



Report

Foresight in the State Public Service in France: An Overview

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Abstract

This article seeks to present the current status of foresight in France in the state public service.¹ First, it provides information that will help understand the field and identify the stakeholders and the topics on which they work. Second, it considers the instability of foresight activities in ministries, the low level of development of foresight in parliament and the search for a new posture by deconcentrated state services vis-à-vis foresight activities conducted by local and regional authorities.

There has not been such a synthesis in French or in English before. It is primarily targeted at non-French speakers and at the civil servants from other Member States of the European Union who wish to understand the field of foresight in France and possibly work with their French counterparts.²

The article draws upon a mix of primary and secondary literature on foresight. It provides insights from nine extensive interviews, six held between May 2018 and October 2018 and three in April 2019, and from some twenty informal exchanges with relevant people. The article was written between May 2018 and June 2019. It gives an overview of the subject during this period. As foresight in the French state public service is constantly evolving, this snapshot cannot be exhaustive.

Keywords

Foresight, Prospective, State Public Service, France

Introduction - A Few Milestones

In the early sixties, prospective activities were carried out by two pioneering teams in France: that of the International Centre of Prospective created in 1957 by Gaston Berger³ (Darcet, 1967) and that of the Futuribles working groups created from 1960 onwards by Bertrand de Jouvenel (De Jouvenel, 2019).

During the sixties, prospective activities expanded because there was a need for long-term thinking and forecasting in planning and, more specifically, in urban planning. The industrial system, highways, hospitals, cities needed to be built. Most central administrations created departments dedicated to long-term forecasting: as early as 1960 in the case of the Ministry of Transport and in 1965 in that of the Ministry of the Armed Forces. As a result, at the beginning of the seventies, there was a prospective unit in most central administrations. However, foresight activities were mainly carried out by two entities: the prospective unit of the French Prime Minister, called in French the “Commissariat Général au Plan”, which was in charge of central planning, and the Delegation for Regional Development (DATAR),⁴ which was in charge of urban planning (Découflé, 1972).

In the mid-1970s, the first oil crisis and the slowdown in economic activity called the Keynesian economic model into question. As state resources were diminishing, central planning and urban planning were relegated to

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a secondary position in the French administration. When Raymond Barre was appointed Prime Minister in 1976, economic liberalism reigned supreme and foresight declined.

From 1981 onwards, with François Mitterrand's election as the first-ever president from a left-wing party in the Fifth Republic, which was established in 1958, there was a revival of foresight activities in the French administration. The then ruling Socialist party wanted to play a role in the organisation of society and social life. The service cheque, the 35-hour working week or the minimum-income allowance were addressed and theorised in the consultative meetings that brought together social partners and experts and in the synthesis reports preparatory to the Five-Year Plan. These social innovations were to be elaborated technically and become reality in the next 10 to 15 years.

But in the early nineties, after the 1993 election defeat of the Left, the right-wing government of Édouard Balladur abandoned central planning. This was replaced by the evaluation of public policies and a new type of foresight less connected to forecasting. Foresight processes became more participative. The results of foresight studies became less assertive, the scenarios more open and contrasting. Their strategic dimension was adaptable, limited in space and time (Gidley, 2017).

Foresight Networks

To organise this new type of foresight, which still shapes the current definition of foresight, the prospective unit of the Prime Minister created an interdepartmental network for horizon-scanning and foresight from 2001 onwards. It was called the RIVP (in French, Réseau Interministériel de Veille et de Prospective). It brought together foresight specialists from different ministries. Its aim was, among other things, to ensure consistency in the foresight work of the different ministries involved.

While the RIVP disappeared around 2009, thematic foresight networks took over or were created gradually: the Prosper network⁵ and AllEnvi (National Alliance for Environmental Research) for research foresight,⁶ the PIPAME (interdepartmental unit for foresight and the anticipation of economic change) for industrial sectors foresight⁷ and the CIP (interdepartmental committee for foresight) for defence and security foresight.⁸ Each of these is explained in detail below.

The Prosper network and AllEnvi

The Prosper network was created in 2005. This brings together foresight officers from the French public research centres and from one ministry, Agriculture and Food. It is an informal network, organised in working groups. Its most recent study bears on “Big and Open Data in Research to 2040. How Can Public Research Centres Get Ready?” (collective, forthcoming). This is a reflection on the fact that traditional research actors face new challenges with the emergence of new stakeholders. It was developed in 2017 and 2018. The Prosper network's activities depend on the personal involvement of its members. Half of these belong to AllEnvi, the national alliance for environmental research.

Unlike the Prosper network, AllEnvi, created in 2010 by 12 French public research organisations,⁹ is an institutional network. AllEnvi is one of the five thematic research alliances created since 2009 to foster dialogue and interaction between public research centres working on common themes.¹⁰ Their objective is to provide priority research orientations to ministries and the ANR (French National Research Agency).¹¹ In AllEnvi, which is focused on the environment, the Transversal Foresight Group,¹² launched in 2013, mainly adopts a qualitative approach. This group allows its members, who are well trained in foresight methods, to work together — and not just within their organisation — on “transversal” subjects. In 2016, the group published the results of “ScenEnvi”, a study of the major types of scenarios emerging from a review of international environmental foresight studies (De Menthière, Lacroix, & Schmitt, 2016). In 2019, it published the results of another study, *Rising Sea Levels: Consequences to 2100. A Foresight Approach* (Béthinger, De Menthière, Lacroix, & Mora, 2019).

The PIPAME

The PIPAME is an interdepartmental unit for foresight and anticipation of economic change created in 2005. It belongs to the Directorate-General for Enterprise of the French Ministry of the Economy. Its aim is to cast light on the evolution of key economic sectors and actors over a five to ten year period. It strengthens the state's ability to anticipate. It brings together nine ministries¹³ plus the General Secretariat for Defence and National Security (SGDSN),¹⁴ the General Commission for Equal Territories (CGET)¹⁵ and France Stratégie,¹⁶ which is the current name of the French Prime Minister's prospective unit. Among the recent studies conducted by the PIPAME, we may cite *The Market in Connected Objects for the General Public* (Ministère de l'Économie et des Finances & Ministère des Sports, 2018), and *Growth Potential of the Social and Solidarity Economy in Four Economic Sectors* (Ministère de la Transition Économique et Solidaire & Ministère de l'Économie et des Finances, 2017).

The CIP

The CIP (Secrétariat Général de la Défense et de la Sécurité Nationale, 2016) is an interdepartmental committee for security and defence foresight coordinated by the SGDSN, which is the defence and security unit of the French Prime Minister. The creation of the CIP was announced in the French 2013 White Paper on Defence and National Security (Ministère de la Défense, 2013), in response to a weakness in the use of the syntheses on international developments produced by the different ministries—among other things, loss and redundancy of information. It first met in autumn 2015 and brought together the foresight delegates of different ministries to collaborate and identify topics of common interest. The risk of the manipulation of public data was identified as a subject of common interest, but the report is yet to see the light of day. Indeed, interdepartmental work remains difficult to implement and the virtues of foresight are not always understood. Some foresight units, such as the Prospective, Research and Innovation Unit of the Directorate-General for International Relations and Strategy (DGRIS)¹⁷ of the Ministry of the Armed Forces and the Policy Planning Department (CAPS)¹⁸ of the Ministry for Europe and Foreign Affairs are used to working together, but the cooperation process with the Ministry of the Interior and the other technical ministries within the CIP has proved unsuccessful. The CIP is being reformed and should be relaunched, as the need for coordination persists.

The Ministries Most Involved in Foresight

As France Stratégie has been largely focused since 2013 on the assessment of public policies and coming reforms— i.e., who will be the losers and winners in the next round of reforms — rather than on strategic anticipation, there are two ministries at the forefront of foresight today.

The Ministry of the Armed Forces

Not surprisingly, there is the Ministry of the Armed Forces, because defence is by nature strategic. The members of the military spend their time dealing with risks and uncertainty. They also have a clear foresight task, as set out in the White Paper on Defence of 2008 (Ministère de la Défense, 2008). And they have a budget. Nevertheless, the foresight approach in the Ministry of the Armed Forces is cyclical and at times indecisive. Since 2010, a committee, the CCRP,¹⁹ has ensured consistency in the foresight activities of the Ministry of the Armed Forces. In 2018, these activities break down into four functions:

— Geopolitical and geostrategic foresight. This is led by the Prospective, Research and Innovation Unit of the DGRIS in cooperation with Armed Forces Headquarters (in French, État-Major des Armées, EMA) and the Defence Procurement Agency (in French, Direction Générale de l'Armement, DGA). The international environment is analysed and new types of conflict—and threat and risk—are considered. The subjects bearing on defence strategies and international actors and crises are dealt with by intelligence services and in-house teams and remain confidential, while transversal topics involving economic, demographic or religious dimensions draw on external

service providers and can be published. The foresight methods are adapted from Michel Godet's methods (Godet, 2006). In 2019, an effort was made to rethink the methodological approach.

— Technological foresight. This is conducted by the DGA with the participation of the DGRIS and the EMA. It defines the technological priorities for the design of weapons systems, either generic or specific technologies, within the framework of the Plan prospectif à 30 ans (Mérindol, 2008), itself grounded in the work on geopolitical and geostrategic foresight. From 2020 onwards, a new foresight method is experimented within the Defence Innovation Agency (AID) placed under the responsibility of the DGA. A team of science fiction writers has just been formed to imagine futuristic and disruptive scenarios in the service of defence innovation.²⁰

— Operational foresight. This is carried out by the EMA with the participation of the DGRIS and the DGA. It deals with the military capabilities in terms of personnel, equipment, readiness and infrastructure that will be required to cope with future threats.

— Human resources foresight. This comes under the Secretariat-General for Administration (SGA) of the Ministry of the Armed Forces.²¹ It is to provide analyses grounded in foresight expertise and relevant to decision-making about human resources challenges. It is, however, still in its infancy.

The Ministry of Agriculture and Food

Perhaps more surprisingly, the Ministry of Agriculture and Food is greatly involved in foresight too. Its foresight unit, the Centre for Studies and Strategic Foresight (CEP), was created in 2008 when Michel Barnier, who is now the Chief Brexit Negotiator in Brussels, was the Minister of Agriculture in a right-wing government.²² The CEP still exists and is very active. This longevity is rare and can be explained by the support of Michel Barnier's successors at the head of this ministry: Bruno Le Maire (right-wing minister, 2009-2012) and Stéphane Le Foll (left-wing minister, 2012-2017). Entrusting a dedicated team with foresight activities ensures that the latter are not forgotten under the daily pressure of administrative tasks. When civil servants are asked to engage in foresight in addition to their common tasks, it is very likely that they will not know how to proceed or will not have sufficient time. The CEP is part of the Statistics and Prospective Department of the Ministry of Agriculture. This department groups together around 140 people, among whom 19 belong to the CEP (Héroult, 2017). Of those 19, seven are involved in foresight activities within the Office of Foresight, Strategy and Economic Intelligence (BPSIE).²³ The foresight team can draw on an internal foresight network spread across the regional units of the Ministry of Agriculture, the DRAAFs.²⁴ The DRAAFs carry out local foresight exercises such as, for instance, the study of the prospects of PDO (Protected Designation of Origin) milk production in Franche-Comté in June 2018, published by the Bourgogne-Franche-Comté DRAAF, in association with the CEP (Ministère de l'Agriculture et de l'Alimentation, 2018). In addition to its function of foresight support and training of ministry staff in Paris and the regions, the CEP performs a monitoring function on weak signals and transformations as well as an analysis function. It commissions studies carried out by external partners and publishes internal or public notes and documents. It also conducts foresight exercises itself: for instance, MOND' Alim 2030 (Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt, 2017) on globalisation in food systems, where the process of globalisation is considered in itself, and not just as one element of the context. It is grounded in trend analysis; i.e., documenting trends, considering their continuation to 2030 and identifying points of disruption. Trend analysis and scenario building are the most common methods used by the CEP.

The next foresight exercise, launched in 2019, addresses the Geography of the French Food System to 2040 (in French, Géographie du système alimentaire français à l'horizon 2040). It aims to explore the geographical dynamics of the food system in mainland France and to identify the challenges they pose for public and private actors (Ministère de l'Agriculture et de l'Alimentation, 2019).

Example of a Foresight Project Conducted by State Public Service Organisations

Agrimonde - Scenarios and Challenges for Feeding the World in 2050 (Paillard, Treyer, & Dorin, 2010) A CIRAD-INRA Foresight Project, 2007-2010 25

Scoping ²⁶. How will the planet manage to feed the nine billion inhabitants it could well have in 2050? To meet the growing demand for food, a 70% increase in agricultural production would be needed by 2050, according to the Food and Agriculture Organization of the United Nations (FAO). This troubling prospect was presented as the most probable scenario. The objective of Agrimonde was to contribute to the food security debate at the national and international levels by exploring another future for the food and farming system up to 2050, respecting the principles of sustainable development. It was also launched to contribute to defining the orientation of research.

The scientific objective was normative: to show the feasibility of an agro-ecology scenario on an international scale and its ability to ensure food security.

At the INRA, the agronomists realised that it was necessary to carry out thinking on the future of agriculture on an international and not just a national scale. This need to debate food security at an international level was strongly supported by the executive management of the institute.

The strategic objective for the CIRAD was to gain international visibility by carrying out a study on an international scale, whereas it was only used to conducting local studies.

In 2006, the INRA worked within a geographical area limited to France and Europe, while the CIRAD worked outside Europe. In addition, their sponsoring ministries wished to see a rapprochement between the two organisations. The two decided to launch the Agrimonde foresight project in 2007.

Ordering Uncertainty. In order to explore a future for the food and farming system that was different from the FAO hypotheses, which were taken into account in the scenarios developed by the Millennium Ecosystem Assessment (MEA), or from the projections of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD), the normative scenario, called Agrimonde 1, was created. It was grounded in an original methodology combining a qualitative storyline and quantitative modelling used in an iterative approach. This method led to the elaboration of a radical-break scenario assuming that sustainable development would be achieved by 2050: on the one hand, under-nourishment and excessive caloric intakes were drastically reduced; on the other, agriculture could meet growing needs, it was a driving force of development and was respectful of the environment. The Agrimonde 1 scenario was opposed to the Agrimonde GO scenario. The Agrimonde GO scenario was a business-as-usual scenario. It was adapted from Global Orchestration, one of the MEA's scenarios, which were all based on a change in diets characterised by an increase in the total daily intake of calories and in the share of meat products in a growing number of countries. Global Orchestration was at that time the most efficient scenario to reduce under-nourishment and poverty in the world. It assumed rapid technological advances (genetically modified organisms, chemical inputs) and trade liberalisation.

To test the feasibility of the Agrimonde 1 scenario, a model was created. This was a simple quantification tool. It calculated physical balances between food resources and uses from the data of past trends and from assumptions made at the level of six major regions in the world—assumptions on the daily intake of calories and on the proportion of meat products for instance. However, in this model, resources and uses were measured in calories, and not in prices as in the other models. The choice of this unit of measure—calories—proved to be a major bone of contention for years, both within the INRA and the CIRAD and when the results of the foresight project were presented.

The output of the model gave the surface of cultivated land and pasture land for both scenarios, which corresponded to two different strategies for feeding a growing population in a sustainable way: Yield improvements and increased pasture land in the Agrimonde GO scenario; more cultivated land, combining the ecological and productive functions of agro-ecosystems within the same area, in the Agrimonde 1 scenario.

The added value of Agrimonde lay in its global and systemic approach to agricultural, food and environmental issues. Some major points of the discussion might also be clarified here:

- In both scenarios, Agrimonde 1 and Agrimonde GO, world food supplies were able to cover food consumption.
- In both scenarios, the minimum trade volumes between world major regions (so that production could cover world food consumption) were much higher in 2050 than in 2003.
- Both scenarios highlight the essential role of diet—in particular the proportion of meat products—and of losses and waste along the food chain.

Implications. Thanks to Agrimonde and despite the critiques of some researchers in France and other countries, the INRA and the CIRAD gained international visibility. They were able to build alliances with international research centres and have representatives in the governance bodies of those centres. They could contribute to change the research orientations of their internal research programmes and those of organisations such as the Consultative Group on International Agricultural Research (CGIAR). Research projects on losses and waste along the food chain, which represent one third of global production, were launched by the INRA, the FAO and in other countries. The FAO problematised its linear projections for food consumption and the growth rate of the livestock sector. The concept of agro-ecology was able to emerge in part thanks to Agrimonde. It led to the adoption of a law in favour of agro-ecology in France in 2014 (Loi n° 2014-1170 d’avenir pour l’agriculture, l’alimentation et la forêt, 2014).

Integrating Futures. To exert influence on agricultural, food and environmental questions at the international level, research projects must draw on a model and a database, the costs of which are very high. The INRA and the CIRAD chose to develop the model and the database created for Agrimonde. The model, which from 2012 was called GlobAgri, should be open source in the future. The database is extended according to the subject of each research project. GlobAgri remains a transparent model; it is not a “black box ” like the other existing models.

To maintain their influence, the INRA and the CIRAD also launched the Agrimonde-Terra foresight study on “Land Use and Food Security in 2050” (2013-2016). This led to five contrasting scenarios built on the combination of a scenario approach based on morphological analysis and scenario simulations with GlobAgri (Le Mouél, De Lattre Gasquet, & Mora, 2018). The findings and results were well received but presenting five scenarios appears to be difficult.

As there are some limits to global foresight studies, the INRA and the CIRAD are reflecting on a new subject addressing issues on a national scale and not just in the major regions of the world.

The Ministry for an Ecological and Inclusive Transition

Due to changes of personnel and an internal reorganisation, foresight activities have declined where they are most needed—in the Ministry for an Ecological and Inclusive Transition. In 2017, foresight activities were split between two directorates: the Department of Strategic Projects and Monitoring,²⁷ which remains within the Sustainable Development Unit (DDD)²⁸ of the General Commission for Sustainable Development (CGDD)²⁹ and is focused on horizon-scanning,³⁰ and the Prospective Mission,³¹ which is now part of the Directorate-General for Research and Innovation of the CGDD and should, among other things, coordinate foresight activities across the Ministry for an Ecological and Inclusive Transition. While this new organisation is being built up in stages, the CGDD in this Ministry continues to conduct day-to-day foresight activities and produce publications of a foresight nature. This particularly applies in the case of the PUCA, which launches research and action programmes, often including a forward-looking dimension in the areas of urban planning, housing, architecture and construction.³²

Current Situation and Prospects

The fact that part of foresight activity goes on within the Ministry for an Ecological and Inclusive Transition while the Department of Strategic Projects and Monitoring and the Prospective Mission are being reorganised, shows that foresight can be so deeply integrated into some processes or fields such as environment or defence that it is no longer visible. This can be considered a breakthrough.

Foresight in the ministries: a constant struggle

Nevertheless, there is great inequality in foresight between French ministries today. Some are involved in foresight, with others, such as the Ministry of Justice, the Ministry of National Education,³³ the Ministry of Labour³⁴ or the Ministry of Solidarity and Health,³⁵ less so. The forward-looking analyses of the latter draw mainly on forecasts and predictions based on current evidence and past trends. They do not extend beyond forecasting and do not explore the range of plausible alternative futures and their implications.

Generally, a foresight unit lasts three to four years in a ministry. This is typically the case with the Ministry of the Interior, where foresight activities disappeared for about five years before being relaunched at the end of 2016 thanks to Bernard Cazeneuve, the then Minister of the Interior in a left-wing government (Ministère de l'Intérieur, 2016). This initiative was supported by his successor who re-established the Delegation for Prospective and Strategy (DPS)³⁶ within the Ministry of the Interior. The Delegation aims to coordinate the foresight studies of the Ministry and to build new services supporting a common vision of the future (Jaspers, 2017). With the Interior Ministry's Centre for Higher Studies (CHEMI),³⁷ the DPS is attempting, among other things, to enhance the ability to anticipate risks in prefectures, as risks linked to climate change and terrorism are growing.

In the Armed Forces or Agriculture and Food ministries, where foresight activities are deeply implanted, they are limited by working teams that are too small. Since the election of President Macron in May 2017,³⁸ the pressure on these small foresight teams has increased because of downsizing in ministerial cabinets (Decree no. 2017-1063 on ministerial cabinets, 2017; Guichard, 2017). In a political system where the influence of the President has increased and that of the ministers decreased, ministerial cabinets use the services of central administrations more, including the human resources of the foresight units. With short-term and budgetary considerations having priority, the emphasis has shifted toward short-termism for the foresight teams. In addition, in the Ministry of the Armed Forces, the 2015 Charlie Hebdo and Paris attacks have encouraged a primarily operational approach (Donadio, 2018).

In these conditions, the Ministry of Agriculture and Ministry of Armed Forces' small foresight units do not have enough time to share information and network with other countries. Their relationship with their European counterparts is intermittent, depending on the topics addressed. They do not take part in the GFC (Government Foresight Community), the hub for foresight experts in national administrations of the OECD (Organisation for Economic Cooperation and Development), even though this is located in Paris (Moonen, 2018). The only French representative in the GFC is the Policy Planning Department (CAPS) of the Ministry for Europe and Foreign Affairs. The CAPS is mainly concerned with country risks and horizon-scanning.

Foresight in parliament: a low level of development

Foresight activities remain weak in parliament, though they are more developed in the Senate³⁹ than in the National Assembly. Indeed, the legislative branch is weak in France compared to the executive power and this is expected to continue. Neither the Senate nor the National Assembly work directly with the Global Trends Unit of the European Parliament as the Finnish parliament's Committee of the Future and the Estonian parliament's Foresight Centre do (Réchard -Spence, 2019). Nevertheless, the Parliamentary Office for the Evaluation of Scientific and Technological Choices (OPECST)⁴⁰ launched a foresight study in July 2018 on possible technological scenarios to be considered to achieve a total ban on the sale of petrol and diesel cars by 2040 in France. This objective featured in the climate plan presented in July 2017 by Nicolas Hulot, the former French Minister for an Ecological and Inclusive Transition. This foresight study, carried out by the French Atomic Energy Commission (CEA) and the French Petroleum Institute (IFPEN),⁴¹ was published in a report adopted in March 2019 by the OPECST (Tiegna & Piednoir, 2019). Around six months were available to conduct this exploratory work to meet the timetable for reviewing the draft framework law on mobilities (LOM).⁴² Though the rapporteurs concluded that the twofold objective of a dramatic reduction in greenhouse-gas emissions and the disappearance of petrol and diesel could be achieved for personal-use vehicles by 2040, they also highlighted the challenges

that still remain: the cost of this transformation associated with the purchase of new cars, the construction of new infrastructure like charging stations for electric vehicles, the loss of fiscal revenues from the Domestic Consumption Tax on Energy Products (TICPE),⁴³ the uncertainties for French car manufacturers like Renault or Peugeot and the automotive sector, which represents 400,000 jobs in France, or a growing dependency on Asian batteries (Nienaber, 2019).⁴⁴

This foresight report conducted by the parliament may be viewed as a breakthrough. But the time available for carrying out the study and debating the total ban on petrol and diesel car sales by 2040 was too short. This ground-breaking legislation was definitively adopted in December 2019 after a parliamentary debate which passed unnoticed among the general public. Major decisions ought to be prepared with the contribution of a foresight approach when necessary. In this case, parliament ought to be brought more closely into the policy-making process by the executive power (Tiegna & Piednoir, 2019, p. 76). But, there is still a long way to go to integrate a foresight approach into parliamentary work.

Foresight in deconcentrated state services: in search of a new posture

Local state services have undergone constant reorganisation in France, from the beginning of the decentralisation process in 1982, just after François Mitterrand's election as President of the Republic. Current deconcentrated state services are the product of a number of mergers: there are fewer services, fewer people and fewer financial resources. These services have refocused on strategy and the territorial implementation of state policies. But deconcentrated state services have lost their legitimacy. They are now regarded as partners by local and regional authorities, whereas they used to represent state authority. Most of them are not ready to assume this new role. The units, the DREALs⁴⁵, which represent the Ministry for an Ecological and Inclusive Transition in the regions, work on their own in siloed organisations and their interesting foresight studies are, therefore, not sufficiently taken into account locally. Their transition from a regulatory approach to partnership and strategy is difficult. Few DREALs manage to act as a platform in the service of territories.

Due to declining financial transfers by the state and the gradual disappearance of engineering departments in the deconcentrated state services, the situation is critical in many territories of medium or low population density. The latter do not have the strategic, technical and financial capabilities to deal with the private sector in fields like building, housing, transport and energy infrastructure, pollution prevention, the safety of industrial installations or the protection of the environment. There is a strong need for strategic advice from the deconcentrated state services in these territories and for support to help them conceptualise ongoing transitions.

In more densely populated areas, a number of regions and cities have taken over and developed foresight activities, often linked to infrastructure development. They can draw on the skills of their urban planning agencies⁴⁶ and on the work of the Prospective sections in the Regional Economic, Social and Environmental Councils (CESER).⁴⁷ They can also benefit from specific expertise in the field of the forthcoming urban systems developed by leading private sector companies like SNCF, Bouygues Construction, Vinci and IBM for metropolitan areas (Weill, 2017).

However, there remains a strong need for connecting foresight studies with transition strategies, both within territories and at a national level. Otherwise, public policies could be difficult to interpret or even conflictual. To help meet this need, in early 2018, a state public service organisation, the General Commission for Equal Territories (CGET)⁴⁸ launched the "Fabriques prospectives" (Cordobes, 2018), a national system to support local and regional foresight and promote cooperation rather than competition between regions.

Conclusion

The increased foresight activity of local authorities and the private sector reflects the evolution of the boundary between the state, local and regional authorities and leading private-sector organisations. Instability, decentralisation and privatisation of foresight pose challenges for foresight activities conducted by the state and for the protection and promotion of a general interest. In this configuration within the state, political strategy too often

prevails over foresight. This regression in foresight does not seem compatible with the need for a strong and strategic state in a country like France which has a highly centralised system (Rolland, 2019). Effective policy-making demands the exploration of plausible future disruptive changes and their implications for policies today. To conduct this future work and support policy-makers, a foresight unit should exist and be given protected status within each ministry and its deconcentrated services in regions. This type of permanent unit could carry out background work by way of regular foresight studies, ensure continuity in foresight expertise and futures studies, provide methodological support to internal teams and contribute to coordination within foresight networks. The coordination of the foresight work within ministries and between them could obviate the development of contradictory policies and foster a richer intellectual life. This type of foresight unit should also be established in parliament, in order to enrich parliamentary debate and give more scope to this institution, which is one of the pillars of any democratic regime.

When the state defines a policy that marks a break with previous ones and when state-owned organisations or companies fully bound by a contract with the state develop the scenarios, it becomes impossible to separate the exploratory from the normative approach. The objective, which is set before the exploratory phase, can hardly be questioned. For instance, the total ban on the sale of petrol and diesel cars by 2040 is a political aspiration for which no foresight study integrating a strong exploratory and participative dimension properly prepared the ground (Tiegna & Piednoir, 2019). The proposed ban was announced before enough exploratory work had been done. The objective was set without considering the possible trajectories towards it. As a consequence, the middle term—trajectories—is missed out, as well as the work with the stakeholders—the collaborative work. The objective could end up being revised downwards by the government. This is something which occurred in the past with the reduction of the share of nuclear-generated electricity in electricity production from more than 70% to 50% by 2025. That objective was set in the law on energy transition passed in 2015, but when the exploratory scenarios on the supply/demand for electricity in France were published in 2017, the government retreated. Word now has it that the reduction in the share of nuclear-generated electricity should not be expected before 2035 (RTE, 2017; Le Hir, & Wakim, 2017; Wakim, 2018).

On political issues, when major changes have to be envisaged, the state should foster forward-looking reflections led by others: think-tanks, NGOs, political parties, trade unions, employers' organisations. This type of framework would facilitate an upstream dialogue with all the stakeholders, to forge common views on the future and reach mutually acceptable decisions. Where public action is concerned, the result of a foresight process is no longer planning, but the increase of transformative capacity. More than ever, foresight has become an essential link in the development of public policies.

Notes

- 1- In France, the public sector comprises three public services: that of the (central) state, that of regional and local authorities, and that of hospitals.
- 2- A preliminary and unpublished version of this article was presented during the Diskussionsforum Foresight "La Prospective: Futures of French Foresight Tradition", Bundesakademie für Sicherheitspolitik, Berlin, June 6, 2018. It was entitled "La prospective in the public sector in France".
- 3- In French, Centre International de Prospective.
- 4- In French, De'legation à l'Aménagement du Territoire et à l'Action Re'gionale (DATAR).
- 5- In French, Re'seau Prosper. <http://www.reseau-prosper.org>
- 6- In French, Alliance nationale de recherche pour l'Environnement (AllEnvi). <https://www.allenvi.fr/content/download/4484/33907/version/1/file/La+plaquette+d%27AllEnvi+ENG.pdf>
- 7- In French, Po'le Interministériel de Prospective et d'Anticipation des Mutations É'conomiques (PIPAME). <https://www.entreprises.gouv.fr/etudes-et-statistiques/catalogue-prospective>
- 8- In French, Comité Interministériel de la Prospective (CIP).
- 9- The Geological Survey (Bureau de Recherches Géologiques et Minières, BRGM), the Atomic Energy Commission (Commissariat à l'énergie atomique, CEA), the Research Institute for Agricultural and Environmental Engineering, then called CEMAGREF (now Institut national de Recherche en Sciences et Technologies pour l'Environnement et l'Agriculture, IRSTEA), the Agricultural Research

Centre for International Development (Centre de Coopération Internationale en Recherche Agronomique pour le Développement, CIRAD), the National Center for Scientific Research (Centre National de la Recherche Scientifique, CNRS), the Conference of University Presidents (Conférence des présidents d'université, CPU), the Research Institute for Exploitation of the Sea (Institut Français de Recherche pour l'Exploitation de la MER, IFREMER), the National Institute for Agronomic Research (Institut National de la Recherche Agronomique, INRA), the Institute of Research for Development (Institut de Recherche pour le Développement, IRD), the French Institute of Science and Technology for Transport, Development and Networks, then called LCPC (now Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux, IFSTTAR), the meteorological service, Météo France and the National Museum of Natural History (Muséum National d'Histoire Naturelle, MNHN).

In January 2020, INRA and IRSTEA merged to become a single institute: the National Research Institute for Agriculture, Food, and the Environment (Institut National de Recherche pour l'Agriculture, l'alimentation et l'Environnement, INRAE).

- 10- The five alliances are: AllEnvi, National Alliance for Environmental Research; Aviesan, National Alliance for Life Sciences and Health; Ancre, National Alliance for Energy Coordination; Allistene, National Alliance for Digital Sciences and Technologies; Athéna, National Alliance for Human and Social Sciences.
- 11- In French, Agence Nationale de la Recherche (ANR). <https://anr.fr/en/>
- 12- In French, Groupe Transversal de Prospective. <https://www.allenvi.fr/groupe-transversaux/prospective/presentation>
- 13- Ministry of Agriculture and Food, Ministry of the Armed Forces, Ministry of Culture, Ministry for an Ecological and Inclusive Transition, Ministry of Solidarity and Health, Ministry of National Education, Ministry of the Economy and Finance, Ministry of Labour, Ministry of Sport.
- 14- In French, Secrétariat Général de la Défense et de la Sécurité Nationale (SGDSN). <http://www.sgdsn.gov.fr/accueil/sgdsn-in-english/>
- 15- In French, Commissariat Général à l'Égalité des Territoires (CGET). <http://www.cget.gouv.fr/ressources/etudes-et-evaluations-observation-prospective>
- 16- France Stratégie. https://www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/20180821_presentation_france_strategie_eng.pdf
- 17- In French, Pôle Prospective, Recherche et Innovation and Direction Générale des Relations Internationales et de la Stratégie (DGRIS). <https://www.defense.gouv.fr/dgris/presentation/organisation/organisation>
- 18- In French, Centre d'Analyse, de Prévision et de Stratégie (CAPS). [https://en.wikipedia.org/wiki/Policy_Planning_Staff_\(France\)](https://en.wikipedia.org/wiki/Policy_Planning_Staff_(France))
- 19- In French, Comité de Cohérence de la Recherche stratégique et de la Prospective de défense (CCRP). <https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000022919518&categorieLien=id> and <https://www.defense.gouv.fr/dgris/recherche-et-prospective/prospective-de-defense/le-processus-de-preparation-de-l-avenir>
- 20- In French, Agence d'Innovation de la Défense (AID). <https://www.defense.gouv.fr/fire/aid> and <https://www.defense.gouv.fr/aid/actualites/lancement-red-team>
- 21- In French, Secrétariat Général pour l'Administration (SGA). <https://www.defense.gouv.fr/fire/sga/le-sga-en-action/ressources-humaines/etudes-et-recherches>
- 22- In French, Centre d'Études et de Prospective (CEP). The CEP is the internal think-tank of the French Ministry of Agriculture and Food. <http://agriculture.gouv.fr/centre-studies-and-strategic-foresight-cep-internal-think-tank-french-ministry-agriculture>
- 23- In French, Bureau de la Prospective, de la Stratégie et de l'Intelligence Économique (BPSIE). <http://agriculture.gouv.fr/lequipe-du-cep>

- 24- In French, Direction Régionale de l'Alimentation, de l'Agriculture et de la Forêt. The DRAAFs are the local services of the Ministry of Agriculture and Food. <http://agriculture.gouv.fr/les-directions-regionales-du-ministere-draaf>
- 25- The French National Institute for Agricultural Research (in French, Institut National de la Recherche Agronomique, INRA) is a Scientific and Technological Public Establishment (EPST) under the joint authority of the Ministry of Agriculture and Food and the Ministry of Higher Education, Research and Innovation. Its employees are state civil servants.
The French Agricultural Research Centre for International Development (in French, Centre de coopération Internationale en Recherche Agronomique pour le Développement, CIRAD) is a Public Industrial and Commercial Establishment (EPIC) under the joint authority of the Ministry of Higher Education, Research and Innovation and the Ministry for Europe and Foreign Affairs. Its employees come under private law.
- 26- This study is presented in accordance with the School of International Futures' practical four-stage approach: scoping, ordering uncertainty, implications, integrating futures. Retrieved from <https://www.soif.org.uk/our-approach/>
- 27- In French, Département des Projets et de la Veille Stratégiques. <https://lannuaire.service-public.fr/gouvernement/administration-centrale-ou-ministere-197908>
- 28- In French, Délégation au Développement Durable (DDD). <https://lannuaire.service-public.fr/gouvernement/administration-centrale-ou-ministere-178629>
- 29- In French, Commissariat Général au Développement Durable (CGDD) created in 2008. <https://www.ecologique-solidaire.gouv.fr/commissariat-general-au-developpement-durable-cgdd>
- 30- See, for instance, the horizon-scanning project called "Les Explorables". <https://www.ecologique-solidaire.gouv.fr/explorables>
- 31- Mission Prospective. <https://lannuaire.service-public.fr/gouvernement/administration-centrale-ou-ministere-1020976>
- 32- In French, Plan Urbanisme Construction Architecture (PUCA). PUCA is an interdepartmental research and experimentation programme run under the aegis of the Ministries for an Ecological and Inclusive Transition, of Territorial Cohesion, of Culture and of Research. <http://www.urbanisme-puca.gouv.fr/about-us-r57.html>
- 33- We should mention the Evaluation, Forecasting and Performance Department (in French, Direction de l'Évaluation, de la Prospective et de la Performance, DEPP) of the Ministry of National Education. It mainly publishes statistical indicators on the situation of the French education system. <http://www.education.gouv.fr/pid25496/etudes-statistiques-depp.html>
- 34- We should mention some foresight publications by the Directorate for Research, Studies and Statistics (in French, Direction de l'Animation de la Recherche, des Études et des Statistiques, DARES) in the Ministry of Labour. <https://dares.travail-emploi.gouv.fr/dares-etudes-et-statistiques/>
- 35- We should mention some foresight publications by the Directorate for Research, Studies, Evaluation and Statistics (in French, Direction de la Recherche, des Études, de l'Évaluation et des Statistiques, DREES) under the joint authority of the social ministries: the Ministry of Labour, the Ministry of Solidarity and Health and the Ministry of Public Action and Accounts. <https://drees.solidarites-sante.gouv.fr/etudes-et-statistiques/>
- 36- In French, Délégation à la Prospective et à la Stratégie (DPS).
- 37- In French, Centre des Hautes Études du Ministère de l'Intérieur (CHEMI).
- 38- Emmanuel Macron was elected President of the French Republic in May 2017 as head of the Onwards! (in French, En Marche!) political movement created in 2016 and bringing together people of the Right and the Left. He has a five-year mandate.
- 39- Foresight activities are conducted in the Senate by the Senate Delegation for Prospective (in French, Délégation Sénatoriale à la Prospective) created in 2009. <http://www.senat.fr/commission/prospective/index.html>

- 40- In French, Office Parlementaire d'Évaluation des Choix Scientifiques et Technologiques, (OPECST). The OPECST is under the joint authority of the National Assembly and of the Senate. <http://www.senat.fr/opecest/>
- 41- In French, Commissariat à l'Énergie Atomique et aux énergies alternatives (CEA) and Institut Français du Pétrole Énergies Nouvelles (IFPEN). Both are Public Industrial and Commercial Establishments (EPIC).
- 42- In French, Loi d'Orientation sur les Mobilités (LOM).
- 43- In French, Taxe Intérieure de Consommation sur les Produits Énergétiques (TICPE).
- 44- This dependency represents a strategic challenge for the European Union. Supported by France and Germany, a project to create an “Airbus for batteries” in Europe is being launched. Airbus, which is an international reference in the aerospace sector, was born out of industrial cooperation between some European countries.
- 45- In French, Direction Régionale de l'Environnement, de l'Aménagement et du Logement (DREAL).
- 46- In French, agences d'urbanisme. These exist in France's major urban centres. <http://www.fnau.org/fr/les-agences-durbanisme/>
- 47- Each region in France has a CESER (in French, Conseil Économique, Social et Environnemental Régional) and each CESER has a Section Prospective. CESERs play a consultative role for the region's political authorities.
- 48- In French, Commissariat Général à l'Égalité des Territoires (CGET). The CGET was created in 2014. It results from the merger of three state public service organisations including the DATAR (in French, Délégation interministérielle à l'Aménagement du Territoire et à l'Attractivité Régionale), historical stakeholder of state foresight in France. Since January 2018, the CGET has been part of the Ministry of Territorial Cohesion. Up to that date, the CGET, and the DATAR before it, were directly attached to the Prime Minister's office. In January 2020, CGET became the National Agency for the Cohesion of the Territories (Agence Nationale de la Cohésion des Territoires, ANCT).

Personal Interviews:

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- Bronard, N. (2018, May 23, 2018 and 2018, September 11) head of the “Pôle Prospective, Recherche et Innovation”, French Ministry of the Armed Forces.
- David, B. (2018, July 11) scientific adviser in charge of “prospective stratégique à la Direction de la Stratégie et des Programmes”, French Atomic Energy Commission (CEA).
- De Jouvenel, F. (2019, April 24) director of Futuribles.
- Guéret, T. (2018, May 24) head of the “Mission Prospective, Direction de la Recherche et de l'Innovation, Commissariat Général au Développement Durable (CGDD)”, French Ministry for an Ecological and Inclusive Transition.
- Héroult, B. (2018, June 4) head of the “Centre d'Études et de Prospective (CEP)”, French Ministry of Agriculture and Food.
- Mora, O. (2018, October 9) project manager at the “Délégation à l'Expertise scientifique collective, à la Prospective et aux Études (DEPE)”, French National Institute for Agricultural Research (INRA).
- Sirakov, M. (2018, September 5) deputy assistant director for “Affaires Internationales, Direction des Affaires Internationales, Stratégiques et Technologiques”, French General Secretariat for Defence and National Security (SGDSN).
- Weill, F. (2019, April 16) director of studies at Futuribles, specialist in territorial foresight.

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