

Ups and Downs of French Energy Policy



Sébastien Canton
Partner, Avocat au Barreau de Paris

The demonstrations of the “yellow vests” movement, initially focusing on the increase of environmental taxes on fuel, and recent demonstrations for Climate have again brought the environmental and energy issues into the bright light of public debate. Some weeks before protests and marches began, the French Government had unveiled the main directions of the “*multiannual programming of French energy policy*” (“*Programmation pluriannuelle de l’Energie*”, “PPE”) from 2019 to 2028. A draft of “Decree PPE” was made public few weeks ago, providing detailed guidance for French energy policy over the next ten years and beyond. This paper aims to highlight some key elements of the “PPE” regarding renewable energies and nuclear power.

“PPE”: “Trust the Process!”

The purpose of the “PPE” is to set out the guidelines and to define action priorities of the French public authorities for the management of all possible energy sources on the French territory, with the aim of reaching the objectives of the French Energy policy as in articles L. 100-1, L. 100-2 and L. 100-4 of the French Energy Code. The “PPE” shall handle the following topics:

- The security of energy supply;
- The improvement of energy efficiency and the reduction of primary energy consumption, especially from fossil fuels;
- The development of renewable energy and energy recovery;

• In its current form, the “PPE” is defined under French Law in the articles L. 141-1 *et seq.* of the Energy Code, lastly modified as per the Law no. 2015-992 of August 17, 2015 “*regarding the energy transition for the green growth*” (“*Loi n° 2015-992 du 17 août 2015 “relative à la transition énergétique pour la croissance verte”*”).

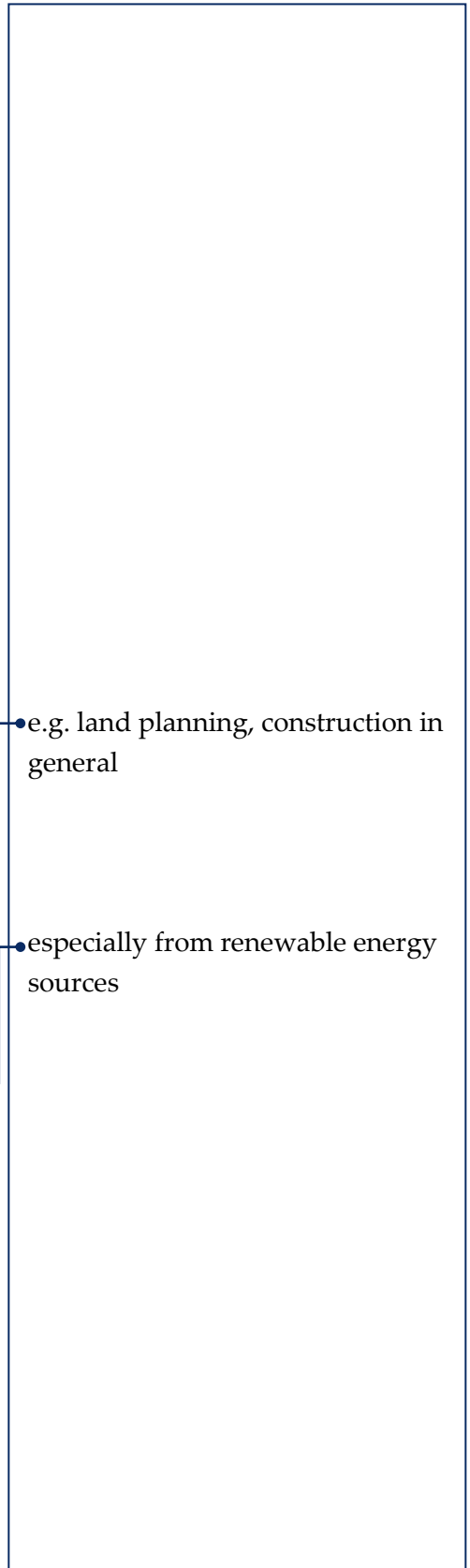
- The balanced development of the networks, the storage systems, the conversion of energy and the management of the energy demand, in order to spur the local production of energy, the development of smart grids and self-production;
- The preservation of the consumers' individual purchase power and of the competitiveness of energy prices;
- The evaluation of the need for professional skills in the field of energy and the adjustment of professional training to these needs.

The "PPE" takes form through a set of documents with regulatory force, including:

- A decree setting out the main objectives as regards energy policy and action priorities;
- A document summarizing the strategic directions and actions of the "PPE";
- A report on the "PPE's" content;
- A strategic environmental impact study.

The "PPE" plays a crucial role in the definition of the French energy policy and, by extension, in the implementation of public policies, since:

- All public planning documents and strategies comprising guidelines on energy must be compatible with the objectives set out in the "PPE";
- Quantitative targets of the "PPE" shall always be considered for the launching of call for tenders concerning electricity production installations, consumption cut-off capacities or investment that would allow the injection of biogas into transport and distribution systems;
- The authorizations to be requested for the commissioning of an electricity production installation must comply with the objectives set out in the "PPE". The same applies, among other, to the "strategic plan" announced last year by EDF in the photovoltaic sector or to the ten-year program for the development of the electricity transport system;



• e.g. land planning, construction in general

• especially from renewable energy sources

- The “PPE” sets the reference levels of the security of supply of the electricity and gas sectors in France, as well as, regarding specifically gas, the level of the storage capacity that must be maintained.

The current “PPE” project is indeed a revision of the “PPE” for the period 2009-2020. The revision process was launched in June 2017 and conducted by the “Monitoring Committee” of the “PPE”, comprised of 80 representatives of the society, most of them with a sound understanding of energy issues. A “public debate” was organized between March and June 2018 and the opinions of the reference governmental bodies and committees for energy and environmental issues were collected. Discussions are currently underway regarding the draft “Decree PPE”, the date of publication of the Decree remains quite uncertain.

And the Winners Are...

Solar energy: from an overall power capacity of approx. 9 GW in 2018, the French Government expects solar installations to represent an overall capacity of 20.6 GW in 2023 and 35.6 to 44.5 GW by 2028. In order to reach these very ambitious goals, the French Government plans two calls for tenders per year with 1 GW for each tender regarding ground-mounted solar plants, and three calls for tenders per year with 300 MW for each tender as regards building-integrated photovoltaics. The circumstance that French utility giants TOTAL and EDF announced massive investment programs in the solar sector certainly played a significant role in the definition of these targets.

On-shore wind energy: the French Government has set a target of 24.6 GW in 2023 and between 34.1 and 35.6 GW in 2028. In 2018, the French electricity mix comprised approximately 15 GW from on-shore wind turbines. In its document summarizing the strategic directions and actions of the “PPE” and in its report about the “PPE”, the Government takes the view that 6,500 new WTGs shall be necessary to reach the objectives. It also made clear that a significant part of the increase of wind energy will come from the replacement (i.e. “repowering”) of WTGs currently in operation and whose PPAs will expire in the coming years.

• As at 31 December 2018, solar electricity production in France reached 8.5 GW (compared to 7.6 in 2017), almost 10 times higher than in 2010. Source RTE - [Solar electricity production capacity in France](#)

• With 108 GW installed, Germany has the largest fleet ahead of Italy (60.8 GW) and Spain (51.9 GW). The French fleet is the fourth largest in Europe with 13.6 GW of capacity installed in 2017. ([Wind turbine in France](#)- EDF)

Hydroelectricity: the part of the production of electricity from hydropower plants is expected to represent 25.7 GW (including tidal energy) in 2023, an increase of...0% compared to 2018. The problematic of hydropower energy generation is of another nature: although the French Government has been under the surveillance of the European Commission for long years regarding the renewal of the hydroelectric concessions of the most important hydropower plants, the timetable of the renewal, which has been delayed many times, remains unclear. The French Government has recently published two Decrees (no. 2019-211 and 2019-212 of March 20, 2019 “regrouping” the administrative treatment of some hydroelectric facilities located on the same rivers) that lead to a *de facto* prorogation of the existing concessions (mostly operated by ENGIE or EDF) in exchange for significant investment by the current concessions holders. It is uncertain whether the European Commission would look favourably on this mechanism (assuming it had not been consulted beforehand).

Nuclear power: at first glance, it may seem surprising to classify among the “winners” an energy source whose share in the French energy mix will be lowered from 75% to 50% in 2035. However, it should be recalled that, according to the Law no. 2015-992 of August 17, 2015 “on the energy transition for a green growth”, the reduction to 50% should have been achieved until 2025. The circumstance that the pace of the reduction could be shelved is, in itself, a success for the French nuclear industry. Still, over this ten-year “reprieve”, 14 nuclear reactors will have to be shut down. The shutdown of the first two reactors of the Fessenheim nuclear power plant is planned in the Spring of 2020, provided that the EPR reactor in Flamanville is commissioned until then. As the reduction of the share of nuclear power in the energy mix was entrenched in Law, a new Law will have to be passed in the coming months to include this new delay.

“Innovative” energy sources: from biofuels and renewable heat to hydrogen and *power to gas*, the “PPE Decree” aims to promote alternative energy sources or some energy sources that had been neglected in the past. Particular focus is placed on hydrogen and *power to gas*, including a target of 5,000 light-duty vehicles in 2023 and 20,000 to 50,000 by 2028.

• There are approximately 2,300 hydroelectric installations in metropolitan France.

• 14 out of 58 nuclear reactors, most likely the oldest:

- Tricastin (Drôme et Vaucluse),
- Bugey (Ain),
- Gravelines (Nord),
- Dampierre (Loiret),
- Blayais (Gironde),
- Cruas (Ardèche),
- Chinon (Indre-et-Loire),
- Saint-Laurent (Loir-et-Cher)

Those Who Got Their Feathers Turned Out...

Off-shore wind energy: one should recall that, as strange as it may seem, though France has the second largest potential for offshore wind energy in Europe, at the date of this writing, it still has no offshore wind park in operation. By contrast, the UK installed 1.3 GW in 2018 (1.1 GW in the first half only) and reached the 6 GW-mark, while Denmark has nearly 1.5 GW of installed offshore wind parks and is looking for new areas to launch its future calls for tenders. France thus keeps on advancing haltingly on offshore wind, as the French Government secured in 2018 a sharp decrease in the feed-in tariff of those offshore wind parks already awarded and requests even more efforts for the wind park projects that will be awarded in Dunkirk (max. 70 €/MW hour) in 2019 and in other areas from 2020 (65 €/MW hour). The objectives of offshore wind energy may thus seem relatively modest: 2.4 GW in 2023 and between 4.7 and 5.2 GW in 2028. It is worth noting that these objectives include floating wind turbines: for this technology, at least three calls for tenders are planned until 2025, each with a capacity of 750 MW. In 2025, another call for tenders of 500 MW, targeting both floating and conventional offshore wind turbines according to the tariffs applicable by then, is envisaged.

Natural gas/biogas: it is an understatement to say that gas in general finally “saved its bacon” if one looks at the original “PPE” project, in which the share of gas in the French energy as to be reduced by nearly 2/3 by 2028. Finally, the decrease of gas is limited to 19% (420 TW hours compared to 493 TW hours in 2017) by 2028. The summary document makes clear that natural gas must in the long term be replaced by biogas, since it offers numerous advantages (easy storage, supplementary income for farmers, recovery of waste and circular economy, efficient and modern transportation system). At the same time, according to the summary document, the production costs of biogas would be four times higher than natural gas. As a result, the general principle is that the pace of construction of biogas production plants will adapt to the decrease in the construction and operation costs of these plants. The goal of the French Government is to raise the share of biogas in the overall consumption of gas to 7% by 2030 if

4 offshore wind farm projects in France have obtained their new green light:

- The Saint-Brieuc wind farm (Côtes-d'Armor), 62 wind turbines. Commissioning planned in 2020 for a life of about 20 years.
- The Dieppe wind farm (Seine-Maritime), 62 wind turbines. Commissioning planned for 2021.
- The Fécamp wind farm (Seine-Maritime), 83 wind turbines. Commissioning planned for 2022.
- The Saint-Nazaire wind farm (Loire-Atlantique), 80 wind turbines. Commissioning planned for 2021.

the production costs of biogas injected to the grid are reduced to 67 €/MW hour (gross calorific value basis) in 2023 and 60 €/MW hour (gross calorific value basis) in 2028, down by approx. 30 to 40% compared to the current production costs. If the production costs go down more steeply, the objective of 7% could be increased to 10%. It should be noted that the governmental ambitions regarding the generation of electricity from biogas are very limited: the installed power capacity would extend to 0.27 GW in 2023 and between 0.34 and 0.41 GW in 2028. It can be concluded that the generation of electricity from biogas will nearly be abandoned for the direct injection of biogas in the gas transport and distribution systems.

Key points

In order to meet the targets of its “PPE”, the French Government unveiled series of new measures that will have to be detailed in other regulatory instruments. The trajectory seem to be clearly mapped out, but one should nevertheless keep a close eye on the draft Energy Law that will be discussed in the coming weeks before the French Parliament.

One remaining uncertainty remains as regards the main assumption on which the whole “PPE” was built, i.e. a maintenance or a slight increase in the electricity demand in France. This assumption looks very questionable if one goes back to the recent history of electricity consumption in France. The future will tell if that assumption is relevant or not.