NATIONALER WASSERSTOFFRAT

STATEMENT

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EU Commission's proposal regarding an amendment to the EU Emissions Trading Directive

INITIAL SITUATION/BACKGROUND

The pricing of greenhouse gas emissions – and in particular of carbon dioxide (CO_2) in this context – is an important mechanism for achieving cost parity between climate-neutral hydrogen and the competing energy carriers or input materials that are produced on the basis of fossil fuels and with the release of high amounts of CO_2 into the atmosphere.[1]

Important steps are being taken to intensify and expand the EU-wide pricing of greenhouse gas emissions with the proposal for an amendment to the Directive on the European Union Emissions Trading Scheme (hereinafter: EU ETS Directive) and the increase in the ambition of the targets proposed therein for the already existing EU ETS (stationary installations as well as parts of aviation and maritime transport) as well as the creation of a separate ETS for road transport and the building sector.

In view of the expected cost reductions in the production of climate-neutral hydrogen, the pricing of CO_2 emissions can and should play a central role in achieving cost parity in the medium to long term. In the short and medium term, however, the marketability of climate-neutral hydrogen will only be achieved, if CO_2 pricing is supplemented by other instruments (promotion of investment, carbon contracts for difference, user obligations and so on) aimed at establishing lead markets, achieving cost reductions through market ramp-up, creating the necessary infrastructures and various spillover effects.

At the same time, effective carbon leakage protection must also be ensured in those industries that are in international competition and in which hydrogen is to be produced or applied. Free allocation in the ramp-up phase until 2030 forms a central element of carbon leakage protection in view of the transition processes, which extend over longer periods of time.

[1] The question of whether the introduction of hydrogen-based technologies should be based solely on hydrogen produced from renewable energies, or whether hydrogen, which is largely climate neutral, can also be used for the market ramp-up, is a contentious issue in the National Hydrogen Council. However, this fact does not change the structures of the changes proposed in this position paper in the area of the EU ETS Directive. The term 'climate-neutral hydrogen', as used in this position paper, is to be understood as a generic term for renewable as well as nearly climate-neutral hydrogen without resolving the aforementioned controversy.

This is without prejudice to the need to increase the incentive effect of CO_2 pricing over time.

However, a differentiated picture emerges for the two segments of greenhouse gas pricing via EU-wide uniform emissions trading schemes with the proposal on the amendment to the EU ETS Directive.

THE EXISTING EU EMISSIONS TRADING SCHEME (EU ETS)

The EU ETS, which has been in place since 2005, with its quantity control approach and the adjustment of the number of available emission allowances (cap) planned with the amendment, is a central element of the EU climate protection architecture. This also forms the framework for the ramp-up of a hydrogen segment both in the German and EU economies in the sectors regulated by the EU ETS.

However, the prices for emission allowances (CO_2 certificates) formed by the market in the EU ETS act in different areas with different levels of stringency.

The CO2 prices of the EU ETS have a direct effect in their full amount and thus improve the market position of climate-neutral hydrogen without distortion for electricity generation and those sectors of energy management and industry that do not receive an allocation of free CO_2 certificates.

However, for many sectors or plants in the industrial sector regulated by the EU ETS, free allocation of emission allowances takes place for reasons of carbon leakage protection.

This is a key element in ensuring the modernisation capability of the industries during the ramp-up phase until 2030, which is mainly due to the modernisation cycles.

However, the specific procedures for allocating these free CO_2 certificates result in a reduction of the effective CO2 prices compared to the nominal CO_2 certificate prices. This especially applies to plants in which the use of climate-neutral hydrogen can play a special role in reducing emissions and also naturally affects the attractiveness of the use of climate-neutral hydrogen. Therefore, free allocation as a central instrument of carbon leakage protection should be replaced by other effective forms of carbon leakage protection in the future, without jeopardising the ramp-up phase by 2030.

The distortion of the incentive effects via the CO_2 pricing by the specific procedures of free allocation results primarily from two mechanisms:

- Firstly, the free allocation of CO_2 certificates takes place on the basis of product benchmarks, which are sometimes still differentiated according to production processes (in the area of steel production, for example). New plants that switch to hydrogen-based technologies will receive a free allocation at a significantly lower level than the old one being replaced, for which the issuance of free allowances will be discontinued at the time of decommissioning. The reduction of CO_2 emissions through technology change is thus reflected in the area of CO_2 costs only to a (small) extent.
- Secondly, the free allocation of CO_2 certificates is generally adjusted at intervals of five years. The basis for this adjustment is the production development (the activity rate) of the corresponding installation.

The use of climate-neutral hydrogen in particular can have an influence on these production levels (especially in the area of conventional hydrogen production, but also in the area of petrochemicals), which means that the replacement of hydrogen with a high CO_2 load by climate-neutral hydrogen does not lead

to corresponding incentives via the CO_2 pricing of the EU ETS – or only to a lesser extent.

There has also been a gradual adjustment of the free allocations beyond the five-year allocation periods in cases where the activity rates change by more than 15% since the fourth trading period of the EU ETS (that is, since 2021). These changes are highly relevant for many hydrogen applications (especially in the chemical industry). Comparable problems with the incentive effects of the EU ETS also arise in other areas (above all in heat generation or for heat deliveries across plants). In these areas, corresponding correction options have been created to avoid counterproductive incentive effects, but these do not yet exist for hydrogen applications.

The challenges described have been at least partially addressed in Recital 8 of the proposal for the amendment to the EU ETS Directive. However, more precise specifications are needed for a targeted adjustment of the free allocation of CO_2 certificates for the second allocation period of the fourth trading period (2026–2030):

- The same benchmarks should be applied to the same products and the benchmark definitions as well as the benchmark adjustments in the ramp-up phase until 2030 should be based on the developments in the area of conventional technologies, that is, without taking into account the share of climate-neutral production technologies. This way, the CO_2 pricing via the EU ETS can develop its undistorted incentive effect for technology change measures (which are of particular relevance for hydrogen applications) on the one hand, but the avoidance of carbon leakage effects for the plants that cannot yet be replaced promptly on the other hand also remains secured.
- The replacement of conventional hydrogen production by the supply of climate-neutral hydrogen from other plants or plants not subject to the scope of regulation of the EU ETS should be assessed analogously to the corresponding regulations in the area of heat production for the free allocation of emission certificates in such a way that the use of climate-neutral hydrogen is not distorted by the incentive effects of the CO_2 pricing.
- The use of climate-neutral hydrogen should not lead to a distortion of the incentive effects from the CO_2 pricing for the use of climate-neutral hydrogen due to changes in the reference values for the free allocation of CO_2 allowances in the sequence of the allocation periods as well as due to adjustments during the period.

THE NEW EU EMISSIONS TRADING SCHEME FOR ROAD TRANSPORT AND BUILDINGS (ETS-2)

The incentives through CO_2 pricing via the ETS-2 have an undistorted effect for the sectors covered through the architecture of an upstream system (that is, the regulation of the distributors of fossil fuels), as the nominal CO_2 prices also effectively take effect for the users of the fuels.

The regulatory scope envisaged for the ETS-2 (road transport and buildings) is only partially compatible with the legally binding target of climate neutrality in the EU by 2050 (emissions subject to the ETS-2 are to be reduced by 43% for the period from 2005 to 2030) in view of the coverage and the emission reduction path envisaged via the development of the cap.

Against this background, we recommend an increase in the ambition level for emission reductions in the regulatory area of the ETS-2.

However, the restriction of the ETS-2 to road transport and the building sector leaves out important emission areas that are relevant for hydrogen applications (rail transport, process heat in industry not subject to the EU ETS and so on) and thus cannot contribute to the market ramp-up of hydrogen in these areas (which would otherwise have to be addressed by instruments beyond the ETS-2). Therefore, the scope of the proposed ETS-2 should be extended accordingly, ideally to all combustion-related CO_2 emissions not subject to the EU ETS (following the example of the national emissions trading system applied in Germany since 2021, for example).

However, it must also be pointed out that the EU-wide incentive effects through CO_2 pricing under the ETS-2 can be reduced if (individual) Member States reduce (energy) taxes on fuels regulated by the ETS-2 in return for the introduction of the ETS-2.

This would reduce the effective CO_2 price level, and the incentive effects from the CO_2 pricing would be reduced or further distorted between the Member States.

Therefore, we urgently recommend a close interlocking of the proposal for the amendment to the EU ETS Directive in the area of the ETS-2 with the amendment to the Energy Tax Directive that was also proposed.

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THE GERMAN NATIONAL HYDROGEN COUNCIL

On 10 June 2020, the German Federal Government adopted the National Hydrogen Strategy and appointed the German National Hydrogen Council. The Council consists of 26 high-ranking experts in the fields of economy, science and civil society. These experts are not part of public administration. The members of the National Hydrogen Council are experts in the fields of production, research and innovation, industrial decarbonisation, transportation and buildings/heating, infrastructure, international partnerships as well as climate and sustainability. The National Hydrogen Council is chaired by former Parliamentary State Secretary Katherina Reiche.

The task of the National Hydrogen Council is to advise and support the State Secretary's Committee for Hydrogen with proposals and recommendations for action in the implementation and further development of Germany's National Hydrogen Strategy.

Contact: info@leitstelle-nws.de, www.wasserstoffrat.de