

FAQ – carbon contracts for difference

Provided via klimaschutzvertraege.info/en/home

Last updated: 12 March 2024

1 What are carbon contracts for difference and how do they work?

As part of its efforts to decarbonise the industrial sector, the Federal Ministry for Economic Affairs and Climate Action is planning to conclude carbon contracts for difference with large industrial carbon emitters (e.g. in the paper, glass, chemical and steel sectors). Carbon contracts for difference reduce price risks and help companies offset the added cost of decarbonisation, which is currently keeping them from switching to climate-friendly manufacturing methods. Carbon contracts for difference are thus an upfront financing mechanism that seeks to drive forward the establishment and operation of novel types of industrial plants in Germany. This is to help establish transformative technologies on the market much more quickly and in the medium term without the need for government funding – technologies which are urgently needed for combatting the climate crisis and rejuvenating Germany's industrial base.

The use of the carbon contracts for difference instrument also opens a new chapter in the Federal Ministry for Economic Affairs and Climate Action's funding policy. Germany is one of the first countries worldwide to make use of this instrument, with many EU Member States and the European Union currently working to roll out similar programmes.

Carbon contracts for difference mirror the principle of private-sector hedging contracts and help hedge price risks which up to now have been impossible to predict. The funding that companies receive varies and is based in each case on the additional cost of the climate-friendly plant compared with a conventional one. Once the cost of climate-friendly production falls below that of its conventional counterpart, the payment flow will be reversed. The companies receiving funding will then have to pay the difference back to the state. Once a payment is made, the company is free to terminate the contract, which will continue to apply until three years later. This makes carbon contracts for difference a highly efficient funding instrument that allows investors and financiers to calculate the risk involved in switching to transformative technologies, ensures that tax money is spent efficiently and prevents market distortion.

However, the use of auctions and the associated reduction of paperwork, the hedging of non-predictable price risks and the automatic adaptation of the funding including payments to the state require sophisticated calculation formulas. Private-sector companies seeking to enter into carbon contracts for difference thus do require expert knowledge, which, in light of the size of the investment projects concerned, they usually have and need to have given the high amounts of government funding involved. This means that bidding in the auction requires a great deal of expertise on the part of companies, but with the prospect of a binding funding approval that is no longer subject to procedures under State aid law or a cumbersome national screening mechanism. Instead, the State aid procedure has already been completed, meaning that the approval can be given shortly after the company has gone to the effort of submitting the bid.

2 How much funding is available for the first round of auctions and is it true that a cap of €1 billion applies per project?

A budget of up to €4 billion is available for the first round of auctions, which begins on 12 March 2024. This is the maximum amount of funding available in a scenario where climate-friendly manufacturing will be extremely expensive over the 15-year contracting period of the carbon contracts for difference. In a realistic scenario, only part of this sum will be paid out.

The maximum amount of funding per project is €1 billion. In a future round of auctions, we want to also give the few projects that are even larger than this a chance to submit a bid.

3 Will there be more rounds of auctions after this first call for bids and how much funding is available in total?

Yes, we are planning to have another round of auctions this year and two in the year after. The overall maximum sum of funding available is to be a two-digit billion figure.

4 Who can apply and submit a bid?

All projects that have successfully participated in the first preparatory procedure. We have already sent these letters of admission complete with additional information. We encourage all companies planning to operate large-scale climate-friendly industrial plants to bid in the second round of auctions, which will begin in summer this year.

5 What does the process look like from here and what exactly do companies have to do if they plan to bid?

We have sent the companies that have successfully participated in the preparatory procedure in summer 2023 letters of admission complete with additional information. All documents required for the bidding process can be accessed at www.klimaschutzvertraege.info. The bids, including all of the required annexes, must be submitted via the federal funding platform (easy online) within four months.

6 What are the next steps to be taken? How much time do companies have to submit a bid and what happens after that?

Companies have four months to submit a bid. Compared to other auctions, this is a fairly long deadline. We have decided to leave that much time to give everyone a chance to familiarise themselves with this new instrument. After the bidding phase, funding approval will be issued within approx. two months.

A second round is to begin with a preparatory procedure this summer. The objective is to have a second round of auctions before the end of 2024.

7 Who benefits from funding under the carbon contracts for difference?

First of all, the industrial companies that succeed in the selection process and receive the funding. They will use it to construct and operate innovative, climate-friendly industrial facilities, which then benefit a much wider community: employees, suppliers, climate-conscious customers and even other

competing industrial companies, as these can build on the newly established expertise and use the infrastructure that has been created. This then reduces their costs, helps them become climate-neutral and thus gain a competitive edge on the global market. This benefits future business in general. And, of course, the climate.

8 How large is the typical applicant?

There are no minimum requirements relating to company size. However, the funding programme is designed to fund energy-efficient energy-intensive facilities. These are operated not only by large corporations, but also by SMEs in the industrial sector. The Federal Ministry for Economic Affairs and Climate Action has taken care to give these SMEs a chance to bid for carbon contracts for difference: first of all by reducing the reference installation's minimum emissions to ten kilotonnes per year; second by allowing several small companies to place a joint bid; third by excluding very large installations from the first round of auctions. To put this into perspective: ten kilotonnes is equivalent to the average annual carbon emissions caused by 1,300 people; there are individual cement or ammonia factories that emit approx. one million tonnes of carbon.

At the same time, it is clear that not every company will be able to use carbon contracts for difference to lower its emissions. This is why there are several other funding programmes by the Federal Minister for Economic Affairs and Climate Action, particularly programmes tailored to even smaller companies.

9 What does this mean for medium-sized and small companies; which programme is the right one for them?

The programme is also open to companies with fairly small manufacturing facilities. The reference installation must emit at least 10 kilotonnes of CO₂/year. This is true of SMEs in the glass and paper industries, for instance. In addition, operators of such smaller plants can opt to join together and apply for funding as a consortium. Capping the maximum amount of funding per project at €1 billion results in the exclusion of very large projects and better chances for smaller projects, particularly those undertaken by industrial SMEs.

SMEs also benefit from the carbon contracts for difference in an indirect way, as they receive orders for plant construction or pay less for climate-friendly installations themselves.

For those SMEs with smaller industrial facilities, there are other funding programmes that are usually better suited to their needs, such as the new 'funding guideline for federal funding for industry and climate action (BIK)'.

10 What exactly is the benefit of carbon contracts for difference for the climate?

Carbon contracts for difference promote the uptake of climate-friendly production plants, which will directly prevent the emission of approx. 350 megatonnes of CO₂ equivalents by 2045. This corresponds to up to 20 megatonnes of greenhouse gas reductions a year, i.e. a little more than one-third of the industrial sector's 2030 target.

Carbon contracts for difference speed up the transition of the market: new technologies and infrastructure will be developed for the projects receiving funding and new value chains will be built. This will make climate-friendly technologies cheaper. Companies across the world can build on this transition to climate neutrality at an earlier point in time.

The funding provides another incentive for companies to explore climate-friendly options. Daily operational business often leaves little time for them to do this. But often, reducing CO2 emissions will pay off even in the absence of funding. While carbon contracts for difference are by no means the only instrument in the necessary toolbox (apart from EU-ETS and green lead markets, for instance), they are a decisive one.

11 What is the return for German taxpayers?

The direct benefits obviously accrue to the companies receiving the funding, their suppliers and employees. Consumers are put in a position to buy innovative, climate-friendly products. For the German business community at large, the carbon contracts for difference are a chance to lead the way globally. All this at a low cost: the auction mechanism ensures that only the most cost-effective projects will receive funding. Through hedging, costs are automatically adjusted to the actual need, meaning that, as soon as the climate-friendly production method becomes cheaper than the harmful one, companies will pay back surplus funding to the state.

12 Do the carbon contracts for difference fund industrial companies of the past or of the future?

The carbon contracts for difference support industries with a long history (such as the paper and glass industries) and prepare them for the future. The funding allows them to build and operate innovative plants that can serve as global role models earlier than would otherwise have been the case. This will lead to technology leadership in important and forward-looking industries of the manufacturing sector. Also, it helps create new infrastructure, including for hydrogen. In these ways, the carbon contracts for difference can make an important contribution to the modernisation of Germany's industrial sector.

13 Why do we need the carbon contracts for difference as another new instrument? Why are the EU Emissions Trading System and green lead markets not enough?

Almost 80% of industrial emissions are generated by companies that are already participating in emissions trading. This shows that carbon pricing alone is not enough to trigger a broad-based transition in the carbon-intensive industries, given the high cost and major price risks. These investment-related risks preventing the emergence of climate-friendly industrial plants need to be lowered. And this is exactly what the carbon contracts for difference do. Combined with the EU Emissions Trading System (EU ETS) they speed up the transition of the industrial sector, resulting in larger amounts of emissions being prevented earlier. At the same time, they create a competitive advantage through innovation, which is something that EU ETS cannot deliver on its own, and give German companies a competitive edge on the international markets.

It will take some time for green lead markets to become established in Europe and across the globe. More time than we have, given the growing pressure of international competition and the climate crisis. Also, green lead markets can only emerge where there are green products – and for these to be produced, we need the manufacturing processes developed with the help of the carbon contracts for difference. So ultimately, we need several different instruments to work together in tune. For the current stage of our journey towards climate neutrality, the carbon contracts for difference are the right and necessary addition.

14 Why is the funding programme based on so many formulas – is it not much too complicated?

No. The opposite is true. We want to design the entire process from bidding to funding approval to be as efficient as possible. For this, it needs to be objective. Formulas are a necessary ingredient for this.

In practice this means that we have shortened the approval procedure from the (usual) assessments drawn out over several years to just a few months. We have achieved this by adopting a different kind of bidding mechanism: the government no longer verifies the cost and income calculations for a large-scale, novel industrial plant over the next 15 years – something that has always been extremely difficult to do. Instead, it provides funding to those companies that offer the lowest price. If we now have different industrial plants from different sectors compete against each other in a competition, we need a criterion to be able to compare. In our case that is the amount of tonnes of CO₂ emissions prevented. And this is a calculation that only works on the basis of formulas.

Also, we want to ensure that we only provide funding to cover additional costs and that – at some point – we get paid back some money by the companies that have received funding. The mechanism used to achieve this is dynamic price adjustment (hedging) that reflects the current market price for hydrogen, for instance. Again, this only works if you use formulas – as the private sector does.

It has taken experts approx. 5 hours to grasp the formulas. Given the massive reduction in bureaucracy and the need to use taxpayers' money wisely – especially where funding for a single project can amount to a three-digit million figure – we consider this a proportionate amount of effort.

15 What does the industrial sector make of the carbon contracts for difference?

We are receiving a very large amount of very positive feedback and many other countries are planning to model similar funding programmes on our carbon contracts for difference. The carbon contracts for difference are not about spreading money thinly and at random, but are designed to use a limited amount of funding to provide funding for as many innovative and cost-effective projects as is possible. In our opinion, this is a very targeted approach that is important for Germany's industrial and innovative sectors and for climate action.

16 Can the carbon contracts for difference compete with the Inflation Reduction Act (IRA)?

The carbon contracts for difference follow a different approach. On balance, however, we consider them to be the more targeted instrument. Under the IRA, producers of renewables and low-carbon hydrogen receive funding paid out in lump sums. First of all, this may result in windfall profits paid for by taxpayers, i.e. a situation whereby companies cash in on funding they do not need. Second, it is not even clear whether subsidised energy will in fact be used by industrial companies and whether these will really embark on an effective transition.

By contrast, the carbon contracts for difference start downstream: they provide an efficient sum of funding to industrial companies that use these to operate climate-friendly installations. These then themselves ensure that technologies for a green industrial sector emerge across the entire value chain and as efficiently as possible. This also includes electrolyzers for the production of hydrogen.

17 Will the next round of auctions be the same as the first?

The carbon contracts for difference are a global innovation based on pioneering scientific work that has never been put into practice before. We will learn a great deal from the first round of auctions,

along with industry and supported by scientists. Whether or not we need to make adjustments for the second round remains to be seen. This is something we will only be able to decide after the first round of auctions has been completed.

18 [Is it possible to combine this funding with funding under other programmes?](#)

Especially where funding programmes provide funding for the same objective, we have excluded the possibility of duplicate funding (e.g. under the Important Projects of Common European Interest (IP-CEIs)). Companies need to decide which programme they want to use. The same is true for the federal funding for industry and climate action (BIK). Companies are free to apply for BIK and for funding under a climate contract for difference, but can ultimately use only one of the two programmes.