

The French Energy Transition Law for Green Growth: At the limits of governance by objectives

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After one year of parliamentary debates, the French Energy Transition Law (ETL) was eventually adopted by the National Assembly on the 22nd of July 2015. Looking forward to the international climate conference hosted in Paris in December 2015, this law aims at providing a leadership by example in Europe and beyond, through the definition of an ambitious climate and energy transition roadmap. However, while the long-term objectives defined through this law clearly put France at the forefront of the fight against climate change, major challenges have yet to be addressed to ensure an effective implementation in the coming months and years.

The aim of this article is threefold: firstly, it briefly retraces the policy process that led to the adoption of the law over the last three years. Secondly, it provides a summary of the law's contents, including the main targets and measures. Eventually, it puts this overview into perspective, through an analysis of the key challenges for implementation, with a special focus on the new governance framework for the energy transition.

KEY MESSAGES

- After 3 years of extensive debates, the French energy transition law was adopted in July 2015. Through its 215 articles, it provides a comprehensive and ambitious roadmap for the transformation of the energy system and introduces various policy instruments.
- The transition builds on strong objectives for GHG reduction (-40% until 2030, -75% by 2050), energy efficiency (reducing demand by 20% until 2030 and 50% until 2050), and the diversification of energy supply through reduced nuclear and fossil fuels and an accelerated deployment of renewables.
- The law introduces a clear trajectory for the carbon price signal introduced in 2014, which should reach up to €56/ton by 2022 and €100/ton by 2030, applying to the final consumption of transport and heating fuels.
- Other key measures include new obligations to massively deploy building retrofits and the evolution of renewable support mechanisms towards a market premium scheme.
- While the adoption of the law represented a lengthy process, its implementation over the coming years will be even more challenging: the law essentially introduces a framework of governance by objectives, including a profusion of new targets and planning instruments. However, it might very well become an empty shell if this framework is not backed with equally strong measures to provide an effective implementation strategy.

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1. THE PROCESS LEADING TO THE ENERGY TRANSITION LAW

The process leading to the ETL initially started in November 2012, with the organisation of a National Energy Transition Debate that lasted for 8 months. Gathering 120 experts from various stakeholder groups, this debate aimed at establishing a comprehensive body of analysis on current trends and future challenges for French energy and climate policy and at identifying a common set of measures and targets that would provide the foundation for the future law.

The arduous parliamentary debate extended over 12 months and a total of five readings in the two chambers, totaling almost 4,000 amendments to reach a final text. Formally adopted by the National Assembly on the 22nd of July, the publication of the law was delayed until the 17th of August, due to two appeals to the Constitutional Court.¹

2. SETTING UP THE TRANSITION ROADMAP: THE MAIN TARGETS

Originally intended as a framework law, laying down the main objectives and principles for French energy and climate policies, the ETL eventually became a much more comprehensive text, including both general targets and specific measures. Regarding the energy system, the following objectives provide the blueprint for the transition roadmap:

- *Greenhouse gas emissions*: Reduction of 40% until 2030 and 75% by 2050, compared to the reference year 1990.
- *Energy efficiency*:
 - Reduce final energy consumption by 20% until 2030 and 50% until 2050, as compared to 2012
 - Until 2050, the whole building stock should reach the level of low energy buildings (80 kWh per year and m²)
 - Accelerate the pace of thermal renovations to reach a rate of 1.5% (500,000 dwellings) per year,² half of which should target modest-income households

- Diversification of energy supply and renewables:
 - Increase the share of renewable energies in final consumption to 32% until 2030 (2013: 14%). For heating, the renewable share should reach 38% by 2030, for electricity 40%, for fuels 15% and for natural gas 10%.
 - Decrease the share of nuclear power in total generation from 75% to 50% by 2025
 - Decrease the share of fossil fuels in primary energy consumption by 30% between 2012 and 2030

Although most of the public debate focused on the highly controversial objective of diversifying the power generation mix through a partial phasing-out of the existing nuclear power fleet, the overarching target on energy efficiency (a 50% reduction in final energy consumption until 2050) can be described as the main pillar of the target framework. Indeed, no other country has presented a target as ambitious as this one.³

Secondly, while the target structure reflects the model used in many countries and the EU (climate, energy efficiency, renewables), the addition of a specific target on the reduction of fossil fuels could provide an example for other countries in the future.

Eventually, the fact that the transport sector is not covered by any major objectives (other than the deployment of electric vehicle charging stations) is representative of a weakness that affects most national transition strategies around the world: notwithstanding its importance for the climate and fossil fuel consumption, the mobility sector often remains the orphan of energy transition strategies.⁴

3. TRIGGERING THE TRANSITION: THE KEY MEASURES OF THE LAW

Beyond the overarching objectives, the ETL also introduces multiple new measures and instruments in order to launch the transition effort in the shorter term. The following list presents a non-comprehensive summary of the main reforms:

- *Defining a carbon price trajectory*: implemented in 2014, the French *climate and energy levy* currently amounts to €14,5 per ton of CO₂ and

1. The constitutional court has been seized by the opposition in July 2015, regarding alleged flaws on both form and substance. In its decision of the 13th of August, the court rejected both appeals, but stated that without further precisions on its implementation, the obligation for thermal retrofits by 2030 would be unconstitutional. It is however possible that the parliamentary opposition will issue another preliminary ruling on constitutionality to delay the official publication of the law.

2. The total residential building stock in France amounts to 33 million dwellings. Currently, about 150,000 housings are subject to a thermal retrofit each year; the objective thus translates to a threefold increase of the yearly refurbishment rate.

3. The German *Energiewende* includes a similar target of a 50% reduction in primary energy consumption. Unlike the French target that focuses on end-user efficiency, this means that a great share of the effort might come from efficiency gains in energy (and in particular electricity) production, through the replacement of thermal plants by renewables.

4. Sweden is a notable exception in this regard: its 2030 strategy focuses on a single highly ambitious objective: fully decarbonizing road transport in the next 15 years.

covers final consumption of transport and heating fuels (i.e., CO₂ emissions that are not directly covered by the European Emissions Trading Scheme). The ETL plans a rapid increase to reach €56/ton by 2022 and €100/ton in 2030, but its direct impact might remain weak in the short term⁵ (see section 4).

- **Thermal retrofitting obligations:** A first obligation introduced by the law refers to the fact that all buildings subject to major refurbishments of the envelope (roof and walls) have to include the corresponding insulation measures to abide by the law. It further indicates that all residential buildings consuming more than 330 kWh per m² and year (10 million dwellings, 30% of the current building stock) should be retrofitted by 2025. This theoretically translates into a thermal renovation rate of 1 million dwellings per year, almost a factor 10 above the current renovation rate and twice the (already ambitious) target of 500,000 renovations per year. Considering this level of ambition, it remains rather astounding that the existing incentive schemes (tax credits and concessional loans) as well as thermal regulations have not been reformed simultaneously, thus questioning the short term feasibility of the target.
- **Evolution of renewable energy support schemes:** Following the indications of the EU state aid guidelines (2014), the ETL introduces a transition from the current feed-in tariffs towards a market premium scheme. While this is likely to introduce an additional layer of complexity to the existing regulatory framework, most new projects should not experience any short-term changes, given that neither small-scale solar plants nor onshore wind will be subject to the premium scheme in the next years (IDDRI, forthcoming). Furthermore, inspired by the German success of citizen energy projects, several regulatory reforms aim at fostering financial participation from citizens and municipalities in renewable energy projects (Poize & Rüdinger, 2014).
- **Foster a circular economy:** relatively neglected in the first draft of the law, the principles of circular economy have grown to become a key element of the ETL, with 34 articles focusing on the corresponding measures for waste reduction,

improved recycling, the fight against planned obsolescence and a ban on some non-reusable products such as plastic bags.

- **Support the deployment of electric vehicles:** prior to the adoption of the law, the financial bonus for the acquisition of an electric vehicle has been increased to a maximum of €10,000. For the longer term, the law foresees the deployment of up to 7 million electric vehicle charging stations in both public and private buildings.
- **Tackling energy poverty:** the current scheme of social tariffs (which applied only to electricity and natural gas) should be replaced with an “energy cheque”. Unlike the prior social tariffs, this should theoretically cover all energy carriers and allow modest households to also use this public aid to invest into energy-saving measures. Furthermore, 50% of future building retrofits should focus on low-income households in order to reduce energy poverty by 15% until 2020.
- **New planning instruments:** in order to develop a coherent transition strategy and improve timely monitoring, the ETL creates a multitude of new planning tools at the national level (see section 5).

4. FROM ROADMAP TO REALITY: MAIN CHALLENGES FOR IMPLEMENTATION

The implementation of the French energy transition agenda will be a major challenge, requiring 150 implementing decrees for the measures to become operational.⁶ Since the devil is often in the detail, these implementation bills can take more time than anticipated, as the previous experience of the *Grenelle* law on environment (2009) has shown: some of the implementation decrees had yet to be published 3 years later.

The lack of large-scale funding instruments, in particular to provide low-cost finance for capital-intensive investments (building retrofits and renewable energies) has been identified as another major challenge for implementation (Rüdinger, 2015).

In this regard, the climate and energy levy (i.e. carbon tax) might provide a new source of public finance in the future, based on two conditions. Firstly, the implementation of the price

5. A recent analysis by the French Ministry of Environment anticipates that the carbon tax will only result in CO₂ emission reductions of 3 million tons per year by 2017, representing 0,5% of the national GHG emissions. Based on the current carbon tax of €14,50/ton CO₂, the incremental cost for consumers amounts to 0,5 cent /kWh for natural gas (4% of end-user tariff) and 3 cents/L for petrol (2,6% of customer tariff).

6. Most measures included in the ETL require additional precisions to become legally effective. For example, measures related to the energy efficiency of buildings will require about 25 implementation decrees to frame the retrofitting obligation (which buildings are targeted based on which criteria? What are the possible exemptions? Which performance level should be achieved?), specify the content of the new “building efficiency passport” and define additional measures (deployment of smart meters, etc.).

trajectory fixed by the ETL until 2030 must be secured by additional legal provisions, given that it can still be overruled by the annual budget bill. Secondly, the overall revenue for public budgets will directly depend on the implementation of additional compensation measures (such as cuts in other taxes) to ease fiscal pressure.

Another major challenge is linked to planning uncertainty, affecting the energy supply sector and the power system in particular. While the law provides ambitious objectives for the deployment of renewables until 2030, conflicting signals might impede an uptake of projects in the short term. On one hand, this is due to the instability of the policy framework: the French feed-in-tariff scheme has evolved on various occasions and the new reform towards market-based instruments might further increase policy risks for investors. On the other hand, as long as no credible trajectory is defined through the multiannual energy planning framework (*planification pluriannuelle de l'énergie*) for the planned reduction of nuclear power, it will become increasingly difficult to “push” renewables into the market, considering current overcapacities in France and the European power market (Rüdinger *et al.*, 2014).

5. CONCLUSION: OVERCOMING THE LIMITS OF GOVERNANCE BY OBJECTIVES

While the ambition of the ETL is certainly a great signal for the French commitment to the low-carbon transition, the implementation of an efficient governance system will remain a major challenge. This includes both the distribution of competencies (and accountability) in a multi-level governance framework and the definition of a coherent planning and monitoring framework, taking into account the various objectives and policy instruments.

Regarding the first aspect, the ETL provides some impetus to decentralize energy policies and to streamline administrative processes. However, the layering of competences among multiple levels (municipalities, regions, state, Europe) does not yet provide a clear picture of labor division and accountability allocation between the various actors. Furthermore, beyond the negotiation of competencies between local and national entities, the fact that the fundamental European dimension of this transition remains largely neglected in the French policy debate, might grow into a bigger challenge, considering the increasing level of interdependency within regional and pan-European energy markets.

A second governance challenge relates to the profusion of new targets and planning tools introduced by the law. To implement the target

framework, the law introduces two transversal strategies (the low-carbon strategy and the multiannual investment framework) and four sector-specific roadmaps (on clean mobility, building retrofits, circular economy and finance). While these are established on the national level, most of them are backed up by equivalent plans at the regional and local level. This combination of planning tools in theory provides a lot of information to facilitate the evaluation and monitoring of policies, but it also bears a major risk of overlap and redundancy in the absence of clear guidelines on the delimitations and interactions between these plans.

Furthermore, while these plans can help create a better vision of the future, they should not become an end in itself. French energy and climate policies indeed have a history of very ambitious targets and plans that have progressively turned into empty shells in the absence of clear implementation measures and governance structures.⁷ Thus, the emphasis should progressively turn from long-term targets and plans towards the definition and implementation of equally strong policy measures and enforcement strategies, in order to meet the French ambition of becoming a leader by example in the fight against climate change. ■

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7. Many of the most ambitious targets decided within the 2007 Grenelle Summit on the Environment have ever since been completely neglected, such as the (overly optimistic) objective of reducing energy consumption in buildings by 38% until 2020 and the objective to reduce the consumption of pesticides by 50% until 2020: on the contrary, the consumption has increased by 10% between 2009 and 2013.