FRANCE
INSIGHTS ON CLIMATE ACTION TEN YEARS AFTER THE PARIS CLIMATE AGREEMENT

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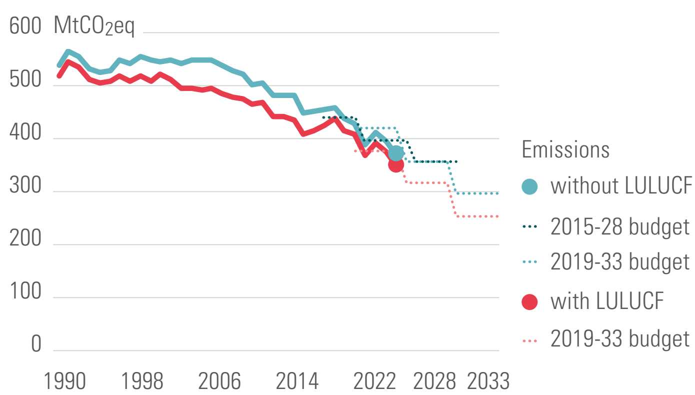
KEY NUMBERS

French gross emissions have peaked in the early 90's, platooned around 550 $MtCO_2e$ until the mid-2000's, then decreased by around 30% until 2023. French net emissions are about 10% lower (LULUCF contribution being negative) and have somehow followed the same trend during this period (**Figure 1**). After the success of the Rio Earth Summit and the ratification of the UNFCCC treaty, France created in 1993 a specific Climate Change Department (in French "mission

Figure 1.
Historical national emissions compared to national emission budgets



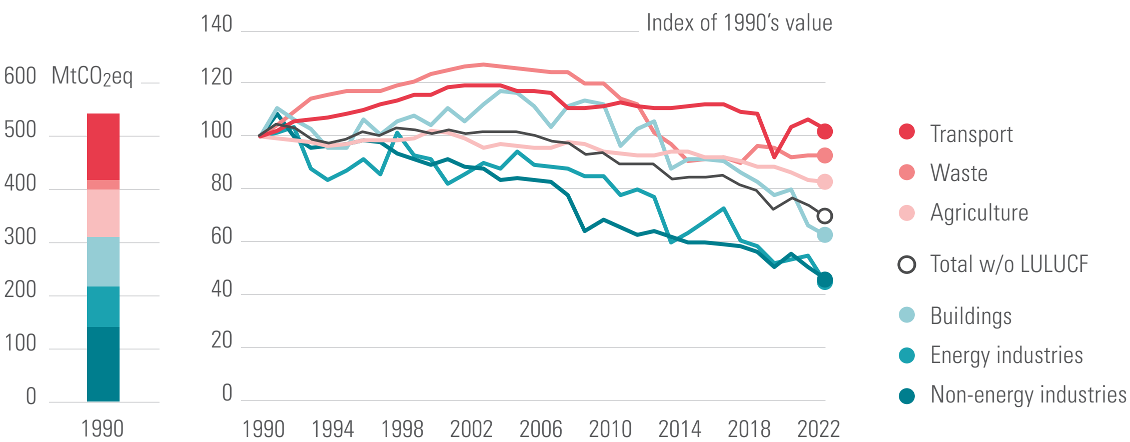
Source: Citepa (2024).

effet de serre") attached to the Prime Minister and adopted 2 years later a first package of measures specifically dedicated to reducing GHGs emissions. The French power sector emissions are relatively low compared with European members for historical reasons, the development of large hydro after World War II, and of nuclear power after the 70's oil crisis. Depending on meteorological conditions, about 80 to 85% of French power domestic demand was already covered with low carbon sources and this plan was therefore more focused on other sectors. The stabilization of emissions and then decrease during the following decade was actually the result of opposing trends (**Figure 2**), reductions in some sectors (mostly in energy intensive industry, with important efficiency improvements in response to the oil crisis, but also a reduction of domestic production) and still a rise in end uses direct emissions (building and transport) where the introduction of efficiency measures, such as building codes, were not sufficient to offset the rise of activity (square meters of residential and service buildings, important increase in transport demand).

A step change occurred in 2015, with the adoption of the Energy Transition law (see more details below) and of the first long term low carbon strategy. More ambitious and systematic measures were introduced, covering new subsectors : development of renewables in the power system allowing for a reduction in fossil fuel powered capacities (explaining the inflexion of the "energy industry" curb after 2015 in **Figure 2**); specific measures dedicated to the existing stock of buildings, to support envelope renovation and fuel switch; development of urban public transport; waste management (such a methane capture) or rationalization of N fertilizer use in agriculture etc. (**Figure 2**).

Figure 3 gives a breakdown by gases for the period 1990-2022: in addition to the reduction of CO_2 emissions (by 40%), we observe a regular reduction of N_2O emissions (-50%) and of methane emissions after 2000 but to a lesser extent (-25%). But if CO_2e emissions trends are useful indicators to illustrate the effectiveness of climate policies, they need contextualization to avoid misinterpretation: these reductions can partly be explained by proactive policies, but partly by other factors: rise in the price of fertilizers, reduction of the livestock due to economic difficulties. If the rationalization of the use of fertilizers is almost not reversible (development of new practices supported with new mechanical equipment), the decrease of meat production is not associated with a decline in meat consumption, and the carbon footprint of diet in France was actually not much improved.

Figure 2. National emissions w/o LULUCF, by sectors

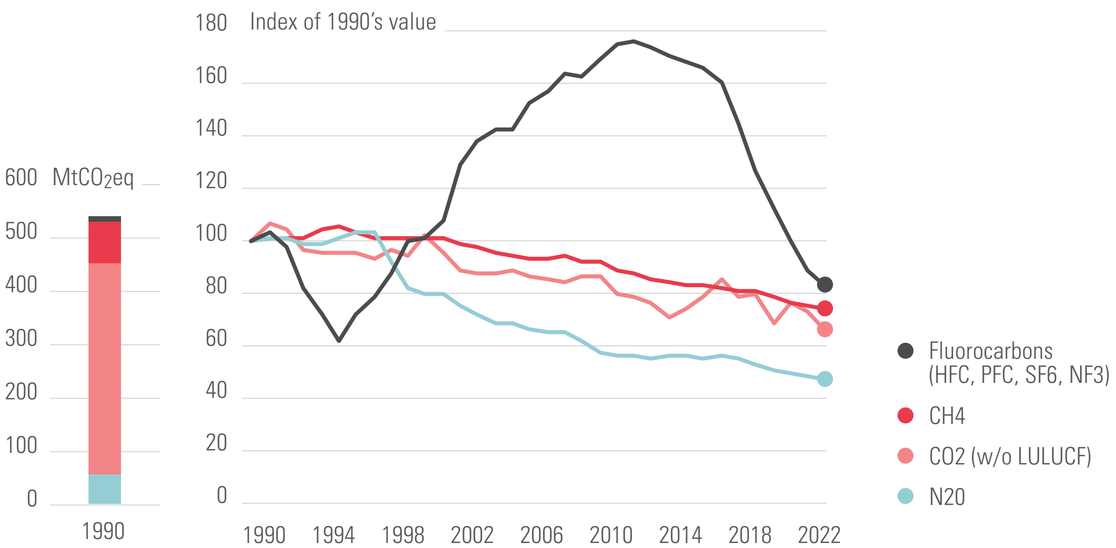


Source: inspired by the Annual Report of HCC (2025), Citepa (2024).

The 2015 Energy Transition Law has introduced carbon budgets in the toolbox of French decarbonization policies. Three 5-years carbon budget were then set for the upcoming 15 years, to be updated every five years with the introduction of a new 5-year budget. **Figure 1** shows that since their adoption in 2015, the trend of emissions is in compliance with the obligation introduced by this new instrument. But the last annual report issued by the French High Council on Climate (HCC, an independent expert body in charge with the evaluation of the Climate policy) pointed out a worrying slowdown in the annual reduction rates in most sectors.

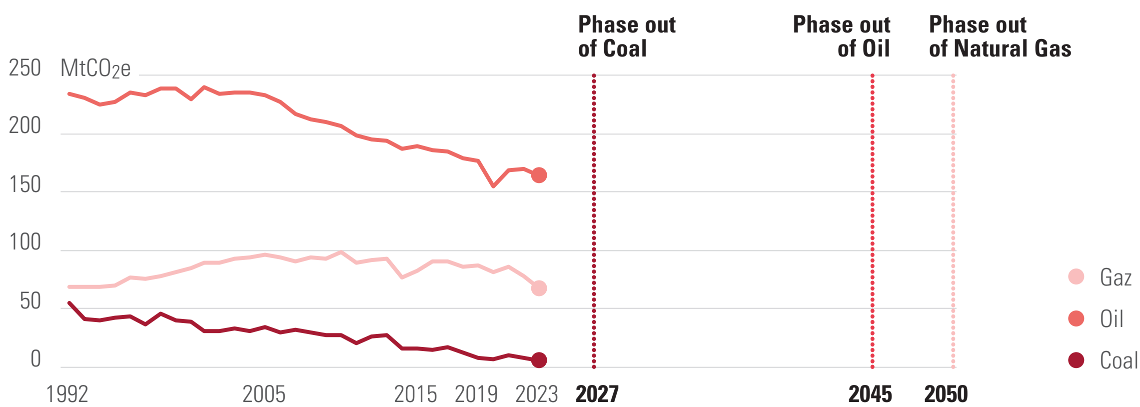
Figure 4 illustrates the specific issue of Fossil Fuel (FF) phase-out. The French decarbonization strategy now incorporates FF phase-out horizons for coal, oil and natural gas. **Figure 4** shows that the objective for coal is already almost achieved, after the retirement of the last coal power plants. Delivering the oil phasing-out objective remains clearly a challenge : the trend of reduction is rather steep but not yet sufficient; if the phasing out in the domestic building subsector appears to be

Figure 3. National emissions w/o LULUCF, by gases



Source: Citepa (2024).

Figure 4. Emissions from fossil fuels (1992-23) and phase-out horizons



Source: inspired by the Annual Report of HCC (2025), Citepa (2024).

at hand (existing policies supporting the switch to electricity or district heating), oil remains the main contributor to domestic emissions and the switch to alternative fuels, or alternative modes in the transport sector (passengers and freight) one of the most challenging policy objectives. The evaluation of the trend for natural gas is more complex and uncertain: according to the first set of scenarios and objectives, natural gas was supposed to steadily decline in the traditional sectors (building and industry) while its role in the power sector is already limited. But in recent years a push from industry at national and European levels have fragilized this vision and progressively installed the idea that natural gas could be a “transitional” option (power, transport, but also buildings and industry) and could be progressively decarbonized through the injection of biomethane. Policies and financial frameworks have since been adapted accordingly. While meaningful in specific sectors and national situations, this option rely on limited biomass ressources and cannot substitute natural gas in its current (building, industry, power..) and potential future (transport) markets. Decarbonizing natural gas through biomethane injections requires a drastic selection of high value markets. But a “supply only” approach would certainly create new stranded assets and vested interests and make it difficult to reach the objective of total phase out by 2050.

Role of Long-Term

France has a long tradition in energy planning, and climate issues have been integrated since 1997, necessitating at that time an expansion of the horizon (up to 2050). In 2005 France adopted its first long term objective named F4 (factor four: to cut 75% of GHGs gross emissions by 2050). In 2013, the recently elected President F. Hollande organized a 2 years national debate, where a dozen of different scenarios (developed by academics, civil society, or energy firms) served to inform a discussion on the options at hand to reach that goal. The debate was organized and moderated by a group of independent experts, and an assembly of all stakeholders (industry, NGOs and civil society, academics, local authorities) was convened once a month in plenary, and more frequently in smaller thematic groups, to discuss options and formulate proposals. Following the debate, an “energy transition law” was adopted in 2015 (LOI n° 2015-992 du 17 août 2015) introducing a series of long-term 2050 GHGs and shorter-term 2030 energy and infrastructure targets aligned with the F4 objective, along with several governance innovations:

- a long-term low carbon strategy named SNBC: 2050 vision plus three successive 5 year’s period budget and respective policy orientations, to be updated every 5 years;
- an energy plan named PPE, pluriannual program for Energy investment covering two successive 5 years period, compatible with the SNBC and updated simultaneously;
- an independent Expert Panel on Energy Transition, in charge of the evaluation of the strategy, and its implementation.

Several adaptations have been introduced since, including the substitution of the 2050 F4 objective with the PA art2 Neutrality objective after the ratification of the Paris Treaty, and a reform of the expert committee (now HCC : High Council on Climate) expanding its role to adaptation and reenforcing its institutional position (direct reporting to the Prime Minister, autonomous communication capacity, obligation for the government to publicly respond to the annual report, and hearings in the parliament). The third generation of SNBC and PPE are currently in the process of adoption.

There is no doubt that this institutionalization of the planning process, and its participative elaboration (with a consultative, permanent body of stakeholder representation) have contributed to a better understanding and ownership of the climate issue, starting with the government and the administration but more generally within the French society. Concretely, several policy discussions have clearly benefited from this long term perspective (see 2 below) for several reasons : obviously because of the “planning” dimension of the exercise per se, questioning the compatibility of short term decisions with the longer term objectives; but also because of the induced analytical quality of the debate: it facilitated the recognition of independent expertise and gave a voice (not just a seat) to different type of stakeholders, from the industry to the civil society, offering them a chance to express their views in the administrative process, or in parliament hearings. It has clearly reinforced the liability of the government and facilitated the adoption of decisions (laws, budget orientations, procedures, etc.) supportive of the climate ambition.

According to independent evaluation (including the HCC reports) the GHGs budget adopted with the SNBC 1 and 2 (up to 2033) were reasonably compatible with the long term objective, and the set of policies adopted allowed for a global compliance of the targets during the last budget period (2018 to 2023).

But the HCC reports repeatedly highlighted several points of attention:

- The breakdown by sectors reveals that the dynamics are quite unequal and, even though all sectors are now on a reducing trajectory, some are still far from their (indicative ,non prescriptive) sectoral target.
- More importantly, structural changes that the SNBC pointed out as "necessary" to reach the long-term goal are not engaged yet/ not sufficient (see 3 below). Reductions are sometimes rather contextual and not always the result of proactive transition actions, or even desirable changes: for instance, the reduction of the livestock together with the stability of meat domestic consumption boosted imports.
- The compliance with the 2050 objective depends obviously on the capacity to reduce emissions, but although on the capacity to deliver the objective on sinks (mostly forestry and agriculture). But the recent surveys have revealed that the sequestration capacity of the French forest was far below the historical trends, certainly a consequence of climate change already. This evolution is clearly visible in the figure 2 above, where the difference between gross and net emissions is progressively diminishing after 2015. Future gross emissions targets and budgets need certainly to be adapted accordingly in the new SNBC#3.
- The planning documents provide a transcription of the long term commitment into short term (10/15 years) desired transformation, but need further elaboration to be translated into detailed policy design; this is not just a top-down process and implementation difficulties need to be reflected in the actualization of the strategy : but there is no evaluation available, and the discussions on the forthcoming periods take place without serious return on experience.

It is also noteworthy that:

- More recently, sectoral roadmaps (steel, chemistry, cement, etc.) have been negotiated with the concerned stakeholders, to better translate the SNBC orientations into tangible pathways for each industry, inform bottom up the opportunities and difficulties of each of the sectors and evaluate (private and public) investment needs, knowing that large emitters are at the same time covered with the EU ETS market obligations. These roadmaps are aimed at complementing the short term ETS "price pressure" with a more informed, long term compatible vision; and facilitating more proactive response strategies by decision makers and more relevant policy initiatives on the public side. On the other hand, there is a clear risk of capture and asymmetry of information (on innovation opportunities, on costs, etc.) : for instance, part of the industry has insisted on the importance to maintain a significant supply of methane in the forthcoming decades to limit the transition costs, but this bottom-up evaluation of methane demand ended up with much higher figures than the previous modelling evaluations… conflicting with French commitments and objectives on fossil-fuel phase out. The solution envisaged in the planning document (a sharp increase in bioenergy supply, assuming the availability of the resource) is now clearly fragilized by recent reports on the impact of CC on biomass production in France.
- The long-term goals of the PA have also impacted the discussion on adaptation. For the first time (although there has been an "adaptation strategy" for years in France) the last

National Adaptation Plan adopted this year starts with establishing a long term reference and a trajectory for adaptation (TRACC), defining a threshold of 4°C temperature increase by 2050 and a series of consistent sectoral and transversal adaptation strategies. This Plan still needs operationalization, and a supportive investment framework, but it represents a real improvement compared with the previous approaches and provides, as for mitigation, a useful reference for decentralized territorial or private action.

Long term public commitment and its respective shorter term budgets and strategies have been referred to by French Courts (including the “Conseil d’Etat”, the highest jurisdiction re state intervention), considering that these planning documents now represent a legal commitment by the French government, and can be used in litigation to judge the effectiveness and the adequacy of the public action re the PA art 2 objectives : in a recent case, the judge stated that such documents made it possible to establish a clear relationship between the climate policy ambition and performance today and the expected negative impacts of CC by mid-century. On this basis, the Court ruled in favour of the plaintiffs and sentenced the state to increase its action against climate change.

Examples of concrete progresses (where the LT approach has unlocked difficult debates)

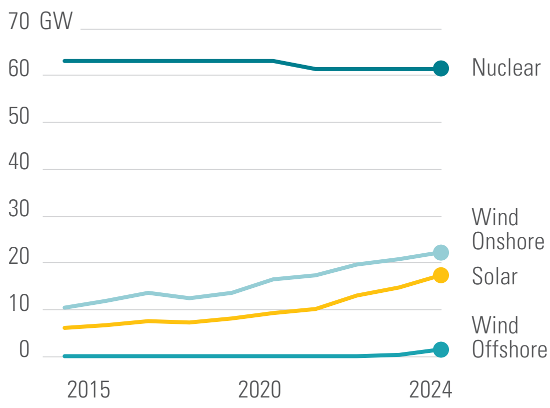
Energy Mix, Power Generation and Fossil Fuel Phase Out

Long term strategies, short term policy objectives and improved governance (see 4 below) have proved efficient to unlock a series of discussions and make progress towards effective implementation of the energy transition.

A first, illustrative example in the French case is the Energy Mix debate in a country where this discussion is usually leading immediately to debating the pros and cons of nuclear energy, neglecting important other issues that need instruction, deliberation and decision in the energy transition process. The introduction of the long-term perspective and at the same time the need to elaborate credible and resilient transition pathways towards this desired future, the need to widen the scope to all sources of energy (once the issue is precisely on fossil fuels and not on electricity only) have facilitated a more peaceful and contributing discussion. It imposed a more analytical approach where the respective roles of sufficiency, efficiency, electrification and the provision of decarbonized electricity had to be thoroughly discussed. The 2015 law acknowledged the necessity to actively develop RES (Renewable Energy Sources) in a country where nuclear energy will, according to official plans, continue to play an important role anyway. Economic considerations (taking advantage of the reduction on costs and of the significant potential in solar, wind, hydro, geothermal and biomass of the French territory), EU collective engagement, but also diversification of the mix and respective energy security issues, as well as the necessity to develop generation capacity in the upcoming 2 decades to accompany the development of electric vehicles and heat pumps, have resulted in a quite ambitious investment program in the subsequent Energy Programme (PPE1 and PPE 2). Since 2015, the policy support to RES development has been at the same time less chaotic, more effective and more efficient.

Figure 5 shows that during this period, wind capacity has more than doubled and solar capacity almost tripled, expanding the market for the respective industries and benefiting, in return, from drastic reductions in the price of both

Figure 5. Installed power generation capacities



Source: RTE (2025).

technologies. Cumulated RES capacity (including hydro) is now comparable to the nuclear installed capacity. In 2023, RES generation represented 141 TWh, almost one third of total net consumption; gross nuclear generation peaked at 320 TWh and fossil fuel capacities (mostly gas) provided 30 TWh to the grid.

But a controversy has developed since last year, first among experts but rapidly expanding to the political arena. The ambition in RES development was mostly based on the assumption of a rising demand for electricity during the 2025-2035 decade, as a consequence of the policies supporting the electrification of the final demand for energy. But electrification has slowed down recently, in particular in the transport sector where the car industry is clearly pushing back and where the replacement of ICE vehicles with EVs is facing a number of political and social challenges. The opposition to the climate energy transition has recently become more vocal, in connection with the international situation. An intense lobbying has developed to express concerns about this (successful) development of RES, arguing that electrification objectives were too ambitious, that RES would compete with the nuclear programme and that fossil fuel should still play an important role in all sectors for the next 3 decades. At the same time, key features of the current RES strategy are not just climate driven, but respond also to various rising international challenges (energy security/ sovereignty, power generation cost). It is yet too early to tell whether the policy discussion framework developed in a more peaceful and pro- active period will also prove resilient and efficient in this new context.

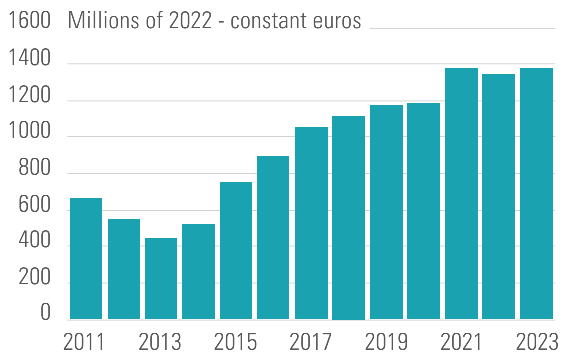
Building and Electric Vehicles

Other important issues have also benefited from this better-informed discussion, where the long-term perspective shed a new light on the value, or the risk of short-term choices.

In the building sector where energy efficiency and electrification has long been considered competing approaches, it has resulted in the progressive recognition that building renovation (as opposed to construction) was a key challenge to facilitate the dissemination of decarbonized heating equipment, such as heat pumps. It is necessary from an individual perspective to reduce the cost, and from a collective perspective to mitigate the impact of this development on the power sector (generation and grid). Support schemes, although imperfect, have been designed to incentivise ambitious envelope renovation as well as fuel switch: labelling system on both the energy consumption and the GHGs emissions for buildings; regulatory framework on selling and renting obligations setting minimum performance standards for the respective transactions, grants and loans to support investment, equipment market regulation (support to innovation, minimum standards, etc.) in addition to reinforced building codes for new construction. Private investment in residential building renovation has eventually increased by a factor 2 to 3 in the last decade but remains insufficient compared with the projections assumed in the low carbon strategy.

Another example is the central role of electrification in the transport sector, and namely the development of electric vehicles in a country where the automobile industry is quite developed. In the early 2010's, EVs were still considered a marginal option, and official documents were mostly committed to develop "3 litres cars" (meaning cars with a 3l/100km fuel consumption) and biofuels. But in 2023, France has adopted an

Figure 6. Total investment to increase energy-efficiency in building renovations



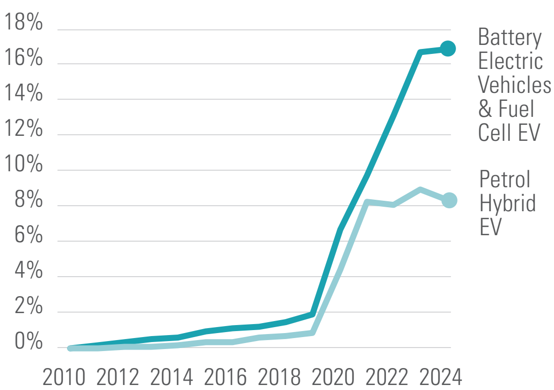
Source: Ademe (2025).

objective to end the production / sales of ICE vehicles by 2035 (a regulation strongly opposed since by the European car industry).

The international dynamic and the rapid innovation on EVs have obviously played an important role in this evolution, as well as EU discussions and decisions (CAFE directive). But it is clear also that the domestic debate on cars has evolved after 2015, with the necessity to consider the neutrality objective: the long-term, aspirational vision has then switched from "fuel efficient cars and biofuels" to "EVs". But contrary to what happened in the building sector, the focus on EVs (emission free vehicles) has evicted the concern on the size and cost of vehicles (energy efficiency/ affordability), letting the industry develop a strategy towards larger, heavier and more expensive propositions, now a difficulty in the transition towards electrification for many reasons (just transition, resource sovereignty and recycling, urban space, etc.).

Early this year the 2035 objective has been released but this vote was not the result of a change in the decarbonization strategy : it was a response to the intense lobbying of the car industry and may not change much the technology options, mostly determined now at EU and global level, though it will eventually impact the manufacturers strategies and the dynamic of the market.

Figure 7. Share of electric vehicles in annual registrations



Source: SDES (2025).

Examples of concrete blockages (where the LT approach was unable to solve controversies)

Agriculture

The public discussion on climate change and the policy arena have long been dominated by energy considerations, but the agriculture / food sector is also an important contributor to GHGs emissions, and a vulnerable activity as well. This is particularly true in France, due to the importance of agriculture and agrobusinesses in the country's economy. From a strict analytical point of view, there is a number of propositions on the shelves to feed the discussion, from incremental changes to more radical agro-ecological transition visions. But environmental issues remain extremely controversial and public policies remain more reactive to short-term stakeholder demands than responsive to long-term challenges. The political economy of the discussion is extremely complex:

- The transition cannot be discussed with a single climate change focus: biodiversity is equally impacted by agriculture practices and ecological transition visions need to take both issues into consideration.
- the sector is heterogeneous: if large farmers are rather profitable, smaller producers (meat, vegetables, fruits) are already suffering important economic difficulties;
- from a producer point of view, incremental changes have generated additional constraints (ban on some chemicals, water access, etc.) while offering few opportunities because of their poor bargaining capacity on the market.
- the food industry, and distribution firms are price makers, but argue that they are protecting consumers;
- in this context, environmental conditionality (for instance in the CAP Common Agriculture Policy) is not seen as an incentive, but as an additional barrier to access public support;
- public policies have incentivized the development of organic farming, but this market remains limited and organic over production is now sold by farmers with limited or no margin.

On the other hand, the sector is being increasingly impacted by climate change, and this new challenge may be a game changer. There are multiple options to respond to climate change risks, and some will generate controversies with other stakeholders (for instance, on water access). But in any case, BAU will not be an option anymore.

Carbon Tax

Beyond sectoral discussions, blockages have also characterized the very design of climate policies. Economists have long argued that the Pigouvian Tax was the more efficient instrument to incentivize emissions reductions. Following their guidance, the government installed in 2014 a Carbon Tax on top of existing taxes on fuels (gasoline, gasoil, fuel oil, etc.). The level was initially quite low (7€/ton) but a rapid increase was planned in the law, to reach a 100€/ton in 2030. From 2014 to 2017, the progressive increase of the tax was mitigated by the decrease of prices on international oil and gas markets, but the 2018 increase was reinforced by a sudden rise in the international prices.

Although fundamental reasons were much more diversified, the resulting inflation on gasoil and domestic heating fuels served as the spark for a one-year, popular countrywide protest (the yellow jacket movement). Motivation was extremely heterogeneous in this movement, and rather populist narrative emerged to denounce the "ecological bureaucracy" and the urban contempt for the rural areas and the low-income populations. But interestingly, some leaders also argued that they were quite supportive of the environmental intention but that, having no option to adapt to the rising price, they couldn't see the point in increasing the tax: for them, priority had to be given to the development of public transportation, the access to clean vehicles (cheaper new models, second hand market, specific incentives for low income families, etc.) and to salary increases.

This discussion resulted in a growing recognition, among experts and policy makers, that the transport challenge could not be limited to a fuel/engine discussion, but that personal and freight mobility needed much more comprehensive strategies, including mobility needs (urban planning, logistic, etc) and multiservice supply approaches. Local authorities, quite impacted by the movement, played an important role in this evolution and have since reinforced their actions in the field. But the level of the tax has never been increased since (it's been blocked at 44,60€/ton) and the use of fiscal instruments is now extremely controversial in the country. The implementation of the ETS2 in 2027 (the second pan-European carbon market, covering upstream decentralised emissions) will initially have limited impact on prices because the EU tax will substitute the current instrument. But the planned increase of the ETS2 Carbon price after 2030 will certainly be politically sensitive.

Link with non-climate questions

Just transition and low-income population

Climate policies have raised many interrogations and reactions regarding their potential impacts on vulnerable populations. Beyond the Carbon tax / Yellow Jacket dispute, the recent proposition to develop Low Emissions Zones in large cities resulted in a sharp political divide and, finally, a vote in parliament to postpone the implementation of such regulations. LEZ were designed to respond to local pollution issues through drastic traffic restrictions (after the conviction by EU jurisdiction of a couple of French Cities for excessive exposition of their inhabitants to air pollution). But soon, underestimated implementation issues fed growing discontent in the population, regarding the induced difficulties for commuters unable to buy new cars and living in poorly connected sub urban areas, or professionals. Solutions were progressively designed to accommodate most situations but much too late to avoid social unrest and political pressure. Again, the lack of anticipation resulted in a complete blockage of the discussion and, most probably, a lasting difficulty to reintroduce similar policy intervention.

Just transition and jobs

Trade Unions have also expressed concerns regarding the social consequences of the transition, not necessarily to oppose the movement but sometimes to defend multistakeholder platforms to anticipate response measures to necessary changes: training, relocation, market protection, financial support for innovative initiatives, etc... Economic modelling was not very conclusive regarding the possible impact of the climate transition on jobs : according to models, it could induce a few percentage loss (general equilibrium) of a few percentage gain (Keynesian representation) illustrating two different movements that can actually be observed : on the one hand a competitiveness issue (mitigated by the limited substitution of many products on specific markets); on the other hand the impact of a more CAPEX oriented energy system, on both supply and demand side, where (possibly domestically produced) capital would substitute imported fossil fuels. But even though the industrial decline could remain limited, the phasing out of specific activities, such as casting or mechanical engineering, would impact a majority of workers in certain regions, while new industries such as battery gigafactories will develop in other places, responding to specific location criteria (Power, H_2 or CO_2 grids for instance) The need to support impacted local communities led to the creation of specific forms of contractualization between public and private actors to develop new activities, create new jobs and develop respective skills, but it is a long and sometimes deceptive process.

Competitiveness, innovation and trade

More generally, the private sector keeps complaining about the loss of competitiveness that would result from the ecological transition, leading to a growing share of imports, jobs destruction and environmental delocalization. Despite the responses developed at EU level (and namely the CBAM imposed to compensate for the EU-ETS cost on covered sectors) the political pressure has not diminished and make it difficult to negotiate higher ambition with the industry. The PA transparency framework and global stock-take exercises, initially aimed at reinforcing mutual information and trust in the conduct of transition policies, have not provided the expected evidence to support domestic discussions with the private sector. Regional trade agreements have been blocked under similar criticism, but no serious effort has been made to date to design and promote a new generation of trade agreement that could be mutually supportive of the transition in connected economic spaces. More recently, the EU "Green Deal" vision has been under attack and, even at domestic level, the demand for "simplification", sometimes legitimate, has resulted in lowering the environmental ambition in various sectors. But the consequential slowing down of the transition may also induce counter-cyclical impacts on green investment and the demand for green goods and equipment… where the success of innovation policies is in turn quite dependent on the quality of procurement: the paradox is that it may therefore, at the end of the day, reduce the efficiency of public/private efforts (and expenses) to develop a competitive and innovative industry.

Public Budget for Investment and Private Action Incentive

Public spending is obviously a key parameter in the policy arena. The 2024 level of public expenses, including direct public investment and the support to private sector/ domestic spending, amounted to 32 billion € (including 10 billion at local authority level), and should rise up to 70 to 100 billion by 2030 according to independent evaluations : the appraisal range is not connected to the ambition of policies (the reference being in both cases the Low Carbon National Strategy official pathway) but to the assumptions regarding the efficiency of public spending (leverage on private expenses), and the importance attached to just transition considerations. If public spending has been increasing regularly in the past decade, the current situation on public debt and the EU regulations will certainly impact the discussion.

Another significant but difficult debate concerns the possibility to vote, in Parliament, a pluri-annual budget for the transition attached to the pluriannual strategy. From a strict legal point of view, State and Local Authorities budgets are annual and there is no possibility to commit to pluri-annual expenses. But in other high-ranking policies (such as Defense Spending), a pluri-annual (indicative) budget comes with a specific pluri-annual plan of investment adopted in parliament and provides a higher level of confidence for all concerned stakeholders regarding state commitment. This discussion has been quite vivid in recent years, but here again recent developments (debt / public spending reduction) may prevent any radical move for the coming years.

Governance

Soon after Rio, a Special Envoy on Climate Change was nominated, and created a specific department in the Prime Ministry cabinet to manage domestic policy planning, EU discussions and UN negotiations. A decade later, this organization was broken, and the implementation activities were placed under the responsibility of the environment and energy minister, while international affairs fluctuated between this ministry and the Foreign Office. Since 2015, the Ministry in charge of Environment remains the convening power and the architect of the planning documents (Low Carbon Strategy, Energy Investment Planning, Adaptation Plan), while other ministries (agriculture, housing, finance, budget, industry…) are involved in the process. This interministerial consultation is also connected to a permanent committee of stakeholders (meeting several times a year in plenary, then in smaller working sessions), to collect proposals, ideas or positions, but also to test specific decisions. Arbitrage remains with the prime minister office whenever necessary, as for any other business in the French executive organization.

Up to 2022, implementation was also 'under the responsibility' of the Ministry of environment, but many initiatives would obviously develop on other ministry's "territories" and make it difficult for the former to deliver the planned actions in case of conflict. An interministerial climate meeting was then created but ceased activity after a couple of meetings. In 2022, a new interministerial department was created to coordinate State intervention, attached to the Prime Minister : this High Secretariat for Ecological Transition (SGPE) had a quite extensive mission, starting with the operationalization of the strategies into concrete plans for state intervention, the mobilization of stakeholders (from the private sector to local authorities) for the design and then the implementation stage, the coordination of action with the concerned Ministries, and the monitoring of action. This governance innovation certainly improved the dynamic of state action, generating first some conflicts but altogether leading to a wider ownership of environmental issues as well as policy orientations. In 2023/2024, French regions organized decentralized stakeholder processes named COPs, to prepare regional and local action plans informed by the national strategy but identifying specific opportunities and risks for public action.

CONCLUSION

The impact of the Paris Agreement can be observed at three levels of domestic policies:

- first, it had an impact on the substance (ambition, nature of the transition, and of the technological and socio-economic options to be mobilized). In a nutshell, it imposed new visions where the switch towards zero carbon energy carriers (electricity, but also heat, hydrogen etc) became the rule. Before that, energy efficiency was considered a cost effective option to harvest low-hanging fruits and progressively reduce emissions. With the introduction of zero-carbon options for the energy supply, the interest for energy efficiency (and sufficiency) has first decreased but economic and social considerations have since forced experts and policymakers to revisit their role and re-introduce demand policies at the heart of the system, hand in hand with technological fuel-switch solutions. Similar conclusions emerge now regarding the transition in the agriculture / LULUCF sectors where upstream changes at farm level need to be reflected all along the chain, starting with the agrifood industry, the distribution firms and the final consumers;

- second, it had an impact on the governance of the transition : its design (long term neutrality goal and associated objectives on adaptation and finance, regularly updated NDCs, multistakeholder governance framework) has induced a series of innovations in the design of public intervention, such as long term strategies, carbon budgets, action planning, public-private co-ordination etc, installing climate change higher in the ranking of government priorities and, more importantly, favouring more systemic approaches, interministerial collaboration and just transition considerations beyond environmental effectiveness and economic efficiency;
- third, it has clearly reinforced the bargaining capacity of the executive to raise ambition and focus more on the "how" than on the "what" discussions, in a configuration where stakeholders strategic positioning changed towards more proactive approaches and a priority given to the design of the transition and the mitigation of transition risks.

But it is a fragile equilibrium and the dynamic observed during the last decade is now challenged by a number of difficulties. The changes in the geopolitical landscape and its consequence on the multilateral processes is being reflected domestically where the former consensus gives way to a strong polarization of the debate in the public arena, the expression of stakeholders (namely, the industry) and the policymakers themselves. In particular, the issue of competitiveness is being put forward to claim for more "pragmatic approaches". This movement is reinforced with difficulties faced in the conduct of the transition, where short term socio- economic impacts have sometimes been underestimated in the design of public policies. In such a situation, several transition options are being reconsidered (on RES, EVs, etc) or postponed. More recently, the CEO of the major oil company argued that "we are too much driven by this 2050 stuff" and that "we should keep the ambition but change the pace", confirming that, even at the moment, this cornerstone of the PA package remains a difficulty when it comes to deconstructing climate action.

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