Bundesministerium
für Wirtschaft
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Funding programme for carbon contracts for difference

In an effort 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.

1. The current situation

The European Union wants to achieve climate neutrality by 2050, and Germany has set itself a deadline of 2045 for this. This is a great challenge for carbon-intensive industries. The industrial sector accounts for around one fifth of Germany's carbon emissions. Changing to climate-friendly production is thus a necessity – however, it is often associated with high costs and price risks. For example, it is difficult to forecast how hydrogen prices will develop in the future. This is why many industrial companies are currently shying away from making the necessary investment.

The Federal Ministry for Economic Affairs and Climate Action is working hard to drive forward the transformation of the industrial sector in different fields and by

using a mix of different instruments. These include the expansion of renewable energy, the funding of hydrogen, the emissions trading system (ETS), the establishment of lead markets, and the carbon border adjustment mechanism (CBAM). In addition to this, the provision of direct and targeted funding for climate-friendly industrial plants is needed. The higher risk and additional cost that climate-friendly plants bear compared with conventional options need to be offset. This kind of funding is already available for smaller plants under a variety of funding programmes such as the 'Federal funding scheme for energy and resource efficiency in business – grants and loans' or the 'Decarbonisation in Industry' programme and its successor programme 'Federal funding for industry and climate action'. However, medium-sized industrial companies and large companies operating large-scale plants currently have no access to this kind of broad-impact funding even though they also play a key role for the transformation.

The Federal Government is now seeking to close this gap for energy-intensive industries by rolling out carbon contracts for difference. To this end, it has undertaken around two years of intensive preparatory work to develop a funding programme, coordinate it between the relevant ministries and obtain the necessary approval from the European Commission. A draft version of the funding guideline, which had already been published once in June 2023 as part of the preparatory procedure, was revised again in a number of places, particularly as part of the approval procedure under State aid law. On 16 February 2024, the European Commission gave the green light for the first call for bids.

On 12 March 2024, the Federal Government will launch its first call for bids. Germany is thus the first Member State of the European Union to launch this new and innovative instrument in such a comprehensive form. To participate in the first call for bids, tenderers must have successfully completed the preparatory procedure in summer 2023. Anyone who has participated in this preparatory procedure but whose application was inadmissible is eligible to participate in subsequent bidding procedures.

The total amount of funding provided under the programme will run in the double-digit billions. **The first bidding process has a funding volume of four billion euros.** After the first bidding process, further bidding processes will follow. The launch of the first funding procedure is key in order o gain experience and insights with this new funding instrument.

2. Goal behind carbon contracts for difference

Carbon contracts for difference not only help industrial companies reduce their greenhouse gas emissions. They also provide incentives for launching the development and deployment of the necessary technologies and infrastructure in Germany already today. Production facilities and pipelines for hydrogen are being built, expertise on the construction, operation and financing of climate-friendly plants generated and markets for climate-friendly end products (green lead markets) created. These central steps for meeting Germany's climate targets and strengthening Germany as an innovation and industrial hub. The innovations triggered by the carbon contracts

for difference instrument will also help to further decarbonise the industrial sector around the world. All of these elements together will make Germany's industrial base fit for the future and secure jobs in the long term.

Carbon contracts for difference not only help companies protect themselves against price risks (for example for hydrogen and carbon): they also help offset additional costs and thus create a reliable investment environment in Germany. They also allow the government to share in the economic benefits offered by the transition to climate-friendly technologies. Once green production becomes profitable and independent of government funding, carbon contracts for difference require companies to pay money to the state.

The goal behind carbon contracts for difference is not to finance the transformation of the entire industrial sector in Germany but to set it off. The idea is that in the medium term, government funding can be phased out and the transformation completed by relying on market-based mechanisms (particularly green lead markets) alone.

3 Strategy underlying climate contracts for difference

The funding programme has been designed in a way that provides government funding to large-scale plants quickly and efficiently and with as little paperwork as possible. It is based on an auction mechanism. This means that companies need to bid how much government funding they need to avoid one tonne of carbon dioxide with their transformative technology. As a result, only those companies that convert their production at the lowest cost are awarded a carbon contract for difference. The traditional documentation and verification duties – which put an enormous burden on companies and result in costly and lengthy approval procedures – will be dropped.

Carbon contracts for difference are modelled on private-sector hedging contracts, i.e. risk-hedging instruments, 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. To summarise: carbon contracts for difference are 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.

How is the funding calculated?

The funding takes the form of a fixed contractual price per tonne of CO2 saved which is determined by auction. The contractual price includes dynamic elements: Depending on a number of additional factors (ETS price, price for hydrogen and electricity), the contractual price is supplemented or deducted in order to calculate the payment sum. If the result of this

calculation is negative, the payment flow under the carbon contract for difference is reversed. Instead of the company receiving money from the state, it now needs to pay money to the state.

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 formula. 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.

4. Details of implementation

Under the revised draft of the funding guideline, the programme will now also be open to companies operating small production installations. The reference installation must emit at least 10 kilotonnes (kt) of CO2. In addition, operators of such smaller plants can opt to join together and apply for funding as a consortium. In addition, projects with a maximum funding amount of more than one billion euros are excluded from the first bidding process in order to give smaller projects a chance of obtaining funding. As a result, carbon contracts for difference benefit "Mittelstand" companies from the industrial sector in two ways: indirectly, by creating orders for plant construction and reducing costs for climate-friendly plants, and directly, by allowing them to apply for funding themselves. Such companies might include those in the glass and paper industry, for example. For those SMEs with smaller industrial facilities, there are other funding programmes that are better suited to their needs, such as the new 'funding guideline for federal funding for industry and climate action (BIK)' in particular.

The carbon contracts for difference programme will cover both investment and operating costs over a period of 15 years and takes account of private-sector periods. This will give companies the predictability they need for the construction of large-scale industrial plants and allow private investors to co-finance government investment. Longer contract terms increase the likelihood of companies making payments to the state. The contract terms thus are to be set in a way that will make sure funding per plant decreases or is offset over time. This means that more carbon contracts for difference contracts can be concluded with the available budget. Carbon contracts for difference are also designed in a way that allows companies to switch and optimise technologies anytime and are even encouraged to do so.

In cases where hydrogen is used, it must meet the strict criteria of the EU taxonomy. In particular, blue hydrogen can only be used if the production process is particularly low on emissions. Companies using green hydrogen – the cleanest form of hydrogen – are given more funding than companies using blue hydrogen. Carbon contracts for difference place an obligation on the projects to then actually use the hydrogen in accordance with the ramp-up pathway specified in the bid. They also allow the use of hydrogen derivatives and thus support the ramp-up of the hydrogen economy.

5 Next steps

The first four-month bidding process will begin on 12 March 2024. Anyone who has participated in the preparatory procedure and proffered an admissible application is now invited to submit a bid. The projects with the lowest and best bid will be awarded a contract.