Please note: This is a courtesy translation without any claim to completeness, accuracy or legal validity. Only the German version of the funding call is legally binding.

Funding call for the bidding procedure 2026 for Carbon Contracts for Difference

Version 1.3: 03 May 2026, as amended on 03 September 2026

Note: Section 2.15 was amended on 03 June 2026. In the case of industrial steam projects, 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 produce an industrial product within the meaning of Number 4.17(g) 1st half-sentence FRL CCfD is eligible for funding.

Note: Appendix 1, reference systems 41-Ammonia and 50-Hydrogen, was amended on 02 July 2026; when determining the greenhouse gas emissions of the project, the following must be considered: If the hydrogen does not meet the requirements according to Number 4.9(a) FRL CCfD, no greenhouse gas emission reduction can be credited for this hydrogen used / for the upstream product hydrogen. In this case, 6,840 t CO2 eq./t hydrogen shall be used as specific greenhouse gas emissions for this hydrogen input.

Note: The deadline for submitting bids and applications was extended on September 3, 2026, by two days to 11:59 p.m. on September 9, 2026, due to unforeseen technical maintenance work on the easy-Online application portal shortly before the original deadline expired.

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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. This funding call provides funding for the most efficient projects across all sectors addressed by the funding programme, with **a funding volume of 5 billion euros**. The funding volume is divided into a basic and an additional funding volume. No more than one third of the basic funding volume can be allocated to a single sector. Each awarded project will be funded from the basic funding volume up to an amount specified in this funding call. If the maximum total funding amount for the awarded project exceeds this amount, the additional funding volume is available for the funding required beyond that (see → Section 4.4). The sole criterion for evaluating the bids is the funding cost efficiency (Number 8.3(e) FRL CCfD).

The bidding procedure 2026 begins with the publication of this funding call. The **deadline for submitting** applications, including bids and all documents, ends **09 September 2026, 11:59 pm**. Applications that are not submitted in the form specified by the granting authority within this deadline (material cut-off period) or that do not contain the information and documents requested or – in the case of an additional request – subsequently requested, will be rejected (Number 8.3(d) FRL CCfD). Please note that a strict standard applies in the bidding procedure due to the competitive nature of the procedure.

2. What is funded?

2.1 CCfD production processes

The Carbon Contracts for Difference fund the additional costs incurred by companies from emission-intensive sectors as a result of the construction of low-emission plants or the conversion 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 production share of the plants and processes that is attributable to a CCfD production process (Number 4.18 sentence 1 FRL CCfD).

CCfD production processes are production processes that are

a) characterised by fundamental technological changes to the existing production process and a corresponding significant investment, and

b) substitute fossil fuels or raw materials with low-emission energy carriers or raw materials (e.g. electricity, hydrogen, biomass).

A production process also qualifies as a CCfD production process if technologies for the capture and storage or capture and utilisation of CO_2 are used in accordance with Number 4.15 FRL CCfD and the current state of technology and science. A production process that is not operated in an energy- and resource-efficient manner and does not contribute to the climate neutrality of industry is not a CCfD production process (Number 2.10 FRL CCfD). The definition of the CCfD production process set out in Number 2.10 FRL CCfD applies accordingly to newly established production processes.

2.2 Reference systems

For this funding call, the reference systems listed in Appendix 1 are given. The reference systems comprise the specific greenhouse gas emissions in relation to the production volume and the specific energy carrier use in relation to the production volume (Number 7.1(c) FRL CCfD). According to Number 4.4 FRL CCfD, only additional costs for the production of products for which a reference system has been defined are eligible for funding.

A project may involve the production of several products, assigned to different reference systems, if these different products can be produced with one plant or if there is a technological connection on the basis of which several products are produced (Number 4.6 FRL CCfD).

2.3 Location specifications

Production in plants that are not operated on 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 10 megawatt (MW), no further location requirements are specified in this funding call (cf. Number 4.9(a) sentence 4 FRL CCfD).

2.4 Minimum value of absolute average annual greenhouse gas emissions

The project underlying a bid submitted for this funding call must have a minimum value of absolute average annual greenhouse gas emissions in the reference system of 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 threshold is therefore not set higher in this funding call than in Number 4.17(c) FRL CCfD.

2.6 Thresholds for greenhouse gas emission reductions

The project underlying a bid submitted for this funding call must be compatible with the climate protection goals of the Federal Republic of Germany and the EU. A project must therefore fulfil the following requirements:

a) No later than from the fourth full calendar year within the term of the Carbon Contract for Difference, the relative greenhouse gas emission reduction compared to the reference system must be at least 50 % (Number 4.16(b)(i) FRL CCfD).

b) A relative reduction in greenhouse gas emissions of at least 85 % compared to 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 achieved in the last 12 months of the term of the Carbon Contract for Difference (access criterion climate neutrality, Number 4.16(b)(ii) FRL CCfD).

The threshold values must be achieved regardless of any energy carrier use for accounting-based purposes. Excluded from the above sentence is the use of hydrogen, provided that hydrogen from a network infrastructure used exclusively for the physical supply of hydrogen is physically used in the project under the conditions set out in Number 4.9(a) sentence 2 FRL

CCfD, as well as the use of biomass or non-biological hydrogen derivatives (Number 4.16(b)(iv) FRL CCfD).

The granting authority examines whether, in each specific case, the projects are suitable for achieving these aims.

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

According to Number 4.10(a) FRL CCfD, the energetic use of biomass is permitted if the applicant can prove that:

a) direct electrification of the plant is technically unachievable

and

b) a 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 view of the limited sustainable availability of biomass potential.

In addition, 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.

Proof must be provided as follows:

Regarding a) by submitting an appropriate confirmation from the network operator or, if the provision of electrical energy by the network operator is possible 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 a confirmation from the network operator that grid access is not possible in the foreseeable future. If grid access or a 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 to be 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 for the procurement of the respective plant [in EUR].
EK	Sum of the costs incurred in years 1-15 of the term of the Carbon Contract for Difference for the respective energy carrier [in EUR]. The stated values must be verified by means of corresponding current offers.
Φ	The total amount of heat in MWh to be provided by the respective plant in years 1-15 of the Carbon Contracts for Difference. For both plants, the same value is to be used for the parameter Φ for both systems.

Table 1: Economic viability analysis of biomass use

Regarding c) by submitting a declaration from the applicant in which the applicant justifies that even increased (scaled) use of biomass during the term of the CCfD contract can be expected to be covered, taking into account the sustainability criteria and criteria for greenhouse gas savings specified in Number 4.10(c) FRL CCfD. The declaration should be accompanied by a confirmation from the biomass suppliers or a study on the necessary 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 plant locations 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 plant locations 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.

Fulfilment of the requirements under Number 4.10(b) FRL CCfD must be demonstrated in the application for funding.

Verification requirements during the term of the Carbon Contract for Difference (cf. Number 4.10(c) FRL CCfD)

From the operational start, 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 specified in the FRL CCfD, in particular the principle of cascading use of Article 3(3) of Directive (EU) 2018/2001, must be submitted annually as part of the calculation procedure.

Compliance with the emission limit values in accordance with § 29 Abs. 1 Nr. 1 Buchstabe a (section 29(1), first sentence, no 1(a)) in conjunction with § 3 of the 13th Ordinance on the

Implementation of the Federal Immission Control Act (13. BImSchV) must be demonstrated as follows at the request of the granting authority:

If the plants are categorised as large combustion plants, by submitting emission reports in accordance with § 22 Abs. 1 Nr. 5 (section 22(1), no 5) in conjunction with § 19 Abs. 2 (section 19(2)) of the 13th BImSchV; for other plants by submitting other suitable evidence (e.g. monitoring reports in accordance with § 15 Abs. 1 Satz 1 (section 15(1), first sentence) in conjunction with § 5 Abs. 1 (section 5(1)) in conjunction with § 25 of the 1st Ordinance on the Implementation of the Federal Immission Control Act (1. BImSchV)).

2.9 CCS and CCU

Projects in which the greenhouse gas emission reductions are achieved by means of carbon capture and storage (CCS) or carbon capture and utilisation (CCU) technologies are eligible for funding under the conditions of Number 4.15 FRL CCfD.

The case groups mentioned in Number 4.15(a) FRL CCfD are funded with equal priority in this bidding procedure; in this respect, there is no subordination.

The requirements under Number 4.15(a)(i) to (iii) FRL CCfD must be met at the time of application for each 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 capture technologies, the greenhouse gas emissions of the plant must consist predominantly of process emissions or hard-to-abate greenhouse gas emissions. The aforementioned predominant proportion 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 and can also be achieved by reducing the greenhouse gas emissions of the plant without the use of capture technologies, for example by using electricity, hydrogen or biomass, which is residual and waste material arising at the sites of the funded CCfD production process covered by the Carbon Contract for Difference.

Fulfilment of the requirement according to Number 4.15(a)(i) FRL CCfD is to be explained and documented by demonstrating that, without the use of capture technology, the plant predominantly has 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 that rules out the avoidance of the greenhouse gas emissions to be captured through the use of an alternative eligible technology,

or,

b) demonstrate that the net costs of avoiding the greenhouse gas emissions to be captured by using an alternative eligible technology 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 eligible technology to avoid the greenhouse gas emissions to be captured. The costs of avoiding the greenhouse gas emissions to be captured by using an alternative eligible technology significantly exceed the costs of using CCS or CCU technologies if the avoidance costs of the alternative eligible technology amount to 150 % of the costs of using CCS or CCU technologies,

or,

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

In order to fulfil the requirement according to 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 (17. BImSchV), that was already in operation at the time of application, and demonstrate that the captured CO_2 is produced at the production of an intermediate product that is used to produce industrial products within the meaning of Number 4.17(g) 1st half-sentence FRL CCfD in the project or during the production of industrial steam in accordance with the specifications of this funding call.

The sources and quantitative proportions of greenhouse gas emissions to be captured in the case groups listed in Number 4.15(a) FRL CCfD must be substantiated by the applicant by specifying the energy carriers and raw and auxiliary materials used in the project (Number 4.15(a), sentence 8 FRL CCfD).

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 operational start. The applicant must conclusively demonstrate upon application that the **actual connection** to the necessary transport and storage infrastructures is adequately secured (Number 4.15(a)(iii) FRL CCfD). In order to provide a conclusive explanation, the applicant must, in particular, provide all the information required in the project description to be attached to the application for funding, in particular regarding the planned CO_2 transport infrastructure to be used and the location of the CO_2 storage site. If, and to the extent possible, the applicant may substantiate the conclusiveness of their information by attaching to the funding application planning sketches, letters of intent with the (prospective) operators and/or documents relating to the official decision on the construction and operation of the CO_2 transport and storage infrastructure to be used according to their plans.

Fulfilment of the requirement according to Number 4.15(b) FRL CCfD is to be demonstrated by an explanation that the currently applicable requirements of the EU-ETS 1 for the proof of permanent storage or binding of the CO_2 are fulfilled.

If the project includes a plant for capturing CO_2, and CO_2 which is not produced in the funded CCfD production process is also captured in this plant, the funding of additional costs and the determination of greenhouse gas emissions only apply to that portion of the captured CO_2 that is directly attributable to the funded CCfD production process (Number 4.19 FRL CCfD). Ensuring the accounting-based separation of the CO_2 quantities captured within and outside the

CCfD production process from the operational start onwards, must be guaranteed by quantitatively recording waste gas quantities and CO_2 concentrations in the waste gas streams to be captured and must be confirmed as part of the application.

2.10 Negative emissions

Greenhouse gas emission reductions achieved by using 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 (derivatives)

The **hydrogen** used in the project must fulfil the requirements for renewable (Number 2.14 FRL CCfD) or low-carbon hydrogen (Number 2.11 FRL CCfD) (Number 4.9(a) sentence 1 FRL CCfD). If hydrogen is obtained through a network infrastructure that is used exclusively for the physical supply of hydrogen, the aid beneficiary must prove to the granting authority that the hydrogen obtained via the network infrastructure is attributed to the aid beneficiary as renewable or low-carbon hydrogen and that an equal amount of renewable or low-carbon hydrogen has been fed into the grid infrastructure (Number 4.9(a) sentence 2 FRL CCfD). Exempt from the above requirements are projects that are subject to the 41-Ammonia and/or 50-Hydrogen reference systems (cf. Number 4.9(a) sentence 5 FRL CCfD).

If non-biological hydrogen derivatives are used in the funded project, they must comply with the requirements for renewable or low-carbon hydrogen and the currently applicable binding legal acts for non-biological hydrogen derivatives (Number 4.9(b) FRL CCfD).

During the term of the Carbon Contracts for Difference, the granting authority may 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. If the granting authority requests the submission of a specific certificate, it will also accept equivalent certificates from other bodies, in particular from other countries. The aid beneficiary must prove equivalence at the request of the granting authority (Number 2.6.1 sentences 3-5, 2.6.2 sentence 2, 2.6.3 sentence 2 of the model Carbon Contract for Difference (model CCfD)).

2.12 Recycled carbon fuels (RCF)

The use of recycled carbon fuels (Number 2.41 FRL CCfD) is permitted if, in terms of reducing greenhouse gas emissions, they meet the minimum threshold for 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 adopted in accordance with the method for assessing the greenhouse gas emissions of renewable fuels of non-biological origin and recycled carbon fuels in accordance with Article 29a(3) of the Directive (EU) 2018/2001 or corresponding Union legislation in its currently applicable version. The savings in life-cycle greenhouse gas emissions shall be calculated in accordance with the methodology set out in the current version of Commission Delegated Regulation (EU) 2023/1185 (Number 4.12 FRL CCfD).

The granting authority may require certificates from recognised independent bodies during the term of the Carbon Contract for Difference 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 prove equivalence at the request of the granting authority (Number 2.8 of the model Carbon Contract for Difference).

2.13 Use of natural gas

General requirements

According to Number 4.13 sentence 1 FRL CCfD, the material and energetic use of natural gas is permitted, if the applicant can prove that:

a) direct electrification of the plant is technically unachievable

and

b) a physical use of renewable or low-carbon hydrogen or non-biological hydrogen derivatives is technically or economically not unachievable in the foreseeable future.

The possibility of the energetic or material use of biomass does not preclude the use of natural gas (Number 4.13 sentence 5 FRL CCfD).

The following evidence must be provided:

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 presenting a corresponding confirmation from the network operator that the provision of electrical energy (quantity) for the period of the planned natural gas use is not possible.

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 from the network operator that network access to the hydrogen network 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 can not 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 to be determined as follows:

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

Table 2: Economic viability analysis of natural gas use

The energy carrier costs to be stated in the application for funding must be substantiated by publicly accessible sources. The base and hedging prices for the energy carriers specified in this funding call cannot be used as proof.

Regulatory requirements can also be used to justify technical necessity.

Reducing the use of natural gas

Applicants must also show in the quantitative questionnaire document when and how the use of natural gas as a material and energy carrier **during the term of the Carbon Contract for Difference is reduced** (see Number 4.13 sentence 3 of the FRL CCfD).

Applicability of physical use

The above requirements apply to **any physical use of natural gas**, regardless of whether certificates or guarantees of origin are submitted for other energy carriers (Number 4.13 sentence 4 FRL CCfD).

Exemption for CCS and CCU

If CCS or CCU technologies are used in a project in accordance with Number 4.15 FRL CCfD, then Number 4.13 FRL CCfD shall not apply during this use of CCS or CCU technologies (Number 4.13 sentence 6 FRL CCfD).

2.14 Use of fossil fuels

The material and energetic and material use of the most polluting fossil fuels as defined in the Guidelines on State aid for climate, environmental protection and energy 2022[1], such as hard coal, diesel, lignite, oil, peat and oil shale, is **only** permitted **in the first ten years**, calculated from the operational start of the project, and only to the extent that this is technically necessary for the achievement of the decarbonisation objective of the project as part of the **conversion of existing conventional production processes** to low-emission production in the project to be funded.

[1] Communication from the Commission, Guidelines on State aid for climate, environmental protection and energy 2022 (OJ C 80, 18.2.2022, p. 1).

If the material use of the most polluting fossil fuels is technically necessary, the use of the most polluting fossil fuels in the funded project is permitted, deviating from Number 4.14 FRL CCfD. In these cases, adjustments (including conversions) of the existing production processes are allowed if technically justified for the achievement of the decarbonisation objective of the measure. Applicants must prove that no technically feasible alternative is available that would achieve a higher level of decarbonisation.

Projects in which new investments are to be made in production processes based on the most polluting fossil fuels do not fulfil these requirements (Number 4.14 FRL CCfD). Applicants must demonstrate fulfilment of these requirements in the application by providing a sufficiently detailed and plausible technical justification based on publicly accessible sources.

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

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

Investments covered by this Section 2.14 must not lead to an increase in production capacity or must not involve a full replacement of the existing industrial installation.

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 for the production of industrial products within the project (‘**industrial steam project**’), are generally eligible for funding.

An industrial steam project is only eligible for funding, insofar as at least three different third parties, including affiliated companies of the applicant within the meaning of §§ 15 ff. AktG, can be supplied with industrial steam via the network infrastructure located at the site of the plant to be funded.

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 produce an industrial product within the meaning of Number 4.17(g) 1st half-sentence FRL CCfD is eligible for funding.

Only industrial steam projects that are subject to the ‘Steam for industrial applications’ reference system are eligible.

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 network infrastructure at the location of the plant to be funded. The applicant must also provide suitable evidence that the industrial steam is supplied to a third-party production plant and used to manufacture an industrial product within the meaning of Number 4.17(g) 1st half-sentence FRL CCfD.

2.16 Partial funding

The applicant may specify in their application for funding that only a certain portion of the production volume attributable to a CCfD production process is to be funded. 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, this funding call or other provisions based on the FRL CCfD, shall apply 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 stipulation under sentence 1. The determination in accordance with sentence 1 cannot be changed during the term of the Carbon Contract for Difference.

3. Who is being funded?

Eligibility to apply

Companies within the meaning of § 14 of the German Civil Code, including municipalities, municipally owned companies, municipal companies and municipal special-purpose associations, are eligible to apply if they are economically active (Number 5.1 sentence 1 FRL CCfD) **and** the project has been approved for participation in the bidding procedure 2026 by 01 December 2025 after participating in the preparatory procedure 2026 (Number 8.6(b) sentence 1 FRL CCfD. In justified cases, the granting authority may allow a project that was part of the preparatory procedure 2026 to participate in the subsequent bidding procedure even in the event of a change of the applicant under the conditions of Number 8.2(g) FRL CCfD (cf. Number 8.6(b) sentence 2 FRL CCfD).

Applicants must be the plant operator (Number 2.6 FRL CCfD) of the plant or plants to be funded (Number 5.1 sentence 2 FRL CCfD).

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

Consortia

Several eligible applicants may form a consortium and submit a joint application for funding, provided that they intend to jointly produce one or more eligible products in Germany, that they reach the minimum size specified in Number 4.16(a) FRL CCfD, and that there is a **technological connection** of the production processes of the eligible product(s) (Number 5.2 sentences 1-2 FRL CCfD).

Plant operators of **CO_2 capture plants** to be funded who are not also operators of all plants eligible for funding under the project must, in the cases of Number 4.15(a) FRL CCfD, become part of a consortium independently of the requirements of Number 5.2 sentences 1-2 FRL CCfD (Number 4.15(d) sentence 1 FRL CCfD).

If an air separation plant is operated for the purpose of carbon capture in accordance with Number 4.15(a) FRL CCfD pursuant to Number 4.15(c) sentence 4 FRL CCfD within the system boundaries of the project, plant operators of the air separation plant to be funded who are not also operators of all plants to be funded within the project must become part of a consortium, irrespective of the requirements under Number 5.2 sentences 1–2 FRL CCfD (Number 4.15(d) sentence 2 FRL CCfD).

Within a consortium, one member of the consortium must be appointed to submit the application for funding and be authorised to serve and receive documents on behalf of the

consortium ("**consortium leader**", Number 5.2 sentence 3 FRL CCfD). Proof of the authorisation of the consortium leader must be submitted with the application.

The following also applies to consortia:

Consortia receive a joint grant notification, which is sent to the consortium leader. If the funding is approved, each member of the consortium becomes an aid beneficiary and contractual partner of the Carbon Contract for Difference. The members of the consortium are jointly and severally liable for the obligations arising from the grant notification and the Carbon Contract for Difference and for any surplus payments. Funding is paid to the consortium leader with discharging effect vis-à-vis the consortium (Number 5.2 sentences 4-6 FRL CCfD).

For a consortium, according to Number 7.1(e) FRL CCfD, scope 1 emissions of all participating members of the consortium are considered joint scope 1 emissions and the funded products of the entire value chain in the consortium are considered joint products. Insofar as intermediate products are reused within the consortium, interim transfer to non-members of the consortium is also possible (Number 5.2 sentences 7-8 FRL CCfD).

In the case of a consortium, all plants to be funded must be operated by consortium members (Number 5.2 sentence 9 FRL CCfD).

For **changes in the composition of a consortium** or the **formation of a new consortium** between the preparatory procedure 2026 and the bidding procedure 2026 Number 8.2(g) FRL CCfD (see Number 8.6(b) sentence 2 FRL CCfD) applies.

4. How is funding provided?

4.1 Type of funding

The 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 granting of applications at its own discretion and within the framework of the available budget funds.

The granting authority will award the funding to successful applicants in the form of a grant notification ("Zuwendungsbescheid"), which is issued when 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 grating 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 under grant law, which is based on the grant notification under public law (two-tier system) and arises between the aid beneficiary and the grantor upon notification of the grant notification (Number 8.5(a) FRL CCfD). Details on the scope of the funding and its payment can be found in Numbers 7 and 9 as well as Appendix 1 FRL CCfD and 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 pay surplus is regulated in Number 4 of the model CCfD. The beneficiary's obligation to pay back any surplus is limited in amount under Number 7.7(a) FRL CCfD. In addition, according to Number 7.7(b) FRL CCfD, it is possible to suspend payment obligations in the event of a surplus payment being made to the grantor. This funding call does not contain any deviating or supplementary provisions regarding excess 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 operational start of the project. The project must commence operations by **01 January 2031** at the latest (Number 4.2(a) FRL CCfD). If the grant notification is issued after 31December 2026, 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 operational start by up to **12 months** when the funding is awarded, provided that the applicant clearly demonstrates when submitting the application for funding that:

- hydrogen network 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 (cf. 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. In this case, the granting authority will provide the applicant with a non-binding assessment up to one week before the material cut-off period expires.

The granting authority may extend the period in individual cases after the grant notification has become announced if the aid beneficiary demonstrates that he cannot start the funded project within the original period 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).

If the project begins during the course of the year, the contract term extends over 16 calendar years. This means that the term of the Carbon Contract for Difference covers the following periods in the event of a start during the year:

- firstly, the period from the actual operational start of the project up to and including 31 December of the calendar year in which the operational start occurs ("first partial year"),
- secondly, 14 complete calendar years following the first partial year and
- thirdly, the period beginning on 1 January of the calendar year following the end of the 14 full calendar years, which comprises the days remaining from the 15 years from the operational start after deduction of the first partial year and the 14 complete calendar years ("last partial year", (Number 4.2(d) FRL CCfD)).

According to Number 2.21 FRL CCfD, the operational start of the project is the day of the first intended use or partial use of the funded plants after completion of any trial operation. Trial

operation is the temporary operation of a plant to test its operational capability prior to the first intended use of the funded plants. The aid beneficiary must provide evidence of the operational start 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 due to exceptional grounds. The suspension of payment obligations in accordance with Number 7.7(b) FRL CCfD does not lead to 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 to the grantor 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 grantor shall, in order to satisfy its claim, make use of the implementation guarantee or surety submitted by the aid beneficiary when submitting the application in accordance with Number 8.2(e)(v) FRL CCfD (Number 12.1(f) FRL CCfD).

If operations do not commence within 18 months of the expiry of the period specified in Numbers 4.2(a) to 4.2(c) FRL CCfD, the Carbon Contract for Difference shall end before the start of the contract period specified in Number 4.2(a) FRL CCfD. The granting authority may extend this period. The contractual penalty stipulated below shall remain unaffected by the early termination of the Carbon Contract for Difference in accordance with Number 12.1(f) FRL CCfD (cf. Number 12.1(g) FRL CCfD).

The aid beneficiary shall pay the granting authority an amount equal to:

- 0.1% of the maximum total funding amount if the project commences 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, provided that the operational start of the project takes place 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 operational start of the project takes place 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 operational start of the project does not take place within 18 months after the expiry of the deadline specified in Numbers 4.2(a) to 4.2(c) FRL CCfD.

This shall only apply if the aid beneficiary is responsible for the delay in the operational start. In order to satisfy its claim under this Section, the grantor shall make use of the implementation guarantee or surety submitted by the aid beneficiary when submitting the application in accordance with Number 8.2(e)(v) FRL CCfD. (cf. Number 12.2(c) FRL CCfD).

4.3 Maximum total funding amount per project

The maximum total funding amount per project is limited (cf. Number 7.4(e) FRL CCfD). Projects whose maximum total funding exceeds **EUR 2.5 billion** are not eligible (Number 4.17(p) FRL CCfD) and will not be considered in the assessment according to Number 8.3(a) FRL CCfD.

4.3a No restricted bidding procedure

In the bidding procedure 2026, there will be no restriction of the bidding procedure to certain sectors or technologies, nor any stipulation that the funding volume must benefit at least one or more projects from one or more sectors (Number 8.1(b) FRL CCfD).

4.4 Funding volume and award procedure

Definitions for the award procedure

For the award procedure set out below in the bidding procedure underlying this funding call, the following definitions apply:

- **Funding volume:** EUR **5 billion**. The funding volume refers to the maximum funding available over the entire duration of the Carbon Contracts for Difference which come into existence as a result of this funding call. The sum of the basic funding volume and the additional funding volume is the funding volume available in this funding call.

- **Basic funding volume:** EUR **3 billion**.

- **Additional funding volume:** EUR **2 billion**.

- **Basic sector volume:** EUR **1 billion**. Projects which are assigned to the same sector can, in total, be funded from the basic funding volume up to the basic sector volume. The basic sector volume corresponds to one third of the basic funding volume. The additional funding volume is not limited by sector on a pro-rata basis.

- **Maximum basic project volume:** EUR **700 million**. A single project can only be funded from the basic funding volume up to the maximum basic project volume and any required funding exceeding this amount may be granted solely from the additional funding volume. The maximum basic project volume corresponds to 70 % of the basic sector volume.

- **Sequence of bids:** The sequence of bids according to Number 8.3(a) sentence 2 FRL CCfD.

- **Available basic funding volume:** With each project that is awarded, the funding from the basic funding volume available for the projects that follow in the sequence of bids is reduced. The available basic funding volume is the funding from the basic funding volume that is available for a project after the basic funding volume has been reduced in favour of the projects preceding in the sequence of bids in accordance with the

provisions of this Section. For the first project in the sequence of bids, the available basic funding volume is identical to the basic funding volume.

- **Available basic sector volume:** With each project in a sector that is awarded, the funding from the basic sector volume available for the projects that follow in the sequence of bids in this sector is reduced. The available basic sector volume is the funding from the basic sector volume that is available for a project after the basic sector volume has been reduced in favour of the projects preceding in the sequence of bids in the same sector in accordance with the provisions of this Section. For the first project in a sector in the sequence of bids, the available basic sector volume is identical to the basic sector volume.

- **Project basic funding amount:** The project basic funding amount refers to the part of the maximum total funding amount of a project by which the available basic funding volume and the available basic sector volume for the subsequent projects in the bid sequence will be reduced if the bid is accepted. For each project, the project basic funding amount corresponds to
  a) the maximum total funding amount of the project; or
  b) the maximum basic project volume; or
  c) the available basic sector volume; or
  d) the available basic funding volume;
  whichever of these values is the smallest.

- **Available additional funding volume:** If a project is accepted under the rules of this Section and its maximum total funding amount is greater than its project basic funding amount, the funding from the additional funding volume available for the subsequent projects in the bid sequence is reduced by the project additional funding amount of that project. The available additional funding volume is the funding still available for a project from the additional funding volume after it has been reduced in favour of the projects preceding the sequence of bids in accordance with the provisions of this Section. For the first project in the sequence of bids, the available additional funding volume is identical to the additional funding volume.

- **Project additional funding amount:** The part of the maximum total funding amount of a project by which the available additional funding volume is reduced for the projects that follow in the sequence of bids if an award is made. The project additional funding amount corresponds to the maximum total funding amount of a project minus the project basic funding amount.

  The sum of the project basic funding amount and the project additional funding amount corresponds to the maximum total funding amount of the project.

Award procedure

Projects will be awarded funding in the sequence of the bids according to the rules set out in this Section:

1. If the available basic funding volume for the project in question is zero euros, the project will not be awarded. In addition, none of the projects that follow in the sequence of bids is awarded, and the award procedure under this funding call is terminated. If, on the other hand, the available basic funding volume is more than zero euros, the examination of whether the project under consideration can be awarded continues in accordance with the following Number 2.

2. If the available basic sector volume for the project under consideration is zero euros, the project will not be awarded. In this case, the rules in this Section are used to check whether the project that follows in the sequence of bids can be awarded. If, on the other hand, the available basic sector volume is greater than zero euros, the following Number 3 is used to further check whether the project under consideration can be awarded.

3. If the available additional funding volume for the project under consideration is less than the project additional funding amount, the project will not be awarded funding. In this case, the rules of this Section are used to check whether the project that follows in the sequence of bids can be awarded. If, on the other hand, the available additional funding volume is equal to or greater than the project additional funding amount under consideration, the project under consideration is awarded.

4. If the project under consideration is awarded a grant in accordance with Number 3 above,

    a) the available basic funding volume for all projects that follow this project in the sequence of bids is reduced by the basic funding amount of the project under consideration; and

    b) the available basic sector volume for all projects belonging to the same sector as the project under consideration, and which follow the project in the sequence of bids, is reduced by the project basic funding amount of the project under consideration; and

    c) the available additional funding volume for all projects that follow the project under consideration in the sequence of bids is reduced by the project additional funding amount.

Once the project under consideration has been examined, it is determined whether the project that follows in the sequence of bids can be awarded in accordance with the rules set out in this Section.

4.5 Other funding/cumulation

Other funding

The Carbon Contracts for Difference funding programme sets out rules regarding the cumulation of 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 sentence 1 2nd half-sentence FRL CCfD, other funding also include funding that has not been granted directly

for the project funded under the FRL CCfD, provided that, and to the extent that, they are related to the CCfD production process and benefit it (Number 2.3 sentence 2 FRL CCfD).

In particular, the above sentence covers funding granted to the beneficiary for energy infrastructure used for the purposes of the funded project but located outside the system boundaries, provided that this energy infrastructure is built for a small group of pre-defined users and is tailored to their needs (dedicated energy infrastructure).

Non-cumulative funding programmes

In principle, the applicant can also apply for and make use of other funding for the funded project in addition to the funding under the Carbon Contracts for Difference funding programme. There are the following exceptions to this:

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 field of hydrogen, or
2. if funding for the project to be funded has already been approved under the Federal Funding Programme „Bundesförderung Industrie und Klimaschutz" (BIK) or an application for funding under the BIK programme has been submitted. This does not apply if, at the time of concluding a Carbon Contract for Difference, 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 drawn down under the BIK funding programme, repays these funds including any interest on repayment. Number 4.17(a) FRL CCfD remains unaffected (cf. Number 4.17(m) FRL CCfD).

Please note: In addition to the requirements of the Carbon Contracts for Difference funding programme, the regulations of the other funding programmes and relevant EU legal requirements must always be considered, which may provide for further prohibitions of cumulation.

Funding under the '**Federal funding for energy and resource efficiency in commerce' (EEW)** programme is particularly relevant. The EEW funding programme (as of 25January 2024) provides for a general prohibition of cumulation with regard to state aid, both in the grant and loan variants '*for the same measure*' (Number 8.3 of the funding guideline for Federal funding for energy and resource efficiency in commerce – grant and loan dated 25January 2024) and in the funding competition '*for the same measure*' (Number 8.4 of the funding guideline for Federal funding for energy and resource efficiency in commerce – funding competition dated 25January 2024). In the event of a violation of this prohibition of cumulation, 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, or granting of, CCfD funding, in accordance with the provisions of the ancillary provisions 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) that does not preclude funding under the Carbon Contracts for Difference funding programme in

accordance with Number 4.17(m) FRL CCfD in conjunction with the above provisions, the following conditions apply:
a) when determining the base contract price, applicants should bear in mind that at the time of application any other funding within the meaning of Number 2.3 sentence 1 FRL CCfD already approved 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).

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

b) Other funding that is approved **after submitting the application for funding in the CCfD funding programme or 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 grant. If other funding already approved when the application is submitted is increased after the submission, this rule applies accordingly to the amount by which the funding has increased compared to the moment the application was submitted (Number 7.1(a)(vi) FRL CCfD, see Number 7.5(c) FRL CCfD for more details).

Examples of other funding and consultation with the granting authority

Other funding may include funding provided as grants under other programmes. **Appendix 2** of this funding call contains a non-exhaustive list of those grants that are considered other funding within the meaning of the FRL CCfD as defined in Number 7.5(b) FRL CCfD.

When submitting an application, applicants are obliged to provide complete and truthful information about any other funding already approved or applied for the submitted project (Number 8.2(e)(vi) FRL CCfD). Applicants are therefore strongly advised to state all funding applied for or approved and **to consult the granting authority** in case of doubt (cf. Number 7.5(b) FRL CCfD). Further information can be found in **Appendix 2**.

Special cases

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

If, for the purposes of the funded project, a dedicated energy infrastructure outside the system boundaries is used which is established by an affiliated company of the aid beneficiary within the meaning of §§ 15 et seq. AktG, it must also be noted in accordance with Number 7.5(e) FRL CCfD, that the funding granted to an affiliated company of the beneficiary within the meaning of §§ 15 et seq. 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 the funding qualifies as aid within the meaning of Article 107(1) TFEU or as centrally administered Union funds that are not directly or indirectly subject to German control. The amount of the deduction is at the discretion of the granting authority, which must take into account the extent to which the dedicated energy infrastructure established by the beneficiary's affiliated company within the meaning of §§ 15 et seq. 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 the green surplus

Green surplus revenue is not deducted from the funding in this bidding procedure. It is in the applicant's own interest to include the expected green surplus revenue in the base contract price in order to achieve greater funding cost efficiency and to have a higher chance of being awarded a contract in the bidding procedure.

4.7 Maximum prices (Number 8.1(f) FRL CCfD)

The maximum price H_I for all bids is set at EUR 550/t CO_2 equivalent. Bids with specific fund costs (Number 8.3(f) Appendix 2 paragraph 1 FRL CCfD) above the specified maximum price are excluded from the bidding procedure (Number 8.1(f) FRL CCfD).

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 sentence 1 FRL CCfD** at the time of submission of the application for funding (Number 8.3(f), Appendix 2 paragraph 1 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.

4.8 Parameters for determining the funding cost efficiency

The highest maximum price H_{max} to be used for calculating the funding cost efficiency pursuant to Appendix 2 paragraph 2 FRL CCfD is the uniform maximum price of EUR 550/t CO_2 equivalent.

The interest rate to be applied ϵ in accordance with Appendix 2 paragraph 1 FRL CCfD is 4.8%. The weighting factor γ is 0.5 in accordance with Appendix 2 paragraph 2 FRL CCfD. However, the weighting factor to be applied in this bidding procedure does not affect the result due to the setting of a uniform maximum price H_I.

4.9 Effective CO_2 price (Number 7.1(b), Appendix 1 Section 1 paragraph 2 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 Environmentals Future annual contract prices for deliveries in December for the respective settlement period	Daily	Calculation of the unweighted annual average from daily data [EUR/t CO_2 -eq.]

Table 3: Index for determining the effective CO_2 price

If no data is published for weekends, public holidays and days at the end of the respective year, these days are not included in the calculation of the annual average.

4.10 Dynamisation of energy carriers

The energy carriers of the **reference system** listed in Sections 1 and 3 of the table below are dynamised in accordance with Number 7.2(b) FRL CCfD. In the **project**, the energy carriers listed in Sections 1 and 2 of the table are dynamised in accordance with Number 7.2(c) FRL CCfD if they are used in the project for the production of products and intermediate products

or in the context of technologies for the capture of CO_2 and its transmission to a CO_2 transport infrastructure for the purposes of long-term storage.

The price indices listed in the table for the annual determination of the real indexed price p_i^{real} for each dynamised energy carrier i are defined for the energy carriers mentioned. In addition, the factors β_i^{Ref} (cf. Appendix 1 Section 1 paragraph 4 FRL CCfD) and $\beta_i^{Vorhaben}$ (cf. Appendix 1 Section 2 paragraph 4 FRL CCfD) are defined for the individual 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) sentences 3-4 FRL CCfD if the same energy carriers are used in the project that are not dynamised in accordance with Number 7.2(c) FRL CCfD in conjunction with the provisions of this funding call.

If and insofar as dynamisation takes place **in the project** in accordance with Number 7.2(c) sentence 1 FRL CCfD and the requirements of this funding call for secondary energy carriers, recycled carbon fuels, hydrogen, hydrogen derivatives used for energetic purposes or biomass, with the exception of materially utilised biological hydrogen derivatives, the base prices and price indices specified in this funding call will always be applied for these energy carriers, even if these energy carriers are produced by the aid beneficiary. In this case, there is no dynamisation for the necessary quantity of energy carriers for the production of the aforementioned energy carriers (Number 7.2(c) sentences 2-3 FRL CCfD).

The following must therefore be taken into account when specifying the energy carrier use in the application:

The quantities of secondary energy carriers, recycled carbon fuels, hydrogen, biomass or non-biological hydrogen derivatives used must always be stated, regardless of whether they are produced by the aid beneficiary himself or sourced externally. Energy carriers used in the project for the production of secondary energy carriers, recycled carbon fuels, hydrogen, hydrogen derivatives used for energetic purposes and biomass, with the exception of materially utilised biogenic hydrogen derivatives, are not to be included in the application. If hydrogen derivatives are used in the project that are not used for energetic purposes and are intermediate products in accordance with Number 2.42 of the FRL CCfD, the quantities of energy carriers required to produce the hydrogen derivatives must also be stated separately in the application (cf. Number 8.2(d) sentences 5-7 of the FRL CCfD).

Dynamisation of electricity

In order to adequately secure investments in flexibility and incentivise their use, the index used to determine the real indexed price of electricity (p_{Strom}^{real}) contains two weighted components: Firstly, a baseload component, which is an unweighted average of the quarter-hourly energy prices for all hours of a year and reflects the costs of continuous electricity consumption. Secondly, a renewables component that reflects the electricity costs for 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 made 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, replace the number 35040 (all quarter-hours of a normal year) with 35136.

Energy carrier i	**Price index for the annual determination of p_i^{real}**	**Unit of origin**	**Temporal resolution**	**Calculation method**	**Factor β_i^{Ref}**	**Factor $\beta_i^{Vorhaben}$**
Section 1: Dynamisation in the reference system <u>and</u> in the project						
Electricity (Note: Formula [5] is used for the calculation of p_{Strom}^{real}	**SMARD.de**: Quarter-hourly day-ahead electricity price	[EUR/MWh]	Quarter-hourly	**p_t:** Quarter-hourly day-ahead electricity price	0,9	0,9
	SMARD.de: Forecasted generation day-ahead of the respective RE technologies onshore wind, offshore wind, solar in quarter-hourly resolution.	[MWh]	Quarter-hourly	**E_{Won}, E_{Wof}, E_{pv} :** Forecasted generation day-ahead of the respective RE technologies onshore wind, offshore wind, solar in quarter-hourly resolution.		
Section 2: Dynamisation <u>only</u> in the project						
Renewable hydrogen	**EEX:** Green Weekly HYDRIX DE	[EUR/MWh]	Weekly	Calculation of the unweighted annual average from weekly data [EUR/MWh], multiplied with 1.05 according to Number 7.2(e) FRL CCfD		0,9
Low-carbon hydrogen	**E-Bridge:** HydexPlus Blue Spot Time Series*	[EUR/MWh]	Daily	Calculation of the unweighted annual average from daily data [EUR/MWh]		0,9
Section 3: Dynamisation <u>only</u> 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	

Energy carrier i	Price index for the annual determination of p_i^{real}	Unit of origin	Temporal resolution	Calculation method	Factor β_i^{Ref}	Factor $\beta_i^{Vorhaben}$
Coking coal	**Argus Media:** Coking Coal low volume FOB Australia (PA0007768) **Argus Media:** Freight rates; Dry coal Hay Number to Rotterdam 160kt USD/t (PA0021398) **Argus Media:** Carbon cost dry coal Hay Number to Rotterdam 160kt USD/t (PA0037487) **European Central Bank:** Euro / US Dollar 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 total daily costs of coking coal [USD/t], the freight costs for the respective calendar month (PA0021398) and the daily costs for greenhouse gas emissions from ship transport (PA0037487) are added to the daily costs for 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) **Conversion to EUR/MWh:** • Conversion of total costs per tonne [EUR/t] into 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 daily data [EUR/MWh]	0,9	
Steam coal	**Argus Media:** Coal (API 2) cif ARA daily index (PA0007773)	[USD/t]	Daily	**Conversion of costs from steam coal 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 costs per tonne (EUR/t) to costs per MWh (EUR/MWh) by	0,9	

Energy carrier i	Price index for the annual determination of p_i^{real}	Unit of origin	Temporal resolution	Calculation method	Factor β_i^{Ref}	Factor $\beta_i^{Vorhaben}$
				multiplying the costs by the mass conversion (1 000 kg/t), the net calorific value conversion (6 000 kcal/kg) and the energy conversion (0.000001163 MWh/kcal). **Calculation of the annual average:** • Calculation of the unweighted annual average of daily data [EUR/MWh]		

Table 4: Dynamisation of energy carriers

Dynamisation is based on the net calorific value of the energy carrier. The net calorific value (formerly lower net calorific value, also referred to in the literature as H_i) is the energy that is released during complete combustion if the water vapour in the flue or exhaust gases does not condense. The water vapour resulting from combustion remains in gaseous form. In contrast, the gross calorific value (formerly higher net calorific value, also referred to in the literature as H_s) is the energy that is released during complete combustion of an energy carrier. It includes energy that is contained in the exhaust gases in the form of warm water vapour and is released by cooling the combustion gases. The price data for natural gas, which is originally stated in the index used according to gross calorific value, is converted into EUR/MWh net calorific value using the calculation method stated.

An unweighted annual average is calculated from the daily data of the aforementioned indices using the available data. If no data is published for weekends or public holidays, these days are not taken into account when calculating the average. The conversion of indices not denominated in euros is based on the daily data of the euro reference rates published by the European Central Bank.

4.11 Base prices

If energy carrier costs are dynamised, the following base prices apply p_i^{Basis} for the energy carriers i (in each case based on the net calorific value of the energy carriers):

Energy carrier i	**Base price** p_i^{Basis}
Electricity	62.08 EUR/MWh
Renewable hydrogen	184.23 EUR/MWh
Low-carbon hydrogen	184.23 EUR/MWh
Natural gas	25.97 EUR/MWh
Coking coal	19.45 EUR/MWh
Steam coal	8.54 EUR/MWh

Table 5: Base prices

4.12 Parameters for determining the maximum annual amount of funding

The hedging factor α for determining the maximum annual amount of funding (cf. Appendix 1 Section 3 paragraph 2 FRL CCfD) is set at 0.5. 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 out in Appendix 4.

5. Bidding procedure

5.1 Bidding procedure

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

5.2 Deadline for submitting the bids

The bidding procedure begins with the announcement of this funding call on the website of the funding programme (https://www.co2-differenzvertraege.info) on 05 May 2026. The **deadline for submitting applications,** including bids and all required documents, **ends at 11:59 pm on 09 September 2026. The calculation of the period is subject to § 31 Abs.1 and Abs. 3 Satz 1 (section 31(1) and (2), first sentence) of the Federal Administrative Procedures Act (BVwVfG).** Applications **that are not** submitted **within this deadline (material cut-off period)** in the **form specified** by the grantor, or that do not contain the information and documents requested, or – in the case of an additional request – subsequently requested, **will be rejected** (Number 8.3(d) FRL CCfD).

5.3 Applications

Applications must be submitted via the "easy-Online" portal (https://foerderportal.bund.de/easyonline/reflink.jsf?m=CCFD&b=CCFD_BMWE_GV2026&t=AZK). Applications for participation in the bidding procedure must be submitted using the specified and fully completed forms (Number 8.2(a) FRL CCfD). The documents to be

completed will be made publicly available on the website of the programme https://www.co2-differenzvertraege.info/dokumentenschrank at the start of the bidding procedure.

The checklist in Appendix 3 contains an overview of the documents and evidence to be submitted with the application.

Please note the following when submitting your application:

- Withdrawal is possible via easy-Online until the deadline for the submission of bids.
- Applications that are wholly or partially aimed at funding the same project are not admissible within one funding call. If several applications of the applicant are aimed in whole or in part at funding the same project, only the last application of the applicant submitted will be considered and evaluated. All other applications of the applicant submitted earlier will be rejected. In the event of simultaneous receipt, the decision will be made by lot (Number 8.3(b) FRL CCfD).
- If several applications from different applicants are wholly or partly aimed at funding the same project, only the eligible bid that demonstrates the best cost-effectiveness in accordance with Number 8.3(f) FRL CCfD will be considered and evaluated. If the cost-effectiveness is the same, the decision will be made by lot (Number 8.3(c) FRL CCfD).
- The applications contain the offer to conclude the Carbon Contract for Difference (Number 8.2(e)(xiv) FRL CCfD). If the bid is accepted, the Carbon Contract for Difference is concluded with the content of the bid.
- Applications must include all information and documents required for the assessment and decision on the fulfilment of the minimum requirements and other mandatory conditions for funding as well as the assessment of the bids (Number 8.2(c) FRL CCfD).
- Applications must be submitted via the "easy-Online" portal in text form including a scanned handwritten signature or qualified electronic signature. For this purpose, a PDF must be generated after entering the details in the entry mask. The PDF must be provided with a qualified electronic signature or a handwritten signature and uploaded to "easy-Online". Alternatively, verification can be carried out using the TAN procedure.
- To meet the deadline, it is sufficient for all documents to be received on time via the "easy-Online" portal. Only the **proof of a security** in accordance with Number 8.2(e)(v) FRL CCfD must be sent in writing to Projektträger Jülich, Fachbereich ESN 7, Postfach 61 02 47, 10923 Berlin in its capacity as administrative assistant to the granting authority, in addition to submitting a digital copy via the "easy-Online" portal, at the latest within one week of the expiry of the material cut-off period . **The address field must be labelled "Personal/Confidential".** Alternatively, the documents can be submitted in person (visitor address: Projektträger Jülich, Lützowstr. 109, 10785 Berlin, business hours: Mo- Fr, 9am – 5pm). In this case, the documents must be submitted in a sealed envelope labelled "Personal/Confidential". With regard to the written form, the requirements of § 126 Abs. 1 (section 126(1)) BGB (handwritten or notarised signature) or § 126 Abs. 4 (section 126(4)) BGB (notarisation) apply.
- Further details on submitting an application and submitting the Carbon Contracts for Difference can be found in the "**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.

Special instructions for completing 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 note 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 include the following components of the Carbon Contract for Difference:
    - o Cover sheet
    - o Preamble
    - o Appendix 5 (data of the aid beneficiary to be entered)
    - o Signature page(s) of the aid beneficiary

- To generate and complete the cover sheet, preamble, Appendix 5 (data of the aid beneficiary to be entered), and the signature page(s) of the aid beneficiary, use the dynamic PDF (file name 'Ergänzungen zum CO2-Differenzvertrag') provided by the granting authority in the document repository (https://www.co2-differenzvertraege.info/dokumentenschrank).
- The signature page(s) of the aid beneficiary generated and completed using the dynamic PDF must be printed out and signed by the authorised representatives of the applicant in the provided fields.
- The applicant must combine the model Carbon Contract for Difference provided by the granting authority with the components of the Carbon Contract for Difference generated by the dynamic PDF and completed, in particular the signature page(s) of the aid beneficiary on which the signatures of the applicant's authorised representatives have been affixed, in a single PDF file.
- The applicant must submit the PDF file created in this way, which in particular contains the signature page(s) of the aid beneficiary with the scanned signature of the applicant's authorised representatives, with his application for funding.
- The applicant may only make adjustments/additions to the sample CCfD in the input fields marked accordingly by the granting authority in the dynamic PDF.
- If the contract is awarded, the granting authority will make additions at the points marked accordingly in Appendix 6 of the model CCfD, in particular, the granting authority will add the date on which the grant notification was issued.

Applications that are not submitted in the form specified by the granting authority or that do not contain the information and documents requested or – in the case of an additional request – subsequently requested will be rejected (Number 8.3(d) FRL CCfD).

Applications subject to a condition, for example auxiliary applications, are not permitted and will be rejected (Number 8.2(b) FRL CCfD).

The granting authority reserves the right, at its discretion, to request further documents and evidence, as well as the examination and confirmation of documents, for example by another designated auditor. The costs are to be borne by the applicant (Number 8.2(e) FRL CCfD).

Applicants must notify the awarding authority immediately, and without being requested to do so, of any changes, at any stage of the application process, to facts relevant to the decision on

the grant, which occur after the application has been submitted, during the grant period and until the final decision is issued (Number 10.2(b) FRL CCfD).

5.4 Binding period

By submitting the application, applicants must declare that they will be bound by it, in particular by the offer contained in the application (Number 8.2(e)(xiv) FRL CCfD), for six months after the deadline for submitting the bids.

5.5 Examination of applications and assessment of bids

Applications will be opened by the granting authority after the deadline for the submission of bids. Applicants are not admitted to the date of opening. The granting authority will not inspect the application documents before the date of opening. This does not affect the applicants' right, in accordance with Number 8.1(h) FRL CCfD, to submit the application documents they have prepared and the Carbon Contracts for Difference they have provisionally completed. However, the base contract price should not be specified when submitting the prepared application documents and the Carbon Contract for Difference for non-binding review.

After the opening date, applications will be reviewed 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 false or deviates significantly from the information provided by the applicant in the preparatory procedure for this bidding procedure without justification (Number 8.2(g) FRL CCfD).
If the information in the application deviates 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 if they are due to this funding call or to changes to the Carbon Contracts for Difference funding programme, in particular changes 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 authorised in individual cases.

Interested parties who participated in the previous preparatory procedure for the second bidding procedure announced in the Federal Gazette on 29 July 2024 (BAnz AT 29 July 2024 B1) and submitted a confirmation of participation in the 2026 preliminary procedure, may justify any discrepancies between the information provided in their application for participation in the subsequent 2026 bidding procedure and the information provided in the previous preparatory procedure for the second bidding procedure, through changes to the Carbon Contracts for Difference funding programme that took place between the previous preparatory procedure for the second bidding procedure and the preparatory procedure 2026.

The bids will be awarded in the order in which they are evaluated within the scope of the funding volume of this funding call according to Section 4.4. 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) FRL CCfD).

5.6 Grant and rejection notification, award of grant

Successful applications will be approved by means of a grant notification issued at the same time as the award of the grant in favour of the successful bid (Number 8.4 FRL CCfD). Applicants whose applications are rejected will receive a rejection notice.

When the grant is awarded in favour of the successful bid, the Carbon Contract for Difference is also concluded on the basis of the bid of the applicant concerned (Number 8.5(a) FRL CCfD).

The granting authority plans to announce the grant notifications by 31 December 2026.

6. Special information and legal basis

6.1 Legal basis for the granting of funding

The awarding of funding under the Carbon Contracts for Difference funding programme is based in particular on the FRL CCfD, the Federal Administrative Procedure Act (VwVfG), the German Civil Code (BGB), §§ 23 and 44 of the Federal Budget Code (BHO) and the General Administrative Provisions (VV BHO) issued for this purpose, as well as the relevant Commission Communication, Guidelines on State aid for climate, environmental protection and energy 2022 (OJ C 80, 18.2.2022, p. 1), and is subject to approval by the European Commission under state aid law. The funding is awarded in the form of a two-stage legal grant relationship by issuing the grant notification and concluding the private-law Carbon Contract for Difference based on the grant notification (Number 3.1 FRL CCfD).

6.2 Manual and FAQ

Further information and explanations on the funding programme can be found in the manual for the Carbon Contract for Difference funding programme and the FAQs published at https://www.co2-differenzvertraege.info/thema/fragen_antworten_gebotsverfahren. The FAQs are regularly supplemented and updated during the bidding procedure.

As a precaution, it is pointed out that the information contained in the FAQs and the manual 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 take precedence.

6.3 Tax treatment of the funding

Information on the tax treatment of the grant can be found in the manual.

6.4 Monitoring concept

The aid beneficiaries must submit a monitoring concept for the determination and reporting of greenhouse gas emissions, energy consumption data, and the key production parameters of the funded project at the operational start of the project (Number 9.1 FRL CCfD).

If the funded plant falls within the scope of the German Greenhouse Emissions Trading Act (TEHG), the monitoring concept must be based on the monitoring plan approved by the German Emissions Trading Authority (DEHSt) (§ 6 TEHG) and the monitoring methodology plan in accordance with Article 8 of Commission Delegated Regulation (EU) 2019/331 or corresponding requirements under EU law. If further information on greenhouse gas emissions, energy consumption, and production parameters is to be submitted for the annual calculation

procedure pursuant to Number 9.2(b) FRL CCfD in addition to the data to be reported under the TEHG (e.g. additional data or data during the year), the monitoring plan must be supplemented by methods for determining and reporting this additional data. If the funded plant is not covered by the scope of the TEHG or if further information is to be submitted in addition to the data to be reported under the TEHG, the requirements set out in § 6 Abs. 2 Satz 1 (section 6(2), first sentence) TEHG and Commission Delegated Regulation (EU) 2019/331 or corresponding requirements under Union law must be applied accordingly when drawing up the monitoring plan (Number 3.1 model CCfD).

The manual contains more detailed explanations on the monitoring concept and on the determination and verification of the calculation data to be submitted annually.

6.5 Annual calculation method

For licensing reasons, the granting authority is prevented from making the price index data available to the aid beneficiaries as part of the calculation procedure under Number 9.2 FRL CCfD. The aid beneficiaries are therefore requested to obtain the price index data themselves if they wish to use it.

7. Contact persons and information services

Questions

Forschungszentrum Jülich GmbH – Projektträger Jülich, Wilhelm-Johnen-Straße, 52428 Jülich was commissioned to implement the funding programme as an administrative assistant to the Federal Ministry for Economic Affairs and Energy (BMWE).

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

The granting authority aims to **answer** all **questions received by 17 August 2026 by 31 August 2026**. It may not be possible to answer questions received after 17 August 2026 within the bidding phase.

Webinars

The granting authority intends to offer webinars as part of this bidding procedure, which will serve to explain and clarify the funding programme for Carbon Contracts for Difference and to answer questions from interested parties. Further information will be published on the website https://www.co2-differenzvertraege.info.

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

Applicants can **submit** the application documents **prepared by them, together with the draft Carbon Contract for Difference completed** using the dynamic PDF, **for a non-binding formal review via the aforementioned email address** no later than **four weeks before the expiry of the material cut-off period** (cf. Number 8.1(h) FRL CCfD). In this case, feedback will be provided up to one week before the expiry of the deadline for submitting the

bids. The base contract price should **not** yet be specified when submitting for non-binding review.

Appendix 1: Reference systems

Each project must be assigned to a reference system (Number 2.24 FRL CCfD) in order to submit a bid. The reference systems are based on efficient and low-emission conventional plant constellations. They define the greenhouse gas emissions and the energy carrier use of the reference system. These are defined as specific values for the production volume.

Information on the assignment of the individual projects to the reference systems will be provided to participants in the preparatory procedure 2026 in separate guidance letters.

The reference systems are orientated towards the system boundaries of the respective activities regulated in the EU-ETS 1 and are based – as far as possible – on the product benchmarks defined there.[3] For reference systems based on product benchmarks with the collection of electricity consumption data, the indirect emissions were subtracted from the benchmark value in accordance with the electricity consumption specified in Table 7 at the end of this Appendix. The indirect emissions were calculated from the stated electricity consumption for the production of the product in question multiplied by 0.376 tonnes CO_2 eq./MWh of electricity. If 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 comprises the production of several products that can be assigned to different reference systems, the project is assessed as the sum of its components in the bidding procedure. The amount of the annual funding or the surplus payment is 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) and the reference system heat supply and fuel usage are treated as upstream reference systems (cf. the provisions in Number 7.1(d) sentences 6-8, Appendix 1 Section 4 FRL CCfD). The upstream products (hydrogen or synthesis gas) or the heat (sum of the measurable heat flow and the heat calculated from the 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 are recorded and stated separately; this applies both to the information in the application for funding (Number 8.2(d) FRL CCfD) and to the calculation procedure (Number 9.2(b)(i) FRL CCfD). The information on the absolute greenhouse gas emissions and on the absolute energy carrier requirements of the project in accordance with Number 8.2(d) FRL CCfD must be provided for the entire project.

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

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[3] See Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 laying down EU-wide transitional provisions for the harmonisation of the free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EG of the European Parliament and of the Council (OJ L 59, 27.2.2019, p. 8), as last amended by Commission Delegated Regulation (EU) 2024/873 of 30 January 2024 amending Delegated Regulation (EU) 2019/331 as regards EU-wide transitional provisions for the harmonisation of free allocation of emission allowances (OJ L, 2024/873, 4.4.2024).

1 Refinery products

Product: Mixture of refinery products with over 40 % light products expressed as CO_2- weighted tonne (CWT)

Included are all refinery processes that meet the definition of one of the process units included in the calculation of the CWT, as well as non-process-related auxiliary plants within the refinery site such as tank farms, blending plants, wastewater treatment plants, etc. Technical units for the production of lubricants and bitumen in mainstream refineries are included in the refinery CWT and the GHG emission amount. Technical units in other industries such as petrochemicals are often physically integrated into mainstream refineries. Such technical units and their greenhouse gas emissions are excluded from the CWT model. The production of secondary energy carriers is not eligible (Number 4.17(b) FRL CCfD).

2-4 Primary steel

Product in the reference system: Carbon-saturated molten iron expressed in tonnes of liquid pig iron

All processes that are directly or indirectly related to the following process units are included: Coke ovens, H_2S or NH_3 combustion plant, coal preheating (defrosting), coke gas extraction, desulphurisation plant, distillation plant, steam generator, pressure control in the (coke) batteries, biological water treatment, heating of by-products and hydrogen separator, sintering belt, ignition, equipment for sinter preparation, hot screen, sinter cooler, cold screen, blast furnace, equipment for pig iron treatment, blast furnace blower, blast furnace hot blast stove, oxygen converter, secondary metallurgy, vacuum systems, casting (and cutting), slag preparation, burden preparation, blast furnace gas scrubbing, dust removal, scrap preheating, coal drying for the injection of fine coal dust, container preheating, preheating systems for cast ingots, compressed air generation, dust processing (briquetting), sludge processing (briquetting), steam injection in the blast furnace, and converter gas cooling.

The values for emissions and energy carrier use in the reference system are based on the assumption of a 20 % share of scrap.

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

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

If only one direct reduction plant is operated, the product extracted is the quantity of pig iron after the direct reduction plant, expressed in tonnes. In this case, this quantity is identical to the quantity $Q_{\square}^{real}$ used to determine the amount of the funding or surplus payment.

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

If downstream of the direct reduction plant, as part of the funded project, plants are operated that produce crude steel from the pig iron, the funded product is the quantity of crude steel, expressed in tonnes. The following provisions also apply:

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

The following applies to the scaling factor:

$$f_{DRI} = \frac{Q_{DRI}^{weiterverarbeitet}}{Q_{DRI}^{gesamt}} \quad [6]$$

It then applies to the emissions of the direct reduction plant:

$$E_{DRI}^{angerechnet} = E_{DRI}^{gesamt} f_{DRI} \quad [7]$$

The following applies to energy carrier use:

$$D_{i,DRI}^{angerechnet} = D_{i,DRI}^{gesamt} f_{DRI} \quad [8]$$

Of the quantity of crude steel produced in the plant, only the portion that originates from the pig iron produced in the funded project itself is recognised as a funded product. All variables relating to the plant for further processing into crude steel are scaled accordingly. This applies in particular to greenhouse gas emissions, energy carrier use, and production volumes.

The following applies to the scaling factor:

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

The conversion factor ζ has a value of one.

It then applies to the emissions of the downstream plant:

$$E_{AF}^{angerechnet} = E_{AF}^{gesamt} f_{AF} \quad [10]$$

The following applies to energy carrier use:

$$D_{i,AF}^{angerechnet} = D_{i,AF}^{gesamt} f_{AF} \quad [11]$$

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

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

Element	Description	Temporal variability
Q_{DRI}^{gesamt}	Total production volume of the direct reduction plant [tonnes of pig iron]	Determined annually
$Q_{DRI}^{weiterverarbeitet}$	Production volume of the direct reduction plant, which is further processed into crude steel in the downstream plants of the project [tonnes of pig iron]	Determined annually
Q_{AF}^{gesamt}	Total production volume of crude steel [tonnes of crude steel]	Determined annually
Q^{real}	Production volume of crude steel recognised [tonnes of crude steel]	Determined annually

Element	Description	Temporal variability
ζ	Conversion factor from pig iron to crude steel [tonnes of crude steel/t of pig iron]	Constant over time
f_{DRI}	Scaling factor for determining the calculated data of the downstream systems	Determined annually
f_{AF}	Scaling factor for determining the calculated data of the direct reduction system	Determined annually
E_{DRI}^{gesamt}	Total emissions from the direct reduction plant [t CO_2 -eq.]	Determined annually
$E_{DRI}^{angerechnet}$	Emissions from the direct reduction plant included in the settlement [t CO_2 -eq.]	Determined annually
E_{AF}^{gesamt}	Total emissions from downstream plants for the production of crude steel [t CO_2 -eq.]	Determined annually
$E_{AF}^{angerechnet}$	Emissions from downstream plants for the production of crude steel included in the calculation [t CO_2 -eq.]	Determined annually
$D_{i,DRI}^{gesamt}$	Total use of energy carrier i of the direct reduction plant [MWh]	Determined annually
$D_{i,DRI}^{angerechnet}$	Use of energy carrier i of the direct reduction system taken into account in funding [MWh]	Determined annually
$D_{i,AF}^{gesamt}$	Total use of energy carrier i of the downstream plants for the production of crude steel [MWh]	Determined annually
$D_{i,AF}^{angerechnet}$	Use of energy carrier i of the downstream plants for the production of crude steel recognised in the invoice [MWh]	Determined annually

Table 6: Formula elements reference system primary steel

5 Carbon steel produced using the electric arc process (EAF carbon steel)

Product: Secondary crude steel castings (less than 8 % metallic alloying elements) expressed in tonnes

Included are all processes that are directly or indirectly related to the following process plants or processes: Electric arc furnace, secondary metallurgy, casting and cutting, post-combustion chamber, dedusting plant, container heating, preheating plants for cast ingots, scrap drying, and scrap preheating. Processes subsequent to casting are not included.

6 High-alloy steel produced using the electric arc process (EAF high-alloy steel)

Product: Secondary crude steel castings (over 8 % metallic alloying elements) expressed in tonnes

Included are all processes that are directly or indirectly related to the following process plants or processes: Electric arc furnace, secondary metallurgy, casting and cutting, post-combustion chamber, dedusting system, container heating, preheating system for cast ingots, pit for slow cooling, scrap drying, and scrap preheating. The process units ferrochrome converter and cryogenic storage for industrial gases are not included. Processes subsequent to casting are not included.

7 Iron casting

Product: Cast iron expressed in tonnes of remelted and ready-to-cast liquid iron

All processes that are directly or indirectly related to the melting furnace, casting plant, core shop, and finishing process steps are included. The process step "finishing" refers to steps such as fettling and not to steps such as general machining, 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 related to the production of prebaked anodes from petroleum coke, pitch, and normal recycled anodes in anode furnaces. The production of Söderberg anodes are not included in this reference system.

9 Aluminium

Product: Unalloyed liquid aluminium in raw form from electrolysis expressed in tonnes measured between electrolysis plant and holding furnace before addition of secondary aluminium

Includes all processes that are directly or indirectly related to the electrolysis production stage. Emissions from the holding furnace and the foundry as well as emissions from anode production are excluded.

10 Grey cement clinker

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

All processes that are directly or indirectly related to the production of grey cement clinker or alternative hydraulic binders are included.

11 White cement clinker

Product: White cement clinker or alternative hydraulic binders for use as the main binder in the formulation of materials such as joint fillers, tile adhesives, insulating materials, or mortars with an average content not exceeding 0.4 mass-% Fe_2O_3, 0.003 mass-% Cr_2O_3 and 0.03 mass- % Mn_2O_3, expressed in tonnes of hydraulic binder (as 100 % clinker/alternative hydraulic binders).

All processes directly or indirectly related to the production of white cement clinker or alternative hydraulic binders are included. This reference system does not include products that occur within the system boundaries of other reference systems or as a by-product of other production processes, such as fly ash, blast furnace slag, steel slag, silica fume, and paper sludge.

12 Lime

Product: Calcium oxide obtained by burning limestone, expressed in tonnes of lime

All processes that are directly or indirectly related to the production of lime are included.

13 Dolime (Dolomite lime)

Product: Dolime obtained by burning dolomite, expressed in tonnes of dolime (standard purity)

Includes all processes that are directly or indirectly related to the production of dolime, in particular fuel preparation, calcination/sintering, and waste gas treatment.

14 Sintered dolime

Product: Mixture of calcium and magnesium oxide for the production of refractory products with a bulk density of at least 3.05 g/cm^3 expressed in tonnes of marketable sintered dolime

Includes all processes directly or indirectly related to the production of sintered dolomite.

15 Float glass

Product: Float or frosted glass expressed in tonnes of glass from the annealing lehr

This includes all processes that are directly or indirectly related to the production steps of melting furnace, refining area, working tank, float bath, and cooling furnace. Further work steps that can be physically separated from the previous process, such as offline coating, laminating, or hardening, are excluded.

16 Bottles and jars of colourless glass

Product: Bottles of uncoloured glass expressed in tonnes of packaged product

All processes that are directly or indirectly related to the production steps of material handling, melting, moulding, further processing, packaging, and other activities are included. The reference system includes bottles with a nominal capacity of less than 2.5 litres for food and beverages. Baby bottles and bottles with a (reconstructed) leather cover are not included.

17 Bottles and jars of coloured glass

Product: Coloured glass bottles expressed in tonnes of packaged product

All processes that are directly or indirectly related to the production steps of material handling, melting, moulding, further processing, packaging, and other activities are included. The reference system includes bottles with a nominal capacity of less than 2.5 litres for food and beverages. Baby bottles and bottles with a (reconstructed) leather cover are not included.

18 Continuous filament glass fibre products

Product: Molten glass for the production of products from continuous glass fibres expressed in tonnes of molten glass from the forehearth

Included are all processes that are directly or indirectly related to the production processes of melting glass in the melting furnaces and glass conditioning in the forehearths. The further processing of the fibres into marketable products is not covered by this reference system. Support processes, such as material handling, are considered utility services and are not included within the system boundaries. The production of mineral wool products for thermal and acoustic insulation as well as fire protection are not covered by this reference system.

19 Facing bricks

Product: Facing bricks for masonry according to EN 771-1 expressed in tonnes of bricks

Included are all processes that are directly or indirectly related to the production processes of preparing and mixing the raw materials, moulding, drying the blanks, firing the bricks, finishing the product, and washing the exhaust gas.

20 Paving bricks (Pavers)

Product: Clay tiles for floor coverings according to EN 1344 expressed in tonnes of marketable tiles

Included are all processes that are directly or indirectly related to the production processes of preparing and mixing the raw materials, moulding, drying the blanks, firing the bricks, finishing the product, and washing the exhaust gas.

21 Roof tiles

Product: Clay roof tiles according to EN 1304:2005 expressed in tonnes of marketable tiles

Included are all processes that are directly or indirectly related to the production processes of preparing and mixing the raw materials, moulding, drying the blanks, firing the bricks, finishing the product, and washing the exhaust gas.

22 Spray dried powder

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

Includes all processes that are directly or indirectly related to the production of spray-dried powder.

23 Mineral wool

Product: Insulation materials made from glass, stone or slag expressed in tonnes of mineral wool

This includes all processes that are directly or indirectly related to the production steps of melting, defibration and spraying of binders, hardening, and moulding.

24 Plaster

Product: Gypsum from burnt gypsum stone or calcium sulphate expressed in tonnes of stucco plaster

All processes that are directly or indirectly related to the production steps of grinding, drying, and burning are included. Alpha gypsum, gypsum that is further processed into plasterboard, and the production of the intermediate product "dried secondary gypsum" are not covered by this reference system.

25 Dried secondary gypsum

Product: Dried secondary gypsum expressed in tonnes of product

All processes that are directly or indirectly related to the drying of secondary gypsum are included.

26 Plasterboard

Product: Boards, tiles, and the like made of gypsum or of mixtures based on gypsum, (not) covered with paper or cardboard or reinforced in tonnes of stucco plaster

All processes that are directly or indirectly related to the production steps of grinding, drying, firing and drying the boards are included. The production of the intermediate product "dried secondary gypsum" is not covered by this reference system. Gypsum-bonded, decorated goods, and high-density gypsum fibreboards are also not covered by this reference system.

27 Short fibre kraft pulp

Product: Short fibre kraft pulp expressed as net marketable production in Adt (tonnes, air dry) measured at the end of the manufacturing process. One Adt of pulp means 90 % dry, solid components

Includes all processes that are part of the pulp production process as well as connected energy conversion equipment (boiler/CHP). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal instead of external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

28 Long fibre kraft pulp

Product: Long fibre kraft pulp expressed as net marketable production in Adt (tonnes, air dry), measured at the end of the manufacturing process

One Adt of pulp means 90 % dry, solid components.

Includes all processes that are part of the pulp production process as well as connected energy conversion equipment (boiler/CHP). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal instead of external waste treatment such as drying, pelletizing, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

29 Sulphite pulp, (thermo-)mechanical pulp

Product: Sulphite pulp and (thermo-)mechanical pulp expressed as net marketable production in Adt (tonnes, air-dry), measured at the end of the production process

One Adt of pulp means 90 % dry, solid components

Includes all processes that are part of the pulp production process as well as connected energy conversion equipment (boiler/CHP). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal instead of external waste treatment such as drying, pelletizing, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

30 Recovered paper pulp

Product: Pulp from recycled paper or cardboard expressed as net marketable production in Adt (tonnes, air-dry), measured at the end of the manufacturing process

One Adt of pulp means 90 % dry, solid components

Includes all processes that are part of pulp production from recycled paper, as well as associated energy conversion equipment (boiler/CHP). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

31 Newsprint

Product: Newsprint paper expressed as tonnes of net marketable production

Includes all processes that are part of paper production (in particular paper or board machine and associated energy conversion equipment (boiler/CHP) and fuel used directly in the production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

32 Uncoated fine paper

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

Includes all processes that are part of paper production (in particular paper or board machine and associated energy conversion equipment (boiler/CHP) and fuel used directly in the production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

33 Coated fine paper

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

Includes all processes that are part of paper production (in particular paper- or board machine and associated energy conversion equipment (boiler/CHP) and fuel used directly in the production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included.

34 Tissue

Product: Tissue paper expressed as net marketable production parent rolls in Adt defined as paper with a moisture content of 6 %

The reference system includes a wide range of tissue and other tissue papers for household, commercial, or industrial use (toilet paper, facial tissues, kitchen wipes, paper towels, and industrial wipes). Sanitary paper that has been dried using the through-flow process (TAD tissue) does not belong to this group.

Includes all processes that are part of paper production (in particular paper or board machine and associated energy conversion equipment (boiler/CHP) and fuel used directly in the production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included. The conversion of mother roll weight into end products is not part of this reference system.

35 Testliner and fluting

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

Includes all processes that are part of paper production (in particular paper or board machine and associated energy conversion equipment (boiler/CHP) and fuel used directly in the production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included. Kraftliner is not included in this reference system.

36 Uncoated carton board

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

Includes all processes that are part of paper production (in particular paper or board machine and associated energy conversion equipment (boiler/CHP) and fuel used directly in the

production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletising, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included. Alternative product names are solid board, folding boxboard, cartonboard, packaging board, wrapping board, or winding board.

37 Coated carton board

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

Includes all processes that are part of paper production (in particular paper or board machine and connected energy conversion equipment (boiler/CHP) and fuel used directly in the production process). Other activities at the plant site that are not part of this process, such as sawmilling, wood processing, production of chemicals for sale, waste treatment (internal rather than external waste treatment such as drying, pelletizing, incineration or landfilling), production of synthetic calcium carbonate (PCC), treatment of malodorous gases, and district heating are not included. Alternative product names are solid board, folding boxboard, cartonboard, packaging board, wrapping board, or winding board.

38 Carbon black

Product: Furnace carbon black converted into tonnes of marketable production.

All processes that are directly or indirectly related to the production of furnace carbon black as well as finishing, packaging, and flaring are included. Gas and flame soot are not covered by this reference system.

39 Nitric acid

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

Includes all processes that are directly or indirectly related to the production of nitric acid and the destruction of N_2O, with the exception of ammonia production.

41 Ammonia

Product: Ammonia (100 % purity) expressed in tonnes

All processes directly or indirectly related to the production of ammonia and hydrogen are included. This reference system includes the production of ammonia from hydrogen that is not produced during chlor-alkali electrolysis or chlorine production. Production from other chemical compounds is not included.

When determining the greenhouse gas emissions of the project, the following must be considered: If the hydrogen does not meet the requirements according to Number 4.9(a) FRL CCfD, no greenhouse gas emission reduction can be credited for this hydrogen used. In this case, the specific greenhouse gas emissions for this hydrogen input are to be taken as 6,840 t CO2 eq./t hydrogen.

When submitting an application, the following must be considered with regard to the information required under Number 8.2(d) FRL CCfD: Even if the aid beneficiary produces the hydrogen itself, the quantities of energy carriers required for the production of this hydrogen

are not to be taken into account when stating the use of energy carriers in the application. Instead, the hydrogen required for ammonia production is to be stated in the application.

42 Steam cracking

Product: Mixture of valuable chemical products (at least 50 % by mass of gaseous or liquid hydrocarbons, of which at least 30 % by mass of ethene) expressed in tonnes

Includes all processes directly or indirectly related to the production of valuable chemical products as a purified product or as an intermediate with a concentrated content of the relevant valuable chemical product in the lowest marketable form (crude C4, non-hydrogenated pyrolysis petrol), excluding C4 separation (butadiene plant), C4 hydrogenation, hydrotreating of pyrolysis petrol, and aromatics extraction as well as logistics and inventories for ongoing operations.

43 Aromatics

Product: Aromatics mixture, expressed in CO_2-weighted tonnes (CWT)

Includes all processes that are directly or indirectly related to the aromatics-specific plant components pyrolysis gasoline hydrotreater, benzene, toluene, xylene extraction, toluene disproportionation, hydrodesalkylation, xylene isomerisation, p-xylene plant, cumene production, and cyclohexane production.

44 Styrene

Product: Monomeric styrene expressed in tonnes of marketable production

Includes all processes directly or indirectly related to the production of styrene and the intermediate product ethylbenzene (in the amount used as feedstock for styrene production). For plants that produce both propylene oxide and monomeric styrene, the plants used exclusively for propylene and propylene oxide base operations are excluded from this reference system. Plants used for both purposes are included in the reference system according to the share of production in tonnes in the production of monomeric styrene.

45 Phenol, acetone

Product: Total production of phenol, acetone, and the by-product alphamethylstyrene expressed in tonnes of marketable production (100 % purity)

Includes all processes that are directly or indirectly related to the production of phenol and acetone. This includes, in particular, compressed air generation, hydroperoxidation, cumene recovery from exhaust air, concentration and splitting, fractionation and purification, tar cracking, recovery and purification of acetophenone, recovery of alphamethylstyrene for discharge from the plant, hydrogenation of alphamethylstyrene for recycling within the system boundaries, initial wastewater treatment (1st stage), cooling water production (e.g. cooling towers), cooling water use (recirculation pumps), flares and incinerators (including those physically located outside the system boundaries), and fuel consumption for auxiliary activities.

46 Ethylene oxide, ethylene glycol

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

Includes all processes that are directly or indirectly related to the ethylene oxide production and purification process units and the glycol area.

47 Vinyl chloride monomer

Product: Vinyl chloride expressed in tonnes of marketable production (100 % purity)

Includes all processes that are directly or indirectly related to the production steps of direct chlorination, oxychlorination, and cracking of ethylene dichloride to vinyl chloride monomer. The combustion of chlorinated hydrocarbons in the exhaust gases falls under 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 an average size of 50-200 µm expressed in tonnes of marketable production (100 % purity).

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

49 E-polyvinyl chloride (E-PVC)

Product: Polyvinyl chloride consisting of particles with an average size of 0.1-3 µm expressed in tonnes of marketable production (100 % purity).

Includes all processes directly or indirectly related to the production of E-PVC, excluding the production of vinyl chloride monomer.

50 Hydrogen

Product: Eligible industrial product expressed in tonnes; the quantity of the upstream product hydrogen is invoiced in tonnes

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 marketable net production.

Included are all process elements that are directly or indirectly related to the production of hydrogen and the separation of hydrogen and carbon monoxide. These elements are located between (a) the entry points of hydrocarbon feedstock and, if separate, fuel(s), (b) the exit points of all product streams containing hydrogen or carbon monoxide, and (c) the entry or exit points of imported or exported heat.

This reference system only applies if hydrogen is used as a material in the system boundaries of the plant for the production of an industrial product for which no product-specific reference system is defined and the hydrogen production is not already included in another reference system. The specific hydrogen use per end product must be stated with the application. Any greenhouse gas emissions in the process that result from the production of the product to be extracted, but not from the provision of hydrogen, must also be reduced and are added to the

reference system. The hydrogen reference system is therefore used as an upstream reference system.

The following must be considered when determining the greenhouse gas emissions of the project: If the hydrogen does not meet the requirements according to Number 4.9(a) FRL CCfD, no greenhouse gas emission reduction for the upstream product hydrogen can be taken into account. In this case, the specific greenhouse gas emissions for this hydrogen input are to be taken as 6,840 t CO_2eq/t hydrogen.

The free allocation to the reference system is equivalent to the free allocation to the upstream product.

When submitting the application, the following must be considered with regard to the information in accordance with Number 8.2(d) FRL CCfD: Even if the upstream reference system uses hydrogen and the hydrogen is produced by the aid beneficiary himself, the quantities of energy carriers required to produce this hydrogen are not to be taken into account when specifying the energy carrier use in the application.

51 Synthesis gas

Product: Eligible industrial product expressed in tonnes; the quantity of the upstream product synthesis gas is invoiced in tonnes

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 based on 47 % hydrogen by volume as net marketable production.

Included are all process components that are directly or indirectly related to the production of synthesis gas and the separation of hydrogen and carbon monoxide. These elements are located between (a) the entry points of hydrocarbon feedstock and, if separate, fuel(s), (b) the exit points of all product streams containing hydrogen or carbon monoxide, and (c) the entry or exit points of imported or exported heat.

This reference system only applies if synthesis gas is used as a material in the system boundaries of the plant for the production of a product. The specific synthesis gas use per end product must be stated with the application. Any greenhouse gas emissions that result from the production of the product to be extracted, but not from the provision of synthesis gas, must also be reduced and are added to the reference system. The synthesis gas reference system is therefore used as an upstream reference system.

52 Soda ash

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

Includes all processes that are directly or indirectly related to the following process units: Purification of brine, lime burning and milk of lime production, CO_2 reactors, ammonia absorption, precipitation of $NaHCO_3$, filtering or separation of $NaHCO_3$ crystals from the mother solution, splitting of $NaHCO_3$ to Na_2CO_3, ammonia recovery, and compaction or recovery of heavy soda ash. Heavy soda, which is a by-product of caprolactam production, is not covered by this reference system.

Steam for industrial applications

Product: Industrial steam, the measurable heat used outside of the project for the production of industrial products is invoiced in MWh

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.

This includes all processes that are directly or indirectly related to the provision of industrial steam that is used outside of the industrial steam project for the production of industrial products within the meaning of Number 4.17(g) 1st half-sentence FRL CCfD.

Heat production and fuel usage

Product: Eligible industrial product expressed in tonnes, invoiced as the sum of the measurable heat used and the calculated heat in MWh resulting from the fuel input

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 recognisable pipes or lines for which a heat meter has been or could be installed. Measurable net heat flows must be indicated as measurable heat. Only if the net heat flow resulting from the use of fuels is not measurable[4] shall this fuel input be converted into a heat flow in MWh 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.

All processes that are directly or indirectly related to the production of eligible products that are not subject to any of the aforementioned reference systems that refer to product benchmarks are included. The specific heat requirement and, if a non-measurable heat flow is used, the fuel input per tonne of product must be quantified with the submission and substantiated with publicly available sources. The application must take into account and justify why calculated heat flows cannot be determined as measurable heat flows. Any process-related greenhouse gas emissions must also be reduced and added to the reference system. The reference system heat supply and fuel usage is therefore used as an upstream reference system.

[4] Non-measurable heat is any heat other than measurable heat (Article 2(9) Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 laying down EU-wide transitional provisions for the harmonisation of the free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EG of the European Parliament and of the Council (OJ L 59, 27.2.2019, p. 8), as last amended by Commission Delegated Regulation (EU) 2024/873 of 30 January 2024 amending Delegated Regulation (EU) 2019/331 as regards EU-wide transitional provisions for the harmonisation of free allocation of emission allowances (OJ L, 2024/873, 4.4.2024).

Reference system	**Activity in the EU ETS**	**Greenhouse gas emissions**	**Energy carrier use (by net calorific value) in MWh/ME Product[5]**						**Sector**
	Code according to RegVO	t CO_2 -eq./ME Product[6]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers	
1 Refinery products [a]	21	0.0228	-	0.11	-	-	-	-	Chemicals
2-4 Primary steel	22-24	1.321	0.10	0.67	2.83	0.86	-	-	Primary steel
5 EAF carbon steel [a]	24	0.050	0.44	0.04	-	-	-	-	Other metals
6 EAF high-alloy steel [a]	24	0.103	0.44	0.04	-	-	-	-	Other metals
7 Iron casting [a]	25	0.073	0.56	0.04	-	-	-	-	Other metals
8 Pre-bake anodes	26	0.312	0.17	0.77	7.48	-	-	-	Other metals
9 Aluminium	26	1.464	13.9	-	-	-	-	-	Other metals
10 Grey cement clinker	29	0.693	0.04	-	-	0.23	-	0.54	Cement
11 White cement clinker	29	0.957	0.04	-	-	1.35	-	-	Cement
12 Lime	30	0.725	0.02	-	-	-	0.89	-	Lime
13 Dolomite lime (Dolime)	30	0.815	0.02	-	-	-	0.89	-	Lime
14 Sintered dolime	30	1.406	0.02	-	-	1.81	-	-	Lime
15 Float glass	31	0.399	-	1.54	-	-	-	-	Glass and ceramics
16 Bottles and containers made of non-coloured glass	31	0.290	0.17	1.36	-	-	-	-	Glass and ceramics
17 Bottles and containers made of coloured glass	31	0.237	0.17	1.09	-	-	-	-	Glass and ceramics

[5] Heat supply and fuel use: Information on energy carrier use per MWh_heat or MWh_fuel instead of ME product.
[6] The relevant units of measure for the individual reference systems can be found in the description of the reference systems above.

Reference system	**Activity in the EU ETS**	**Greenhouse gas emissions**	**Energy carrier use (by net calorific value) in MWh/ME Product[5]**						**Sector**
	Code according to RegVO	t CO_2 -eq./ME Product[6]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers	
18 Continuous filament glass fibre products	31	0.309	0.31	0.94	-	-	-	-	Glass and ceramics
19 Facing bricks	32	0.106	0.08	0.40	-	-	-	-	Glass and ceramics
20 Paving bricks (Pavers)	32	0.146	0.08	0.60	-	-	-	-	Glass and ceramics
21 Roof tiles	32	0.120	0.06	0.47	-	-	-	-	Glass and ceramics
22 Spray dried powder	32	0.058	0.05	0.29	-	-	-	-	Plaster and others
23 Mineral wool [a]	33	0.222	0.84	0.95	-	-	-	-	Glass and ceramics
24 Plaster	34	0.047	-	0.23	-	-	-	-	Plaster and others
25 Dried secondary plaster	34	0.013	-	0.06	-	-	-	-	Plaster and others
26 Plasterboard [a]	34	0.110	-	0.55	-	-	-	-	Plaster and others
27 Short fibre kraft pulp	35	0.091	0.33	0.45	-	-	0.90		Pulp and paper
28 Long fibre kraft pulp	35	0.046	0.33	0.23	-	-	0.46		Pulp and paper
29 Sulphite pulp, mechanical pulp	35	0.015	0.44	0.26	-	-	0.52		Pulp and paper
30 Pulp from recycled paper	35	0.030	0.26	0.08	-	-	0.17	-	Pulp and paper
31 Newsprint	36	0.226	0.80	0.49	-	-	0.99	-	Pulp and paper
32 Uncoated fine paper	36	0.242	0.65	0.26	-	-	0.52	-	Pulp and paper
33 Coated fine paper	36	0.242	0.54	0.84	-	-	1.71	-	Pulp and paper

Reference system	**Activity in the EU ETS**	**Greenhouse gas emissions**	**Energy carrier use (by net calorific value) in MWh/ME Product[5]**						**Sector**
	Code according to RegVO	t CO_2 -eq./ME Product[6]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers	
34 Tissue paper	36	0.254	0.93	0.55	-	-	1.12	-	Pulp and paper
35 Testliner and fluting	36	0.188	0.26	0.50	-	-	1.02	-	Pulp and paper
36 Uncoated cardboard	36	0.180	0.27	0.45	-	-	0.91	-	Pulp and paper
37 Coated carton board	36	0.207	0.40	0.52	-	-	1.09	-	Pulp and paper
38 Carbon black [a]	37	1.323	0.43	3.60	-	-	-	11.33	Chemicals
39 Nitric acid	38	0.230	0.01	0.81	-	-	-	-	Chemicals
41 Ammonia [a]	41	1.570		8.77	-	-	-	-	Chemicals
42 Steam cracking [a]	42	0.681	-	3.37	-	-	-	-	Chemicals
43 Aromatics[a]	42	0.0228	-	0.11	-	-	-	-	Chemicals
44 Styrene[a]	42	0.341	0.16	1.69	-	-	-	-	Chemicals
45 Phenol, acetone	42	0.230	0.19	1.14	-	-	-	-	Chemicals
46 Ethylene oxide, ethylene glycol[a]	42	0.314	0.20	-	-	-	-	-	Chemicals
47 Vinyl chloride monomer	42	0.155	0.11	0.70	-	-	-	-	Chemicals
48 S-Polyvinyl chloride	42	0.066	0.19	0.33	-	-	-	-	Chemicals
49 E-Polyvinyl chloride	42	0.181	0.39	0.90	-	-	-	-	Chemicals
50 Hydrogen [a]	43	6.840	-	38.06	-	-	-	-	Chemicals
51 Synthesis gas [a]	43	0.187		7.41	-	-	-	-	Chemicals
52 Soda ash	44	1.168	0.09	1.21	-	1,49	-	-	Chemicals

Reference system	**Activity in the EU ETS**	**Greenhouse gas emissions**	**Energy carrier use (by net calorific value) in MWh/ME Product[5]**						**Sector**
	Code according to RegVO	t CO_2 -eq./ME Product[6]	Electricity	Natural gas	Coking coal	Steam coal	Biomass, gaseous	Other energy carriers	
Steam for industrial applications	-	0.170	-	0.84	-	-	0.27	-	Chemicals
Heat supply and fuel usage	-	0.170	-	0.84	-	-	0.27	-	X [b]

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

[a] The reference systems are based on product benchmarks with the collection of electricity consumption data in accordance with Commission Delegated Regulation (EU) 2024/873 of 30 January 2024. Based on the specified energy carrier use, the greenhouse gas emissions stated therein were reduced by the indirect emissions for electricity not to be taken into account in this funding programme in accordance with Number 7.1(d) sentence 2 FRL CCfD. The indirect emissions were calculated from the stated electricity consumption for the production of the product in question multiplied by 0.376 tonnes of CO_2 eq./MWh of electricity.

[b] The sector of projects for heat supply and fuel usage is defined according to their main product. Projects with main products that cannot be assigned to a sector are assigned to the Plaster and others sector.

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

Examples of and notes on other funding within the meaning of Number 2.3 FRL CCfD are:

1. Research programme of the Research Fund for Coal and Steel (RFCS)
2. EU Innovation Fund: Energy Efficiency & Renewable Energies, Research & Innovation (CINEA)
3. EU-LIFE – Programme for the environment and climate action (2021-2027)
4. Important Projects of Common European Interest (IPCEI)
5. Federal funding for energy and resource efficiency in commerce – grant and loan (EEW)
6. Funding guideline for international hydrogen projects (BMWE/BMFTR)
7. Environmental Innovation Programme (BMUKN)
8. "Federal Funding for Industry and Climate Action" funding programme (BIK)
9. STARK – Strengthening the transformation momentum and new beginnings in the mining areas and at the coal-fired power plant sites
10. KfW climate protection campaign for companies
11. Funding guideline "Resilience and sustainability of the battery cell production ecosystem"
12. Directive on the assignment of other energy production areas in the exclusive economic zone
13. Funding for system-beneficial electrolysis plants for the production of green hydrogen (see § 96 Nr. 9 (section 96, no 9) WindSeeG)
14. Special compensation scheme according to §§ 28 ff. EnFG
15. Electricity price compensation in accordance with the Directive on funding for indirect CO_2 costs of 13 March 2024
16. Benefits pursuant to § 9 Abs. 1 Nr. 1 und 3, Abs. 2 und 3 (section 9(1), no 1 and 3, (2) and (3) and § 9b of the Electricity Tax Act (StromStG), see § 2a Abs. 3 (section 2a(3)) StromStG.
17. Concessions in accordance with § 3, § 47a, § 53a, § 54 and § 55 of the Energy Tax Act (Energie-StG)
18. Funding programme "Companies do climate action' (Baden-Württemberg)
19. Economical and rational use and conversion of energy in industry and commerce (REN Directive) Bremen
20. Hamburg Renewable Energies Funding Guideline
21. Company for resource conservation (IFB Hamburg)
22. Climate protection funding guideline for companies in Mecklenburg-Vorpommern
23. Funding of individual company investments and supplementary CO_2 savings measures ("Niedersachsen Invest GRW")
24. Energie.IN.NRW – Innovative project ideas for the energy system of the future, a climate-neutral industry and climate- and resource-friendly construction in North Rhine-Westphalia
25. NRW resource efficiency and sustainability funding guideline
26. Subsidies under "Progres.NRW"
27. Joint task "Improvement of the regional economic structure" (GRW) (RIGA) – Commercial sector (SMWA)

28. Funding the local energy transition by promoting regional model projects in Saarland (EVO)
29. Funding of measures to increase energy efficiency and the use of renewable energies in companies (AGVO) – Saxony-Anhalt ENERGY
30. State Programme Economy 2021-2027 – Funding of energy-saving and energy efficiency technologies and energy innovations (Schleswig-Holstein)

No other funding within the meaning of Number 2.3 FRL CCfD are:

- Reduced grid charges in accordance with § 19 Abs. 2 (section 19(2)) StromNEV
- Tax relief in accordance with § 9a StromStG, § 51 and § 53 EnergieStG

The procurement of hydrogen in the auctions of H_2Global is not considered as other funding within the meaning of Number 2.3 FRL CCfD.

Notes:

1. This list is not an exhaustive list of examples. This assistance does not release you from the obligation to carry out an independent examination.
2. When submitting an application, applicants are obliged to provide complete and truthful information about other funding already approved or applied for the project (Number 8.2(e)(vi) FRL CCfD). This obligation also extends to funding that is not included in this list.
3. If there is any doubt as to whether a funding already approved before the application was submitted constitutes other funding within the meaning of Number 2.3 FRL CCfD and should therefore be taken into account in determining the base contract price in accordance with Number 7.1(a)(i) FRL CCfD, the applicant may consult with the granting authority up to four weeks before the expiry of the material cut-off period. Please direct your inquiry to fragen@co2-differenzvertraege.info.

Appendix 3: Checklist of documents and evidence to be submitted

The following documents and evidence must be submitted for participation in this bidding procedure of the Carbon Contracts for Difference programme:

Documents submitted as PDF files via easy-Online:

- Completed form application (signed[7] or provided with a QES[8]; alternatively, verification may be carried out using the TAN procedure)
- Completed project description (project description form)
- Completed quantitative enquiry document incl. financing plan
- Proof of creditworthiness
- Questionnaire for the identification of the beneficial owners
- Digital version of the Carbon Contract for Difference completed using the dynamic PDF, with scanned signature (for the avoidance of doubt: the completed Carbon Contract for Difference consists of the model Carbon Contract for Difference provided by the granting authority and the components of the Carbon Contract for Difference generated and completed by the dynamic PDF)
- Digital copy of the proof of collateral
- Declaration 'Ausschluss Status Unternehmen in Schwierigkeiten und Rückforderungsanordnung der EU-Kommission'
- Only if required for the project:
  - Evidence regarding the energetic use of biomass
  - Proof of the use of natural gas
  - Evidence regarding the use of the most polluting fossil fuels
  - Proof of the use of industrial steam and of the possibility of supplying industrial steam to at least three different third parties
  - Proof of authorisation of the consortium leader
  - Proof of information regarding consortium members
- If there is no works council at the applicant's company and the applicant is not bound by a collective agreement, a viable concept for maintaining the location
- If the applicant is not the owner of these plants, a declaration of commitment by the owner of the funded plants or conventional reference plants or corresponding declaration or agreement

Documents to be submitted by post:

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

(Only) the original of the proof of security in addition to submitting a digital copy via the "easy-Online" portal must be sent to the Project Management Organisation Jülich, Department ESN 7, P.O. Box 61 02 47, 10923 Berlin in its capacity as administrative assistant to the granting authority, no later than one week after the expiry of the deadline for submitting the bids. **The address field must be labelled "Personal/Confidential".** Alternatively, the documents can be submitted in person (visitor address: Projektträger Jülich, Lützowstr. 109, 10785 Berlin, business hours: Mon- Fri, 9 am – 5 pm). In this case, the documents must be submitted in a sealed

[7] The application must be signed by hand and scanned in.

[8] Qualified electronic signature.

envelope labelled "Personal/Confidential". With regard to the written form, the requirements of § 126 Abs. 1(section 126(1)) BGB (handwritten or notarised signature) or § 126 Abs. 4 (section 126(4)) BGB (notarial authentication) apply. For clarification: § 350 HGB does not apply.

Further details on the submission of applications and the submission of the Carbon Contracts for Difference can be found in the "Handreichung Antragseinreichung und Einreichung CCfD" ("Application submission and submission of the CCfD"), which is published on the website https://www.co2-differenzvertraege.info.

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

The **annual hedging price for the CO_2 price $p_{CO2}^{sicher,t}$** for determining the maximum annual funding amount (see Appendix 1 Section 3 FRL CCfD) in the funding programme Carbon Contracts for Difference is determined as follows:

Year	EUR/t CO_2-equivalent
2026	50.35
2027	55.99
2028	61.74
2029	67.05
2030	73.02
2031	79.73
2032	87.03
2033	95.00
2034	103.71
2035	113.21
2036	122.90
2037	132.59
2038	142.28
2039	151.97
2040	161.67
2041	171.36
2042	181.05
2043	190.74
2044	200.43
2045	210.13
2046	219.82

Year	EUR/t CO_2-equivalent
2047	229.51
2048	239.20
2049	248.89
2050	258.59
2051	258.59
2052	258.59

Table 8: Annual hedging prices for the CO_2 price

The **annual hedging prices for the energy carriers i** $\mathbf{p_i^{sicher,t}}$ for determining the maximum annual funding amount (see Appendix 1 Section 3 FRL CCfD) are determined as follows:

Year	Electricity [EUR/MWh]	Renewable hydrogen [EUR/MWh]	Low-carbon hydrogen [EUR/MWh]	Natural gas [EUR/MWh]	Coking coal [EUR/MWh]	Steam coal [EUR/MWh]
2026	113.67	250.71	250.71	41.90	39.50	17.34
2027	110.08	242.64	242.64	38.47	35.66	15.66
2028	106.31	234.94	234.94	36.54	33.43	14.68
2029	103.23	225.73	225.73	34.38	30.99	13.61
2030	99.12	218.79	218.79	32.56	28.86	12.67
2031	94.02	214.03	214.03	31.07	27.02	11.86
2032	88.31	211.41	211.41	29.89	25.45	11.17
2033	82.81	210.91	210.91	29.00	24.13	10.60
2034	78.14	211.11	211.11	28.41	23.06	10.12
2035	74.25	211.27	211.27	28.10	22.21	9.75
2036	71.10	211.39	211.39	28.07	21.59	9.48
2037	68.67	211.50	211.50	28.12	21.18	9.30
2038	66.92	211.60	211.60	28.17	20.99	9.22
2039	65.84	211.70	211.70	28.22	20.83	9.15
2040	65.42	211.79	211.79	28.35	20.76	9.12
2041	65.65	213.32	213.32	28.77	20.91	9.18

Year	Electricity [EUR/MWh]	Renewable hydrogen [EUR/MWh]	Low-carbon hydrogen [EUR/MWh]	Natural gas [EUR/MWh]	Coking coal [EUR/MWh]	Steam coal [EUR/MWh]
2042	66.49	214.89	214.89	29.28	21.15	9.29
2043	67.36	216.50	216.50	29.80	21.41	9.40
2044	68.25	218.14	218.14	30.34	21.67	9.52
2045	69.73	219.82	219.82	30.90	21.94	9.63
2046	71.91	221.54	221.54	31.48	22.21	9.75
2047	74.76	223.30	223.30	32.08	22.50	9.88
2048	77.72	225.10	225.10	32.70	22.78	10.03
2049	80.80	226.94	226.94	33.34	23.06	10.14
2050	83.99	228.82	228.82	34.01	23.34	10.14
2051	83.99	228.82	228.82	34.01	23.34	10.14
2052	83.99	228.82	228.82	34.01	23.34	10.14

Table 9: Annual hedging prices for the energy carriers