

French Energy Ministry consultation on a draft ordinance on hydrogen



EFET response – 2 February 2021

EFET welcomes the opportunity to provide comments to the draft ordinance on hydrogen proposed by the French Energy Ministry for the implementation of article 52 of the Energy and Climate Law n°2019-1147. You will find below our remarks on a number of provisions.

1. Definitions of renewable, low-carbon and carbonated hydrogen

First of all, the definitions should be aligned as much as possible with the definitions in the European hydrogen strategy (COM (2020) 301 final).

The definition of the different types of hydrogen in the proposed versions of art. L. 811-1 and L. 811-2 of the Energy Code seem unclear to us, trying to catch too many elements and likely to confuse end-consumers. We therefore propose a series of amendments below, with the following objectives to:

- 1) Technology neutrality: Removing any reference to specific production processes for hydrogen;
- 2) Simplicity and traceability: Classifying the types of hydrogen based on the carbon emissions of the energy source and production process at the origin of the hydrogen.

Thanks to these principles, the classification will be easily understood by all actors along the chain (from producer to consumer) and certification will be less contestable. Valuation of different types of hydrogen on the market via dedicated guarantees of origin or public financial support could be more easily tailored.

¹ The European Federation of Energy Traders (EFET) promotes and facilitates European energy trading in open, transparent and liquid wholesale markets, unhindered by national borders or other undue obstacles. We build trust in power and gas markets across Europe, so that they may underpin a sustainable and secure energy supply and enable the transition to a carbon neutral economy. EFET currently represents more than 100 energy trading companies, active in over 27 European countries. For more information: www.efet.org

The following amendments to the definitions are proposed:

~~L'hydrogène est qualifié de renouvelable quand il est produit est l'hydrogène produit soit par électrolyse de l'eau en utilisant de l'électricité produite à partir de sources d'énergies renouvelables telles que définies à l'article L. 211-2, soit par toute une autre technologie utilisant exclusivement une ou plusieurs de ces mêmes sources d'énergies renouvelables et n'entrant pas en conflit avec d'autres usages permettant leur valorisation directe. Dans tous les cas, son procédé de production émet, par kilogramme d'hydrogène produit, une quantité d'équivalents dioxyde de carbone inférieure ou égale à un seuil.~~

Rationale: the definition of renewable hydrogen should encompass all hydrogen produced using RES-E, without regard for the production process (i.e. electrolysis or other).

~~« L'hydrogène renouvelable peut être soit bas carbone soit carboné selon que les quantités d'équivalents dioxyde de carbone par kilogramme d'hydrogène émises lors de sa production sont supérieures ou inférieures au seuil précédemment cité.~~

Rationale: renewable hydrogen (as defined above, based only on the condition that it is produced using RES-E) can be qualified as low-carbon or carbonated, based on its production process.

~~« L'hydrogène est qualifié de carboné quand les émissions de dioxyde de carbone équivalent par kilogramme d'hydrogène, résultant de sa production, sont supérieures à un seuil. est l'hydrogène produit à partir de ces mêmes sources d'énergies renouvelable et dont le procédé de production engendre des émissions dépassant le seuil permettant la qualification d'hydrogène renouvelable.~~

Rationale: the definition of carbonated hydrogen should encompass all hydrogen with a production process emitting CO₂e emissions above a certain threshold set by decree. The threshold should evolve over time, based on the objectives of the Energy and Climate law.

~~« L'hydrogène est qualifié de bas-carbone quand les émissions de dioxyde de carbone équivalent par kilogramme d'hydrogène, résultant de sa production, sont inférieures ou égales à un seuil. est l'hydrogène qui n'est pas produit à partir de ces mêmes sources d'énergies renouvelables et dont le procédé de production engendre des émissions inférieures ou égales au seuil permettant la qualification d'hydrogène renouvelable.~~

Rationale: the definition of low-carbon hydrogen should encompass all hydrogen with a production process emitting CO₂e emissions below a certain threshold set by decree. The threshold should evolve over time, based on the objectives of the Energy and Climate law.

~~« L'hydrogène coproduit lors d'un processus procédé industriel dont la fonction n'est pas d'obtenir cet hydrogène et autoconsommé au sens de l'article L. 811-2 au sein du même processus n'est pas considéré comme de l'hydrogène bas-carbone au sens du présent code. Il n'est pas non plus comptabilisé au titre de l'objectif de décarbonation énoncé au 10° du I de l'article L. 100-4.~~

~~« L'hydrogène fossile est produit à partir d'énergies fossiles sans relever de la catégorie de l'hydrogène bas-carbone.~~

Rationale: we do not see the need for a definition of fossil hydrogen, considering that our proposals for the definitions of renewable, carbonated and low-carbon hydrogen already tackle all possible types of hydrogen.

« Les conditions d'application du présent article sont précisées par décret en Conseil d'Etat. »

2. Guarantees of hydrogen production: guarantees of origin vs. guarantees of traceability

The proposed art. 841-1 of the Energy Code in the draft ordinance distinguishes between “guarantees of origin” and “guarantees of traceability”. The guarantee of origin is intended to show that renewable or low-carbon hydrogen has been produced, while the guarantee of traceability is intended to show that renewable or low-carbon hydrogen has been produced *and physically delivered*. Only one or the other guarantee can be issued with the production of one MWh of hydrogen. The guarantee of traceability follows the physical hydrogen while the guarantee of origin can be sold separately.

The establishment of a specific “guarantee of traceability” in French legislation is unprecedented in Europe. We do not perceive the benefit of creating a type of guarantee that has a physical link to the produced hydrogen, and think ill-advised that the draft legislation puts it in competition with guarantees of origin (GoOs):

- The issuance of guarantees of traceability risks undermining the expansion of the GoOs market for renewable and low-carbon hydrogen in France
- By nature guarantees of traceability are national, and hence hinder cross-border trade of GoOs for renewable and low-carbon hydrogen

We recommend unifying GoOs and guarantees of traceability by having only GoOs, possibly with additional elements of information to ensure their traceability. This will avoid a split in GoOs liquidity and impact on cross-border trading (of both hydrogen itself and GoOs). Alignment of the French legal framework for hydrogen GoOs with the European system under development is necessary to ensure the development seamless European trading of hydrogen and related GoOs.

3. Restrictions to the use of guarantees of origin

The draft ordinance proposes in a new art. L. 841-3, 3rd paragraph of the Energy Code that any hydrogen production facility in a municipality that will benefit from aid will have its guarantees of origin confiscated and returned to the said municipality for immediate use in order to certify the renewable or low-carbon origin of its own consumption of hydrogen.

As the aid is a national subsidy, we recommend that the GoOs should at least be usable anywhere in France and for any use of hydrogen at the request of the hydrogen producer benefiting from the GoO.

More generally, we see the current system of GoOs for RES-E in France as widely inefficient, as RES-E operators benefitting from state aid cannot issue GoOs without relinquishing their right to state aid. This impedes RES-E producers from marketing the sustainable character of their RES-E production directly to customers, thereby foreclosing demand-side response to the renewable character of electricity supply. We strongly caution the Energy Ministry against implementing a similar system for hydrogen which would exclude the emission of GoOs by operators whose hydrogen production is subsidised one way or another. Should the government wish to avoid stacking of revenues, then an appropriate model of subsidy discount based on GoO sales by the RES-E operators (or renewable hydrogen, as the case may be) should be put in place.

4. Aid for the production of low carbon or renewable hydrogen

The draft ordinance foresees in the proposed art. L. 851-1 of the Energy Code that state aid for renewable or low-carbon hydrogen will only be provided in case production capacities don't match the objectives set by the government. Aid would then be awarded to specific project based on open tenders, in the form of investment and/or operating aid. Article L. 851-3 specifies that aid contracts will be concluded for a maximum of 20 years. We welcome the principles in the draft ordinance of state aid being:

- Provided only if necessary
- Awarded in a market-based manner via tenders
- Tailored to the needs of projects to avoid windfall profits
- Limited in time

However, we regret that the whole Title V of the draft ordinance concerns only renewable and low-carbon hydrogen produced by electrolysis. This leaves out the opportunity to support other technologies. We urge the Ministry to make the conditions for the support of renewable or low-carbon hydrogen technology neutral by removing references to electrolysis in Title V, and adopting our definitions of the different types of hydrogen (see our proposal in point 1 of this document).

5. Selection criteria for state aid

The draft ordinance so far provides in the proposed art. L. 851-1 of the Energy Code eleven criteria for the admissibility and selection of candidate bids, We recommend that the legislation establishes an order of priority of the criteria, focusing criteria on the economic and environmental objectives underpinning the concept of state aid:

- First and foremost the amount of aid requested, justified by the price of the hydrogen produced
- Second the amount of avoided CO₂e emissions and other environmental criteria
- Third other technical criteria necessary to assess the viability of the project

This proposal is in line with the recommendations of the regulator CRE, which “stresses the need to establish criteria for the admissibility and selection of objective, quantifiable and non-discriminatory offers, among which the price proposed by the candidate would carry a preponderant weight”².

Finally, we advise against the inclusion of the 12th criterion on the final use of hydrogen, as production sites may supply multiple customers whose use of the produced hydrogen may vary significantly from one another, and over time. The assessment by project developers of such uses at the time of project planning may only be tentative and could skew the selection process without much added value from an economical or environmental perspective.

² CRE, *Délibération de la Commission de régulation de l'énergie du 24 septembre 2020 portant avis sur le projet d'ordonnance relative à l'hydrogène*, p.4

6. Choice of investment vs. operating aid and possible combination of the two

We welcome the fact that the proposed Title V of the Energy Code leaves the door open to investment and/or operating aid. If the investment aid constitutes a useful contribution, the main part of the production cost for renewable or low-carbon hydrogen depends on its rate of use (load factor) and OPEX.

Operating may help bridge the cost gap between carbonated hydrogen on the one hand, and renewable or low carbon hydrogen on the other hand. Indeed, the production costs of renewable or low-carbon hydrogen are still 2 to 4 times higher than that of carbonated hydrogen. Considering that the cost of electricity represents two thirds to three quarters of the electrolysis production costs of hydrogen, for instance, it may be wise to index operating aid to the cost of electricity incurred by the production site.