the beneficiary companies. This indirectly supports the Federal Government's climate and energy policy objectives, which are not directly addressed in the scheme. However, the present evaluation plan does not provide for an assessment and assessment of this collateral benefit.

## 2.3 Possible negative consequences

See evaluation questionnaire.

## 2.4 Budget

See evaluation questionnaire.

### 2.5 Eligibility criteria and selection of beneficiaries

See evaluation questionnaire.

# 3 Evaluation questions

The evaluation questions determine the scope and focus of the evaluation. They should be answered quantitatively and, as far as possible, allow direct proof of impact (causality). The three different levels of direct and indirect effects and appropriateness should be addressed.

State aid is generally attributed direct effects on both State aid receiving and indirect effects, for example through spillover and crowding-out effects on third parties. Where:

- In so far as the direct effects of State aid are very small or non-existent, the aid is highly unlikely to be effective, unless there are convincing arguments through relevant indirect effects.
- Positive direct effects can be influenced by negative indirect effects, i.e. summarily cancelled or mitigated/covered.
- Direct and indirect effects may be directly linked to effects.

Accordingly, an evaluation should in principle also take indirect effects into account. However, the assessment of direct effects according to the common methodology is considered to be easier to achieve, whereas an analysis of indirect effects requires different, more case-based methods than the assessment of direct effects.

The assessment will be carried out on the basis of questions on the direct effects of the aid, on the indirect effects of the aid and on the proportionality of the aid.

### 3.1 Evaluation questions on direct effects on beneficiaries

In accordance with the above-described impact model (Figure 2-2andFigure 2-3), the direct effects are borne by the target group receiving the aid. As a first step, it is necessary to analyse whether and to what extent the aid could trigger its direct impact mechanism. Therefore, in relation to the output dimension of the impact model:

1. To what extent has the aid led to the use of privileged volumes of electricity? The following sub-questions can be used to answer this evaluation question:
   - 1.1. How many companies have used the privileged volumes of electricity?
   - 1.2. What is the share of those undertakings which have benefited from a privileged quantity of electricity in the total number of farms that could have benefited from the scheme?
   - 1.3. What is the amount of electricity for which the preferential treatment was used?
   - 1.4. What is the share of the privileged quantity of electricity in the total volume of electricity?

1.5. What is the share of the privileged amount of electricity in the total electricity consumption that could have been covered by the scheme?

Then analyse whether and to what extent the mechanism of action of the 'outcome dimension' has been initiated:

2. To what extent has the aid led to a reduction in the electricity surcharge and thus the electricity consumption costs (outcome)?
   - 2.1. Has the aid led beneficiary companies to reduce their electricity consumption costs to a greater extent than non-beneficiary companies?
   - 2.2. By what amount has electricity consumption costs been reduced?

The conditions of access to the aid provide indirect incentives for recipients to modernise the undertakings concerned and, in particular, to maintain or maintain the equipment and processes relevant to production ("energy-efficient enterprises"; Figure 2-3) and thus preserve or improve the basis for a competitive industry. There is no established approach to directly and consistently measure and assess the modernity of companies. Similarly, there is no reliable and publicly available data. Conceivable approaches, such as focusing on or investing in R & D, are often misleading, as data are often selective (e.g. only public support, strategic information in business reports) and insufficiently capture the incremental innovation and modernisation activities often found empirically. Therefore, the evaluation question focuses more generally on the 'efficiency/decarbonisation measures' access condition.

Therefore, in relation to the output and outcome dimensions of the working model for electro-intensive companies, it is necessary to ask:

3. To what extent has the aid demonstrated the expected effects of the indirect impact strand?
   - 3.1. Have the eligibility conditions had a significant impact on the behaviour of the recipients of the aid (e.g. implementation of efficiency/decarbonisation measures)?
   - 3.2. Have the eligibility conditions contributed to an increase in the share of electricity consumption from unsupported renewable energy sources among those receiving the aid?

## 3.2 Evaluation questions on indirect effects

Indirect effects are understood as the cross-cutting (overall social/economic) effects of the (collective) behavioural change and activities in the individual recipients of the aid. They are positioned in the impact dimension in the working model. From the point of view of the target system, the focus here is on contributions to the achievement of the policy objectives (Figure 2-1) of the scheme:

- Securing or increasing (international) competitiveness of electro-intensive companies
- Prevention of relocation abroad (localisation) for electro-intensive companies and electrochemical hydrogen production companies.

Determining the competitiveness of whole enterprises is theoretically and empirically challenging. A causal link between competitiveness and production costs can be assumed, the impact of energy costs (here: However, the causality of electricity consumption costs) cannot be demonstrated at company level.

The importance of energy costs also relates in particular to the question of relocation. These are usually multi-causal, e.g. the importance of energy costs for location decisions varies depending on the useful life of a production plant. In this case, energy costs can have a greater impact on the economically viable useful life and thus on the decision to relocate than for production plants which are at the beginning of their useful life. It should also be borne in mind that other framework conditions, such as market access, supply chains, access to resources or other benefits, as well as business strategic and organisational reasons in general, can play an important role in business decisions in the event of relocation. These multi-causal relationships should normally be clearly identified and assessed only on the basis of case-by-case analyses. Conversely, it is therefore necessary to analyse whether there were closures of (beneficiary) farm/takers during the reporting period. If this is the case, it would have to be decided to carry out a case-by-case analysis to identify the reasons for the closure and thus also assess the importance of energy costs.

The evaluation questions are therefore:

4. To what extent has the scheme contributed to safeguarding/increasing competitiveness and securing location (policy objective)?
   - 4.1. By what proportion of electricity consumption costs (as part of production costs) have been reduced?
   - 4.2. Has the scheme contributed to the maintenance of production sites in Germany?

## 3.3 Evaluation questions on proportionality and appropriateness

The proportionality and appropriateness of an intervention is determined by whether the intervention (or the rules on which it is based) can solve the problem to be dealt with efficiently and effectively and without potentially undesirable effects. Evaluation questions are therefore:

5. What is the burden of other schemes for electro-intensive users in order to reduce electricity consumption costs (comparison of instrument efficiency)?
6. To what extent has the aid affected the electricity levy for non-privileged end consumers?

# 4 Result indicators

The indicators Table1 listed in are intended to collect quantitative information on the direct and indirect effects of the funding programme, thus answering the evaluation questions. From a methodological point of view, most indicators are determined on the basis of the information provided by the beneficiaries at the BAFA (funding data) or data provided by the Federal Statistical Office and the corresponding statistical analyses. Comparisons of beneficiaries and non-beneficiaries can be made with limitations on this basis (Section5.2).

Table1: Mapping evaluation questions to result indicators and sources of information

| Evaluation question | Indicator | Source | Fre-quency | Level | Group |
|---|---|---|---|---|---|
| **Evaluation questions on direct effects on beneficiaries** | | | | | |
| **1. To what extent has the aid led to the use of privileged volumes of electricity?** | | | | | |
| 1.1. How many companies have used the privileged volumes of electricity? | Number of delivery points used by the BesAR | BAFA/funding data | annually | National level | Recipients of aid |
| 1.2. What is the share of those benefiting from a privileged quantity of electricity in the total number of farms that could have benefited from the scheme? | Establishments with the possibility of benefiting from BesAR | Special evaluation by the Federal Statistical Office | annually | National level | All establishments/companies |
| | Share/coverage of take-up in terms of number of holdings | Own provision | annually | National level | All establishments/companies |
| 1.3. What is the amount of electricity for which the preferential treatment was used? | Privileged (requested) quantity of electricity | BAFA/funding data<br>Actual privileged volumes of electricity are available to transmission system operators | annually | National level | Recipients of aid |
| 1.4. What is the share of the privileged quantity of electricity in the total volume of electricity? | Quantity of electricity that can be used | Special evaluation by the Federal Statistical Office | annually | National level | All establishments/companies |
| | Share/coverage of consumption in terms of quantity of electricity | Own provision | annually | National level | All establishments/companies |
| 1.5. What is the share of the privileged amount of electricity in the total electricity consumption that could have been covered by the scheme? | Share/coverage of consumption in terms of quantity of electricity | Own provision | annually | National level | All establishments/companies |
| **2. To what extent has the aid reduced the electricity surcharge and thus the electricity consumption costs?** | | | | | |
| 2.1. Has the aid led beneficiary companies to reduce their electricity consumption costs to a greater extent than non-beneficiary companies? | Evolution of pay-as-you-go for beneficiaries | BAFA/funding data<br>Actual privileged volumes of electricity are available to transmission system operators | annually | National level | Recipients of aid |

| | | | | | |
|---|---|---|---|---|---|
| | Evolution of pay-as-you-go for non-beneficiaries | Eurostat | annually | National level | All establishments/companies |
| | Difference in cost evolution | Own provision | annually | National level | All establishments/companies |
| What is the amount of electricity consumption costs reduced? | Relief to beneficiaries (EUR million) | Own provision based on BAFA/funding data | annually | National level | Recipients of aid |
| | Relief for beneficiaries (ct/kWh) | Own provision based on BAFA/funding data | annually | National level | Recipients of aid |
| **3. To what extent has the aid demonstrated the expected effects of the indirect impact strand?** | | | | | |
| Have the eligibility conditions had a significant impact on the behaviour of the recipients of the aid (e.g. implementation of efficiency/decarbonisation measures)? | Share of beneficiary undertakings in all beneficiary undertakings that have implemented efficiency measures | BAFA/funding data | annually | National level | Beneficiaries of aid from electro-intensive companies |
| | Percentage of beneficiaries having implemented efficiency measures | BAFA/EDL survey | annually | National level | Sample of all holdings/enterprises |
| | Share of non-beneficiary undertakings that have implemented efficiency measures | BAFA/EDL survey | annually | National level | Sample of all holdings/enterprises |
| Have the eligibility conditions contributed to an increase in the share of electricity consumption from unsupported renewable energy sources among those receiving the aid? | Amount of electricity from unsupported RES | BAFA/funding data | annually | National level | Beneficiaries of aid from electro-intensive companies |
| | Amount of electricity from non-renewable energy sources or from supported RES | BAFA/funding data | annually | National level | Beneficiaries of aid from electro-intensive companies |
| | Share (non-beneficiary) of RES-E receiving aid | Own provision | annually | National level | Beneficiaries of aid from electro-intensive companies |
| | Share of unsupported RES-E in the overall system | Monitoring report of the Federal Network Agency | annually | National level | All establishments/companies |
| | Comparison of annual RES-E share | Own provision | annually | National level | All establishments/companies |
| **Evaluation questions on indirect effects** | | | | | |
| **4. To what extent has the scheme contributed to safeguarding/increasing competitiveness and securing location (policy objective)?** | | | | | |
| 4.1. By what proportion of electricity consumption costs (as part of production costs) have been reduced? | Share of discharge (cent/kWh) in electricity consumption costs (cent/kWh) | Eurostat | annually | National level | Recipients of aid |

| | | | | | |
|---|---|---|---|---|---|
| 4.2. Has the scheme contributed to the maintenance of production sites in Germany? | Number of closures of (formerly) beneficiary companies during the period considered | Special evaluation by the Federal Statistical Office | annually | National level | Recipients of aid |
| | Where applicable, the reasons for the closure of the establishment and the possible transfer abroad | Expert interviews, evaluation of publications, case-by-case study | annually | National level | Covered operators |
| **Evaluation questions on proportionality and appropriateness** | | | | | |
| 5. What is the burden of other schemes for electro-intensive users in order to reduce electricity consumption costs (comparison of instrument efficiency)? | Reducing electricity consumption costs through other schemes | e.g. through evaluation reports of the other regulations | annually | National level | Covered operators |
| | Reducing electricity consumption costs by BesAR | Eurostat | annually | National level | Recipients of aid |
| 6. To what extent has the aid affected the electricity levy for non-privileged end consumers? | counterfactual level of the electricity surcharge if there were no BesARs | Own provision | annually | National level | All levy-holders |
| | Amount of the electricity levy for the beneficiaries | BAFA/funding data | annually | National level | Recipients of aid |

Own presentation.

The proposed indicators can be derived from data that are generally accessible for evaluation in sufficient timeliness, quality and reliability, structure and differentiation and available for evaluation. In order to carry out the evaluation, statements can therefore be expected that are highly robust and acceptable and based on comparisons between beneficiaries and non-beneficiaries. Moreover, no other significant resources, such as a primary survey that may be necessary, are needed for the evaluation.

# 5 Envisaged methods to conduct the evaluation

## 5.1 Causal effect and control group

Various evaluation methods are proposed in the 'European Commission working documents on the common methodology for the evaluation of State aid'. Its purpose is to demonstrate a causal link between a State intervention and a change in the outcome of the undertakings subject to the intervention – in this case the preferential treatment of electro-intensive undertakings under BesAR. The basic problem in providing this evidence is that companies are not, and cannot, at the same time, be subject to State intervention. Therefore, a so-called counterfactual situation should be considered, allowing conclusions to be drawn as to which outcome would have reacted had those undertakings not been subject to State intervention. One strategy to create such a situation is that of the group of companies subject to intervention ("treatment" group) – here: Recipients of the aid – to provide a control group ("non-treatment" group). Information on the outcome of the control group will then, under certain assumptions, allow causal conclusions to be drawn about the effect of government intervention (so-called identification).

The ideal establishment of a control group is in reality an ambitious sub-fan approach. The working documents of the European Commission therefore describe good practices and statistical methods. Ideally, in the context of a random experiment, a control group is formed by random selection among the eligible undertakings. Differences between treatment and control groups are then purely random, apart from treatment, and differences in the outcome can be attributed to the intervention. In this case, the aid effect can be estimated (quantified) by comparing the mean values and checking for statistical significance by appropriate static tests. In addition, multivariate regression models may take into account other variables (e.g. structural characteristics of enterprises) that are correlated with the outcome variables. This makes it possible to estimate the aid effect more accurately. Since such a random experiment is generally not feasible in practice, other methods need to be used. These are based on quasi-experiments which cause the aid effect to be estimated using appropriate econometric methods. As a rule, identifying assumptions must be made which, although questioned for plausibility, cannot always be statistically tested.

Without going into different methods in detail, the BesAR poses fundamental challenges to the construction of a control group when assessing the effect of aid by means of control group approaches:

- The group of potential recipients of aid makes almost full use of the scheme or the previous scheme (results of previous studies). There is therefore no 'natural' control group. The purpose of evaluation question 1 is to check this condition on a regular basis. If a change is to be found here, the methodological discussion would have to be re-opened and, where appropriate, possible options for implementing alternative approaches should be weighed up.
- The group of potential recipients of aid is very different in terms of structural data from other companies.
- In addition, the impact of energy costs on the competitiveness of companies can be assumed as a cause, but it is difficult to prove at company level and requires a differentiated, resource-intensive, bottom-up approach (see also section and 3.1 /or3.2).

The technical annex to the working documents of the European Commission indicates that the application of the methods should be considered in the overall context of the action and in the light of the available data. With regard to the subject-matter of the BesAR evaluation, it can be estimated that there would be a considerable effort to construct a robust control/non-treatment group. It is also questionable whether the necessary information can be obtained reliably, with sufficient differentiation and at a comparable period, and whether it is possible to determine the outcome in a comprehensible manner. Another argument is that the application of control group approaches requires a sufficiently large sample – which, as explained above, is questionable.

On the other hand, the method proposed in this evaluation plan for determining the causal effect is characterised by the fact that it is essentially based on easily accessible and valid sources, allows comparisons and can therefore be expected to produce meaningful and robust results with less effort.

## 5.2 Identification strategy for the evaluation of the causal effect

In order to determine the effect of the BesAR on the price of electricity, an analysis of the industrial electricity prices published by Eurostat (data set nrg_pc_205) is proposed. These are price data collected by EU Member States and prepared by Eurostat and published every six months. The statistics differentiate between different price components and the results are grouped according to the volume of sales (electricity consumption of enterprises). For the purposes of these statistics, a large number of electricity supply contracts between different companies are evaluated. Average values are then compiled for the individual price components, which are recorded in the statistics. The population of the evaluation includes both undertakings which are relieved of different amounts of the levies and those which are not relieved. In the statistical averages, this means that the reported level of average relief for all enterprises differs from the limits that can be applied at the level of the individual enterprise in the respective levies.

It is proposed to consider the BesAR representative volume band IE with an annual consumption of between 20 and 70 GWh. The following table shows in the middle column 'Statistics (IE)' the price components reported in the statistics for the years 2019 to 2022. In the other two columns, only the burden of the electricity purchase with the CHP surcharge and the offshore grid surcharge is different, and the other price components are included. The column 'No relief (IE) for CHP surcharge and offshore grid surcharge' shows what the electricity price would have been if the regular surcharges had been paid for this purchase case, while the column 'Maximum relief (IE) for EEG-surcharge, CHP surcharge and offshore grid surcharge' shows only the respective minimum surcharges.

This analysis of a counterfactual case without a BesAR, the case observed in the statistics ('medium relief') and the case of the maximum possible relief makes it possible to estimate the magnitude of the impact of the BesAR on the price of electricity.

**Table2: Implementation example BesAR testimony**

| | No discharge (IE) in the case of the EEG-surcharge, KWKG surcharge; and Offshore grid allocation | | | | Statistics (IE) | | | | Maximum discharge (IE) in the case of the EEG-surcharge, KWKG surcharge; and Offshore grid allocation | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **2019** | **2020** | **2021** | **2022** | **2019** | **2020** | **2021** | **2022** | **2019** | **2020** | **2021** | **2022** |
| Procurement and distribution | 3,09 | 3,22 | 5,02 | 15,88 | 3,09 | 3,22 | 5,02 | 15,88 | 3,09 | 3,22 | 5,02 | 15,88 |
| Network charges | 2,04 | 2,44 | 2,12 | 2,59 | 2,04 | 2,44 | 2,12 | 2,59 | 2,04 | 2,44 | 2,12 | 2,59 |
| Total EEG*and CHP surcharge | 6,68 | 6,98 | 6,75 | 2,24 | 4,75 | 5,35 | 4,59 | 1,61 | 0,08 | 0,08 | 0,08 | 0,08 |
| Total §19 StromNEV, AblaV- and off-shore grid levy | 0,46 | 0,47 | 0,45 | 0,48 | 0,40 | 0,50 | 0,47 | 0,47 | 0,03 | 0,03 | 0,03 | 0,09 |
| Electricity tax | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 | 2,05 |
| Concessionfee | 0,10 | 0,14 | 0,11 | 0,11 | 0,10 | 0,14 | 0,11 | 0,11 | 0,10 | 0,14 | 0,11 | 0,16 |
| Total net | 14,42 | 15,30 | 16,51 | 23,35 | 12,43 | 13,70 | 14,36 | 22,71 | 7,39 | 7,96 | 9,41 | 20,80 |
| Discharge BesAR | | | | | –1,99 | –1,60 | –2,15 | –0.03 | –6,99 | –7,29 | –7,04 | –2.55 |
| BesAR's share of the full electricity price | | | | | –14 % | –10.5 % | –13 % | –2.7 % | –48.4 % | –47.6 % | –42.6 % | –10.9 % |

Own presentation.
* Since June 2022, the EEG-surcharge has been 0 cent/kWh, i.e. the price component shown in the statistics corresponds to the KWKG surcharge.

## 5.3 Possible distortions

The proposed approach focuses mainly on electricity consumption costs as part of production costs and the direct effects of the privileged volumes on electricity consumption costs. This is justified in order to avoid possible distortions caused by other factors influencing production costs (e.g. changes in supply chains and their cost structures), indirect or difficult causal relationships of production costs and other economic variables (turnover, gross value added) to be analysed in a transparent manner only on a case-by-case basis. It is possible that further regulations affect electricity consumption costs. Here, the peak compensation from the electricity tax (§ 10 StromStG), the Regulation on measures to prevent carbon leakage by the national fuel emission trading (BECV), the Directive on aid for indirect CO2 costs (electricity price compensation, SPK), the permissible amount of the concession fee for electricity for special contract customers (§ 2(3) KAV) and the special usage rules of the Electricity Network Charges Regulation (§ 19(2), second sentence, StromNEV). The chosen evaluation design and result indicators make it possible to target these potential irritations for analysis and rather to be used productively for the assessment of proportionality and appropriateness.

A particular problem in evaluations is the distortion of the programme impact assessment by unobservable sizes. This was illustrated in particular by the example of closure/shift (Section 3.2). However, it is also true when focusing on individual sizes and production costs, which are subject to multiple, different influencing factors.

# 6 Data collection

## 6.1 Information provided by beneficiaries

When applying for exemption from the levy, applicants must provide comprehensive and differentiated information, which is available and collected at the BAFA. This data and information is characterised by a high level of availability and reliability. For the purposes of the evaluation, the accessibility of the data can be legally guaranteed by means of an agreement on the processing of contract data. The following table sets out the data collected in the context of the application and necessary for the processing of this evaluation plan:

**Table3: Information provided by beneficiaries in the application process for BAFA**

| Indicator/criterion | Unit |
|---|---|
| Total number of applications | |
| Number of applications granted | |
| Number of sales points of beneficiary undertakings in the manufacturing sector, subject to limitation | |
| Privileged quantity of electricity subject to limitation (forecast) | GWh |
| Excess of the beneficiary enterprises in the manufacturing sector | GWh |
| Privileged volume of electricity by economic zone division (2-digit)/(forecast) | GWh |
| Levy costs after limitation | EUROS |
| Number of applicants with individual actions under environmental and energy management systems | |
| Number of individual actions under environmental and energy management systems | |
| Investments in energy efficiency through individual measures under environmental and energy management systems | EUROS |
| Energy savings from individual actions under environmental and energy management systems | GWh |

Own presentation.



## 6.2 Statistical information

There is no separate data collection for the comparator group. This evaluation plan is based on publicly available data from the Federal Statistical Office, which can be regularly published or made available on request by the Federal Statistical Office (as a special analysis). The necessary data are set out in the table below.

**Table4: Statistical information for comparison**

| Indicator/criterion | Unit |
|---|---|
| Number of potential eligible applicants by economic zone division (2-digit) | |
| Potential amount of electricity by economic zone division (2-digit) | |
| | |

Own presentation.

## 6.3 Interviews and other datasources

Further data and information are needed to implement the present evaluation plan, in particular for the analysis of the indirect impact strand. Central to this is the Energy Services Survey (EDL survey) conducted regularly for BAFA (BfEE), which should be used to answer key questions 3.1.

**EDL survey**

The EDL survey is carried out annually on behalf of the BfEE and comprises a sample of 2000 companies. Information is collected, inter alia, on the efficiency measures taken/implemented and on the use of BesAR. This makes it possible to compare, in the context of a special evaluation, whether beneficiary undertakings behave differently from non-beneficiary undertakings.

As this is a special evaluation of a study commissioned by the BAFA/BfEE, its use must, where appropriate, be made possible and guaranteed by an agreement between the Evaluation Panel, BMWK and BAFA/BfEE. In principle, it can be assumed that this is possible in the context of the commissioning of the implementation of the evaluation plan. If necessary, a delay in conducting the survey and implementing the evaluation plan (section7) should be taken into account.

**Alternative energy audit in accordance with EDL-G**

An alternative to the EDL survey can be the use of energy audit data collected centrally at the BAFA in the context of EDL-G. A comparative basis could be derived from these data. However, compared to the EDL survey, this data source is less appropriate as only companies that do not operate an energy management system are required to audit and report to BAFA. Therefore, undertakings benefiting from BesAR are not included. In addition, the quality of the information must be checked and secured separately on the basis of experience.

**Scientific and other studies**

There is only a rudimentary knowledge base to analyse production costs in energy-intensive businesses.[2] According to the current assessment, this cannot be used or can only be insufficiently used for the evaluation.



In particular, see J.A. Moya, A. Boulamanti (2016; see footnote). This study analyses operating-level cost structures for energy-intensive industries using a bottom-up approach. Although the study is publicly available, it is a non-updated individual study.

# 7 Proposed timeline for the evaluation

See evaluation questionnaire.

# 8 Evaluation panel

On the basis of the principles laid down in this evaluation plan, the evaluation is to be carried out by an independent and expert evaluation body. Due to the time horizon, no evaluation body was set up at the time of the report.

## 8.1 Ensuring independence

The evaluation body is considered to be independent if it has no conflict of interest in the context of the evaluation and if, within the framework of the present evaluation plan, it is independent of the BMWK and the institutions directly involved in the resolution (here: Federal Office for Economic Affairs and Export Control (BAFA). To this end, the Evaluation Panel is given access to all data and information necessary for the evaluation in a timely manner. In addition to the data from the beneficiaries' applications as such, this includes additional information as needed (e.g. EDL survey, section6.3).

In order to ensure the independence of the Board, provision is made for a contract to be awarded to one or more external, independent service providers. This award follows the requirements of German procurement law and will be carried out in competition (EU-wide tender procedure) on the basis of transparent, pre-defined selection criteria using a detailed evaluation grid attached to the tender documents. The call for tenders incorporates the present evaluation plan. The selection criteria shall be established on a factual basis in order to exclude non-objective selection of the panel. In addition, the contractual documents include a mandatory declaration by the tenderer or tenderers that there are no conflicts of interest when carrying out the evaluation. Once the contract has been concluded, the successful tenderer(s) operates as an evaluation panel independently of the above-mentioned institutions. This ensures the technical and substantive independence of the evaluation body.

In order to ensure a complete report, the BMWK and the contracting institutions check the content of the evaluation body's reports and, if necessary, make additional requests.

## 8.2 Determination of competence

An important part of the selection criteria is the expertise of the evaluation panel in terms of qualifications, experience and competences of its members. These must be demonstrated in each case.

The panel's qualifications are based on the sum of the training courses of its members, who must have the necessary technical, economic, social science and methodological expertise in their entirety in order to be able to understand how the funding programme has been implemented both within the institutions involved in the implementation of the programme and among the beneficiaries. Knowledge of the methodological methods for evaluation must also be demonstrated.

Experience is measured on the basis of the number and scope of previous evaluations of public funding instruments. These evaluations should be directly linked to the thematic priorities of the scheme.

The competences are based on the quality of the operationalised evaluation concept. This includes the clarity, comprehensibility, comprehensibility and consistency of the overall approach, the appropriateness of the instruments, methods and model chosen for the implementation of the evaluation, the follow-up of the requirements set out in this document and a robust and comprehensible management of implementation, including appropriate time and work planning.