NATIONALER WASSERSTOFFRAT

STATEMENT 2021-10-29

EU Commission Proposal for the Alternative Fuel Infrastructure Regulation (AFIR)

INTRODUCTION

The tightening of European and German climate targets in 2030 call for a very rapid ramp-up of electrically powered vehicles. The German Climate Protection Act requires a reduction of CO_2 emissions in transport to 85 million tonnes in 2030, which, measured against the pre-Corona level, is in fact equivalent to a 50% reduction within a single decade. The European Green Deal sets a similar goal with the amendment of the regulation on effort sharing, confirming the goals already adopted by Germany in the Climate Protection Act.

This means that not only will the course for technological transformation in the transport sector be set in this decade, but by the end of the decade it must already be so far advanced that the vast majority of new vehicles – passenger cars, vans, buses and lorries – will be powered by electric batteries or fuel cell. Without an efficient and reliable supply infrastructure, which must be developed and built at the same pace, such a rapid transition to electromobility will be impossible.

It is clear that the economic viability of the charging and hydrogen refuelling infrastructure must be achieved in the medium term. However, it will not be possible to achieve this in the early years of the transformation. Without a clear commitment from the federal government and clear financial support from the state, neither the vehicle fleet nor the necessary infrastructure will be able to be built up by 2030 as mandated in the Climate Protection Act and the Green Deal. This is truer than ever after the tightening of Germany's climate targets in July 2021.

EU FRAMEWORK LEGISLATION (AFIR)

In this section, the National Hydrogen Council (NWR) refers to the hydrogen-relevant scopes, knowing full well that the present regulatory proposal also still has shortcomings with regard to the charging infrastructure for battery electric vehicles.

The Alternative Fuels Infrastructure Regulation is a key component for introducing and using hydrogen in the transport sector. Without a sufficient, comprehensive and efficient refuelling infrastructure throughout Europe, alternatively powered vehicles will not be able to establish themselves on the

market, and no demand will be generated among customers. Having vehicles and an infrastructure of the required fuels available are basic prerequisites that must be built alongside one another if the climate targets in the transport sector are to be achieved.

The previously valid infrastructure directive 2014/94/EU 2014 was revised by the EU Commission within the framework of the Green Deal and published as a proposal in July 2021. This directive must now be adopted by the Council and Parliament.

The tightening of European climate targets has also necessitated a revision of the infrastructure directive for alternative fuels. The current infrastructure directive is neither specific enough with regard to defining the development objectives of the charging and refuelling infrastructure, nor does it fully include all decisive energy sources and means of transport. Even in its legal form as an EU directive, it is not sufficiently binding for the Member States. Therefore, an amendment would have been necessary in any case – and is now virtually unavoidable in view of tighter climate targets.

The EU Commission's proposal provides for a regulation instead of a directive, which does not require further transposition into national law and is thus binding for all EU Member States in its adopted form. The draft defines a minimum requirement for charging points and hydrogen filling stations for the years 2025, 2030 and 2035 on the basis of the Trans-European Transport Network (TEN-T, a total of approx. 110,000 road kilometres) and the so-called urban nodes from EU Regulation No. 1315/2013. The focus here is on road transport and, more specifically, on the infrastructure for charging electricity and hydrogen.

RECOMMENDATIONS OF THE GERMAN NATIONAL HYDROGEN COUNCIL

The EU Commission is taking the right path with the amendment of the Infrastructure Directive. The current directive lacks binding targets and does not in any way reflect the requirements that we face in building the infrastructure. By changing it from a directive to a regulation, it also sets the necessary legal framework that is required to ensure a uniform and comprehensive European infrastructure. The direct association with the TEN-T Regulation is a logical and consistent step. It has already been defining targets for the European transport network for Member States since 2013 and details long-term expansion targets until 2030 and 2050.

The design is based on relevant requirements and does not exclude any technology. However, it focuses on technologies that, while still requiring federal support at present, will most likely be the central energy sources in road transport of the future: electricity for battery electric vehicles and hydrogen for fuel cell vehicles.

Compared to the existing directive, the submitted draft regulation is quite ambitious and adopts the new climate goals of the Green Deal. In our understanding, the requirements outlined in the draft represent minimum requirements needed to ensure an efficient basic infrastructure. However, they are not geared towards the infrastructure that is necessary to fully achieve the climate targets. The charging infrastructure as defined in the draft will not be sufficient to supply the required number of battery electric vehicles that must be on the road by 2030. The same applies to the hydrogen infrastructure. Therefore, we strongly advise against lowering or watering down the draft's targets.

- **Fair burden sharing, also as regards the infrastructure**
  We are aware that this proposal involves a major effort on the part of Member States and that southern and eastern European countries in particular face significant challenges here. The legislative process now underway should therefore incorporate a mechanism that weights the infrastructure targets according to the economic strength, share of sales figures and mileage of the Member States compared to the EU average. With the Burden Sharing Regulation 2018/842, which is also being revised as part of the Green Deal, the EU is already pursuing CO_2 reduction targets differentiated by country and takes fair account of the different economic and local conditions. Because burden sharing imposes higher CO_2 targets on countries such as Germany, the Netherlands or France, a faster ramp-up of battery and fuel cell vehicles is thus required here compared with countries that do not have the same economic power. This must also be reflected in a higher level of ambition of country-specific infrastructure targets in order to guarantee the readiness and agreement of all EU states for this project. However, trans-European mobility across all EU states must still be guaranteed through minimum targets.

- **Making the 2030 target concrete**
  The EU Commission is focusing on hydrogen filling stations for lorries. In Germany alone, the NWR estimates that in 2030 at least 30,000 fuel cell lorries will have to be on the roads, consuming approx. 300,000 tonnes of hydrogen (H_2) annually. In contrast, the 250,000 fuel cell cars we expect will only need about 40,000 tonnes of H_2. In the coming years, the development of the H_2 infrastructure must be aligned with the needs of lorries, but the filling stations must be designed in such a way that both trucks and cars can be refuelled. We support the expansion targets set for 2030 as a minimum requirement, but they must not be watered down under any circumstances. If this were the case, the implementation of the Green Deal requirements would be significantly jeopardised.

  The maximum distance between two H_2 filling stations along the overall TEN-T network must remain at 150 km, as provided for in the draft. Just as with the charging infrastructure, this requirement must apply in both directions. This passage is missing in the previous draft. We understand the maximum distance as a reasonable average value. Where a larger number of vehicles are refuelled, the density of filling stations will be greater; in other regions, however, greater distances are acceptable. The minimum capacity of the filling stations of two tonnes of H_2 per day is set rather low. In practice, we expect higher performance capacities for H_2 filling stations in 2030 especially with a view to demand in the years following 2030.

  Hydrogen must be offered in both states, gaseous and liquid. The draft provides for this, and the NWR expressly supports it. However, the maximum distances of 450 km for filling stations with liquid hydrogen are too large and should be reduced to 300 km. This would still correspond to twice the distance of filling stations with gaseous hydrogen. The requirement for filling stations in the urban nodes must refer to the TEN-T overall network according to Regulation 1315/2013, Annex II/2. Whether reference is made to the overall network or only to the core network (Annex II/1.) is not clearly defined.

- **Binding targets for 2025 and 2035**
  The draft does not give any specifications for 2025 and 2035, which is completely insufficient in our view. It is true that the massive ramp-up of fuel cell vehicles on a large scale will only take place in the second half of this decade. However, it is all the more important to start building the filling station infrastructure at an early stage so that market demand will not be limited by the performance and availability of H_2 filling stations. A clear but realistic target should be defined for 2025: According to

Regulation 1315/2013, Annex II/1., each urban node of the TEN-T core network must have at least one H_2 filling station with HGV capability. If distances greater than 450 km exist between the neighbouring urban nodes of the core network, an additional filling station is required. A total of at least 13 filling stations in Germany and less than 100 in EU-27 would be necessary to reach this target in 2025.

It can be assumed that at least the interregional heavy goods traffic will be largely defossilised by 2035. Accordingly, a target derived from 2030 should be set for this period that provides for an H_2 filling station with a minimum capacity of six tonnes of H_2 per day at least every 60 km along the TEN-T comprehensive network in both directions. Liquid hydrogen should be available at least every 120 km.

As hydrogen will become increasingly important in heavy goods transport, creating synergies between the TEN-T Regulation and the TEN-E Regulation towards a cost-effective hydrogen supply at the filling stations is recommended. Where there is an overlap between TEN-T and TEN-E corridors, this should be leveraged to provide hydrogen at filling stations in TEN-T corridors via the TEN-E corridors, i.e., the energy infrastructure.

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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.

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