

RECENT DEVELOPMENTS IN THE FRENCH HYDROGEN SECTOR: THE DRAFT HYDROGEN ORDINANCE

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Legal Briefings

France set out in its 2020 hydrogen strategy ambitious goals of becoming a world-leader in the hydrogen sector. One important tool in furthering this strategy is the development of a clear regulatory scheme tailored to the H₂ ecosystem.

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France set out in its 2020 hydrogen strategy ambitious goals of becoming a world-leader in the hydrogen sector. One important tool in furthering this strategy is the development of a clear regulatory scheme tailored to the H₂ ecosystem.

Recently, the Government published a draft hydrogen *ordonnance* (the **Draft Hydrogen Ordinance**) setting out the following:

1. taxonomy of hydrogen;
2. the proposed government support mechanisms to assist developing the green/low-carbon hydrogen sector;
3. guarantees of origin/certification regime for renewable or low-carbon hydrogen; and
4. licensing requirements for transportation of hydrogen in the natural gas grid.

It is expected that the hydrogen *ordonnance* will be enacted in the first quarter of 2021.

Ambitious objectives

France's hydrogen strategy was recently renewed as part of the 2020 France Recovery Plan^[1]. The French Government has committed to investing €2 billion in the near term (up to 2022) and €7.2 billion in the longer term (up to 2030) to deploy its hydrogen strategy.

One of the three key priorities of this strategy (and, the most important one) is greening the use of grey hydrogen in industry by creating a French electrolysis sector.

In this respect, France is targeting, by 2030:

- 5GW of electrolyser capacity (eventually powered by renewable sources); and
- green/low-carbon hydrogen to represent 20%-40% of hydrogen used in the industrial sector.

A need to improve French regulatory regime

Until recently, France has had no major hydrogen-specific legislation (save for certain technical requirements for hydrogen refuelling stations). The 2019 Energy and Climate Law^[2] provides that the Government is able to enact a regulatory framework by way of *ordonnance*.

In this context, the Government has developed the Draft Hydrogen Ordonnance setting out the proposed legal framework to enable the hydrogen market to develop. The Draft Hydrogen Ordonnance is intended to supplement the French Energy Code with a new Title VIII '*Provisions relating to hydrogen*'.

The draft ordonnance

We set out below some of the key concepts/matters contained in the Draft Hydrogen Ordonnance:

1. **taxonomy of hydrogen:** the Draft Hydrogen Ordonnance categorises hydrogen in three ways: renewable, low-carbon or fossil.

- The classification is based on (1) the process of production and primary energy input (ie renewable/fossil fuels) or (2) the greenhouse gas emissions associated with the production of such hydrogen.
- At this stage, the definition/taxonomy is not clear and requires further clarification. For example:
 - This is a crucial missing piece – without insight into this parameter, it is difficult for industry to know what will constitute 'low-carbon hydrogen'. Other examples, such as the taxonomy included in the CertifHy regime, set this threshold at 60% of the greenhouse gas emissions associated with hydrogen produced from natural gas (ie using steam methane reforming).
 - This 'missing piece' becomes even more integral given that the financial support mechanisms (detailed below) are available for renewable and 'low-carbon' hydrogen projects only; and
- in order to build out the H₂ ecosystem, significant investment and scaling up is required to help bring down the costs of electrolysers, secure up technology and build supply chains and end use demand. Against this backdrop, many countries have recognised the need to also include blue hydrogen in their near-term strategy, for example by incorporating carbon capture solutions. The French strategy, as articulated in the Draft Hydrogen Ordonnance through the incentives available, favours the production of hydrogen via electrolysis. Given the energy mix in France, one other important factor and differentiator from certain of its European neighbours will be the role of nuclear energy in powering such electrolysers (at least during an initial transition phase).

2. **support mechanisms:** significant deployment at scale is needed rapidly. 96% of the hydrogen used today is grey and the economics of green hydrogen will need to improve significantly in order for it to be able to compete and drive demand. Borrowing from experience in the renewables sector, government financial support is key. The Draft Hydrogen Ordinance provides the framework for a support mechanism to help develop the green and low-carbon production sectors.

- It is important to note that in the Draft Hydrogen Ordinance, for low-carbon projects, government financial support is only available for electrolysis and not other low-carbon projects (such as carbon capture and storage projects).
- The Draft Hydrogen Ordinance sets out the framework for such government support (with further details to be provided by decree that will be issued after consultation with the regulator and the State Council (*décret en conseil d'Etat pris après avis de la CRE*)):

- calls for tenders will be organised by public authorities (the Ministry of Energy and the regulator);
- successful bidders will be able to benefit from a contract granting investment financial support (*aide à l'investissement*) and/or financial support in respect of operations (*aide d'exploitation*);
- the duration of the support contracts shall not exceed 20 years and will qualify as administrative contracts;
- selection criteria are set in the Draft Hydrogen Ordinance (eg level of financial support requested by the bidder, price of the hydrogen, greenhouse gas emissions generated by the hydrogen production and transportation (including the components forming part of the plant, etc.)); and
- the holders of support contracts may be subject to controls during the start-up of the plant and during operation.

As set out by the Energy Regulation Commission (**CRE**) in its review of the Draft Hydrogen Ordonnance, there are concerns around the support mechanisms. In particular, the CRE questions the 'tenders-based approach' given the infancy of the sector and also sets out that financial support would be better suited if it were tied to production, rather than being pure financial investment support/direct funding.

The current model largely follows support mechanisms that the Government has put in place in the renewables sector. We note that other financial support, such as contracts for difference (which were integral in the UK in developing its renewables sector), could be adopted in France to provide a production-tied mechanism that gives producers revenue stability while being scalable and flexible for the Government.

Further, the financial support framework largely focuses on the supply side. To effectively shift the market, we would expect demand-side policies to also be introduced (such as green quotas, subsidies/financial incentives for capex required to make equipment hydrogen-compatible and expansion of ETS).

3. **guarantees/certificates:** the Draft Hydrogen Ordonnance creates two types of guarantees: a green tracing guarantee and a guarantee of origin (with a dedicated guarantee of origin for green hydrogen injected in the natural gas grid).

- The purpose is to certify the nature of the hydrogen – either renewable or low-carbon. In line with the EU Renewable Energy Directive II 2018/2001 (**RED II**), the green tracing and guarantee of origin will be managed by an independent body which shall cover the issuance, transfer and cancellation of guarantees. RED II introduced a requirement for Member States to extend the renewable guarantees of origin mechanism to renewable hydrogen (RED II must be implemented by Member States by June 2021).

The two tier system is structured as follows:

- **physical tracing guarantees:** where the physical traceability of hydrogen is possible (and the transfer of the guarantee can occur at the same time as the transfer of

hydrogen), such hydrogen can benefit from a traceability guarantee; and

- **guarantees of origin:** these are guarantees which can be transferred independently of hydrogen and also apply where the hydrogen is mixed during transportation with another type of hydrogen (in such instances, a physical tracing guarantee is not available).

The State will benefit from any guarantee issued as a result of the production of hydrogen by a producer that benefits from government support (see section 2 above). The Minister of Energy may, at the request of the city where the hydrogen is produced, transfer the benefit of the guarantees to the city's account in the guarantee register (in order to certify the city's own hydrogen consumption). In this case, the guarantees cannot be sold nor re-transferred.

Except when transferred to a city, a State's guarantees may be sold during competitive auction. The conditions for those auctions will be detailed by decree.

The French hydrogen strategy is focused on boosting domestic production, particularly through the development of regional valleys, rather than import. The Draft Hydrogen Ordonnance does however provide that:

- guarantees of origin for (i) renewable hydrogen produced by other Member States issued in accordance with RED II shall be recognised and treated the same by the aforementioned independent body as guarantees of origin linked to a production unit in France, and (ii) low-carbon hydrogen produced by other Member States shall be recognised and treated the same as guarantees of origin linked to a production unit in France, as long as the same level of requirements is enforced in the other Member States; and
- physical traceability mechanisms for renewable or low-carbon hydrogen implemented in another Member State may be converted by the aforementioned independent body into the French equivalent, provided that there are the same requirements applicable in the other Member State as in France.

Guarantees of origin are a helpful market-based tool for governments to support the development of new technologies which need to be certified (for example, renewable electricity).

Given France's geographic position as a cross-road within the EU and its strong domestic industrial champions, it has potentially a key role to play in the broader EU hydrogen strategy. The race to become the leader in the hydrogen sector is truly a global one and, in looking to develop its domestic opportunities, it will be key that any mechanisms introduced will need to operate effectively across the EU.

It is yet to be seen how this will be implemented by the Member States, and practical issues around interfacing and scope of guarantees will likely arise (ie there is no RED II requirement to cover non-renewable hydrogen and RED II does not capture all uses of hydrogen – ie industrial processes).

4. **natural gas grid:** alongside tackling demand and supply-side issues, building up an effective transport and storage network is also of key importance to build the market and ensure security of supply. In 2020, eleven gas infrastructure companies across Europe worked together to produce the '*European Hydrogen Backbone*'. This sets out a plan to develop infrastructure/pipelines to support the new hydrogen sector, including by largely converting existing natural gas pipelines and constructing some new pipelines.

- Whilst the French H₂ strategy focuses in the short term on the creation of regional hubs, the Draft Hydrogen Ordonnance helpfully also includes certain provisions with respect to the transportation of hydrogen in the natural gas grid which provide that:
 - transporting hydrogen in the natural gas grid will not require a stand-alone gas supply license, as long as such hydrogen is first sold to an authorised gas supplier; and
 - the holder of a gas storage concession will not be required to obtain a new mining title to store hydrogen, in instances where such geological formations are already included in the gas storage concession.

On the horizon?

The Government recently established the National Hydrogen Council (as provided for in its hydrogen strategy). This body will be chaired by the Minister of the Economy (Bruno Le Maire) and will bring together specialists in the hydrogen sector (eg the CEO of McPhy, the CEO of EDF, etc.).

It will be responsible for supervising the deployment of funds to support the emerging hydrogen sector, and will have the role of structuring exchanges between the State and the various stakeholders involved in the implementation of France's hydrogen strategy (such as in the industrial sectors).

The National Hydrogen Council will meet during early 2021 to make an initial assessment on the implementation of the national strategy for the development of decarbonised hydrogen.

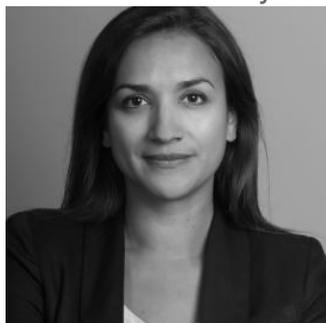
The English version of this article is also available for download [here](#).

^[1] <https://www.economie.gouv.fr/plan-de-relance>

^[2] Law no. 2019-1147 dated 8 November 2019 *relative à l'énergie et au climat*.

KEY CONTACTS

If you have any questions, or would like to know how this might affect your business, phone, or email these key contacts.



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