Bundesministerium
für Wirtschaft
und Energie

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Model funding call for the bidding procedure 2027 for Carbon Contracts for Difference (Model-FA)

Model FA Version 1.1 of 19 October 2026, as amended on 26 October 2026

Please note:

A provision was added in Section 2.18 regarding the funding of (parts of) plants which are part of (the whole of) a plant within the meaning of the Greenhouse Gas Emissions Trading Act (TEHG).

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1. Aim of the funding

This funding call refers to the 'Guideline for the promotion of low-carbon industrial production processes through Carbon Contracts for Difference' (Funding Guideline Carbon Contracts for Difference – FRL CCfD) dated 04 May 2026. It supplements and specifies the provisions of the FRL CCfD; in case of doubt, the provisions of the FRL CCfD apply. The bidding procedure 2027 begins with the publication of this funding call. The **submission deadline** for applications, consisting of bids and all supporting documents, **is end of day on [XX.XX.XXXX]**. Applications that are not submitted in the form specified by the funding provider within this deadline (material cut-off period) or that do not contain all the information and documents required or – in the case of a subsequent request –subsequently requested, will be rejected (Number 8.3(d) FRL CCfD). Please note that a strict standard applies due to the competitive nature of the bidding procedure.

2. What is funded?

2.1 Scope of funding

Carbon Contracts for Difference (CCfD) subsidise the additional costs incurred by companies in emission-intensive sectors as a result of the construction of low-emission plants or the retrofitting of plants into low-emission plants (CAPEX) and their operation (OPEX) compared to conventional plant constellations (Number 4.1 FRL CCfD).

Funding is provided for the share of production output of the plants and processes that is attributable to a CCfD production process within the meaning of Number 2.10 FRL CCfD (Number 4.18 first sentence FRL CCfD).

2.2 Reference systems

For this funding call, the reference systems listed in Appendix 1 are specified.

2.3 Location specifications

Production in plants that are not operated within the territory of the Federal Republic of Germany is not eligible for funding (Number 4.17(h) FRL CCfD).

For electrolysis plants with a capacity of more than ten megawatts (MW), no further location requirements are specified in this funding call (see Number 4.9(a) fourth sentence FRL CCfD).

2.4 Minimum level of absolute average annual greenhouse gas emissions

Specific greenhouse gas emissions are set out in this funding call for each reference system (Number 7.1(d) FRL CCfD). These are used to calculate the absolute greenhouse gas emissions for a specific project's reference system. A project is only eligible for funding if it has a minimum level of absolute average annual greenhouse gas emissions in the reference system of at least 5 kt CO_2-equivalent per calendar year (Number 4.16(a) FRL CCfD).

2.5 Minimum total funding amount

Projects for which the maximum total funding amount is less than EUR 15 million are not eligible for funding. This funding call therefore does not set a higher threshold than Number 4.17(c) FRL CCfD.

2.6 Thresholds for greenhouse gas emission reductions

A project must meet the following minimum requirements:

a) From the fourth full calendar year within the term of the Carbon Contract for Difference at the latest, the relative greenhouse gas emission reduction compared with the reference system must be at least 50 % (Number 4.16(b)(i) FRL CCfD).

b) A relative greenhouse gas emission reduction of at least 85 % compared with the reference system must be technically feasible with the technologies used, using appropriate energy carriers and raw materials, within the term of the Carbon Contract for Difference and must be actually achieved in the last 12 months of the term of the Carbon Contract for Difference (climate neutrality access criterion, Number 4.16(b)(ii) FRL CCfD).

In accordance with Number 4.16(b)(iv) first sentence FRL CCfD, these thresholds must be achieved irrespective of the use of energy carriers for balancing purposes, with exceptions set out in Number 4.16(b)(iv) second sentence FRL CCfD.

2.7 Material use of biomass

The material use of biomass in a funded project is permitted without further requirements in accordance with Number 4.11 FRL CCfD.

2.8 Energetic use of biomass

For projects in which biomass is to be utilised as an energy carrier, Number 4.10 FRL CCfD must be considered.

General requirements for the energetic use of biomass

In accordance with Number 4.10(a) FRL CCfD, the energetic use of biomass is permitted if the applicant can demonstrate that

a) direct electrification of the plant is technically unachievable

and

b) the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives is technically or economically unachievable for the foreseeable future,

and

c) to the extent that the planned use of biomass is scalable in consideration of the limited sustainably available biomass potential.

Furthermore, the energetic use of biomass should be limited to residual and waste materials and to raw materials and energy carriers obtained from residual and waste materials.

Evidence must be provided as follows:

Regarding a) by submitting a confirmation from the grid operator to this effect or, if the provision of electrical energy by the grid operator is possible currently or in the foreseeable future, by providing a sufficiently plausible technical justification at plant level that rules out direct electrification.

Regarding b) by means of a sufficiently plausible technical justification at plant level that rules out the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives, in particular with regard to the planned quantities and areas of biomass use over the term of the Carbon Contract for Difference, or

by way of a confirmation from the grid operator that grid access is not feasible in the foreseeable future. Where grid access or the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives is possible, the applicant must demonstrate, on the basis of an economic viability analysis over the lifetime of the plant, that the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives will not be economically viable in the foreseeable future. Economic viability is not given if the sum of investment and energy carrier costs for the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives exceeds the sum of investment and energy carrier costs for the use of biomass by at least 50 %, i.e. $\frac{\text{Costs}_{H_2}}{\text{Costs}_B} \geq 1{,}5$.

The costs to be compared are determined as follows:

Costs of renewable or low-carbon hydrogen/non-biological hydrogen derivatives (H_2)	**Costs of biomass (B)**
$\text{Costs}_{H_2}\left[\frac{\text{EUR}}{\text{MWh}}\right] = \frac{\text{IK}_{H_2}+\text{EK}_{H_2}}{\Phi}$ [1]	$\text{Costs}_B\left[\frac{\text{EUR}}{\text{MWh}}\right] = \frac{\text{IK}_B+\text{EK}_B}{\Phi}$ [2]
IK	One-off investment costs incurred in the acquisition of the respective plant [in EUR].
EK	Total costs incurred for the respective energy carriers during years 1–15 of the term of the Carbon Contract for Difference [in EUR]. The values stated must be verified by means of corresponding current offers.
Φ	Total amount of heat in MWh to be provided by the respective plant during years 1–15 of the Carbon Contract for Difference. The same value is to be used for the parameter Φ for the plants in both systems.

Table1: Economic viability analysis of biomass use

Regarding c): by submitting a declaration by the applicant explaining, with reasons, how increasing (scaled) biomass inputs during the term of the CCfD can also feasibly be covered, whilst observing the sustainability criteria and criteria for greenhouse gas savings set out in Number 4.10(c) FRL CCfD. The declaration should be accompanied by a confirmatory statement by the biomass suppliers to this effect or a study on the required availability.

Use of residual and waste materials from the funded CCfD production process

The energetic use of biomass is also permitted if the biomass used consists of residual and waste materials obtained from the sites of the funded CCfD production process covered by the Carbon Contracts for Difference, or raw materials and energy carriers obtained from such residual and waste materials at the sites covered by the Carbon Contracts for Difference (Number 4.10(b) FRL CCfD). The (verification) requirements under Number 4.10(a) FRL CCfD do not apply in this case.

Compliance with the requirements set out in Number 4.10(b) FRL CCfD must be demonstrated in the application for funding.

Documentation requirements during the term of the Carbon Contract for Difference (see Number 4.10(c) FRL CCfD)

From the start of operations, recognised evidence in accordance with the 'Ordinance on Requirements for the Sustainable Production of Biofuels (Biokraft-NachV)' or the 'Ordinance on Requirements for the Sustainable Production of Biomass for Electricity Generation (BioSt-NachV)' regarding the origin and source of the biomass and compliance with the legal requirements set out in the FRL CCfD, in particular the principle of cascading use under Article 3(3) of Directive (EU) 2018/2001, must be submitted annually as part of the calculation procedure.

Compliance with the emission limits specified in Section 29(1) first sentence No. 1(a) in conjunction with Section 3 of the 13th Ordinance on the Implementation of the Federal Immission Control Act (13th BImSchV) must be demonstrated as follows at the request of the granting authority:

For plants categorised as large combustion plants, emission reports in accordance with Section 22(1) No. 5 in conjunction with Section 19(2) of the 13th BImSchV must be submitted; for other plants, other suitable evidence (e.g. monitoring reports in accordance with Section 15(1) first sentence in conjunction with Section 5(1) in conjunction with Section 25 of the 1st Ordinance on the Implementation of the Federal Immission Control Act (1st BImSchV)) must be submitted.

2.9 CCS and CCU

The categories of cases referred to in Number 4.15(a) FRL CCfD concerning the use of technologies for the Capture and Storage (CCS) or Capture and Utilisation (CCU) of CO_2 are given equal priority in this bidding procedure; there is no subordination in this regard.

The requirements set out in Number 4.15(a)(i) to (iii) FRL CCfD must be met at the time of the application for funding for every calendar year within the term of the Carbon Contract for Difference in which CCS or CCU technologies are used.

Number 4.15(a)(i) FRL CCfD requires that, without the use of carbon capture technologies, the greenhouse gas emissions of the plant must consist predominantly of process emissions or hard-to-abate greenhouse gas emissions. This requirement is met if the greenhouse gas emissions of the plant without the use of capture plants consist of at least 50 % process emissions or hard-to-abate greenhouse gas emissions; this may also be achieved by using, for example, electricity, hydrogen or biomass consisting of residual and waste material arising at the sites of the funded CCfD production process covered by the Carbon Contract for Difference, to reduce the greenhouse gas emissions of the plant without the use of carbon capture technologies.

Compliance with the requirement set out in Number 4.15(a)(i) FRL CCfD must be demonstrated and substantiated by an explanation showing that, without the use of carbon capture technology, the plant predominantly emits process emissions or hard-to-abate greenhouse gas emissions for which the necessary abatement technology is not yet mature or whose use would currently lead to disproportionately high abatement costs.

To demonstrate that the greenhouse gas emissions are hard to abate, the applicant must:

(a) provide a sufficiently plausible technical justification as to why the greenhouse gas emissions to be captured cannot be avoided through use of an alternative technology that is eligible for funding,

or

b) show that the net costs of avoiding the greenhouse gas emissions to be captured through use of an alternative technology that is eligible for funding would significantly exceed the costs of using CCS or CCU technologies in terms of EUR per tonne of CO_2 avoided or abated. To this end, the applicant must use an economic analysis to demonstrate and substantiate the expected costs and revenues of using CCS or CCU technology over the entire term of the contract, including associated investment costs and any CO_2 storage and transport costs, and the expected costs and revenues of using the cheapest available alternative technology eligible for funding to avoid the greenhouse gas emissions to be captured. The costs of avoiding the greenhouse gas emissions to be captured by using an alternative technology eligible for funding significantly exceed the costs of using CCS or CCU technologies if the avoidance costs of the alternative technology eligible for funding amount to 150 % of the costs of using CCS or CCU technologies,

or

(c) show that the greenhouse gas emissions to be captured result from the energetic use of exhaust gas streams.

To meet the requirement set out in Number 4.15(a)(ii) FRL CCfD, the applicant must confirm in the application for funding that the plant is a waste incineration plant within the meaning of the 17th Ordinance for the Implementation of the Federal Immission Control Act (17th BImSchV) already in operation at the time of application for funding, and demonstrate that the captured CO_2 is produced during the production of an intermediate product that is used to produce industrial products within the meaning of Number 4.17(g) first half-sentence FRL CCfD in the project or during the production of industrial steam in accordance with the specifications of this funding call.

From the start of operations of the project, the accounting separation of the quantities of CO_2 captured within and outside of the CCfD production process must be ensured by means of quantitative measurement of exhaust gas volumes and CO_2-concentrations in the exhaust gas streams to be captured. This must be confirmed in the application for funding.

Evidence regarding CO_2 infrastructure

It is assumed that the legal requirements for the operation of the transport and storage infrastructures planned for use in Germany and/or abroad and, if applicable, for the cross-border transfer of CO_2, will be created in time for the start of operations. The applicant must conclusively demonstrate in the application for funding that the **actual connection** to the necessary transport and storage infrastructures is adequately secured (Number 4.15(a)(iii) FRL CCfD). If the project to be funded relies on infrastructure for the transport and storage of CO_2, the applicant must demonstrate, to the extent that this is possible, that

a) transport via rail, via lorry, via ship or via pipeline,

b) the loading via a CO_2 terminal in case of planned offshore storage, and

c) onshore or offshore storage

can be realised in time for the planned start of operations. For example, this can be achieved through the conclusion of the corresponding contracts, conditional on the conclusion of the Carbon Contract for Difference, the confirmation of the infrastructure operator that the required infrastructure will be provided, or a letter of intent from an infrastructure operator regarding the provision of the required infrastructure. The applicant must at least provide proof that he has made a written request regarding the required infrastructure to the (prospective) operator or provider and has received confirmation that the (prospective) operator or provider will assess its ability to provide the supply connection or the required infrastructure.

If and to the extent that this is possible for the applicant, the information provided may be further substantiated by submitting planning sketches, letters of intent with the (prospective) operators and/or documents relating to the regulatory decision on the construction and operation of the CO_2 transport and storage infrastructure intended for use according to their plans alongside their application for funding. The information submitted for this purpose does not create an obligation to select a specific mode of transport or a particular transport or storage provider.

2.10 Negative emissions

Greenhouse gas emission reductions achieved through the use of technologies designed to achieve negative emissions (negative emission technologies) are not taken into account when calculating the planned and actual greenhouse gas emission reductions of the project (Number 7.1(f) FRL CCfD).

2.11 Hydrogen (and derivatives)

The **hydrogen** used in the project must meet the requirements for renewable (Number 2.14 FRL CCfD) or low-carbon hydrogen (Number 2.11 FRL CCfD) (Number 4.9(a) first sentence FRL CCfD). Projects are exempt from these requirements insofar as they are subject to reference systems 41 Ammonia and/or 50 Hydrogen (see Number 4.9(a) fifth sentence FRL CCfD).

If non-biological hydrogen derivatives are used in the funded project, they must meet the requirements set out in Number 4.9(b) FRL CCfD.

During the term of the Carbon Contracts for Difference, the granting authority can require certificates from recognised independent bodies to verify compliance with the requirements for renewable or low-carbon hydrogen and renewable or low-carbon hydrogen derivatives.

2.12 Recycled carbon fuels (RCF)

The use of recycled carbon fuels (Number 2.41 FRL CCfD) is permitted provided that, in terms of reducing greenhouse gas emissions, they meet the minimum threshold of the comparative value of fossil fuels for renewable fuels of non-biological origin specified in Article 29a of the currently applicable version of Directive (EU) 2018/2001, which is specified in accordance with the methodology adopted in Article 29a(3) of Directive (EU) 2018/2001 for assessing

greenhouse gas emissions savings from renewable fuels of non-biological origin and from recycled carbon fuels, or equivalent Union legislation as currently applicable. The savings in lifecycle greenhouse gas emissions are calculated in accordance with the methodology set out in the current version of Commission Delegated Regulation (EU) 2023/1185 (Number 4.12 FRL CCfD).

During the term of the Carbon Contracts for Difference, the granting authority can require certificates from recognised independent bodies to verify compliance with the requirements for recycled carbon fuels. If the granting authority requests the submission of a specific certificate, it is obliged to also accept equivalent certificates from other bodies, in particular those from other countries. The aid beneficiary must provide evidence of equivalence at the request of the granting authority (Number 2.8 of the Model CCfD).

2.13 Use of natural gas

General requirements

In accordance with Number 4.13 first sentence FRL CCfD, the material and energetic use of natural gas is permitted insofar as the applicant can demonstrate that

a) direct electrification of the plant is technically unachievable

and

b) the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives is technically or economically unachievable for the foreseeable future.

The possibility of the energetic or material use of biomass does not preclude the use of natural gas (Number 4.13 fifth sentence FRL CCfD).

The required evidence must be provided as follows:

Regarding a) by providing a sufficiently plausible technical justification at plant level that rules out direct electrification, in particular with regard to the quantities and areas of use of natural gas planned over the term of the Carbon Contract for Difference, or

by submitting a confirmation by the grid operator to the effect that the provision of (the required quantity of) electrical energy is not possible for the period of the planned natural gas use.

Regarding b), by providing a sufficiently plausible technical justification at the plant level that rules out the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives, in particular with regard to the quantities and areas of natural gas use planned over the term of the Carbon Contract for Difference, or

by submitting a confirmation by the grid operator that grid access to the hydrogen grid is not possible for the period of the planned natural gas use. If grid access or physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives is possible, the applicant must demonstrate, on the basis of an economic viability analysis over the period of use of natural gas, that the physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives cannot be economically viable in the foreseeable future. There is no economic viability if the energy carrier costs for the physical use of renewable or low-carbon hydrogen or

non-biological hydrogen derivatives exceed the energy carrier costs for the use of natural gas by at least 250 %, i.e. $\frac{\text{Costs}_{H_2}}{\text{Costs}_{NG}} \geq 3{,}5$.

The energy carrier costs to be compared are determined as follows:

Costs of renewable or low-CO_2 hydrogen/non-biological hydrogen derivatives (H_2)	**Costs of natural gas (NG)**
$\text{Costs}_{H_2}\left[\frac{\text{EUR}}{\text{MWh}}\right] = \frac{\text{EK}_{H_2}}{\Phi}$ [3]	$\text{Costs}_{NG}\left[\frac{\text{EUR}}{\text{MWh}}\right] = \frac{\text{EK}_{NG}}{\Phi}$ [4]
$EK_{\square}$	Total costs incurred for the respective energy carrier during years 1–15 of the term of the Carbon Contract for Difference [in EUR].
Φ	Total amount of heat in MWh to be provided by the respective plant during years 1–15 of Carbon Contract for Difference. The same value is to be used for the parameter Φ for both plants.

Table 2: Economic viability analysis of natural gas use

The energy carrier costs to be provided in the application for funding must be substantiated by publicly accessible sources. If base and hedging prices for the energy carriers are specified in this funding call, these cannot be used as evidence.

Technical necessity may also be justified with reference to regulatory requirements.

Reducing the use of natural gas

Applicants must also show in the quantitative enquiry document when and how the use of natural gas as a material and energy carrier will be reduced **during the term of the Carbon Contract for Difference** (see Number 4.13 third sentence FRL CCfD).

Relevance of physical use

The above requirements apply to **every physical use of natural gas**, irrespective of whether certificates or guarantees of origin for other energy carriers are submitted (Number 4.13 fourth sentence FRL CCfD).

Exemption for CCS and CCU

Where CCS or CCU technologies are used in a project in accordance with Number 4.15 FRL CCfD, Number 4.13 FRL CCfD does not apply during this use of CCS or CCU technologies (Number 4.13 sixth sentence FRL CCfD).

2.14 Use of fossil fuels

The energetic and material use of the most polluting fossil fuels as defined in the 2022 Guidelines on State Aid for Climate, Environmental Protection and Energy,[1] such as coal, diesel, lignite, oil, peat and oil shale, is permitted **only during the first ten years**, calculated from the start of operations of the project, and only to the extent that this is technically necessary to

[1] Communication from the Commission, Guidelines on State aid for climate, environmental protection and energy 2022, C/2022/481 (OJ C 80, 18 February 2022, pp. 1–89).

achieve the objectives of the project with regard to the reduction of greenhouse gas emissions in the context of **the transition from existing conventional production processes** to low-carbon production.

If the material use of the most polluting fossil fuels is technically essential within existing production processes, such use is permitted in the funded project, Number 4.14 FRL CCfD notwithstanding. In such cases, adjustments (including conversions) of existing production processes are permitted, provided that they are technically necessary to achieve the greenhouse gas emission reduction targets in accordance with the FRL CCfD. In this regard, applicants must demonstrate that there is no available technological alternative eligible for funding which would achieve greater greenhouse gas emission reductions.

Projects involving new investments in production processes based on the most polluting fossil fuels do not meet these requirements (Number 4.14 FRL CCfD). Applicants must demonstrate compliance with these requirements in their application for funding by providing a sufficiently detailed and plausible technical justification, referencing publicly accessible sources.

This does not affect the energetic use of natural gas (Number 4.13 FRL CCfD).

If a project makes use of CCS or CCU technologies in existing production processes in accordance with Number 4.15 FRL CCfD, the use of the most polluting fossil fuels during the use of CCS or CCU technologies in the funded project is permitted, Number 4.14 FRL CCfD notwithstanding.

Investments covered by this Section 2.14 may not lead to an increase in production capacity and may not involve a full replacement of the existing plant.

2.15 Industrial steam

In this bidding procedure, projects in which only industrial steam is produced as an industrial product within the meaning of Number 4.17(g) FRL CCfD, without this industrial steam being used as an intermediate product in the manufacture of industrial products within the project (‘**industrial steam project**’), are generally eligible for funding.

An industrial steam project is only eligible for funding, if the grid infrastructure located at the site of the plant to be funded can supply industrial steam to at least three different third parties, including affiliated companies of the applicant within the meaning of Sections 15 ff. of the Stock Corporation Act (AktG).

Only the share of the industrial steam produced in the industrial steam project that is supplied to at least one production plant and used there to manufacture an industrial product within the meaning of Number 4.17(g) first half-sentence FRL CCfD is eligible for funding.

Only those industrial steam projects that are subject to the steam for industrial applications reference system are eligible for funding.

The applicant must demonstrate that the industrial steam produced as part of the project can be supplied to at least three different third parties via the grid infrastructure located at the site of the plant to be funded. The applicant must also provide suitable evidence to show that the industrial steam is supplied to a production plant and used there to manufacture an industrial product within the meaning of Number 4.17(g) first half-sentence FRL CCfD.

2.16 Partial funding

The applicant may specify in their application for funding that funding is only sought for a certain portion of the production volume attributable to a CCfD production process. This specification does not result in any restriction of the system boundaries or the project to be funded in accordance with Number 8.2(f) FRL CCfD. Unless otherwise specified, the provisions of the FRL CCfD, of this funding call and of other provisions based on the FRL CCfD are applicable to the entire project to be funded and the entire production share of the plants and processes attributable to a CCfD production process, irrespective of any limitations sought under sentence 1. A limitation established in accordance with sentence 1 cannot be amended during the term of the Carbon Contract for Difference.

2.17 Evidence regarding grid connection for electricity and/or hydrogen

If the project to be funded requires a new or expanded connection to an electricity and/or hydrogen grid, the applicant must demonstrate, to the extent that this is possible, that the supply connection can be realised in time (for example, this can be achieved through the conclusion of a corresponding grid usage contract, conditional on the conclusion of the Carbon Contract for Difference; the submission of a reservation confirmation, conditional on the conclusion of the Carbon Contract for Difference; a confirmation by the grid operator that the required grid connection is feasible; the conclusion of a statement of intent regarding the required grid connection). In this regard, the applicant must at least provide evidence that he has made a written request regarding the required grid connection to the (prospective) grid operator and has received confirmation that the (prospective) grid operator will assess its ability to provide the grid connection.

If the applicant is required to provide evidence that access to the hydrogen grid or the provision of (the required quantity of) electrical energy is foreseeably not possible, this must be substantiated through an e-mail or another form of written declaration by the grid operator, in which it is stated that it is foreseeably not possible to provide access to the grid or a grid connection for reasons of capacity or scheduling.

2.18 Funding of (parts of) plants which are part of (the whole of) a plant within the meaning of the Greenhouse Gas Emissions Trading Act (TEHG)

If the applicant specifies in the application for funding that the project to be funded is to only encompass individual (parts of) plants which are part of (the whole of) a plant within the meaning of the Greenhouse Gas Emissions Trading Act (*Treibhausgas-Emissionshandelsgesetz* (TEHG)), the applicant must ensure the following:

- The plant to be funded individually must produce a marketable industrial product.
- The plant to be funded individually must encompass all essential production steps necessary to produce the marketable industrial product and of relevance for the greenhouse gas emissions resulting from the production of the industrial product.
- The nature of the plant to be funded individually must be such that its reference system, based on its production capacity or thermal output, would be included in EU ETS 1 in accordance with Annex I of Directive 2003/87/EC (Number 4.17(i) FRL CCfD).

- At the time of the application for funding, the whole of the plant within the meaning of the TEHG must have a yearly minimum level of actual absolute greenhouse gas emissions of [100] kt CO_2-equivalent.
- The specific greenhouse gas emission reduction realised in the project to be funded must result in a reduction in greenhouse gas emission across the whole of the plant for every calendar year within the term of the Carbon Contract for Difference.

If the plants to be funded individually produce products which fall within a product-specific reference system specified in Appendix 1, but the project to be funded does not encompass all of the processes included in the reference system according to the product-specific reference system, the reference system heat supply and fuel usage is to be applied to the project to be funded.

3. Who is eligible for funding?

Companies within the meaning of Section 14 of the German Civil Code (BGB), including municipalities, municipally owned companies, municipal companies and municipal special-purpose associations, are eligible to apply for funding if they are engaged in economic activity (Number 5.1 first sentence FRL CCfD) **and** the project has been approved, after participating in the preparatory procedure 2027, for participation in the bidding procedure 2027 by [•] (Number 8.6(b) first sentence FRL CCfD). In justified cases, the granting authority may admit a project that participated in the preparatory procedure 2027 to the subsequent bidding procedure even in the event of a change of the applicant, subject to the conditions set out in Number 8.2(g) FRL CCfD (see Number 8.6(b) second sentence FRL CCfD).

Applicants must be the plant operator (Number 2.6 FRL CCfD) of the plant or plants to be funded (Number 5.1 second sentence FRL CCfD).

In particular, the legal entities listed in Number 5.4 FRL CCfD are **not eligible to apply for funding.**

Several eligible applicants may form a consortium under the conditions set out in Number 5.2 first and second sentence FRL CCfD and submit a joint application for funding.

Operators of **carbon capture plants** and **air separation plants** eligible for funding – provided that, according to the application for funding, the latter are to be located within the system boundaries – must, under Number 4.15(d) FRL CCfD, become part of a consortium, irrespective of the conditions set out in Number 5.2 first and second sentence FRL CCfD.

Within a consortium, one member of the consortium must be designated to submit the application for funding and to act as the authorised representative for the purposes of being served with and receiving documents on behalf of the consortium (‘**consortium leader**’, Number 5.2 third sentence FRL CCfD). Proof of the consortium leader’s authorisation must be submitted with the application for funding.

Number 8.2(g) FRL CCfD applies to **changes in the composition of a consortium** or the **formation of a new consortium** between the preparatory procedure 2027 and the bidding procedure 2027 (see Number 8.6(b) second sentence FRL CCfD).

4. How is funding provided?

4.1 Type of funding

Funding is granted by way of project funding in the form of non-repayable grants (Number 6.1(a) FRL CCfD).

There is no legal entitlement to the **granting of funding**. The granting authority decides on the approval of applications at its discretion and within the limits of the available budget funds.

The granting authority will award the funding to successful applicants by means of a grant notification ('*Zuwendungsbescheid*'), which is issued at the same time as the successful bid is accepted in the bidding procedure (Number 8.4 FRL CCfD). Consortia receive a joint grant notification which is sent to the consortium leader. The Carbon Contract for Difference is concluded when the granting authority awards the contract in favour of the applicant's bid and thus accepts the bid (Number 8.5(a) FRL CCfD).

The Carbon Contract for Difference under private law serves to specify and implement the legal relationship governing the grant, which is based on the grant notification under public law (two-tier system) and is established between the aid beneficiary and the funding provider upon disclosure of the grant notification (Number 8.5(a) FRL CCfD). Details regarding the amount of funding and its disbursement are set out in Numbers 7 and 9 as well as Appendix 1 FRL CCfD and in the provisions of the Model CCfD.

Due to the design of the Carbon Contracts for Difference, the aid beneficiaries may be obliged to make payments to the funding provider under the conditions specified in the FRL CCfD (so-called surplus payments). The obligation to make surplus payments is governed by Number 4 of the Model CCfD. The aid beneficiary's obligation to pay back any surplus is capped in accordance with Number 7.7(a) FRL CCfD. In addition, under Number 7.7(b) FRL CCfD, it is possible to suspend payment obligations on both sides in the event of a surplus payment being made to the funding provider. This funding call does not contain any deviating or supplementary provisions regarding surplus payment obligations in accordance with Number 7.7(c) FRL CCfD.

4.2 Term of the Carbon Contracts for Difference

The term of the Carbon Contracts for Difference is 15 years. The contract term begins with the start of operations of the project. The project must start operations **by [•]** at the latest (Number 4.2(a) FRL CCfD). [If the grant notification is issued after [•], the deadline for the start of operations is 48 months after the grant notification is issued.]

The granting authority can extend the deadline for the start of operations by up to **12 months** upon awarding the funding, provided that the applicant clearly demonstrates when submitting the application for funding that

- hydrogen grid infrastructure, or
- electricity grid connections, or
- transport and storage infrastructure for CO_2

are not available until a later date for reasons beyond the applicant's control (see Number 4.2(b) FRL CCfD). If there is any doubt in individual cases as to whether the conditions

for an extension are met, applicants may consult the granting authority up to four weeks before the expiry of the material cut-off period, i.e. up to the [•]. In this case, the granting authority will inform the applicant of its non-binding assessment at the latest one week before the material cut-off period expires.

In individual cases, the granting authority may extend the deadline after the grant notification has been disclosed if the aid beneficiary demonstrates that the funded project cannot start operations within the original deadline for **reasons** beyond their control **that arose after the application for funding was submitted**, in particular due to force majeure (Number 4.2(c) FRL CCfD).

The aid beneficiary must provide evidence of the start of operations of the project without delay, in particular by submitting a commissioning report.

4.2a Premature termination, compensation payment and contractual penalty pursuant to Number 12.2(c) FRL CCfD

The term of a Carbon Contract for Difference may end before the expiry of 15 years if the Carbon Contract for Difference is terminated prematurely for extraordinary reasons. The suspension of payment obligations on both sides in accordance with Number 7.7(b) FRL CCfD does not lead to the premature termination of the Carbon Contract for Difference.

The Carbon Contract for Difference may also be terminated prematurely by the aid beneficiary before the start of operations with one month's notice to the end of the month. In this case, the aid beneficiary must pay the funding provider 1 % of the maximum total funding amount within the aforementioned notice period (compensation payment). If the aid beneficiary fails to meet this payment obligation within the aforementioned notice period, the funding provider should, in order to satisfy its claim, make use of the implementation guarantee or surety submitted by the aid beneficiary with the application for funding in accordance with Number 8.2(e)(v) FRL CCfD (Number 12.1(f) FRL CCfD).

If the start of operations does not occur within 18 months of the deadline specified in Numbers 4.2(a) to 4.2(c) FRL CCfD, the Carbon Contract for Difference will end before the start of the term of the contract specified in Number 4.2(a) FRL CCfD. The granting authority may extend this deadline. The contractual penalty stipulated below remains unaffected by the premature termination of the Carbon Contract for Difference in accordance with Number 12.1(f) FRL CCfD (see Number 12.1(g) FRL CCfD).

The aid beneficiary is obligated to pay the funding provider an amount equal to

- 0.1 % of the maximum total funding amount, if the start of operations occurs within 6 months of the expiry of the deadline specified in Numbers 4.2(a) to 4.2(c) FRL CCfD; or
- 0.4 % of the maximum total funding amount, if the start of operations occurs between 6 and 12 months after the expiry of the deadline specified in Numbers 4.2(a) to 4.2(c) FRL CCfD; or
- 0.7 % of the maximum total funding amount, if the start of operation occurs between 12 and 18 months after the expiry of the deadline specified in Numbers 4.2(a) to 4.2(c) FRL CCfD; or

- 1 % of the maximum total funding amount, if the start of operations occurs within 18 months after the expiry of the deadline specified in Numbers 4.2(a) to 4.2(c) FRL CCfD.

This applies only insofar as the aid beneficiary is responsible for the delay in the start of operations. In order to satisfy its claim under this Section, the funding provider should make use of the implementation guarantee or surety submitted by the aid beneficiary with the application for funding in accordance with Number 8.2(e)(v) FRL CCfD (see Number 12.2(c) FRL CCfD).

4.3 Maximum total funding amount per project

The maximum total funding amount per project is capped (see Number 7.4(e) FRL CCfD). Projects whose maximum total funding exceeds EUR [•] are not eligible for funding (Number 4.17(p) FRL CCfD) and will not be included in the appraisal in accordance with Number 8.3(a) FRL CCfD.

4.4 Funding volume, restricted bidding procedure, maximum prices and award of contracts

Funding volume

A **total funding volume of EUR [•]** is available for the bidding procedure 2027. The total funding volume refers to the maximum funding available over the entire term of the Carbon Contracts for Difference concluded on the basis of this funding call. The total funding volume is divided into three basic funding volumes and one additional funding volume.

The **three basic funding volumes** are divided as follows:

Process heat funding volume: For projects which do not amount to CCU/CCS or hydrogen projects within the meaning of the subsequent provisions, a basic funding volume in the amount of **EUR [•]** is designated. Projects which employ technologies on the basis of **low-temperature heat** can benefit from **EUR [•]** from the process heat funding volume at most (**low-temperature volume**; see Number 8.3(i) FRL CCfD).

CCU/CCS funding volume: A basic funding volume in the amount of **EUR [•]** is designated for CCU/CCS projects within the meaning of the subsequent provisions.

Hydrogen funding volume: A basic funding volume in the amount of **EUR [•]** is designated for hydrogen projects within the meaning of the subsequent provisions.

The bidding procedure that forms the basis of this funding call is restricted with regard to the aforementioned three basic funding volumes in accordance with Number 8.1(b) FRL CCfD.

A single project may receive EUR [•] from a basic funding volume at most.

Besides the three basic funding volumes, one **additional funding volume** in the amount of **EUR [•]** is available for the bidding procedure 2027. The additional funding volume benefits projects whose maximum total funding amount exceeds the upper limit of EUR [•] for individual projects in the basic funding volume, or projects whose maximum total funding amount exceeds the funds still available within the basic funding volume, which must be greater than EUR zero.

With each project that is awarded funding, the funding available from the respective funding volume is reduced in accordance with the award procedure set out below.

Allocation to the basic funding volumes

Provided that a project meets the respective requirements set out below, the project can only benefit from the respective basic funding volume and, beyond that, from the additional funding volume. The relevant technology-specific maximum prices apply to the respective projects.

Process heat funding volume: Projects which are based on reference systems which are classified as high- or low-temperature heat in accordance with Table 7 of Appendix 1 and which do not amount to CCU/CCS or hydrogen projects within the meaning of the following Subsections, are regarded as **process heat projects** and, depending on their classification, as **high-temperature projects** or **low-temperature projects** within the meaning of this Section. For high-temperature projects, a product exchange within the meaning of Number 9 of the Model CCfD during the term of the Carbon Contract for Difference may not lead to the change of production to a product which is allocated to low-temperature heat in accordance with Table 7 of Appendix 1.

CCU/CCS funding volume: Projects which are based on the reference systems grey cement clinker, white cement clinker, lime, dolime or sintered dolime, as well as projects which involve the capture of CO_2 from a waste incineration plant in accordance with Number 4.15(a)(ii) FRL CCfD, are regarded as **CCU/CCS projects** within the meaning of this Section. Adjustments to a CCU/CCS project during the term of the Carbon Contract for Difference are only possible if the requirements for a CCU/CCS project continue to be met.

Hydrogen funding volume: Projects which are based on the reference systems [primary steel, ammonia, hydrogen or synthesis gas] are regarded as **hydrogen projects** within the meaning of this Section. The realised relative use of hydrogen of a project over the entire term of the Carbon Contracts for Difference must amount to at least [50] %. The relative use of hydrogen is the absolute use of hydrogen in relation to the absolute use of all energy carriers of the project.

[*Optional addition*: **Opt-in for hydrogen projects**: If the planned relative use of hydrogen of a project over the entire term of the Carbon Contract for Difference amounts to at least [50] %, the applicant can specify in the application for funding that the project amounts to a **hydrogen project** within the meaning of this Section, rather than a process heat project]

[***Please note:*** *The prerequisites, the selection of the reference systems and the opt-in option for the allocation to the hydrogen funding volume currently remain subject to review. They will depend on the results of the preparatory procedure for the bidding procedure 2027 and the consultation conducted at the same time. Depending on the results, the prerequisites detailed above may apply to the bidding procedure 2027 in the way stated here or in amended form. Companies planning a relative use of hydrogen of less than 50 % are therefore particularly encouraged to also participate in the preparatory procedure 2027.*]

Projects that use CCS or CCU technologies or hydrogen-based technologies without meeting the prerequisites for a CCU/CCS project or a hydrogen project as set out in this Section, are regarded as high- or low-temperature projects, depending on their classification.

Where a project involves the production of several products that are assigned to different reference systems, the classification of the project is based on the reference system which, according to the application for funding, has the higher absolute greenhouse gas emissions in the reference system over the term of the Carbon Contract for Difference.

Technology-specific price caps

For low-temperature projects, a maximum price H_{NT} of EUR [•]/t CO_2-equivalent applies.

For high-temperature projects, a maximum price H_{HT} of EUR [•]/t CO_2-equivalent applies.

For CCU/CCS projects, a maximum price $H_{CCU/CCS}$ of EUR [•]/t CO_2-equivalent applies.

For hydrogen projects, a maximum price H_{H2} of EUR [•]/t CO_2-equivalent applies.

Bids with specific funding costs (Number 8.3(f), Appendix 2 first paragraph FRL CCfD) exceeding the respective specified maximum price are excluded from the bidding procedure (Number 8.1(f) FRL CCfD).

Please note: The specific funding costs are calculated by **adding the base contract price** (bid price) **and** the specific costs of **already approved other funding within the meaning of Number 2.3 first sentence FRL CCfD** at the time of submission of the application for funding (Number 8.3(f), Appendix 2 first paragraph FRL CCfD). If the result of this addition exceeds the maximum price, the application must be excluded in accordance with Number 8.1(f) FRL CCfD.

Specific provisions for hydrogen projects

Minimum hydrogen quota:

The relative use of hydrogen of a hydrogen project must be at least [50] % over the entire term of the Carbon Contract for Difference (minimum hydrogen quota).

If, in case of a hydrogen project, an aid beneficiary falls short of the relative use of hydrogen as specified in the application for funding or as adjusted in accordance with Number 7.9 FRL CCfD by **more than five percentage points in each of two consecutive calendar years**, **no funding** will be awarded for the second calendar year in each instance, unless the aid beneficiary is not at fault.

[***Please note:*** *In addition to the above penalty, a contractual penalty pursuant to Number 12.2(a)(vi) FRL CCfD applies if, without the approval of the granting authority, the aid beneficiary deviates from the relative use of energy carriers specified in the application for funding in accordance with Number 8.2(d) FRL CCfD or as adjusted in accordance with Number 7.9 FRL CCfD by more than five percentage points in a calendar year*]

If, **over the entire term** of the Carbon Contract for Difference, the realised relative use of hydrogen of a hydrogen project amounts to less than [50] % due to deliberate or negligent actions of the aid beneficiary**, the grant notification should be retracted, with full or partial retroactive effect.** It is assumed that aid beneficiary is at fault.

Interim target for the use of hydrogen:

By the end of the fourth full calendar year from the start of operations, the realised relative use of hydrogen must amount in total to at least [10] % of the project's total use of energy carriers over the entire term of the Carbon Contract for Difference as specified in the application for funding in accordance with Number 8.2(d) FRL CCfD or as adjusted in accordance with Number 7.9 FRL CCfD (interim target for the use of hydrogen). If the interim target for the use of

hydrogen is not met due to deliberate or negligent actions of the aid beneficiary, the aid beneficiary is obligated to pay [0.1] % of the maximum total funding amount to the funding provider for every percentage point by which the interim target is not met.

Timing of hydrogen use and submission of hydrogen supply contracts:

From the start of operations of a hydrogen project, there must be a material and energetic use of hydrogen. If, for reasons beyond the aid beneficiary's control, hydrogen cannot be used, the granting authority may, upon application by the aid beneficiary, extend the deadline for the start of operations in accordance with Number 4.2(c) FRL CCfD.

If the aid beneficiary procures all or part of the hydrogen to be used in the project from a third party, including affiliated companies within the meaning of Sections 15 ff. of the Stock Corporation Act (AktG), the start of operations of the project can take place no earlier than four weeks after the granting authority has received the concluded hydrogen supply contracts.

Renewable hydrogen quota:

The relative use of hydrogen of a hydrogen project must, in total over the entire term of the Carbon Contract for Difference, consist of at least [42] % renewable hydrogen within the meaning of Number 2.14 FRL CCfD (renewable hydrogen quota). If the renewable hydrogen quota is not met due to deliberate or negligent actions of the aid beneficiary, the aid beneficiary is obligated to pay [0.1] % of the maximum total funding amount to the funding provider for every percentage point by which the renewable hydrogen quota is not met.

Deviations from the planned use of hydrogen:

In accordance with Number 7.3(a) FRL CCfD, the granting authority may only approve an **application for a deviation** from the relative use of hydrogen as specified in the application for funding in accordance with Number 8.2(d) FRL CCfD or as adjusted in accordance with Number 7.9 FRL CCfD for a hydrogen project, if the planned relative use of hydrogen, following the adjustment, still amounts to at least [50] % in total over the entire term of the Carbon Contract for Difference. This does not apply where the relative use of hydrogen of at least [50] % cannot be achieved for reasons beyond the aid beneficiary's control, such as force majeure or delayed availability of infrastructure.

The above provisions also apply to compliance with the renewable hydrogen quota. In deviation from Number 7.3(a) fifth sentence FRL CCfD, a switch between renewable and low-carbon hydrogen requires the approval of the granting authority, if as a result of the switch the renewable hydrogen quota is not met.

Procedure for awarding contracts

Sequence of bids: The order in which all projects eligible for funding are assessed is based on the **funding cost efficiency** in accordance with Number 8.3(f) FRL CCfD. Contracts are first awarded jointly to eligible CCU/CCS and hydrogen projects and subsequently, following the CCU/CCS and hydrogen projects, to all process heat projects, in the order of their appraisal (Number 8.3(a) second sentence FRL CCfD).

Within the framework of the funds available for an individual project from the respective basic funding volume and the additional funding volume, it is assessed whether the projects can be awarded funding in accordance with the sequence of bids. An individual project can receive

EUR [•] at most from a basic funding volume. Low-temperature projects can receive a total of EUR [•] at most from the process heat funding volume.

If the maximum total funding amount of a project exceeds the amount it can receive from the respective basic funding volume, the project may receive the excess amount from the additional funding volume, provided that sufficient funds are still available in the additional funding volume to cover the excess amount.

A project eligible for funding is awarded funding if the sum of the funds still available for the project, encompassing the funds it is entitled to receive from the respective basic funding volume and the funds still available from the additional funding volume, is at least as high as the maximum total funding amount for that project.

Once a basic funding volume has been exhausted, no further project allocated to that basic funding volume will be awarded funding. If and to the extent that the CCU/CCS funding volume exceeds the total amount of funding that all CCU/CCS projects that are awarded funding can receive from the CCU/CCS funding volume, and/or the hydrogen funding volume exceeds the total amount of funding that all hydrogen projects awarded funding can receive from the hydrogen funding volume, the process heat funding volume will increase by the respective excess amount. Once all the basic funding volumes have been exhausted, the assessment of the award of funding under this funding call is completed.

[***Please note:*** *Further provisions, in particular on a cap on funds from the additional funding volume that individual projects or entire groups of projects may receive, currently remain subject to review. They will depend on the results of the preparatory procedure for the bidding procedure 2027 and the consultation conducted at the same time. Depending on the results, the provisions detailed above may apply to the bidding procedure 2027 in the way stated here or in amended form.*]

4.5 Other funding and accumulation of funding

Other funding

The Carbon Contracts for Difference funding programme sets out rules regarding the accumulation with other funding within the meaning of Number 2.3 FRL CCfD that an aid beneficiary receives for their project. Under the conditions set out in Number 2.3 first sentence, second half-sentence FRL CCfD, other funding also includes funding that has not been granted directly for the project funded under the FRL CCfD, insofar and to the extent that it is related to the CCfD production process and benefits it (Number 2.3 second sentence FRL CCfD). In particular, the previous sentence encompasses funding granted to the aid beneficiary for energy infrastructure that is used for the purposes of the funded project but is located outside of the system boundaries, provided that this energy infrastructure is constructed for a small group of pre-defined users and is tailored to their needs (dedicated energy infrastructure).

Funding schemes that cannot be cumulated

In principle, an applicant for funding can apply for and receive other forms of funding for the funded project in addition to the funding received under the Carbon Contracts for Difference

funding programme. The following exceptions apply: A project cannot be funded under the Carbon Contracts for Difference funding programme,

1. if the project to be funded has already been selected for the 'Important Projects of Common European Interest' (IPCEI) in the hydrogen sector, or
2. if funding has already been granted for the project to be funded under the Federal Funding Programme 'Bundesförderung Industrie und Klimaschutz' (BIK), or an application for funding under the BIK funding programme has been submitted. This does not apply if, at the time the Carbon Contract for Difference is concluded, the applicant waives the BIK funding or withdraws the application for funding under the BIK funding programme and, in the event that funds have already been paid out under the BIK funding programme, repays these funds including any interest on repayment. Number 4.17(a) FRL CCfD remains unaffected (see Number 4.17(m) FRL CCfD).

Please note: In addition to the rules set out by the Carbon Contracts for Difference funding programme, the rules of the respective other funding programmes, as well as relevant EU legal requirements, which may provide for more extensive prohibitions on accumulation, must always be observed.

Funding under the Federal Funding Programme **'Bundesförderung für Energie- und Ressourceneffizienz in der Wirtschaft' (EEW)** is particularly relevant. The EEW funding programme (as of 25 January 2024) provides for a general prohibition on accumulation with regard to state aid, both in the grant and loan variants 'for *the same measure'* (Number 8.3 of the Funding Guideline for the Federal Funding Programme 'Bundesförderung für Energie- und Ressourceneffizienz in der Wirtschaft – Zuschuss und Kredit', dated 25 January 2024) and in the funding competition 'for the *same measure*' (Number 8.4 of the Funding Guideline for the Federal Funding Programme 'Bundesförderung für Energie- und Ressourceneffizienz in der Wirtschaft – Förderwettbewerb', dated 25 January 2024). In the event of a violation of this prohibition of accumulation, the funding granted under the EEW funding guidelines, including any interest benefits obtained, must be repaid in full. The responsible granting authority must be notified immediately of the application for, and granting of, CCfD funding, in accordance with the ancillary clauses applicable to the EEW funding programme.

Rules for cumulating other funding

If an aid beneficiary receives other funding for its project (Number 2.3 FRL CCfD) which does not preclude funding under the Carbon Contracts for Difference funding programme in accordance with Number 4.17(m) FRL CCfD and in conjunction with the above provisions, the following rules apply:

(a) When determining the base contract price, applicants should bear in mind that **any other funding within the meaning of Number 2.3 first sentence FRL CCfD already approved at the time of application** will be taken into account when calculating the funding cost efficiency in accordance with Number 8.3(f) FRL CCfD (Number 7.1(a)(i) FRL CCfD).

In this regard, special rules apply to other funding that, according to the rules of the respective funding programme, cannot be cumulated with funding under the Carbon Contracts for Difference funding programme. Under the conditions set out in Number 8.3(f)(iii) FRL CCfD, these are not taken into account when calculating the specific funding costs.

(b) Other funding that is granted **after the submission of the application for funding under the CCfD funding programme**, **or which is not taken into account in the calculation of the funding cost efficiency in accordance with Number 8.3(f) FRL CCfD** will be deducted from the funding granted. If other funding already granted at the time of the submission of the application is subsequently increased, this rule applies accordingly to the amount by which the other funding has increased since the submission of the application for funding (Number 7.1(a)(vi) FRL CCfD, see in detail Number 7.5(c) FRL CCfD).

Examples of other funding and consultation with the granting authority

Other funding may include, *inter alia*, grants awarded through other programmes. **Appendix 2** to this funding call contains a non-exhaustive list of funding that is considered to be 'other funding' under the FRL CCfD, as defined in Number 7.5(b) FRL CCfD.

When submitting an application, applicants are obligated to provide complete and truthful information about any other funding already granted or applied for in relation to the project (Number 8.2(e)(vi) FRL CCfD). Applicants are therefore strongly advised to list all funding applied for or previously granted and **to consult the granting authority** in case of doubt (see Number 7.5(b) FRL CCfD). Further information is set out in **Appendix 2**.

Special cases

In the special case of the use of hydrogen produced by electrolysis plants operated by an affiliated company, the provision in Number 7.5(d) FRL CCfD must be observed.

If, for the purposes of the funded project, a dedicated energy infrastructure outside the system boundaries is used which is constructed by an affiliated company of the aid beneficiary within the meaning of Sections 15 ff. of the Stock Corporation Act (AktG), it must also be noted that, in accordance with Number 7.5(e) FRL CCfD, the funding granted to an affiliated company of the aid beneficiary within the meaning of Sections 15 ff. of the Stock Corporation Act (AktG) with regard to this dedicated energy infrastructure is deducted in accordance with Number 7.1(a)(vi) and Number 7.5(c) FRL CCfD, provided that this funding qualifies as state aid within the meaning of Article 107(1) TFEU or as centrally administered Union funds that are not directly or indirectly subject to control by German national authorities. The amount deducted in a particular case is decided by the granting authority at its discretion; in this regard, the granting authority must take into account the extent to which the dedicated energy infrastructure constructed by the aid beneficiary's affiliated company within the meaning of Sections 15 ff. of the Stock Corporation Act (AktG) is used for the purposes of the funded project. More detailed specifications regarding the required evidence may be set out in the Carbon Contract for Difference.

4.6 Deduction of green surplus revenue

In this bidding procedure, green surplus revenue is not deducted from the funding awarded. It is in the applicant's own interest to factor the expected green surplus revenue into the base contract price in order to achieve greater funding cost efficiency and thus increase the chances of being awarded a contract in this bidding procedure.

4.7 Parameters for determining funding cost efficiency

The maximum price H_{max} to be applied in the calculation of the funding cost efficiency in accordance with Appendix 2, second paragraph FRL CCfD is the maximum price of EUR [•]/t CO_2-equivalent.

The interest rate ϵ to be applied in accordance with Appendix 2, first paragraph FRL CCfD is [•] %. The weighting factor γ is [•] in accordance with Appendix 2, second paragraph FRL CCfD.

4.8 Effective price of CO_2 (Number 7.1(b), Appendix 1, Section 1, second paragraph FRL CCfD)

For the annual determination of p_{EUA}^{real} the following index is used:

Value	Index	Temporal resolution	Calculation method
CO_2 price	EEX Environmental Futures annual contract prices for delivery in December of the relevant settlement period	Daily	Calculation of the unweighted annual average from daily data [EUR/t CO_2 eq.]

Table 3: Index for determining the effective price of CO_2

Insofar as no data is published for weekends, public holidays or days at the end of the relevant year, these days are not included in the calculation of the annual average.

4.9 Dynamisation of energy carriers

The energy carriers of **the reference system** listed in Table Sections 1 and 2 of the table below are dynamised in accordance with Number 7.2(b) FRL CCfD. In **the project**, the energy carrier specified in Table Section 1 is dynamised in accordance with Number 7.2(c) FRL CCfD, if it is used in the project for the manufacture of products and intermediate products or in the context of technologies for the capture of CO_2 and its transfer to CO_2 transport infrastructure for the purpose of long-term storage.

For the energy carriers listed, the price indices listed in the table are defined for the annual determination of the real indexed price p_i^{real} for each dynamised energy carrier i. In addition, the factors β_i^{Ref} (see Appendix 1 Section 1 fourth paragraph FRL CCfD) and $\beta_i^{Vorhaben}$ (see Appendix 1 Section 2 fourth paragraph FRL CCfD) are defined for each dynamised energy carriers.

The specific energy carrier use d_i^{Ref} and the specific greenhouse gas emissions e_{Ref} of the **reference systems** Ref can be found in the Table in Appendix 1. The energy carrier uses dynamised in the reference system, with the exception of electricity, are reduced in accordance with Number 7.2(b) third and fourth sentence FRL CCfD to the extent that the energy carriers used

in the project are the same as those which that are not dynamised in accordance with Number 7.2(c) FRL CCfD in conjunction with the provisions of this funding call.

Dynamisation of electricity

In order to adequately safeguard investments in flexibility and incentivise its use, the index used to determine the real indexed price of electricity (p_{Strom}^{real}) comprises two weighted components: Firstly, a baseload component which, as the unweighted average of the quarter-hourly energy prices for all hours of the year, reflects the costs of continuous electricity consumption. Secondly, a renewables component that reflects the cost of electricity in case of flexible production. These are approximated by weighting the quarter-hourly prices based on the share of renewable energy in each hour of the year.

The calculation is carried out using the following method:[2]

$$p_{Strom}^{real} = 0{,}7 * \frac{\sum_{t=1}^{35040} p_t}{35040} + 0{,}3 * \frac{\sum_{t=1}^{35040} p_t * (E_{pv,t} + E_{Won,t} + E_{Wof,t})}{\sum_{t=1}^{35040} (E_{pv,t} + E_{Won,t} + E_{Wof,t})} \quad [5]$$

[2] For leap years, the figure 35040 (all quarter-hours of a normal year) is replaced with 35136.

Energy carrier i	Price index for the annual determination of p_i^{real}	Source unit	Temporal resolution	Calculation method	Factor β_i^{Ref}	Factor $\beta_i^{Vorhaben}$
Table section 1: Dynamisation in the reference system and in the project						
Electricity Please note: Formula [5] is used to calculate p_{Strom}^{real}	**SMARD.de:** Quarter-hourly day-ahead electricity price	[EUR/MWh]	Quarter-hourly	$\mathbf{p_t}$: Quarter-hourly day-ahead electricity price	0.9	0.9
	SMARD.de: Day-ahead generation forecasts for the respective renewable energy technologies – onshore wind, offshore wind and solar – at quarter-hourly intervals	[MWh]	Quarter-hourly	$\mathbf{E_{Won}, E_{Wof}, E_{pv}}$**:** Day-ahead generation forecasts for the respective renewable energy technologies – onshore wind, offshore wind and solar – at quarter-hourly intervals		
Table section 2: Dynamisation only in the reference system						
Natural gas	**EEX:** Gas Spot Market THE Day-Ahead (GND1)	[EUR/MWh]	Daily	Conversion of the data given in EUR/MWh gross calorific value into EUR/MWh net calorific value by dividing by 0.9024. Calculation of the unweighted annual average from the daily data for the settlement price for delivery start on the following day [EUR/MWh].	0.9	
Coking coal	**Argus Media:** Coking Coal, low volume fob Australia (PA0007768) **Argus Media:** Freight rates; Dry coal Hay Point to Rotterdam 160 kt USD/t (PA0021398) **Argus Media:** Carbon cost dry coal Hay Point to Rotterdam 160 kt USD/t (PA0037487) **European Central Bank:** Euro/USD exchange rate (EXR.D.USD.EUR.SP00.A)	**Argus Media**: [USD/t] **European Central Bank:** [USD/EUR]	**Argus Media:** Monthly (freight rates); daily (coking coal, carbon cost) **European Central Bank:** Daily	**Calculation of the total cost of coking coal in USD/t:** • To calculate the daily total cost of coking coal [USD/t], the freight costs for the respective calendar month (PA0021398) and the daily costs for greenhouse gas emissions from shipping (PA0037487) are added to the daily cost of coal (PA0007768). **Conversion of the total cost of coking coal to EUR/t:** • Division of the total cost of coking coal by the respective daily Euro reference rate of the ECB (EXR.D.USD.EUR.SP00.A)	0.9	

Energy carrier i	Price index for the annual determination of p_i^{real}	Source unit	Temporal resolution	Calculation method	Factor β_i^{Ref}	Factor $\beta_i^{Vorhaben}$
				Conversion to EUR/MWh: • Conversion of the total costs per tonne [EUR/t] to total costs per MWh [EUR/MWh] by multiplying by a factor of 7.7921 **Calculation of the annual average:** • Calculation of the unweighted annual average of the daily data [EUR/MWh]		
Steam coal	**Argus Media:** Coal (API 2) CIF ARA daily index (PA0007773)	[USD/t]	Daily	**Conversion of steam coal costs to EUR:** • Division of the daily cost of steam coal [USD/t] by the respective daily Euro reference rate of the ECB (EXR.D.USD.EUR.SP00.A) **Conversion to EUR/MWh:** • Conversion of the costs per tonne [EUR/t] to costs per MWh [EUR/MWh] by multiplying the costs by the mass conversion factor (1000 kg/t), the calorific value conversion factor (6000 kcal/kg) and the energy conversion factor (0.000001163 MWh/kcal). **Calculation of the annual average:** • Calculation of the unweighted annual average of the daily data [EUR/MWh]	0.9	

Table 4: Dynamisation of energy carriers

Dynamisation is based on the net calorific value of energy carriers. The net calorific value (formerly known as the lower calorific value, also referred to in the literature as 'H_i') is the energy released during complete combustion if the water vapour in the smoke or exhaust gases does not condense. The water vapour produced by combustion remains in a gaseous state. By contrast, the gross calorific value (formerly known as the superior heating value, also referred to in the literature as 'H_s') is the energy released during the complete combustion of an energy carrier. It includes energy contained in the exhaust gases in the form of hot water vapour, which is released as the combustion gases cool. The price data for natural gas, which are originally listed in terms of gross calorific value in the index used, are converted to EUR/MWh net calorific value using the calculation method specified.

From the daily data of the indices listed, an unweighted annual average is calculated from the available data. Insofar as no data is published for weekends, public holidays or days at the end of the relevant year, these days are not included in the calculation of the annual average. Indices not denominated in euros are converted using the daily data of the Euro reference rates published by the European Central Bank.

4.10 Base prices

Insofar as energy carrier costs are dynamised, the following base prices p_i^{Basis} apply for the energy carriers i (each with reference to the net calorific value of the energy carriers):

Energy carrier i	**Base price p_i^{Basis}**
Electricity	[•] EUR/MWh
Natural gas	[•] EUR/MWh
Coking coal	[•] EUR/MWh
Steam coal	[•] EUR/MWh

Table 5: Base prices

4.11 Parameters for determining the maximum annual funding amount

The hedging factor α to determine the maximum annual funding amount (see Appendix 1, Section 3, second paragraph FRL CCfD) is set at [•]. The annual hedging prices for the energy carriers i $p_i^{sicher,t}$ and the CO_2 price $p_{CO2}^{sicher,t}$, which are used to determine the maximum annual funding amount in accordance with Appendix 1, Section 3 FRL CCfD, are set in Appendix 4.

5. Process of the bidding procedure

5.1 Bidding procedure

The funding and the Carbon Contracts for Difference are awarded in a competitive bidding procedure.

5.2 Submission deadline

The bidding procedure begins with the publication of this funding call on the website of the funding programme (https://www.co2-differenzvertraege.info) on [•]. The **deadline for submitting applications,** including bids and all required documents, **ends with the end of day on [•]. This deadline is calculated in accordance with Section 31(1) and (3) first sentence of the Administrative Procedure Act (VwVfG).** Applications **that are not** submitted **within this deadline (material cut-off period)** and in the **form specified** by the funding provider, or that do not contain all the information and documents required or – in the case of a subsequent request – subsequently requested, **will be rejected** (Number 8.3(d) FRL CCfD).

5.3 Applications

Applications must be submitted via the 'easy-Online' portal ([•]). Applications for the participation in the bidding procedure must be submitted using the forms provided, which must be completed in full (Number 8.2(a) FRL CCfD). The documents to be completed will be made publicly available at the start of the bidding procedure at https://www.co2-differenzvertraege.info/dokumentenschrank.

An overview of the documents and evidence that must be submitted with the application is provided by the checklist in Appendix 3.

Please note the following when submitting an application:

- Applications may be withdrawn via ‘easy-Online’ until the submission deadline has expired.
- Multiple applications by an applicant aimed wholly or in part at securing funding for the same project are not permitted within the same funding call. If multiple applications are received from one applicant that are aimed wholly or in part at securing funding for the same project, only the application submitted most recently by the applicant will be assessed and evaluated. All other such applications submitted by the applicant at an earlier time will be rejected. If multiple applications were received at the exact same time, the selection will be made by drawing lots (Number 8.3(b) FRL CCfD).
- If multiple applications made by different applicants are aimed, wholly or in part, at securing funding for the same project, only the bid eligible for funding which demonstrates the best funding cost efficiency in accordance with Number 8.3(f) FRL CCfD will be assessed and evaluated. If multiple projects have the same funding cost efficiency, the selection will be made by drawing lots (Number 8.3(c) FRL CCfD).
- The applications contain an offer to enter into a Carbon Contract for Difference (Number 8.2(e)(xiv) FRL CCfD). If the bid is successful, the Carbon Contracts for Difference will be concluded.
- The applications must contain all the information and documents required for the assessment and the decision whether the minimum requirements and other mandatory preconditions for funding are met, as well as for the evaluation of the bids (Number 8.2(c) FRL CCfD).
- Applications must be submitted in text form via the ‘easy-Online’ portal and must include a scanned handwritten signature or a qualified electronic signature. For this purpose, a PDF file must be generated after filling out the form. A handwritten signature or a qualified electronic signature must be added to the PDF file, which must then be uploaded to ‘easy-Online’. Alternatively, verification can be carried out using a TAN procedure.
- To meet the deadline, it is sufficient that all documents are received on time via the ‘easy-Online’ portal. Solely the **document showing that the required security has been obtained** in accordance with Number 8.2(e)(v) FRL CCfD must, in addition to the online submission of a digital copy via the ‘easy-Online’ portal, be sent in the original and written form to Projektträger Jülich, Fachbereich ESN 7, Postfach 61 02 47, 10923 Berlin in its capacity as administrator on behalf of the granting authority, no later than one week after the expiry of the deadline (material cut-off period). **The address field must be marked ‘Personal/Confidential’.** Alternatively, the documents may be delivered in person (visiting address: Projektträger Jülich, Lützowstr. 109, 10785 Berlin, office hours: Monday to Friday, 9 am–5 pm). In this case, the documents must be handed over in a sealed envelope marked ‘Personal/Confidential’. With regard to the written form, the requirements of Section 126(1) of the German Civil Code (BGB) (handwritten or notarised signature) or Section 126(4) of the German Civil Code (BGB) (notarial certification) apply.
- Further details on the submission of the application and the submission of the Carbon Contract for Difference can be found in the handout **‘Handreichung Antragseinrei-**

chung und Einreichung CCfD' ('Handout for submitting an application and submitting the CCfD'), which is available on the website https://www.co2-differenzvertraege.info.

Special instructions for filling out the Carbon Contract for Difference

When preparing the offer to conclude the Carbon Contract for Difference (Number 8.2(e)(xiv) FRL CCfD), the applicant must observe the following:

- The granting authority provides a model of the Carbon Contract for Difference in PDF format: 'CO_2-Differenzvertrag ohne Ergänzungen'. This does not contain the following components of the Carbon Contract for Difference:
  - Cover sheet
  - Preamble
  - Appendix 5 (data to be provided by the aid beneficiary)
  - Signature page(s) of the aid beneficiary
- To generate and complete the cover sheet, the preamble, Appendix 5 (data to be provided by the aid beneficiary) and the signature page(s) of the aid beneficiary, the applicant must use the dynamic PDF file (file name '[•]') provided by the granting authority in the document repository (https://www.co2-differenzvertraege.info/dokumentenschrank).
- Once the signature page(s) of the aid beneficiary have been generated and completed using the dynamic PDF file, they must be signed by the applicant's authorised representatives in the fields provided, either by qualified electronic signature or by hand.
- The applicant must combine the model of the Carbon Contract for Difference provided by the granting authority with the sections of the Carbon Contract for Difference generated by the dynamic PDF file and filled out accordingly, in particular the signature page(s) of the aid beneficiary signed by applicant's authorised representatives, into a single PDF file.
- The PDF file created in this way and including, in particular, the signature page(s) of the aid beneficiary signed by applicant's authorised representatives, must be submitted by the applicant with their application for funding.
- Amendments or additions to the Model CCfD by the applicant are only permitted in the input fields marked accordingly by the granting authority in the dynamic PDF file.
- If the funding is awarded, the granting authority will make additions in the fields marked accordingly in Appendix 6 Model CCfD, in particular by adding the date on which the grant notification was issued.

Applications that are not submitted in the form specified by the funding provider or that do not contain all the information and documents required or – in the case of a subsequent request – subsequently requested, will be rejected (Number 8.3(d) FRL CCfD).

Conditional applications, including alternative applications, are not permitted and will be rejected (Number 8.2(b) FRL CCfD).

The funding provider reserves the right to request, at its discretion, further documents and evidence, as well as the verification and certification of documents by a designated auditor. The costs are to be borne by the applicant (Number 8.2(e) FRL CCfD).

5.4 Commitment period

With the submission of the application, applicants must declare that they will be bound by it, in particular by the contractual offer contained therein (Number 8.2(e)(xiv) FRL CCfD), for six months following the expiry of the submission deadline.

5.5 Assessment of applications and evaluation of bids, award of contracts

Applications will be opened by the granting authority after the submission deadline has expired. Applicants are not permitted to attend the opening session. The granting authority will not examine the application documents before the date of opening. This does not affect the ability of applicants to send in documents they have prepared and provisionally completed Carbon Contracts for Difference in accordance with Number 8.1(h) CCfD. However, the base contract price should not be specified when sending in prepared application documents and the Carbon Contract for Difference for a non-binding review.

After the date of opening, the applications will be assessed by the granting authority in accordance with the provisions of the FRL CCfD and this funding call.

Projects may be excluded from participation in the bidding procedure if the information provided by the applicant in the application for participation in the bidding procedure is incorrect or deviates significantly, without justification, from the information provided by the applicant during the preparatory procedure for this bidding procedure (Number 8.2(g) FRL CCfD).

Where the information provided in the application for funding differs from the information provided by the applicant in the preparatory procedure for the project in question, a justification must be provided. Deviations can be justified, in particular, where they are attributable to this funding call or to changes to the Carbon Contracts for Difference funding programme, in particular amendments to the FRL CCfD and the Model CCfD, after the announcement of the implementation of the preparatory procedure in the Federal Gazette. Other factual and project-related justifications may also be accepted in individual cases.

Interested parties who participated in the bidding procedure 2026 and submitted a confirmation of participation in the preparatory procedure 2027, may also justify any discrepancies between the information provided in their application for participation in the subsequent 2027 bidding procedure and the information provided in the 2026 bidding procedure through changes to the Carbon Contracts for Difference funding programme that took place between the bidding procedure 2026 and the preparatory procedure 2027.

The bids eligible for funding will be accepted in accordance with the sequence of bids under Section 4.4. First, a joint assessment of the CCU/CCS and hydrogen projects eligible for funding will take place. Subsequently, the assessment of all other projects eligible for funding in the order of their appraisal in accordance with Number 8.3(a) second sentence and Number 8.3(e) FRL CCfD will take place. In the event of a tie, the decision will be made by drawing lots, unless all applications with the same number of points can be awarded a grant (Number 8.3(a) fourth sentence FRL CCfD).

5.6 Grant notifications and notifications of rejection

The granting authority plans to issue the grant notifications by [•]. Applicants whose applications are rejected will receive a notification of rejection.

6. Specific Information

6.1 Handbook and enquiries

Further information and explanations regarding the funding programme can be found in the handbook for the Carbon Contracts for Difference funding programme and in the questions and answers on the funding programme published at https://www.co2-differenzvertraege.info/thema/fragen_antworten_gebotsverfahren. These questions and answers will be regularly added to and updated during the bidding procedure.
As a precaution, please note that the information contained in the answers to these questions and the handbook is not legally binding. In case of doubt, the provisions of the FRL CCfD, the Carbon Contract for Difference, the grant notification and this funding call will take precedence.

6.2 Tax treatment of the funding

Guidance on the tax treatment of the funding is set out in the handbook.

6.3 Annual calculation procedure

For licensing reasons, the granting authority is unable to make the price index data available to the aid beneficiaries within the context of the calculation procedure set out Number 9.2 FRL CCfD. Aid beneficiaries are therefore asked to obtain the price index data themselves, should they wish to use it.

7. Contact details and further Information

Enquiries

Forschungszentrum Jülich GmbH – Projektträger Jülich, Wilhelm-Johnen-Straße, 52428 Jülich, has been commissioned by the Federal Ministry for Economic Affairs and Energy (BMWE) as the project management of the funding programme.

If you have **any questions**, please contact the project management at fragen@co2-differenzvertraege.info. For procedural reasons, questions can only be answered in writing. Questions and answers will be published in anonymised form on the website of the funding programme at https://www.co2-differenzvertraege.info.

The granting authority aims **to answer** all **questions received on or before [•] by [•]**. It may not be possible to answer questions received after [•] within the bidding phase.

Webinars

The granting authority plans to offer a number of webinars as part of this bidding procedure, with the goal of explaining and clarifying the Carbon Contracts for Difference funding programme and to address any queries from interested parties. Further information will be published on the website of the funding programme at https://www.co2-differenzvertraege.info.

Non-binding preliminary review of application documents and the Carbon Contract for Difference

No later than [•] **before the expiry of the material cut-off period**, i.e. by [•], applicants can **send in** the application documents **prepared by them, together with the draft Carbon Contract for Difference** completed using the dynamic PDF, **via the aforementioned email address for a non-binding formal review** (see Number 8.1(h) FRL CCfD). In this case, feedback will be provided at least one week before the expiry of the material cut-off period. Applicants should **not** yet specify the base contract price when sending in documents for non-binding review.

Appendix 1: Reference systems

In order to submit a bid, each project must be assigned to a reference system (Number 2.24 FRL CCfD). The reference systems are based on efficient and low-emission conventional plant configurations. This basis is used to specify the greenhouse gas emissions and the energy carrier consumption of the reference system. Both are specified with reference to production volume.

Written guidance on the allocation of individual projects to the reference systems will be provided separately to participants in the preparatory procedure 2027.

The reference systems are based on the system boundaries of the respective activities regulated under the EU ETS 1 and, as far as possible, build on the product benchmarks specified therein.[3] For reference systems based on product benchmarks that include the collection of electricity consumption data, indirect emissions were deducted from the benchmark value in accordance with the electricity consumption figures set out in Table 7 at the end of this Appendix. Indirect emissions were calculated by multiplying the stated electricity consumption for the manufacture of the product in question by 0.376 t CO_2-eq./MWh of electricity. Where a product is not subject to a product-specific reference system, the fallback reference system for heat supply and fuel usage is applied.

If a project involves the manufacture of several products that are to be assigned to different reference systems, the project is assessed in the bidding procedure as the sum of its components. The annual funding amount or the surplus payment are to be determined from the sum of the components of the project. Further details are set out in Appendix 3 FRL CCfD (Number 4.6 FRL CCfD).

The reference systems hydrogen (50), synthesis gas (51), as well as the reference system heat supply and fuel usage, are treated as upstream reference systems (see the provisions in Number 7.1(d) sixth to eighth sentences, Appendix 1, Section 4 FRL CCfD). The intermediate products (hydrogen or synthesis gas) and the heat (the sum of the measurable heat flow and the heat calculated from fuel use in the case of the reference system heat supply and fuel usage) are referred to as upstream products. These are to be distinguished from the funded products and intermediate products within the meaning of Number 2.42 FRL CCfD. The production volume of the funded products and the input volume of the upstream products must be recorded and reported separately, both in the information provided in the application for funding (Number 8.2(d) FRL CCfD) and in the calculation procedure (Number 9.2(b)(i) FRL CCfD). However, the information on the absolute greenhouse gas emissions and absolute energy carrier usage of the project in accordance with Number 8.2(d) FRL CCfD must be provided for the project as a whole.

The following reference systems are used; Table 7 at the end of this Appendix lists the energy carrier usage and greenhouse gas emissions.

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[3] Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council (OJ L 59, 27 February 2019, pp. 8-69), as last amended by Commission Delegated Regulation (EU) 2024/873 of 30 January 2024 amending Delegated Regulation (EU) 2019/331 as regards transitional Union-wide rules for harmonised free allocation of emission allowances (OJ L 2024/873, 4 April 2024).

1 Refinery products

Product: Mix of refinery products with more than 40 % light products, expressed as CO_2 weighted tonnes (CWT)

Includes processes of a refinery matching the definition of one of the CWT process units, as well as ancillary non-process facilities operating inside the refinery fence-line such as tankage, blending, effluent treatment, etc. Lube oils and bitumen processing units located in mainstream refineries are also included in the refinery CWT and emissions envelope. Process units pertaining to other sectors, such as petrochemicals, are sometimes physically integrated with the refinery. Such process units and their emissions are excluded from the CWT approach. The production of secondary energy carriers is not eligible for funding (Number 4.17(b) FRL CCfD).

2-4 Primary steel

Product in the reference system: carbon-saturated liquid iron, expressed in tonnes of liquid pig iron

Includes all processes directly or indirectly linked to the process units coke ovens, H_2S/NH_3 incineration, coal preheating (defreezing), coke gas extractor, desulphurisation unit, distillation unit, steam generation plant, pressure control in batteries, biological water treatment, miscellaneous heating of by-products and hydrogen separator, sinter strand, ignition, feedstock preparation units, hot screening unit, sinter cooling unit, cold screening unit, blast furnace, pig iron treatment units, blast furnace blowers, blast furnace hot stoves, basic oxygen furnace, secondary metallurgy units, vacuum ladles, casting units (including cutting), slag treatment unit, burden preparation, blast furnace gas treatment unit, dedusting units, scrap pre-heating, coal drying for pulverised coal injection, vessels preheating stands, casting ingots preheating stands, compressed air production, dust treatment unit (briquetting), sludge treatment unit (briquetting), steam injection in blast furnace unit, converter basic oxygen furnace gas cooling.

The figures for emissions and energy carrier usage in the reference system are based on the assumption of a scrap content of 20 %.

Funded products in the project: This reference system is used for two products: pig iron and crude steel. The following provisions are laid down for these products.

1) Operation of a direct reduction plant for the production of pig iron without downstream facilities for the production of crude steel within the project

If only one direct reduction plant is operated, the funded product is the quantity of pig iron produced by the direct reduction plant, expressed in tonnes. In this case, this quantity is identical to the quantity Q^{real} used to determine the funding amount or the surplus payment.

2) Operation of a direct reduction plant with downstream facilities for the production of crude steel within the project

If, as part of the funded project, facilities are operated downstream of the direct reduction plant that produce crude steel from the pig iron, the funded product is the quantity of crude steel produced, expressed in tonnes. In this case, the following additional provisions apply:

Only that proportion of the pig iron which is also processed further within the funded project is eligible for funding. All figures relating to the direct reduction plant are scaled accordingly. This applies in particular to greenhouse gas emissions and energy carrier usage.

The following applies to the scaling factor:

$$f_{DRI} = \frac{Q_{DRI}^{processed}}{Q_{DRI}^{complete}} \quad [6]$$

The following then applies to the emissions from the direct reduction plant:

$$E_{DRI}^{counted} = E_{DRI}^{complete} f_{DRI} \quad [7]$$

The following applies to energy carrier usage:

$$D_{i,DRI}^{counted} = D_{i,DRI}^{complete} f_{DRI} \quad [8]$$

Of the quantity of crude steel produced at the plant, only the amount derived from pig iron produced within the funded project itself is recognised as the funded product. All figures relating to the plant which processes pig iron into crude steel are scaled accordingly. This applies in particular to greenhouse gas emissions, energy carrier usage and production volume.

The following applies to the scaling factor:

$$f_{AF} = \frac{\zeta \cdot Q_{DRI}^{processed}}{Q_{AF}^{complete}} \quad [9]$$

The conversion factor ζ has a value of 1.

The following then applies to the emissions from the downstream plant:

$$E_{AF}^{counted} = E_{AF}^{complete} f_{AF} \quad [10]$$

The following applies to energy carrier usage:

$$D_{i,AF}^{counted} = D_{i,AF}^{complete} f_{AF} \quad [11]$$

The production volume used to determine the funding amount or the surplus payment under the Carbon Contracts for Difference is defined as follows:

$$Q^{real} = Q_{AF}^{complete} f_{AF} \quad [12]$$

Element	Description	Temporal variability
$Q_{DRI}^{complete}$	Total production volume of the direct reduction plant [tonnes of pig iron]	Determined annually
$Q_{DRI}^{processed}$	Production volume of the direct reduction plant that is further processed into crude steel in the project's downstream facilities [tonnes pig iron]	Determined annually
$Q_{AF}^{complete}$	Total production volume of crude steel [tonnes crude steel]	Determined annually
Q^{real}	Production volume of crude steel counted [tonnes crude steel]	Determined annually
ζ	Conversion factor from pig iron to crude steel [tonnes crude steel/tonnes pig iron]	Constant over time

Element	Description	Temporal variability
f_{DRI}	Scaling factor for determining the counted data from the downstream plants	Determined annually
f_{AF}	Scaling factor for determining the counted data from the direct reduction plant	Determined annually
$E_{DRI}^{complete}$	Total emissions from the direct reduction plant [t CO_2-eq.]	Determined annually
$E_{DRI}^{counted}$	Emissions from the direct reduction plant included in the calculation [t CO_2-eq.]	Determined annually
$E_{AF}^{complete}$	Total emissions from downstream plants for the production of crude steel [t CO_2-eq.]	Determined annually
$E_{AF}^{counted}$	Emissions from downstream plants for the production of crude steel included in the calculation [t CO_2-eq.]	Determined annually
$D_{i,DRI}^{complete}$	Total use of energy carrier i in the direct reduction plant [MWh]	Determined annually
$D_{i,DRI}^{counted}$	Use of energy carrier i in the direct reduction plant included in the calculation [MWh]	Determined annually
$D_{i,AF}^{complete}$	Total use of energy carrier i in the downstream plants for the production of crude steel [MWh]	Determined annually
$D_{i,AF}^{counted}$	Use of energy carrier i in downstream plants for the production of crude steel included in the calculation [MWh]	Determined annually

Table 6: Formula elements for the primary steel reference system

5 EAF carbon steel

Product: crude secondary steel ex-caster (less than 8 % metallic alloying elements), expressed in tonnes

Includes all processes directly or indirectly linked with the following process plants or processes: electric arc furnace, secondary metallurgy, casting and cutting, post-combustion unit, dedusting unit, vessels heating stands, casting ingots preheating stands, scrap drying and scrap preheating. Processes downstream of casting are not included.

6 EAF high alloy steel

Product: crude secondary steel ex-caster (over 8 % metallic alloying elements), expressed in tonnes

Includes all processes directly or indirectly linked to the following process plants or processes: electric arc furnace, secondary metallurgy, casting and cutting, post-combustion unit, dedusting

unit, vessels heating stands, casting ingots preheating stands, slow cooling pit, scrap drying and scrap preheating. The process units 'ferrochrome converter' and 'cryogenic storage of industrial gases' are not included. Processes downstream of casting are not included.

7 Iron casting

Product: Cast iron, expressed in tonnes of liquid iron ready for casting

Includes all processes directly or indirectly linked to the process steps melting shop, casting shop, core shop and finishing. The process step 'finishing' refers to operations like fettling but not general matching, heat treatment or painting, which do not fall within the system boundaries of this reference system.

8 Pre-bake anode

Product: Anodes for aluminium electrolysis, expressed in tonnes

Includes all processes directly or indirectly linked with the production of pre-baked anodes from petrol coke, pitch and normally recycled anodes in anode baking ovens. The production of Söderberg anodes is not included in this reference system.

9 Aluminium

Product: Unwrought non-alloy liquid aluminium from electrolysis, expressed in tonnes, measured between the electrolysis section and the holding furnace prior to the addition of secondary aluminium

Includes all processes directly or indirectly linked to the production step electrolysis. Emissions resulting from holding furnaces and casting, and emissions related to anode productions are excluded.

10 Grey cement clinker

Product: Grey cement clinker or alternative hydraulic binders for the production of cement, expressed in tonnes of hydraulic binders

Includes all processes directly or indirectly linked to the production of grey cement clinker or alternative hydraulic binders.

11 White cement clinker

Product: White cement clinker or alternative hydraulic binders for use as the main binding component in the formulation of materials such as joint fillers, tile adhesives, insulation and mortars with maximum average contents of 0.4 % by mass of Fe_2O_3, 0.003 % by mass of Cr_2O_3 and 0.03 % by mass of Mn_2O_3, expressed in tonnes of hydraulic binders (as 100 % clinker/alternative hydraulic binders).

Includes all processes directly or indirectly linked to the production of white cement clinker or alternative hydraulic binders. Products arising within the system boundaries of another reference system or as a by-product of another production process, such as fly ash, blast furnace slag, steel slag, silica fume and paper sludge, are not included in this reference system.

12 Lime

Product: Calcium oxide produced by the decarbonation of limestone, expressed in tonnes of lime

Includes all processes directly or indirectly linked to the production of lime.

13 Dolime

Product: Dolime produced by the decarbonation of dolomite, expressed in tonnes of dolime (standard purity)

Includes all processes directly or indirectly linked to the production of dolime, in particular fuel preparation, calcination/sintering and flue gas treatment.

14 Sintered dolime

Product: A mixture of calcium and magnesium oxides for the production of refractory products with a minimum bulk density of 3.05 g/cm^3, expressed in tonnes of saleable sintered dolime.

Includes all processes directly or indirectly linked to the production of sintered dolime.

15 Float glass

Product: Float or frosted glass, expressed in tonnes of glass exiting the lehr

Includes all processes directly or indirectly linked to the production steps melter, refiner, working end, bath and lehr. Further processing steps that can be physically separated from the upstream process, such as offline coating, laminating and toughening are excluded.

16 Bottles and jars of colourless glass

Product: Bottles made of colourless glass, expressed in tonnes of packaged product

Includes all processes directly or indirectly linked to the production steps materials handling, melting, forming, downstream processing, packaging and ancillary processes. The reference system includes bottles with a nominal capacity of less than 2.5 litres for foodstuffs and beverages. Infant's feeding bottles and bottles covered with (composition) leather are not included.

17 Bottles and jars of coloured glass

Product: Bottles made of coloured glass, expressed in tonnes of packaged product

Includes all processes directly or indirectly linked to the production steps materials handling, melting, forming, downstream processing, packaging and ancillary processes. The reference system includes bottles with a nominal capacity of less than 2.5 litres for foodstuffs and beverages. Infant's feeding bottles and bottles covered with (composition) leather are not included.

18 Continuous filament glass fibre products

Product: Melted glass for the manufacture of continuous filament glass fibre products, expressed in tonnes of melted glass exiting the forehearth

Includes all processes directly or indirectly linked to the production processes glass melting in the furnaces and glass refining in the forehearths. The further processing of the fibres into saleable products is not included in this reference system. Support processes, such as material handling, are regarded as utilities and do not fall within the system boundaries. The manufacture of mineral wool products for thermal and acoustic insulation, as well as fire protection, is not included in this reference system.

19 Facing bricks

Product: Facing bricks for masonry in accordance with EN 771-1, expressed in tonnes of bricks

Includes all processes directly or indirectly linked to the production processes raw material preparation, component mixing, forming and shaping of ware, drying of ware, firing of ware, product finishing and flue gas cleaning.

20 Pavers

Product: Clay bricks for paving in accordance with EN 1344, expressed in tonnes of saleable pavers

Includes all processes directly or indirectly linked to the production processes raw material preparation, component mixing, forming and shaping of ware, drying of ware, firing of ware, product finishing and flue gas cleaning.

21 Roof tiles

Product: Clay roof tiles in accordance with EN 1304:2005, expressed in tonnes of saleable tiles

Includes all processes directly or indirectly linked to the production processes raw material preparation, component mixing, forming and shaping of ware, drying of ware, firing of ware, product finishing and flue gas cleaning.

22 Spray-dried powder

Product: Spray-dried powder for the manufacture of dry-pressed wall and floor tiles, expressed in tonnes of powder produced

Includes all processes directly or indirectly linked to the production of spray-dried powder.

23 Mineral wool

Product: Insulation materials manufactured using glass, rock or slag, expressed in tonnes of mineral wool

Includes all processes directly or indirectly linked to the production steps melting, fiberizing and injection of binders, curing and drying and forming.

24 Plaster

Product: Plaster from calcined gypsum or calcium sulphate, expressed in tonnes of stucco plaster

Includes all processes directly or indirectly linked to the production steps milling, drying and calcining. Alpha gypsum, gypsum that is further processed into plasterboard, and the production of the intermediate product 'dried secondary gypsum' are not included in this reference system.

25 Dried secondary gypsum

Product: Dried secondary gypsum, expressed in tonnes of product

Includes all processes directly or indirectly linked to the drying of secondary gypsum.

26 Plasterboard

Product: Boards, tiles and similar products made of plaster or compositions based on plaster, (not) coated or reinforced with paper or cardboard, expressed in tonnes of stucco plaster

Includes all processes directly or indirectly linked to the production steps milling, drying, calcining and board drying. The production of the intermediate product 'dried secondary gypsum' is not included in this reference system. Nor are products agglomerated with plaster and ornamented or high-density gypsum fibreboards included in this reference system.

27 Short fibre kraft pulp

Product: Short fibre kraft pulp, expressed as net saleable production in Adt (air-dry metric tonnes) measured at the end of the production process. One Adt of pulp corresponds to 90 % dry solids content.

Includes all processes that are part of the pulp production process, as well as connected energy conversion units (boiler/CHP). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

28 Long-fibre kraft pulp

Product: Long-fibre kraft pulp, expressed as net saleable production in Adt (air-dry metric tonnes), measured at the end of the production process. One Adt of pulp corresponds to 90 % dry solids content.

Includes all processes that are part of the pulp production process, as well as connected energy conversion units (boiler/CHP). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

29 Sulphite pulp, mechanical pulp

Product: Sulphite pulp, mechanical pulp, expressed as net saleable production in Adt (air-dry metric tonnes), measured at the end of the production process. One Adt of pulp corresponds to 90 % dry solids content.

Includes all processes that are part of the pulp production process, as well as connected energy conversion units (boiler/CHP). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

30 Recovered paper pulp

Product: Pulp from recycled paper or cardboard, expressed as net saleable production in Adt (air-dry metric tonnes), measured at the end of the production process. One Adt of pulp corresponds to 90 % dry solids content.

Includes all processes that are part of the production of pulp from recovered paper, as well as connected energy conversion units (boiler/CHP). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

31 Newsprint

Product: Newsprint, expressed in tonnes of net saleable production

Includes all processes that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

32 Uncoated fine paper

Product: Uncoated fine paper, expressed as net saleable production in Adt, defined as paper with a moisture content of 6 %

Includes all processes that that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

33 Coated fine paper

Product: Coated fine paper, expressed as net saleable production in Adt, defined as paper with a moisture content of 6 %

Includes all processes that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included.

34 Tissue

Product: Tissue expressed as net saleable production of parent reel in Adt, defined as paper with a moisture content of 6 %

The reference system includes a wide range of tissue and other hygiene papers for use in households or commercial and industrial premises (toilet paper, facial tissues, kitchen towels, hand towels and industrial wipes). Hygiene paper dried using the through-air drying process (TAD tissue) is not part of this group.

Includes all processes that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included. The conversion of parent reel to finished products is not included in this reference system.

35 Testliner and fluting

Product: Testliner and fluting, expressed as net saleable production in Adt, defined as paper with a moisture content of 6 %

Includes all processes that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included. Kraftliner is not included in this reference system.

36 Uncoated carton board

Product: Uncoated carton board, expressed as net saleable production in Adt, defined as paper with a moisture content of 6 %

Includes all processes that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead

of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included. Alternative product names include solid board, folding box board, boxboard, carrier board and core board.

37 Coated carton board

Product: Coated carton board, expressed as net saleable production in Adt (air-dry metric tonnes), defined as paper with a moisture content of 6 %

Includes all processes that are part of the paper production process (in particular paper or board machine and connected energy conversion units (boiler/CHP) and direct process fuel use). Other activities on site that are not part of this process such as sawmilling activities, woodworking activities, production of chemicals for sale, waste treatment (treating waste onsite instead of offsite (drying, pelletising, incinerating, landfilling)), PCC (precipitated calcium carbonate) production, treatment of odorous gases, and district heating are not included. Alternative product names include solid board, folding box board, boxboard, carrier board and core board.

38 Carbon black

Product: Furnace carbon black, expressed in tonnes of saleable product

Includes all processes directly or indirectly linked to the production of furnace carbon black, as well as to finishing, packaging and flaring. Gas black and lamp black are not included in this reference system.

39 Nitric acid

Product: Nitric acid (100 % purity), expressed in tonnes

Includes all processes directly or indirectly linked to the production of nitric acid and to the N_2O destruction process, excluding ammonia production.

41 Ammonia

Product: Ammonia (100 % purity), expressed in tonnes

Includes all processes directly or indirectly linked to the production of ammonia and hydrogen. This reference system includes the production of ammonia from hydrogen that is not produced during chloralkali electrolysis or chlorate production. Ammonia production from other chemical compounds is not included.

In determining the project's greenhouse gas emissions, the following must be considered: If the hydrogen does not meet the requirements of Number 4.9(a) FRL CCfD, no greenhouse gas emission reduction can be credited for the hydrogen used. In this case, specific greenhouse gas emissions of 6.840 t CO_2-eq./t hydrogen form the basis of this use of hydrogen.

When submitting the application for funding, the following must be noted with regard to the information to be provided under Number 8.2(d) FRL CCfD: Even if the hydrogen is produced by the aid beneficiary themselves, the amounts of energy carriers required to produce this hy-

drogen are not to be taken into account when specifying the energy carrier usage in the application for funding. Instead, the amount of hydrogen required for the production of ammonia must be specified in the application for funding.

42 Steam cracking

Product: Mixture of high value chemicals (at least 50 % by mass of gaseous or liquid hydrocarbons, of which at least 30 % by mass is ethene), expressed in tonnes

Includes all processes directly or indirectly linked to the production of high value chemicals as purified product or intermediate product with concentrated content of the respective high value chemicals in the lowest tradable form (crude C4, unhydrogenated pyrolysis gasoline), except C4 extraction (butadiene plant), C4-hydrogenation, hydrotreating of pyrolysis gasoline and aromatics extraction, as well as logistics and storage for daily operation.

43 Aromatics

Product: Mixture of aromatics, expressed in CO_2 weighted tonnes (CWT)

Includes all processes directly or indirectly linked to the aromatics sub-units pyrolysis gasoline hydrotreater, benzene, toluene and xylene (BTX) extraction, toluene disproportionation, hydrodealkylation, xylene isomerisation, P-xylene units, cumene production and Cyclo-hexane production.

44 Styrene

Product: Styrene monomer, expressed in tonnes of saleable product

Includes all processes directly or indirectly linked to the production of styrene as well as the intermediate product ethylbenzene (with the amount used as feed for the styrene production). In case of plants producing both propylene oxide and styrene monomer, the facilities exclusively dedicated to propylene and propylene oxide unit operations are excluded from this reference system. Facilities used for both purposes are included in the reference system in proportion to the production in tonnes of the styrene monomer production.

45 Phenol, acetone

Product: Total production of phenol, acetone and the by-product alpha-methyl styrene, expressed in tonnes of saleable product (100 % purity)

Includes all processes directly or indirectly linked to the production of phenol and acetone, in particular air compression, hydroperoxidation, cumene recovery from spent air, concentration and cleavage, production fractionation and purification, tar cracking, acetophenone recovery and purification, alpha-methyl styrene recovery for export, alpha-methyl styrene hydrogenation for recycling within the system boundaries, initial waste water purification (first waste water stripper), cooling water generation (e.g. cooling towers), cooling water utilisation (circulation pumps), flare and incinerators (even if physically located outside the system boundaries) as well as any support fuel consumption.

46 Ethylene oxide, ethylene glycol

Products: Ethylene oxide (high purity), monoethylene glycol (standard grade and fibre grade quality), diethylene glycol and triethylene glycol, expressed as total production volume in tonnes of ethylene oxide equivalents

Includes all processes directly or indirectly linked to the ethylene oxide production and purification process units, as well as the glycol section.

47 Vinyl chloride monomer

Product: Vinyl chloride expressed in tonnes of saleable product (100 % purity)

Includes all processes directly or indirectly linked to the production steps direct chlorination, oxychlorination and the cracking of ethylene dichloride to vinyl chloride monomer. The combustion of chlorinated hydrocarbons in the flue gases is included in this reference system. The production of oxygen and compressed air, which are used as raw materials, is excluded from this reference system.

48 S-polyvinyl chloride (S-PVC)

Product: Polyvinyl chloride consisting of particles with a mean size of 50–200 µm, expressed in tonnes of saleable product (100 % purity)

Includes all processes directly or indirectly linked to the production of S-PVC, except the production of vinyl chloride monomer.

49 E-polyvinyl chloride (E-PVC)

Product: Polyvinyl chloride consisting of particles with a mean size of 0.1–3 µm, expressed in tonnes of saleable product (100 % purity)

Includes all processes directly or indirectly linked to the manufacture of E-PVC, except the production of vinyl chloride monomer.

50 Hydrogen

Product: Industrial product eligible for funding, expressed in tonnes; the volume of the upstream product hydrogen in tonnes forms the basis of the calculation

In this context, hydrogen refers to pure hydrogen and hydrogen-carbon monoxide mixtures with a hydrogen content of at least 60 % by volume, expressed in tonnes of 100 % pure hydrogen as net saleable product.

This reference system includes all process elements directly or indirectly linked to the production of hydrogen and the separation of hydrogen and carbon monoxide. These elements are located between (a) the point(s) of entry of hydrocarbon feedstock(s) and, if separate, fuel(s), (b) the points of exit of all product streams containing hydrogen or carbon monoxide, and (c) the point(s) of entry or exit of import or export heat.

This reference system only applies if hydrogen is used as a feedstock within the system boundaries of a plant which produces an industrial product for which no product-specific reference system has been defined, and the hydrogen production is not already included in another reference system. The specific amount of hydrogen used to produce one unit of the industrial end product must be specified in the application for funding. Any greenhouse gas emissions resulting from the production process of the industrial end product to be funded, but not from the

provision of hydrogen, must also be reduced and are relevant within this reference system. The hydrogen reference system is therefore applied as an upstream reference system.

When determining the greenhouse gas emissions of a project, the following must be considered: If the hydrogen does not meet the requirements of Number 4.9(a) FRL CCfD, no greenhouse gas emission reduction can be credited for the hydrogen used. In this case, specific greenhouse gas emissions of 6.840 t CO_2-eq./t hydrogen form the basis of this use of hydrogen.

The free allocation to the reference system is treated as equivalent to the free allocation to the project.

When submitting the application for funding, the following must be noted with regard to the information to be provided under Number 8.2(d) FRL CCfD: Even where the upstream reference system for hydrogen applies and the hydrogen is produced by the aid beneficiary themselves, the amounts of energy carriers required to produce this hydrogen are not to be taken into account when specifying the energy carrier usage in the application for funding.

51 Synthesis gas

Product: Industrial product eligible for funding, expressed in tonnes; the volume of the upstream product synthesis gas forms the basis of the calculation

In this context, synthesis gas refers to hydrogen-carbon monoxide mixtures with a hydrogen content of less than 60 % by volume of the total quantity of hydrogen and carbon monoxide, expressed in tonnes of synthesis gas referred to 47 % by volume of hydrogen as net saleable product.

This reference system includes all relevant process elements directly or indirectly linked to the production of synthesis gas and the separation of hydrogen and carbon monoxide. These elements are located between (a) the point(s) of entry of hydrocarbon feedstock(s) and, if separate, fuel(s), (b) the points of exit of all product streams containing hydrogen or carbon monoxide, and (c) the point(s) of entry or exit of import or export heat.

This reference system only applies if synthesis gas is used as a feedstock within the system boundaries of a plant which produces an industrial product. The specific amount of synthesis gas used to produce one unit of the industrial end product must be specified in the application for funding. Any greenhouse gas emissions resulting from the production process of the industrial end product to be funded, but not from the provision of synthesis gas, must also be reduced and are relevant within this reference system. The synthesis gas reference system is therefore applied as an upstream reference system.

52 Soda ash

Product: Sodium carbonate, expressed in tonnes of soda ash as total gross production

Includes all processes directly or indirectly linked to the following process units: brine purification, limestone calcination and milk of lime production, carbon dioxide reactors, absorption of ammonia, precipitation of $NaHCO_3$, filtration or separation of $NaHCO_3$ crystals from mother liquor, decomposition of $NaHCO_3$ to Na_2CO_3, recovery of ammonia and densification or production of dense soda ash. Dense soda ash produced as a by-product of caprolactam production is not included in this reference system.

Steam for industrial applications

Product: Industrial steam; the measurable heat used outside of the project for the production of industrial products, expressed in MWh, forms the basis of the calculation

In this context, measurable heat refers to the net heat flow transported via steam for which a heat meter has been or could be installed.

Includes all processes directly or indirectly linked to the provision of steam for industrial applications used outside of the industrial steam project for the production of industrial products within the meaning of Number 4.17(g) first half-sentence FRL CCfD.

Heat supply and fuel usage

Product: Industrial product eligible for funding, expressed in tonnes; the sum of the measurable heat used and the calculated heat resulting from fuel usage, expressed in MWh, forms the basis of the calculation.

In this context, measurable heat refers to a net heat flow transported via a heat transfer medium (such as steam, hot air, water, oil, liquid metals and salts in particular) through identifiable tubes or pipes for which a heat meter has been or could be installed. Measurable net heat flows must be reported as measurable heat. Only if the net heat flow resulting from the fuel usage is not measurable,[4] the fuel usage in MWh is converted into a heat flow with reference to the net calorific value, taking into account an efficiency of 90 %, by multiplying the energy content by 0.9. Based on this value, the provisions of the reference system heat supply are applied.

Includes all processes directly or indirectly linked to the production of industrial products eligible for funding which are not included in any of the aforementioned reference systems that refer to product benchmarks. The specific heat requirements and, if a non-measurable heat flow is used, the fuel usage per tonne of product must be specified in the application for funding and substantiated using publicly available sources. In the application for funding, it must be considered and shown why calculated heat flows cannot be determined as measurable heat flows. Any process-related greenhouse gas emissions must also be reduced and are relevant within this reference system. The reference system heat supply and fuel usage is therefore applied as an upstream reference system.

[4] 'Non-measurable heat' means all heat other than measurable heat (Article 2(9) of Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council (OJ L 59, 27 February 2019, pp. 8-69), as last amended by Commission Delegated Regulation (EU) 2024/873 of 30 January 2024 amending Delegated Regulation (EU) 2019/331 as regards transitional Union-wide rules for harmonised free allocation of emission allowances (OJ L 2024/873, 4 April 2024)).

Reference system	**Activity in the EU ETS 1**	**Greenhouse gas emissions**	**Energy carrier use (net calorific value) in MWh/ME Product[5]**						**Allocation to basic funding volume[6]**	**Sector**
	Code according to the EU Union Registry	t CO_2-eq./ME of product[7]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers		
1 Refinery products[a]	21	0.0228	-	0.11	-	-	-	-	High-temperature	Chemicals
2–4 Primary steel	22–24	1.321	0.10	0.67	2.83	0.86	-	-	[Hydrogen]	Primary steel
5 EAF carbon steel[a]	24	0.050	0.44	0.04	-	-	-	-	High-temperature	Other metals
6 EAF high alloy steel[a]	24	0.103	0.44	0.04	-	-	-	-	High-temperature	Other metals
7 Iron casting[a]	25	0.073	0.56	0.04	-	-	-	-	High-temperature	Other metals
8 Pre-bake anode	26	0.312	0.17	0.77	7.48	-	-	-	High-temperature	Other metals
9 Aluminium	26	1.464	13.9	-	-	-	-	-	High-temperature	Other metals
10 Grey cement clinker	29	0.693	0.04	-	-	0.23	-	0.54	CCU/CCS	Cement
11 White cement clinker	29	0.957	0.04	-	-	1.35	-	-	CCU/CCS	Cement
12 Lime	30	0.725	0.02	-	-	-	0.89	-	CCU/CCS	Lime
13 Dolime	30	0.815	0.02	-	-	-	0.89	-	CCU/CCS	Lime

[5] Heat supply and fuel usage: Information on energy carrier use per MWh_heat or MWh_fuel instead of ME product.

[6] This column determines the allocation of a reference system to the basic funding volumes in accordance with Section 4.4. Insofar as a project meets the requirements of a CCU/CCS project in accordance with Section 4.4, whilst its reference system is allocated to high- or low temperature, the project will be treated as a CCU/CCS project and can therefore only be funded from the CCU/CCS funding volume and the additional funding volume, not from the hydrogen funding volume or the process heat funding volume. [Insofar as a project meets the requirements of a hydrogen project in accordance with Section 4.4, whilst its reference system is allocated to high- or low-temperature, this project may be treated as a hydrogen project, if the applicant specifies this in the application for funding and the project does not amount to a CCU/CCS project. In that case, the project can only be funded from the hydrogen funding volume and the additional funding volume, not from the process heat funding volume.]

[7] The relevant units of measurement for the individual reference systems can be found in the descriptions of the reference systems above.

Reference system	**Activity in the EU ETS 1**	**Greenhouse gas emissions**	**Energy carrier use (net calorific value) in MWh/ME Product[5]**						**Allocation to basic funding volume[6]**	**Sector**
	Code according to the EU Union Registry	t CO_2-eq./ME of product[7]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers		
14 Sintered dolime	30	1.406	0.02	-	-	1.81	-	-	CCU/CCS	Lime
15 Float glass	31	0.399	-	1.54	-	-	-	-	High-temperature	Glass and ceramics
16 Bottles and jars of colourless glass	31	0.290	0.17	1.36	-	-	-	-	High-temperature	Glass and ceramics
17 Bottles and jars of coloured glass	31	0.237	0.17	1.09	-	-	-	-	High-temperature	Glass and ceramics
18 Continuous filament glass fibre products	31	0.309	0.31	0.94	-	-	-	-	High-temperature	Glass and ceramics
19 Facing bricks	32	0.106	0.08	0.40	-	-	-	-	High-temperature	Glass and ceramics
20 Pavers	32	0.146	0.08	0.60	-	-	-	-	High-temperature	Glass and ceramics
21 Roof tiles	32	0.120	0.06	0.47	-	-	-	-	High-temperature	Glass and ceramics
22 Spray-dried powder	32	0.058	0.05	0.29	-	-	-	-	Low-temperature	Plaster & Others
23 Mineral wool [a]	33	0.222	0.84	0.95	-	-	-	-	High-temperature	Glass and ceramics
24 Plaster	34	0.047	-	0.23	-	-	-	-	Low-temperature	Plaster & Others

Reference system	**Activity in the EU ETS 1**	**Greenhouse gas emissions**	**Energy carrier use (net calorific value) in MWh/ME Product[5]**						**Allocation to basic funding volume[6]**	**Sector**
	Code according to the EU Union Registry	t CO_2-eq./ME of product[7]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers		
25 Dried secondary gypsum	34	0.013	-	0.06	-	-	-	-	Low-temperature	Plaster & Other
26 Plasterboard [a]	34	0.110	-	0.55	-	-	-	-	Low-temperature	Plaster & Others
27 Short fibre kraft pulp	35	0.091	0.33	0.45	-	-	0.90	-	Low-temperature	Pulp and paper
28 Long-fibre kraft pulp	35	0.046	0.33	0.23	-	-	0.46	-	Low-temperature	Pulp and paper
29 Sulphite pulp, mechanical pulp	35	0.015	0.44	0.26	-	-	0.52	-	Low-temperature	Pulp and paper
30 Recovered paper pulp	35	0.030	0.26	0.08	-	-	0.17	-	Low-temperature	Pulp and paper
31 Newsprint	36	0.226	0.80	0.49	-	-	0.99	-	Low-temperature	Pulp and paper
32 Uncoated fine paper	36	0.242	0.65	0.26	-	-	0.52	-	Low-temperature	Pulp and paper
33 Coated fine paper	36	0.242	0.54	0.84	-	-	1.71	-	Low-temperature	Pulp and paper
34 Tissue	36	0.254	0.93	0.55	-	-	1.12	-	Low-temperature	Pulp and paper
35 Testliner and fluting	36	0.188	0.26	0.50	-	-	1.02	-	Low-temperature	Pulp and paper

Reference system	**Activity in the EU ETS 1**	**Greenhouse gas emissions**	**Energy carrier use (net calorific value) in MWh/ME Product[5]**						**Allocation to basic funding volume[6]**	**Sector**
	Code according to the EU Union Registry	t CO_2-eq./ME of product[7]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers		
36 Uncoated carton board	36	0.180	0.27	0.45	-	-	0.91	-	Low-temperature	Pulp and paper
37 Coated carton board	36	0.207	0.40	0.52	-	-	1.09	-	Low-temperature	Pulp and paper
38 Carbon black[a]	37	1.323	0.43	3.60	-	-	-	11.33	High-temperature	Chemicals
39 Nitric acid	38	0.230	0.01	0.81	-	-	-	-	High-temperature	Chemicals
41 Ammonia[a]	41	1.570		8.77	-	-	-	-	[Hydrogen]	Chemicals
42 Steam cracking[a]	42	0.681	-	3.37	-	-	-	-	High-temperature	Chemicals
43 Aromatics[a]	42	0.0228	-	0.11	-	-	-	-	High-temperature	Chemicals
44 Styrene[a]	42	0.341	0.16	1.69	-	-	-	-	High-temperature	Chemicals
45 Phenol, acetone	42	0.230	0.19	1.14	-	-	-	-	High-temperature	Chemicals
46 Ethylene oxide, ethylene glycol[a]	42	0.314	0.20	-	-	-	-	-	High-temperature	Chemicals
47 Vinyl chloride monomer	42	0.155	0.11	0.70	-	-	-	-	High-temperature	Chemicals
48 S-polyvinyl chloride	42	0.066	0.19	0.33	-	-	-	-	Low-temperature	Chemicals
49 E-polyvinyl chloride	42	0.181	0.39	0.90	-	-	-	-	Low-temperature	Chemicals
50 Hydrogen[a]	43	6.840	-	38.06	-	-	-	-	[Hydrogen]	Chemicals
51 Synthesis gas[a]	43	0.187		7.41	-	-	-	-	[Hydrogen]	Chemicals

Reference system	**Activity in the EU ETS 1**	**Greenhouse gas emissions**	**Energy carrier use (net calorific value) in MWh/ME Product[5]**						**Allocation to basic funding volume[6]**	**Sector**
	Code according to the EU Union Registry	t CO_2-eq./ME of product[7]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers		
52 Soda ash	44	1.168	0.09	1.21	-	1.49	-	-	High-temperature	Chemicals
Steam for industrial applications	20	0.170	-	0.84	-	-	0.27	-	Low-temperature	Chemicals
Heat supply and fuel usage	-	0.170	-	0.84	-	-	0.27	-	[b]	[c]

Table 7: Energy carrier use and greenhouse gas emissions of the reference systems

[a] The reference systems are based on product benchmarks which include the collection of electricity consumption data in accordance with Commission Delegated Regulation (EU) 2019/331. Based on the specified energy carrier use, the greenhouse gas emissions set out in Commission Implementing Regulation (EU) 2021/447 were reduced for these reference systems by the indirect emissions for electricity not to be taken into account under this funding programme in accordance with Number 7.1(d) second sentence FRL CCfD. The indirect emissions were calculated by multiplying the stated electricity consumption for the production of the product in question by 0.376 t CO_2-eq./MWh of electricity.

[b] The following provisions are only applicable to projects based on the reference system heat supply and fuel usage: The allocation of projects subject to the reference system heat supply and fuel usage is conducted with reference to the respective activity in EU ETS 1 under Table 7. This does not apply to activities 20, 25, 32 and 42. If a project encompasses activity 20, 25, 32, 42 or an activity not listed in Table 7, this project is to be allocated to low-temperature, unless the applicant, before publication of this funding call, demonstrates with reference to publicly accessible sources that the production of the product to be funded predominantly requires, in conventional production processes, temperature levels of 400°C or more.

[c] The sectors of projects to which the reference system heat supply and fuel usage is applied are defined according to their main product. Projects whose main products cannot be assigned to any sector are allocated to the sector Plaster & Others.

Appendix 2: Examples of, and information on, other funding

Examples of, and information on, other funding within the meaning of Number 2.3 FRL CCfD:

1. Research programme of the Research Fund for Coal and Steel (*Forschungsprogramm des Forschungsfonds für Kohle und Stahl (RFCS)*)
2. EU Innovation Fund: Energy Efficiency & Renewable Energy, Research & Innovation (*EU-Innovationsfonds: Energieeffizienz & Erneuerbare Energien, Forschung & Innovation (CINEA)*)
3. EU LIFE – Programme for the environment and climate action (2021–2027) (*EU-LIFE – Programm für die Umwelt und Klimapolitik (2021–2027)*)
4. Important Projects of Common European Interest (IPCEI)
5. Federal funding for energy and resource efficiency in commerce – grant and loan (*Bundesförderung für Energie- und Ressourceneffizienz in der Wirtschaft – Zuschuss und Kredit (EEW)*)
6. Funding Guideline for international hydrogen projects (*Förderrichtlinie Internationale Wasserstoffprojekte (BMWE/BMFTR)*)
7. Environmental Innovation Programme (*Umweltinnovationsprogramm (BMUKN)*)
8. Federal Funding Programme 'Industry and Climate Action' (*Bundesförderung Industrie und Klimaschutz (BIK)*)
9. Strengthening the transformation momentum and new beginnings in coal-mining regions and at coal-fired power station sites (*STARK – Stärkung der Transformationsdynamik und Aufbruch in den Revieren und an den Kohlekraftwerkstandorten*)
10. KfW Climate Protection Offensive for Companies (*KfW Klimaschutzoffensive für Unternehmen*)
11. Funding Guideline 'Resilience and sustainability of the battery cell manufacturing ecosystem' (*Förderrichtlinie „Resilienz und Nachhaltigkeit des Ökosystems der Batteriezellfertigung"*)
12. Ordinance on the assignment of other energy production sites in the exclusive economic zone (*Verordnung zur Vergabe von sonstigen Energiegewinnungsbereichen in der ausschließlichen Wirtschaftszone*)
13. Funding for system-supporting electrolysis plants for the production of green hydrogen (*Förderung für systemdienliche Elektrolyseanlagen zur Erzeugung von grünem Wasserstoff*) (see Section 96(9) of the Act on the Development and Promotion of Offshore Wind Energy (WindSeeG))
14. Baden-Wuerttemberg: Funding programme 'Companies Protect Climate' (*Förderprogramm „Unternehmen machen Klimaschutz" (Baden-Württemberg)*)
15. Bremen: Economical and efficient energy use and conversion in industry and commerce (*Sparsame und rationelle Energienutzung und -umwandlung in Industrie und Gewerbe (REN-Richtlinie)*)
16. Hamburg: Renewable Energies Funding Guideline (*Förderrichtlinie Erneuerbare Energien Hamburg*)
17. Companies for Resource Conservation (*Unternehmen für Ressourcenschutz (IFB Hamburg)*)

18. Mecklenburg-Western Pomerania: Climate Protection Funding Guideline (*Klimaschutzförderrichtlinie Unternehmen Mecklenburg-Vorpommern*)
19. Lower Saxony: Funding for individual business investments and supplementary CO_2 reduction measures (*Förderung einzelbetrieblicher Investitionen und ergänzender CO2-Einsparmaßnahmen ('Niedersachsen Invest GRW')*)
20. NRW: Energie.IN.NRW – Innovative project ideas for the energy system of the future, a climate-neutral industry and climate- and resource-friendly construction (*Energie.IN.NRW – Innovative Projektideen für das Energiesystem der Zukunft, eine klimaneutrale Industrie sowie klima- und ressourcengerechtes Bauen in NRW*)
21. NRW: Funding Guideline for Resource Efficiency and Sustainability (*Förderrichtlinie Ressourceneffizienz und Nachhaltigkeit NRW*)
22. NRW: Funding Guideline for Resource Efficiency and the Circular Economy (*Förderrichtlinie Ressourceneffizienz und Circular Economy NRW*)
23. Subsidies under 'Progres.NRW'
24. Joint Task 'Improvement of the Regional Economic Structure' (*Gemeinschaftsaufgabe „Verbesserung der regionalen Wirtschaftsstruktur" (GRW) (RIGA) – Gewerbliche Wirtschaft (SMWA)*)
25. Support for the energy transition at the local level through the funding of regional pilot projects in Saarland (*Unterstützung der Energiewende vor Ort durch die Förderung von regionalen Modellvorhaben im Saarland (EVO)*)
26. Saxony-Anhalt: Funding for measures to increase energy efficiency and the use of renewable energy in businesses (*Förderung von Maßnahmen zur Steigerung der Energieeffizienz und der Nutzung erneuerbarer Energien in Unternehmen (AGVO) – Sachsen-Anhalt ENERGIE*)
27. Schleswig-Holstein: State Economic Programme 2021–2027 – Funding for energy-saving and energy-efficiency technologies and energy innovations (*Landesprogramm Wirtschaft 2021–2027 – Förderung von Energieeinspar- und Energieeffizienztechnologien und Energieinnovationen (Schleswig-Holstein)*)
28. Hesse: Funding for investments in production-integrated environmental protection (*Förderung von Investitionen in den produktionsintegrierten Umweltschutz – PIUS-Invest (Hessen)*)
29. Saxony: Funding programme circular economy and resource efficiency (*Förderprogramm Kreislaufwirtschaft und Ressourceneffizienz (Sachsen)*)
30. Special Compensation Scheme under Sections 28 ff. of the Act on Financing Energy Transition in the Electricity Sector (EnFG)

Please note: In its judgment of 9 July 2026 in the matter C-242/24 P, the CJEU determined that the mechanisms for financial support in the Law on Combined Heat and Power 2020 (Kraft-Wärme-Kopplungsgesetzes 2020, 'KWKG 2020') are not financed through state resources and therefore do not amount to state aid within the meaning of Article 107(1) TFEU. Consequently, funding on the basis of the Law on Combined Heat and Power 2020, including KWKG 2025, are no longer treated as other funding in the context of the Carbon Contracts for Difference funding programme. In the judgment, the CJEU did not make a decision on the classification of the Special Compensation Scheme under Sections 28 ff. EnFG as state aid within the meaning of Article 107(1) TFEU. In accordance with current legal rules, it is still treated as state aid and, in the context of the Carbon Contracts for Difference funding programme, is thus taken into account as other funding within the

meaning of Number 2.3 first sentence FRL CCfD of 4 May 2026. If the legal situation were to change in a way that is relevant to the Carbon Contracts for Difference funding programme, you may be notified separately.

31. Electricity price compensation under the Guideline on State Aid for Indirect CO_2-Costs of 13 March 2024 (*Richtlinie für Beihilfen für indirekte CO_2-Kosten*)

Please note: When determining whether electricity price compensation amounts to other funding, the decisive question is whether the project would receive more funding through electricity prince compensation than it would receive for the reference system set out in this funding call. The following cases must be distinguished:
Case no. 1: For products with a specific electricity efficiency benchmark, the benchmark values of the electricity price compensation, as a rule, correspond to the values of the consumption data of the CCfD reference systems, so that the basic production amount does not lead to a relevant increase in consumption. In these cases, there is no funding of additional costs through the electricity price compensation *vis-à-vis* the reference system and thus no other funding within the meaning of Number 2.3 FRL CCfD. In such cases, therefore, no deduction will be made from funding under the Carbon Contracts for Difference funding programme (EUR zero).
Case no. 2: In case of products with interchangeability (fuel/electricity) or fallback, the funding amount of electricity price compensation is determined with reference to electricity consumption and CO_2 emissions. A partial deduction from funding under the Carbon Contracts for Difference funding programme occurs only if the electricity price compensation funding for the project is higher than the values referenced by the CCfD reference system.

32. Relief under Section 9(1) No. 1 and 3, (2) and (3) and Section 9b of the Electricity Tax Act (StromStG), see Section 2a(3) of the Electricity Tax Act
33. Relief under Section 3, Section 47a, Section 53a and Section 54 of the Energy Tax Act (EnergieStG)
34. Support under the Guideline of the Federal Ministry for Economic Affairs and Climate Action on the Granting of Financial Compensation to Electricity- and Trade-Intensive Enterprises to Alleviate Electricity Price Burdens (Industrial Electricity Price) for the accounting years 2026 to 2028 (*Industriestrompreis-Richtlinie (RL ISP)*)

Please note: Under Number 4.1 RL ISP, the applicant is required to invest at least 50 % of the amount of compensation granted into particular measures of decarbonisation. Please note that no other funding may be accepted for the cost of these decarbonisation measures. If in doubt, please contact the authority in charge of the Industrial Electricity Price. According to Number 6.4.5 RL ISP, an accumulation with other state funding is only permissible for other determinable costs eligible for funding.

The following do not constitute other funding within the meaning of Number 2.3 FRL CCfD:

- Reduced grid charges under Section 19(2) of the Electricity Grid Charges Regulation (StromNEV)

- Tax relief under Section 9a of the Electricity Tax Act (StromStG) and Sections 51 and 53 of the Energy Tax Act (EnergieStG)

The procurement of hydrogen in the auctions of H_2-Global is not regarded as other funding within the meaning of Number 2.3 FRL CCfD.

Please note:

1. The list above is not exhaustive. This guidance does not release applicants from the obligation to carry out their own assessment.
2. Operating costs are only funded by the Carbon Contracts for Difference funding programme from the start of operations. Thus, pure OPEX funding (funding which solely relates to operating costs) will only be taken into account as other funding from the start of operations of the funded project.
3. To amount to other funding in accordance with Number 2.3 first sentence FRL CCfD, funding must be provided for the same investments, expenses and costs that are eligible for funding as a CCfD project. If the funding granted for a project would also have been granted to a conventional production plant within the same reference system, only the additional amount of funding for the project *vis-à-vis* the reference system is taken into account as other funding within the meaning of Number 2.3 first sentence FRL CCfD.
4. When submitting their application, applicants are obligated to provide complete and truthful information regarding any other funding already granted or applied for in relation to the project (Number 8.2(e)(vi) FRL CCfD). This obligation also extends to funding not listed above.
5. If there is any doubt as to whether certain funding already granted prior to the submission of the application constitutes other funding within the meaning of Number 2.3 FRL CCfD and should therefore be taken into account when determining the base contract price in accordance with Number 7.1(a)(i) FRL CCfD, applicants may consult the granting authority up to four weeks before the expiry of the material cut-off period for the submission of bids. Please address your enquiry to fragen@co2-differenzvertraege.info.

Appendix 3: Checklist of documents and evidence to be submitted

To participate in this bidding procedure under the Carbon Contracts for Difference funding programme, the following documents and evidence must be submitted:

Documents to be submitted as PDF files via 'easy-Online':

- Completed application form (signed[8] or provided with a QES[9]; alternatively, verification may be carried out using a TAN procedure),
- Completed project description (project description form),
- Completed quantitative enquiry document including a financing plan,
- Proof of creditworthiness,
- Questionnaire to identify the beneficial owners,
- A digital version of the Carbon Contract for Difference, completed using the dynamic PDF file and including a scanned signature (for the avoidance of doubt: the completed Carbon Contract for Difference consists of the Model CCfD provided by the granting authority and the sections of the Carbon Contract for Difference generated and completed by the applicant using the dynamic PDF file),
- A digital copy of the proof of security,
- Declaration '*Ausschluss Status Unternehmen in Schwierigkeiten und Rückforderungsanordnung der EU-Kommission*' confirming that the undertaking is not in difficulty or subject to an outstanding recovery order following a previous European Commission decision,
- Only insofar as required for the project:
  - Evidence regarding the availability of electricity, hydrogen grid or CO_2 infrastructure,
  - Evidence regarding the energetic use of biomass,
  - Evidence regarding the use of natural gas,
  - Evidence regarding the use of the most polluting fossil fuels,
  - Evidence regarding the use of industrial steam and the capacity to supply industrial steam to at least three different third parties,
  - Evidence of the consortium leader's authorisation,
  - Evidence on the details of other consortium members,
- If there is no works council at the plant of the applicant and the applicant is not bound by a collective agreement, the applicant must submit a viable plan for maintaining the site,
- If the applicant is not the owner of the respective plants, a declaration of commitment from the legal owner of the plants to be funded or the conventional production plants to be used as a reference (conventional reference plants), or a declaration or agreement to the same effect.

Documents to be submitted by post:

- Proof of security in accordance with Number 8.2(e)(v) FRL CCfD.

(Solely) the document showing that the required security has been obtained must, in addition to the online submission of a digital copy via the 'easy-Online' portal, be sent in the original and written form to Projektträger Jülich, Fachbereich ESN 7, Postfach 61 02 47, 10923 Berlin

[8] The application must be signed by hand and submitted as a scan.
[9] Qualified electronic signature.

in its capacity as administrator on behalf of the granting authority, no later than one week after the expiry of the deadline (material cut-off period). **The address field must be marked 'Personal/Confidential'.** Alternatively, the documents may be delivered in person (visiting address: Projektträger Jülich, Lützowstr. 109, 10785 Berlin, office hours: Monday to Friday, 9 am–5 pm). In this case, the documents must be handed over in a sealed envelope marked 'Personal/Confidential'. With regard to the written form, the requirements of Section 126(1) of the German Civil Code (BGB) (handwritten or notarised signature) or Section 126(4) of the German Civil Code (BGB) (notarial certification) apply. For the avoidance of doubt: Section 350 of the German Commercial Code (HGB) does not apply.

Further details on the submission of the application and the submission of the Carbon Contract for Difference can be found in the handout **'Handreichung Antragseinreichung und Einreichung CCfD'** ('Handout for submitting an application and submitting the CCfD')**,** which is available on the website https://www.co2-differenzvertraege.info.

Appendix 4: Hedging prices for CO_2 and the energy carriers i

The **annual hedging prices for CO_2 $p_{CO2}^{sicher,t}$**, which are used in the Carbon Contracts for Difference funding programme as a basis for calculating the maximum annual funding amount (see Appendix 1, Section 3 FRL CCfD), are set as follows:

Year	**EUR/t CO_2-equivalent**
2027	[•]
2028	[•]
2029	[•]
2030	[•]
2031	[•]
2032	[•]
2033	[•]
2034	[•]
2035	[•]
2036	[•]
2037	[•]
2038	[•]
2039	[•]
2040	[•]
2041	[•]
2042	[•]
2043	[•]
2044	[•]
2045	[•]
2046	[•]
2047	[•]
2048	[•]

Year	EUR/t CO_2-equivalent
2049	[•]
2050	[•]
2051	[•]
2052	[•]
2053	[•]

Table 8: Annual hedging prices for CO_2

The **annual hedging prices for the energy carriers i $p_i^{sicher,t}$**, which are used in the Carbon Contracts for Difference funding programme as a basis for calculating the maximum annual funding amount (see Appendix 1, Section 3 FRL CCfD), are set as follows:

Year	Electricity [EUR/MWh]	Natural gas [EUR/MWh]	Coking coal [EUR/MWh]	Steam coal [EUR/MWh]
2027	[•]	[•]	[•]	[•]
2028	[•]	[•]	[•]	[•]
2029	[•]	[•]	[•]	[•]
2030	[•]	[•]	[•]	[•]
2031	[•]	[•]	[•]	[•]
2032	[•]	[•]	[•]	[•]
2033	[•]	[•]	[•]	[•]
2034	[•]	[•]	[•]	[•]
2035	[•]	[•]	[•]	[•]
2036	[•]	[•]	[•]	[•]
2037	[•]	[•]	[•]	[•]
2038	[•]	[•]	[•]	[•]
2039	[•]	[•]	[•]	[•]
2040	[•]	[•]	[•]	[•]
2041	[•]	[•]	[•]	[•]
2042	[•]	[•]	[•]	[•]
2043	[•]	[•]	[•]	[•]

Year	Electricity [EUR/MWh]	Natural gas [EUR/MWh]	Coking coal [EUR/MWh]	Steam coal [EUR/MWh]
2044	[•]	[•]	[•]	[•]
2045	[•]	[•]	[•]	[•]
2046	[•]	[•]	[•]	[•]
2047	[•]	[•]	[•]	[•]
2048	[•]	[•]	[•]	[•]
2049	[•]	[•]	[•]	[•]
2050	[•]	[•]	[•]	[•]
2051	[•]	[•]	[•]	[•]
2052	[•]	[•]	[•]	[•]
2053	[•]	[•]	[•]	[•]

Table 9: Annual hedging prices for energy carriers