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**Subject: SA.100827 (2021/EV) – Germany  
Evaluation plan for the block-exempted program "Energy and Resource Efficiency in the Economy"**

Excellency,

## **1. PROCEDURE**

- (1) On 18 January 2019, Germany submitted the summary information pursuant to Article 11(a) of the Commission Regulation (EU) No 651/2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty on the Functioning of the European Union<sup>1</sup> (hereinafter "GBER") on the scheme "Energy efficiency in the economy", registered under SA.53084 (2019/X). The German authorities have updated the summary information on 4 April 2022 after they had redesigned and renamed the measure "Energy and Resource Efficiency in the Economy" as of 1 November 2021 (registered under SA.102510). Under the current version of the scheme, aid for the following measures can be awarded to undertakings of any size: (1) Environmental investment aid for energy efficiency measures (Art. 38 GBER), (2) Investment aid for energy efficient district heating and cooling (Art. 46

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<sup>1</sup> OJ L 187, 26.6.2014, p. 1.

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GBER), (3) Investment aid for the promotion of energy from renewable energy sources (Art. 41 GBER) and (4) Aid for environmental studies (Art. 49 GBER), at present for the remaining period of validity of the GBER.

- (2) The redesigned measure is in force until 30 June 2024 and, subject to a prolongation of the current GBER, is envisaged to run until 31 December 2026, unless the conditions of the prolonged block exemption regulation would not be met (any longer) and subject to the approval of the notified evaluation plan.
- (3) As the German authorities considered that the exempted measure, with an estimated annual average budget of EUR 176.5 million, constitutes a large scheme within the meaning of Article 1(2)(a) of the GBER, they notified on 26 November 2021 an evaluation plan, registered by the Commission as SA.100827 (2021/EV). On 22 February 2022 and 15 March 2022, the Commission provided feedback and comments on the notified evaluation plan. As agreed, the German authorities revised the plan and submitted the final version of the evaluation plan on 23 March 2022.

## **2. DETAILED DESCRIPTION OF THE KEY ELEMENTS OF THE NOTIFIED EVALUATION PLAN**

- (4) As required by Article 2(16) of the GBER and in line with best practices described in the Staff Working Document<sup>2</sup>, the evaluation plan shall contain the description of the following main elements: (i) the objectives of the aid scheme to be evaluated, (ii) the evaluation questions, (iii) the result indicators, (iv) the envisaged methodology to conduct the evaluation, (v) the data collection requirements, (vi) the proposed timing of the evaluation (including the date for submission of the final evaluation report), (vii) the approach for the selection of the independent body conducting the evaluation, and (viii) the modalities for ensuring the publicity of the evaluation.

### **2.1. Objectives of the aid scheme specialist programme “Energy and Resource Efficiency in the Economy” to be evaluated**

- (5) Since 2019<sup>3</sup>, the funding scheme “Energieeffizienz in der Wirtschaft – Zuschuss und Kredit“ has been the instrument used by the Federal Ministry for Economic Affairs and Energy (BMWi) to support investments that are needed to increase energy and resource efficiency and the use of renewable energy for process heat, contributing to the objective of net-zero greenhouse gas emissions in 2045. The scheme was redesigned and renamed as of 1 November 2021 “Energie- und Ressourceneffizienz in der Wirtschaft – Zuschuss und Kredit” (Guidelines for Federal Support for Energy and Resource Efficiency in the Economy”), and funding as of this date is provided from the Energy and Climate Fund, a special investment fund, stemming from national resources.

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<sup>2</sup> Commission Staff Working Document on Common methodology for State aid evaluation, Brussels, 28.5.2014, SWD(2014) 179 final.

<sup>3</sup> SA.53084 (2019/X).

(6) In particular, it aims to reduce Greenhouse gas (GHG) emissions by reducing energy consumption, developing and using renewable process heat and increasing energy and resource efficiency. In this way, the scheme aims to contribute to the achievement of national and EU-wide energy and climate targets and to the implementation of Article 7 of the EU Energy Efficiency Directive (EED), thus helping Germany to become climate neutral by 2045. The scheme aims to promote user-friendly, cross-sectoral and, to a large extent, technology-open, efficient and effective support. To this end, five support modules have been developed:

- Module 1: Cross-cutting technologies;
- Module 2: Process heat from renewable energy sources,
- Module 3: Measurement, control and control techniques, sensors and energy management software;
- Module 4: Energy and resources optimisation of installations and processes (technology open),
- Module 5: Concepts of transformation.

(7) The following outcomes are expected:

(8) As a direct result of the support, the measures implemented will, for example, transform processes and thus save energy/resources or increase the share of renewable energy. In general terms, the result of the funding is the efficient use of energy/resources. The outcome dimension includes the main objectives of the scheme, i.e. increasing energy and resource efficiency or increasing the share of renewable energy through the use of process heat. The intervention logics vary greatly from one another or are difficult to understand and compare because of complex funding items:

- Module 1 is characterised by the lowest challenges as it is technology-specific. Therefore, the supported measures are largely standardised and thus simply comparable, but typically also limited in scope/impact/target contribution.
- Module 2 is characterised by separation or combination with module 4. In the evaluation, account must be taken of the delimitation of the accounting space, i.e. which effects take place and are to be taken into account in accounting for the effects of the aid measure. Where appropriate, different effects on primary and final energy consumption shall be included.
- Module 3 has indirect effects: Measurement, control and control technology, sensory and energy management systems are used to control energy consumption. They thus optimise existing efficiency potential, but may depend on the implementation of additional measures such as cross-cutting measures.
- Module 4 is designed to be technologically open and also includes resource saving in addition to energy efficiency technologies. Because of the targeted support for complex systemic measures in this module, which may also include measures/technologies from Modules 1 and 3, the composition of the measures to be supported is very heterogeneous, as well as of higher technical complexity and (significantly) higher investment/funding volumes.

Challenges therefore represent a wide range of potential interactions in addition to the delimitation of the respective areas of impact (accounting space) of the measures. In particular with regard to resource efficiency, changes in resource use/substitution should also be taken into account where appropriate. This makes it much more difficult to compare the supported measures with each other, but also with those from other modules.

- The promotion of transformation concepts, similar to Module 3, is intended to have an indirect effect. The concepts design savings (IST-SOLL difference in GHG emissions), i.e. they only need to be implemented with appropriate measures, if necessary in the context of support with other modules of the scheme. The impact of the aided project is therefore indirect and temporal. A comparison or summation with the savings from the other modules is limited or not possible.
- (9) Key measures or indicators of the outcome dimension are the developed or saved GHG emissions, (fossil) quantities of energy or the higher share of renewable energy or other resources saved in the target group.
- (10) The intended associated long-term effects and impacts are the following:  
The aim of the Energy and Resource Efficiency in the Economy guidelines ('Bundesförderung für Energie- und Resource Efficiency in the Economy - Grant and Credit') is to encourage the necessary investments in the recipients of the aid in view of the energy and climate policy objectives. By launching some 54 000 projects to improve energy and resource efficiency and to generate renewable energy to deliver process heat, the scheme aims to achieve the following objectives by the end of 2026:
- CO<sub>2</sub>- Savings of 7.35 million tonnes
  - Final energy savings of 18.8 terawatt hours
  - The support programme thus makes a concrete contribution to achieving the climate and energy targets and the implementation of Article 7 of the (EED).
- (11) The aid scheme provides support in the form of direct grants or interest rate subsidies to undertakings of all sizes.
- (12) The Federal Office for Economic Affairs and Export Control (BAFA) handles applications for the investment grant and the loan variant is managed by Kreditanstalt für Wiederaufbau (KfW). The promotion of transformation concepts is implemented through the VDI/VDE-IT as project promoter.
- (13) To be eligible, investments fall under the following categories:
- Investment aid enabling undertakings to go beyond Union standards for environmental protection or to increase the level of environmental protection in the absence of Union standards (Art. 36 GBER)
  - Environmental investment for energy efficiency measures (Art. 38 GBER)
  - Investments for energy efficient district heating and cooling (Art. 46 GBER)
  - Investment for the promotion of energy from renewable energy sources (Art. 41 GBER)

- Environmental studies (Art. 49 GBER).
- (14) Under module 1 (Art.38 GBER), the maximum aid amount is EUR 200 000 per project. The maximum aid intensity is 30 % of eligible costs, whereby SMEs can receive up to 40 %.
  - (15) Under module 2 (Art. 41 GBER), the maximum aid amount is EUR 15 million. The maximum aid intensity is 45% of eligible costs, whereby SMEs can receive up to 55 %.
  - (16) Under module 3 (Art. 38 GBER), the maximum aid amount is EUR 15 million. The maximum aid intensity is 30 % of eligible costs, whereby SMEs can receive up to 40 %.
  - (17) Under module 4 (Art. 36, 38, 41, 46 GBER), the maximum aid amount is EUR 15 million. The maximum aid intensity is 30 % of eligible costs, whereby SMEs can receive up to 40 %. The maximum aid amount is limited to an amount of EUR 500 (SMEs: EUR 900) per tonne CO<sub>2</sub> saved p.a.
  - (18) For transformation concepts (module 5, Art. 49 GBER), the maximum aid amount is EUR 80.000 (only directs grants). The maximum aid intensity is 50 % of eligible costs, whereby SMEs can receive up to 60 %.

## **2.2. Evaluation questions and result indicators**

- (19) The notified evaluation plan identifies the issues to be addressed by the evaluation.
- (20) The evaluation questions address both the incentive effect of the aid on the beneficiaries and the scheme's indirect effects (in terms of both positive and negative externalities). The result indicators are linked to the evaluation questions and to the objectives of the scheme.
- (21) The direct effects of the aid on the beneficiaries will be addressed by evaluation questions investigating, among others, whether the aid has caused the beneficiaries to reduce their primary energy consumption, final energy consumption, specific GHG emissions and specific resource consumption to a greater extent than non-assisted enterprises.
- (22) The indirect effects of the aid scheme will be assessed by studying, among others, whether the GHG emissions and final energy consumption have been reduced in line with quantitative targets and whether the overall share of renewable energy has been increased. In addition the evaluation will assess the proportionality and appropriateness of the aid.
- (23) With regard to the evaluation questions on the direct effects, the following result indicators will be used, among others: final energy consumption in both supported and non-supported enterprises, primary energy consumption in both supported and non-supported enterprises, CO<sub>2</sub> emissions by both supported and non-supported enterprises, resource use in both supported and non-supported enterprises.

- (24) With regard to the evaluation questions on the indirect effects, amongst others, the following result indicators will be used: CO<sub>2</sub> emission; final energy consumption; share of renewable energy; distribution of aid under GBER vs De minimis aid<sup>4</sup>, loans vs. grant; differentiated according to sector and size class; end-use energy promotion efficiency; compared to other programmes; GHG promotion efficiency compared to other programmes; Promotion efficiencies by loan/grant, de minimis/GBER within the different programme variants.

### **2.3. Envisaged methodology to conduct the evaluation**

- (25) Overall, the evaluation plan is based on a counterfactual approach in order to identify the direct effects of the measure. The evaluator will compare (statistically) equivalent groups where the experimental group is exposed to a treatment (the aid) and a proper control group is not exposed to the treatment (does not receive aid).
- (26) However, the specific characteristics of the scheme pose methodological challenges for the evaluation that will be considered when estimating the causal effect associated with the aid. Particularly demanding is the fact that the programme allows for very individual technical solutions (one-of-a-kind), especially in the systemic funding areas. Such solutions require a nuanced assessment that hardly be captured by the statistical, administrative or fiscal information collected.
- (27) There is also a non-negligible risk that the size of the group of both beneficiaries and unsuccessful applicants is not large enough for conducting ex-post evaluations based on counterfactual methods, as already seen in similar schemes.
- (28) In addition, the analyses will have to take into account the possible influence of other funding programmes or mechanisms in the necessary estimates. At present, this influence is considered to be secondary due to the wide accessibility of the measures and the prohibition of double funding.
- (29) Given the characteristics of the scheme and the limitations described above, the most viable method for evaluating the effectiveness of the scheme appears to be the difference-in-difference method<sup>5</sup>.

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<sup>4</sup> Commission Regulation (EU) No 1407/2013 of 18 December 2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid, OJ L 352, 24.12.2013, p. 1.

<sup>5</sup> Difference in Difference (DiD): DiD compares the performance of a treated sample pre- and post-treatment relative to the performance of a control group pre- and post-treatment. The analysis allows treated properties to serve as their own controls, controlling for factors that may change with time, such as external macroeconomic influences by using trends in the control as the baseline

- (30) On account of the above-mentioned limitations, a fall-back option is also foreseen if the intended implementation of the difference-of-difference methodology proves to be unfeasible. In this case, it is envisaged to use a combination of expert discussions and a survey of the beneficiaries to triangulate the causality of the effects of the measures through multi-level questions. This analysis should also ensure that the impact of other programmes or mechanisms is taken into account by explicitly addressing them in the relevant analyses.

#### **2.4. Data collection requirements**

- (31) The evaluation will be based on information gathered from several data sources. More specifically, all applicants who have received a commitment for the relevant application period (calendar year) will be contacted and invited to regular interviews. The online survey includes detailed questions and includes module- and type-specific and cross-cutting, common questions. For cross-company information (e.g. primary energy factors), standard values from the Methodological Guide for Evaluations of the BMWi will be used. Additional information will be collected through the individual applications (e.g. indicators on resource efficiency and renewable energy use).
- (32) For the purpose of comparison with other programmes in the field of energy efficiency, the evaluation will use data from older programmes of the BMWi in the field of energy efficiency as well as from other national programmes and international data (e.g. evaluation studies of other countries, scientific publications, etc.).
- (33) Assuming that the difference-in-differences method can be implemented, the evaluation also aims to conduct a survey of at least 1000 companies in the control group. Depending on the specific design, module-specific control groups may also need to be used, which will depend on the treatment group in question.
- (34) Where expert discussions are used, the aim is to organise interviews with approximately 5-10 representatives from different target groups. In addition to business representatives, the target group includes energy consultants, contractors, academics, project promoters/applicants and banks involved. The experts selected must meet certain criteria. These include, inter alia, relevant background knowledge in the field of energy and resource efficiency, knowledge and preferably experience in the use of public support programmes and/or knowledge of practical evaluations in the relevant subject area.

#### **2.5. Proposed timing of the evaluation, including the date of submission of intermediate reports and final evaluation report**

- (35) The validity of the GBER ends under the present legal framework, pursuant to its Article 59, by 31 December 2023. Pursuant to Article 58 (4) GBER, exempted schemes may continue to be applied under the given legal situation during a transitional period of six months, i.e. until 30 June 2024. An evaluation of the effects of the scheme before mid-June 2022 is not possible. At the same time, the lawful application of the exempted large scheme beyond an initial period of application of six months is possible only subject to the approval of the notified evaluation plan in this decision, which takes into account a possible extension of the validity of the GBER.

- (36) The German authorities commit to conduct the evaluation according to the notified evaluation plan and to submit to the European Commission the final evaluation report by 31 December 2023.
- (37) The final evaluation will also serve as a stepping stone to continue the scheme and its further evaluation beyond 2023. The German authorities commit to continue their evaluation efforts and submit an additional report by 31 March 2026. This additional evaluation report will be based on the methodology defined in the final evaluation report of 2023 and contain the overall assessment on the effectiveness of the scheme.

## **2.6. Selection of an independent body to conduct the evaluation, or criteria for its selection**

- (38) The entity, or entities, that will be responsible for carrying out the evaluation, will be selected in accordance with national and EU public procurement rules. The award of the contract to an evaluation body will be based on independence, experience and skills of the evaluator.
- (39) For the purpose of ensuring the quality and reliability of the evaluation, the entity (entities) selected will be functionally independent of the Ministry of climate and economy (BMWK) and the implementing partners.
- (40) The entities participating in the public procurement procedure must demonstrate their suitability and skills.
- (41) The successful candidate entity (entities) have to put together a suitable evaluation team with proven experience in the evaluation of public policies and specific skills in economic and statistical/econometric analysis.

## **2.7. Modalities for ensuring the publicity of the evaluation**

- (42) The results of the evaluation of the aid scheme will be made public on the website of the BMWK. The evaluation reports will also be published. In addition to the publication of the results, the aim is to organise, at least once the results of the interim evaluations are available, an exchange with stakeholders in order to discuss the conclusions of the evaluation and the national evaluation. The purpose of this exchange is to present proposals for the further development of the scheme or for its operational implementation.
- (43) A group of 20 to 30 delegates from the following areas shall be invited: Funding provider, implementing institutions, evaluation experts and representatives of the beneficiaries.
- (44) The evaluation results will serve as a solid background for designing future aid schemes at national and regional levels. The German authorities will use them to highlight potential improvements, and will consider them when developing similar aid measures or deciding on a prolongation of, or successor scheme to, the evaluated aid scheme.
- (45) Personal or confidential data will be dealt with according to the relevant regulations. The published results of the evaluation will comply with provisions of the German statistical law and statistical secrecy.

- (46) Access to third-party data will be subject to the rules imposed by these third-party bodies. Data collected during the evaluation will be made accessible or the purpose of replicating results or for further studies.

### 3. ASSESSMENT OF THE NOTIFIED EVALUATION PLAN

- (47) The correct application of the GBER is the responsibility of the Member State. The present decision on the evaluation plan does not assess whether the aid scheme to be evaluated was put into effect by the Member State in full respect of all applicable provisions of the GBER. It does therefore neither create legitimate expectations regarding the lawfulness and compatibility of the scheme, nor does it prejudice the position the Commission might take regarding the conformity of the aid scheme with the GBER and its lawfulness and compatibility when monitoring it, or assessing complaints against individual aid granted under it.
- (48) Pursuant to Article 1(2)(a) GBER, certain large aid schemes<sup>6</sup> within the meaning of Article 2(15) GBER, with an average annual State aid budget exceeding EUR 150 million, are subject to evaluation. The Commission notes that the annual average budget of the aid scheme concerned (i.e. EUR 176.5 million) exceeds the threshold of EUR 150 million laid down in Article 1(2)(a) GBER. Chapter I and section 7 (Articles 36, 38, 46, 41 and 49 GBER) of Chapter III of the GBER constitute the legal basis for the aid scheme to benefit from the exemption from notification provided for in Article 108(3) of the TFEU. However, in the absence of a positive Commission decision on the notifiable evaluation plan, pursuant to the provision in Article 1(2)(a) GBER, the exemption expires six months after the entry into force of the large aid scheme, and may continue to apply for a longer period only if the Commission decides to authorise this explicitly by the present decision.
- (49) As the Commission explained in recital 8 of the GBER, the evaluation of large schemes is required "[I]n view of the greater potential impact of large schemes on trade and competition". The required "[E]valuation should aim at verifying whether the assumptions and conditions underlying the compatibility of the scheme have been achieved, as well as the effectiveness of the aid measure in light of its general and specific objectives and should provide indications on the impact of the scheme on competition and trade." State aid evaluation should in particular allow the direct incentive effect of the aid on the beneficiary to be assessed (i.e. whether the aid has caused the beneficiary to take a different course of action, and how significant the impact of the aid has been). It should also provide an indication of the general positive and negative effects of the aid scheme on the attainment of the desired policy objective and on competition and trade, and could examine the proportionality and appropriateness of the chosen aid instrument.<sup>7</sup>

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<sup>6</sup> Schemes under Sections 1 (with the exception of Article 15), 2, 3, 4, 7 (with the exception of Article 44), and 10 of Chapter III of this Regulation (Article 1(2)(a) GBER). 'Aid scheme' means any act on the basis of which, without further implementing measures being required, individual aid awards may be made to undertakings defined within the act in a general and abstract manner and any act on the basis of which aid which is not linked to a specific project may be granted to one or several undertakings for an indefinite period of time and/or for an indefinite amount (Article 2(15) GBER).

<sup>7</sup> See Staff Working Document referred to in footnote 2 above.

- (50) In the light of these considerations, Article 2(16) of the GBER defines as evaluation plan "a document containing at least the following minimum elements: the objectives of the aid scheme to be evaluated, the evaluation questions, the result indicators, the envisaged methodology to conduct the evaluation, the data collection requirements, the proposed timing of the evaluation including the date of submission of the final evaluation report, the description of the independent body conducting the evaluation or the criteria that will be used for its selection and the modalities for ensuring the publicity of the evaluation."<sup>8</sup>
- (51) The Commission considers that, as described in section 2 of this decision, the notified evaluation plan contains these minimum elements outlined in Article 2(16) of the GBER.
- (52) The evaluation plan gives a concise description of the key objectives of the scheme concerned and provides sufficient information to understand the underlying "intervention logic". The scope of the evaluation is defined in an appropriate way.
- (53) The evaluation questions are designed in a way as to assess the direct effect of the scheme on the beneficiaries compared to non-beneficiaries in order to measure the incentive effect of the scheme. The evaluation questions addressing indirect effects are linked to the specificities of the aid scheme, both in terms of objectives and aid instruments.
- (54) The evaluation plan identifies and justifies result indicators that integrate the evaluation questions for the aid scheme concerned, and explains the data collection requirements and availabilities necessary in this context. The data sources to be used for the evaluation are described clearly and in detail.
- (55) The evaluation plan sets out and explains the main methods that will be used in order to identify the effects of the scheme, and discusses why these methods are likely to be appropriate for the scheme in question. The proposed evaluation methodology sufficiently allows identifying the likely causal impact of the scheme itself.
- (56) The proposed timeline of the evaluation is reasonable in view of the characteristics of the scheme concerned.
- (57) The proposed criteria for the selection of the evaluation body on the basis of an open tender meet the independence and skills criteria.
- (58) The proposed modalities for the publication of the evaluation results are appropriate and ensure transparency. In particular, the Commission takes note of the commitment to disseminate and make publicly available the results of the evaluation report.
- (59) In conclusion, the Commission considers that the evaluation plan meets all requirements laid down in the GBER, is established in line with the common methodology proposed in the Staff Working Document, and is suitable given the specificities of the large aid scheme to be evaluated.

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<sup>8</sup> Further guidance is given in the Staff Working Document referred to in footnote 2 above.

- (60) The Commission further notes the commitment made by the German authorities to conduct the evaluation according to the plan described in the present decision as well as the commitments to conduct the evaluation according to the notified evaluation plan; resulting in a final evaluation report which will be submitted by 31 December 2023, and an additional evaluation report which will be submitted by 31 March 2026 (see recitals (36) and (37) of the present decision). The German authorities shall inform the Commission without delay of any element that might seriously compromise the full and timely implementation of the evaluation plan.
- (61) The Commission notes the commitment made by the German authorities to take into account the evaluation results for the design of any subsequent aid measure with a similar objective.
- (62) The Commission reminds that the application of the exempted scheme has to be suspended if the final evaluation report is not submitted in good time and sufficient quality.
- (63) The Commission reminds that alterations to the evaluated scheme, other than modifications which cannot affect the compatibility of the scheme under the GBER or cannot significantly affect the content of the approved evaluation plan, are, pursuant to Article 1(2)(b) of the GBER, excluded from the scope of the GBER, and must therefore be notified to the Commission.

#### **4. CONCLUSION**

- (64) The Commission has accordingly decided:
- that the exemption of the national aid scheme for which the evaluation plan was submitted, shall continue to apply beyond the initial six-months period, until six months after the final date of applicability of Commission Regulation 651/2014 of 17 June 2014, as amended, which is laid down in its Article 59.
  - to publish this decision on the website of the Commission.

If this letter contains confidential information which should not be disclosed to third parties, please inform the Commission within fifteen working days of the date of receipt. If the Commission does not receive a reasoned request by that deadline, you will be deemed to agree to the disclosure to third parties and to the publication of the full text of the letter in the authentic language on the Internet site: <http://ec.europa.eu/competition/elojade/isef/index.cfm>.

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Yours faithfully,

For the Commission

Margrethe VESTAGER  
Executive Vice-President