IDDRI
SUSTAINABLE DEVELOPMENT& INTERNATIONAL RELATIONS

SciencesPo

Environment, inequality, health: what strategy for French food policies?

Charlie Brocard, Mathieu Saujot (IDDRI)

In France and throughout Europe, 2023 could mark a turning point in food policies. Originally driven by the need to provide cheap food for all, these policies then focused on nutritional and public health issues. More recently, environmental crises have stimulated a rethink of public action on food.

This study aims to provide food for thought for public decision-makers, enabling them to implement national policies that are up to the challenges, by looking specifically at the example of France, which is currently engaged in the process of producing its future National Strategy for Food, Nutrition and Climate (*Stratégie Nationale pour l'alimentation, la nutrition et le climat* - SNANC), scheduled for 2023. To this end, the study uses original methodology to analyse current public policies, then puts forward governance recommendations on the rationale for action and the strategy's level of ambition, including 36 proposals for practical measures.

KEY MESSAGES

Implementation of the "Farm to Fork" strategy and the deteriorating environmental, social and economic food crises require Member States to promote stronger public action on food. The adoption of national strategies or action plans is a decisive step in this direction.

We base our analysis and the mobilization of levers for changing people's eating habits on the food environment concept. In the policy realm, it has four dimensions: physical, economic, socio-cultural and cognitive.

Our assessment of policies for healthy, sustainable and accessible food is based on this analytical framework for evaluating French public policies. What emerges is an inconsistency between the importance of food issues and the ambition of public policies: today's action is not up to the challenges of the transition.

There is therefore considerable scope for improving the implementation of existing policies and mobilizing more transformative tools. A change in the philosophy of public action is also needed: the approach based on the individual responsibility of the "consumer-citizen" is insufficient, if not counterproductive. A new policy approach must go beyond this and focus primarily on the food environment.

The literature suggests that acting on the food environment, by providing a tighter framework for the strategies of private actors and accounting for the diversity of food practices, can restore consumer freedom.

We propose 12 key measures to illustrate a coherent and ambitious set of public policies on the four dimensions of the food environment. We make recommendations on the governance, political leadership and implementation of the strategy.

The legitimacy and effectiveness of public policies will also depend on their ability to include all citizens in the transition project. This is subject to two conditions: putting social issues at the centre, and strengthening its democratic nature.

STUDY

N° 01
April
2023

GLOSSARY

PAT: Regional food projects (*Projets alimentaires territoriaux*). Established in 2014 and overseen by the Ministry of Agriculture, these projects are designed to provide a forum for discussion and action among the various actors involved at the local level on a range of food-related issues (agricultural economy, environment, health, fighting food insecurity, gastronomy and culture).

Ecological planning: the French approach to interministerial coordination and steering of the many ecological transition strategies. An interministerial secretariat, the General Secretary for Ecological Planning (*Secrétariat Général à la Planification Ecologique* - SGPE), has been appointed for this role, which reports to the Prime Minister.

PNA: National Food Programme (*Programme national de l'alimentation*). This programme, led by the Ministry of Agriculture, is now in its third version (PNA 3, 2019-2023). It addresses food waste, consumer information and education, improving the nutritional value of the food available (in line with PNNS, see below) and combating food insecurity. Its two main levers are institutional catering and Regional Food Projects (PAT).

PNNS: National Nutrition and Health Programme (*Plan National Nutrition Santé*). The preferred tool of the Ministry of Health for implementing its nutritional policies. Now in its fourth version (PNNS 4 2019-2023), it addresses food and the physical environment and uses a variety of levers to encourage healthy eating behaviours.

PNAN: National Food and Nutrition Programme (*Programme national de l'alimentation et de la nutrition*) is an umbrella document that was proposed in 2019, which brought together most of the provisions already contained in the PNA and PNNS. It will be replaced by the SNANC.

SNANC: National Strategy for Food, Nutrition and Climate (*Stratégie nationale pour l'alimentation, la nutrition et le climat*). Future roadmap for food policy in France, due to be adopted in 2023, as required by law in 2021.

SNBC: National Low-Carbon Strategy (*Stratégie nationale bas-carbone*). The SNBC is the French roadmap for decarbonizing all economic sectors (including agriculture and food), with the aim of achieving carbon neutrality by 2050. The SNBC 2 is currently being drafted.

Environment, inequality, health: what strategy for French food policies?

Charlie Brocard, Mathieu Saujot (IDDRI)

Overview diagrams: vision and proposals for an ambitious SNANC

FIGURE 1. The National Strategy for Food, Nutrition and Climate must achieve three fundamental changes to ensure a healthy and sustainable diet for all

CHANGING THE RATIONALE FOR ACTION

Shift from individual responsibility to state responsibility for influencing food environments

Greater regulation of private actors

Consider the challenge of social inclusion as the guiding food policy principle

CHANGING AMBITION

Support the SNANC as a tool for guiding demand for the transformation of agri-food systems

Provide the SNANC with strong project leadership, with a dedicated interministerial delegate

Demonstrate this ambition with increased human and financial resources for its implementation

CHANGING GOVERNANCE

Enable the SNANC to contribute to ecological planning, with clear aims for food and agriculture by 2030

Regular monitoring of the implementation of measures with quantitative and qualitative results, giving a greater role to the CNA

Supporting and energizing the SNANC through a citizens' mechanism

FIGURE 2. Twelve proposals for coherent and ambitious action on food environments

PHYSICAL ENVIRONMENT

+ Encourage the development of a commercial environment that is conducive to healthy and sustainable food

Implement mandatory publication of the ratios of plant/animal and organic/conventional products sold by supermarkets - move towards binding targets by 2030

+ Support the establishment of a healthier and sustainable industrial food supply

Set regulatory targets for the nutritional reformulation of products and develop a new action framework for private sector actors on reformulation for environmental purposes (incorporation of organic products, reduction of animal products, etc.)

+ Mobilize public catering outlets

Prioritize training for catering staff in plant-based cooking.

SOCIO-CULTURAL ENVIRONMENT

+ Reduce marketing and advertising pressure

Ban advertising on prime-time television and radio of products with the lowest Nutri-Score and environmental ratings, following the South Korean example

+ Promote a new inclusive and positive narrative on healthy and sustainable eating

Promote a new approach to "French cuisine" linking gastronomic culture, pleasure, health and the environment through partnership communication campaigns based on the New Nordic Diet model

+ Mobilize the prescriptive power of professionals and opinion leaders

Encourage content creators (TV, radio, social network influencers) to form an ambassador network, committing to a charter and training

ECONOMIC ENVIRONMENT

+ Promote the accessibility of quality food

Create a network of "food solidarity champions" to encourage the development and consolidation of innovations in the field

+ Analyse the structuring of food prices

Consider, following a study, price regulation of organic products and ready-made vegetarian meals to prevent actors from making excessive profits

+ Develop a new framework for public spending and tax revenue from food

Strengthen experimentation and evaluation of public food service schemes at the territorial level, as recommended by the CNA

COGNITIVE ENVIRONMENT

+ Regulate the nature and amount of information

Define the flexitarian concept and manage its use to make it a vector for action on the socio-cultural environment

+ Finalize the integration of environmental sustainability as a criterion in nutritional policy

Finalize the integration of sustainability in nutritional recommendations (rebalance plant/animal protein; adopt a diet-based rather than a product-based approach; set consumption limits for meat)

+ Improve knowledge and skills in the area of lifelong nutrition

Experiment with the setting up of regional "Food Centres", designed as spaces for training and the promotion of sustainable nutrition

1. INSUFFICIENT ACTION: ASSESSMENT OF POLICIES ON HEALTHY, SUSTAINABLE AND ACCESSIBLE FOOD

1.1. Introduction

Food occupies an increasingly central place in our society, as it touches on so many different issues: our relationship to health, inequalities in access to food, the place of animals in society, the importance of nature, and questions of national sovereignty and cultural identity. The challenges are immense, and while public interest in food is not entirely new, 2023 could well be a pivotal year for constructing a response to these challenges. In France, work on the National Strategy for Food, Nutrition and Climate (SNANC) is ongoing concurrently with the finalization of the environmental food labelling scheme (due for roll-out in 2024) and work on the French Strategy for Energy and Climate (*Stratégie française énergie-climat* - SFEC). At the European level, the European Commission is due to present a Legislative Framework for Sustainable Food Systems at the end of the year, translating the ambitious "Farm to Fork" strategy into action on food. New genomic editing technologies, nutritional labelling, animal welfare and new rules for pesticides (Sustainable Use Regulation - SUR) are also on the EU agenda. At the same time, Germany has launched the drafting of its own strategy for healthy and sustainable food, which is due for completion in 2023, while the United Kingdom precedes this by a year with the publication of its 2030 Food Strategy following an independent review. By the end of the year these actions will mean that eight countries will have a food strategy in Europe.

The year 2023 is therefore an opportunity to reduce the gap–a gap that, as we show, is currently far too wide–between the scale of the issues and public concerns surrounding food, and the ambition of public food policies. In this *Study* we analyse the gap and use it as a basis for proposing ways of building ambitious national action plans. Such plans are essential if the food transition is to be implemented. From an economic perspective, the development of a national scale strategy also makes sense: it may provide a way to avoid a disconnect between changes in food practices and changes in the agricultural model, which could weaken national food autonomy. Finally, for France, leadership at the European level is also an issue to enable the country to be a driving force in the context of debates on the EU's Legislative Framework for Sustainable Food Systems, in line with its pioneering work (Nutri-Score, environmental labelling, sustainability targets for the institutional catering industry, the joint management by three ministries of a food strategy, etc.).

In this *Study* we: 1) assess existing French public action by means of an assessment of public policies for sustainable and healthy food accessible to all; 2) review the main lessons of the scientific literature on eating behaviour interventions to promote the transition; 3) propose a vision and practical proposals on the form and content of the French National Strategy for Food, Nutrition and Climate (SNANC) based on the literature and comparisons with other countries.

BOX 1. BACKGROUND INFORMATION ON THE SNANC

Between 2019 and 2020, France organized an unprecedented exercise in participatory democracy: the Citizens Convention for Climate (CCC). The 150 citizens participating in the CCC found that making progress towards dietary change required a significant strengthening of government intervention and public policy tools. Within the same set of measures,[1] they proposed a strengthening of the communication resources of the National Nutrition and Health Programme (PNNS), adding a climate dimension to ensure convergence with the National Low-Carbon Strategy, as well as banning advertising for products not recommended by the PNNS and, finally, creating vouchers for sustainable food to ensure national cohesion in this transition.

[1] Other proposals concerning food and agriculture have been made in other packages.

The Climate and Resilience Act, which translated some of the CCC's proposals into law, calls on the government to draw up a "National Strategy for Food, Nutrition and Climate". In this respect, it differs from the CCC's proposal in that it introduces the SNANC as an umbrella for two sectoral food policy programmes without abolishing them: the PNNS, run by the Ministry of Health, and the National Food Programme (PNA) overseen by the Ministry of Agriculture (Saujot and Brimont, 2021). This is the specificity of the French approach to food: the strategy currently being drafted can draw on existing plans for the food economy and nutrition. This situation differs from one country to another. Regarding the SNANC, the Climate and Resilience Act of 22 August 2021 stated that: "*The National Strategy for Food, Nutrition and Climate sets out the guidelines for a sustainable food policy that emits less greenhouse gas, respects human health, is more protective of biodiversity, promotes the resilience of agricultural systems and local food systems and guarantees food sovereignty, (...), as well as setting out guidelines for a nutrition policy" (III of Article L1 of the French Rural Code, which came into force on 1 July 2023).* This strategy, which aims to establish guidelines for these two plans to implement, involves three ministries: Agriculture, Health and, for the first time, Ecological Transition.

Given the urgency of environmental, health and social issues, under what conditions can the SNANC embody the food component of national ecological planning? At the European level, how can it help to anticipate, or even to ambitiously prefigure, the future Food National Action Plans that may be required under the Legislative Framework for Sustainable Food Systems?

Considering the changes in the European framework and the urgent need to act in the face of increasing and worsening crises, the authors consider that it is vital for the SNANC to go further than simply formulating broad guidelines and must actually propose a strategy, in the sense of a number of ways to achieve a goal. It would be based on an assessment of the existing situation and would link the major objectives with the types of action required. The implementation of these actions would then be specified in the PNA and PNNS in particular. To this end, this *Study* aims to make the following contributions:

- Section 1: Our assessment will inform guidelines by identifying the shortcomings of current public policies.
- Section 2: Our literature review feeds into the guidelines by reviewing the scientific analysis of health, environmental and social programmes, and by providing tools for understanding "how to act" and "the philosophy of action".
- Section 3: We make proposals to give substance and credibility to the SNANC's broad guidelines by elucidating the issue of "how to act".

1.2. A method to answer the question: "From where do we start?"

a) Food: a key political issue

Today, food is a legitimate political issue that cannot be ignored by public authorities insofar as it plays a role in the environmental crisis (climate, biodiversity, pollution) as well as in the health crisis (obesity, cardiovascular disease, cancer) and in a social one (food insecurity, social inequalities linked to food, segmentation of food supply). As a result of its profoundly multi-sectoral and cross-cutting nature (in terms of public policy), but also its routine and personal nature (in terms of eating practices), food is a major theme in the transformation of society towards a more inclusive and sustainable model. In France there is a growing awareness of the importance of food as an activity sector and a set of food practices, but also as a source of meaning and social cohesion. Evidence of this can be seen in the 2018 French National Food Conference, the legislative acceleration that followed (*Egalim* 1 and 2 laws, AGEC law, Climate and Resilience Act), and the decision by the General Secretariat for Ecological Planning to adopt this issue as a focus for its work. At the European level there has also been a growing interest in this dimension of public action, which has previously received little attention from a sustainability perspective. The publication of the "Farm to Fork Strategy" in 2020 emphasized that transition of the agri-food system will be impossible without dietary change, while noting the current shortcomings in terms of access to food and the negative consequences of current diets on public health. In 2023, the European Commission will propose a framework law on food system sustainability that will set out how this vision can be practically expressed, which at the very least will be expected to reinforce the essential nature of food policies in Member States.

However, as in other countries, although increasingly visible on the political agenda, food policy in France continues to be managed according to a rationale that restricts the capacity of public actors to take steps, as we show below. In turn this is reflected in a food policy that at first glance appears highly proactive, but which in reality lacks a clear direction and the appropriate instruments to meet the challenges mentioned. In France, this essentially cross-cutting policy is not the subject of permanent interministerial governance, but is addressed on a sectoral basis by a multitude of public actors.[2] It is also anchored in the French *"Code Rural"* which, while recognizing that it contains many dimensions, ensures that the policy is primarily the responsibility of the Ministry of Agriculture (France Stratégie, 2021). Food policy objectives are officially set out in the National Food Programme, which was drawn up by the Ministry of Agriculture and is now in its third incarnation. At the

[2] These include the Ministries of Agriculture, Health, Solidarity and the Environment, as well as the Ministry of the Interior and the Ministry of the Economy, to name but a few. There are also a large number of public agencies, whether involved in research (INRAE, INSERM), risk assessment and management (ANSES), sectoral policies (ADEME) or created to administer specific public policies (e.g. INAO, CNTR).

same time, the Ministry of Health-led PNNS (National Nutrition and Health Programme) is also helping to define the nutritional contours of the policy. Environmental aspects are not, however, the subject of a specifically defined strategy, although it is worth noting the action of the Food Office at the Ministry of Ecological Transition and the integration of PNNS objectives within the SNBC. From this perspective, the SNANC is a noteworthy institutional innovation.

b) Proposal for a qualitative analysis method

We therefore need to ask ourselves, given the increasing environmental and social challenges, whether the architecture of public action in the food sector is up to the task; which is why the issue needs consideration prior to the design of the national action plan. Our assessment of the limitations and shortcomings of food policy in France is based on a systematic review of the main types of public policy in action. Our scope of analysis includes the three main dimensions of this policy: health, environmental sustainability and social issues (or accessibility). Our approach is to analyse, for each of the 21 intervention types we have identified, the transformative potential it represents and the state of its implementation. It is therefore an evaluation that starts from the measures themselves, as opposed to an exercise that seeks to highlight the inadequacy of state action solely from a food crisis perspective. This exercise therefore seeks to objectivise the contribution of existing French policies to the pathway that should lead us towards sustainable, healthy and accessible food. Through this qualitative assessment work based on the reports of general inspectorates, government assessment bodies (e.g. *France Stratégie*, 2021; *Cour des Comptes*, 2023; IGAS, 2016; etc.) and scientific literature, we aimed to provide a comprehensive overview of public food management. This work, which has an intentionally transparent method, is by nature imperfect and open to debate. And while this initial version could no doubt be further refined, we feel that it is already useful for the debate. Furthermore, it is likely that this approach, which we explain in detail in Box 2, could be replicated and applied to other national contexts to make assessments, an essential prerequisite for strategic thinking. At a time when ministries are working on a vision for food in 2030, the aim of the exercise is to answer the following question: "From where do we start?"

To do this, we began by reviewing current laws, plans and strategies relating to food that are being implemented in the various public policy sectors: health, environment, economy, social cohesion and education. This has enabled us to identify around fifty initiatives designed to influence (directly or indirectly) food consumption and behaviour.[3] An example of these initiatives is the ban on vending machines in schools. We then categorized these measures into 21 types (e.g. in this case, regulating the food landscape), each reflecting a certain intervention rationale, which we divided into four further categories according to a typology inspired by the "food environment" (Fig. 1). This concept is defined by the High-Level Panel on Food Security and Nutrition (HLPE, 2017) as follows: *"The food environment refers to the physical, economic, political and socio-cultural contexts in which consumers engage with the food system to acquire, prepare and consume food."* Within this framework, the individual is no longer considered solely responsible for his or her choices, since the influence of political, cultural and socio-economic arrangements is highlighted. In addition, the approach emphasizes the various practices that lead up to the point of food consumption (sourcing, food preparation, food storage, etc.), as well as the skills and knowledge (cooking expertise, deciphering labels, etc.) that such practices presuppose. Defined in this way, one of the benefits of this concept is that it does not compartmentalize our thinking on food policy, enabling the consideration of actions that would affect individuals, together with actions to impact the food supply in the broad sense. It provides a basis for a cross-functional approach to strategy. Finally, it hands the responsibility back to public authorities and to the various actors in the food system (e.g. supermarkets), each of whom has a decisive influence on the food environment.

Such an approach to food, defined by its multifactorial nature rather than limited to intervention on "consumer" information, is promoted by the scientific literature (INSERM, 2017; IPCC, 2022; SAPEA, 2020; Temme *et al.*, 2020), but also increasingly in the sphere of public policy (WHO, 2021; Quebec Ministry of Health and Social Services - Durette & Paquette, 2021; PNNS4 of the Ministry of Health).[4] It should be noted that the increasing use of the "food environment" concept is being applied with considerable variation in terms of definition and scope. It is sometimes used in a more restricted way, for example by considering only the physical and informational aspects. However, we feel that it is crucial for action to be taken on the four types of the food environment.

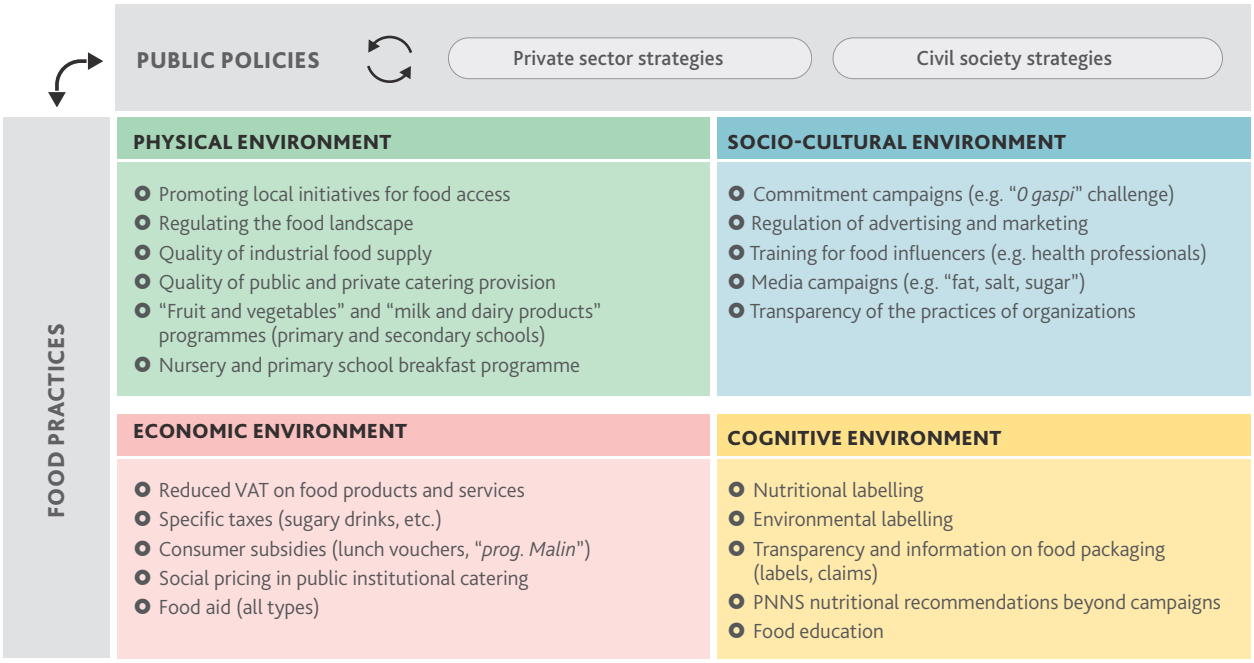
For this study, which focuses on public policy, we therefore distinguish four types of food environment (see **Figure 3**), chosen for their ability to reflect the different areas of public authority intervention and the determinants of people's food practices:

— *the physical environment*: the infrastructural and material conditions in which food is consumed, i.e. mainly the spatial

[3] This scope includes measures that explicitly aim to change the way the French eat, as well as measures that have a proven/significant impact on eating habits, even if this is not the main objective sought (e.g. VAT rates). We have therefore not included in this list either the Territorial Food Projects or the State's anti-waste policy, which do not satisfy either of these two conditions.

[4] We can cite in particular, a 2010 INRA collective report that calls for a holistic understanding of the determinants of food consumption to broaden the range of interventions available to public authorities. It thus highlights the importance of the family environment (encouragement, family rules, etc.), social circles (subjective norms, behaviour) and the community (exposure to the media) in addition to the physical and economic environments. And for Glanz *et al.* (2005), the different types of food environment play a mediating role between the strategies of public and private actors, the socio-demographic and psychological characteristics of individuals, and their eating behaviour. For a discussion of the definition of the term "food environment" and its dimensions, see Méjean and Recchia (2022) and the review by Vonthron *et al.* (2020).

FIGURE 3. The food environment framework and the 21 types of intervention



organization of shops and food outlets where people buy food, also known as the "food landscape";[5] which includes retail shelf planning for example.

— *the socio-cultural environment*, consisting of norms, social representations and the influence of social groups to which people belong; which includes advertising and marketing, as well as publicity campaigns.

— *the economic environment*: the construction of prices and financial resources; which includes practices in terms of profit margins and promotions.

— *the cognitive environment*: providing "citizen-consumers" with the information, knowledge and skills they need to make the "right" choices; which includes the Nutri-Score label and certain educational initiatives.

For each of the 21 intervention[6] types identified, which are classified according to the four food environment dimensions, we assign two scores:

a) the *transformative potential* of a measure, understood as the combination of the probability of its impact on actual food behaviour and the scale of this possible impact. This is based on scientific and technical literature.

b) an assessment of a measure's *development and implementation*. This is based on four equally weighted sub-scores that cover the precision and consistency of the objective; the design of the measure; the resources allocated; and the monitoring of each public intervention type. The full method and details of the information supporting the analysis are available in the appendix (see link at end of text, in French).

BOX 2. OUR EVALUATION APPROACH EXPLAINED

The assessment of French public food policies, which forms the basis of this *Study* and its recommendations, is available in French here. We have chosen not to translate the whole appendix, but rather to explain the approach and methodology for scientists, public policy actors and members of civil society.

Goal: This appendix aims to present an analysis of the 21 types of intervention identified, categorized into the four food environment dimensions (cognitive, socio-cultural, economic, physical).

Scope: We have included measures that explicitly aim to change the eating habits of the French population, as well as measures which have an impact on eating behaviour that is intentional (e.g. reformulating the ingredients of industrially produced foods) or that is real without being intentional (e.g. taxes). The 21 intervention types, their descriptions and aggregate scores are shown in **Table 1** in the Appendix.

Details of the evaluation for each intervention tool are only available in French at this stage, in the form of an appendix to the study available on IDDRI's wbesite.

Data: This qualitative analysis is based on grey literature (reports by general inspectorates, government assessment

[5] See Vonthron *et al.* (2020).

[6] We use the terms "intervention", "measure" and "public policy" interchangeably to refer to these 21 components of food policy.

bodies, etc.) and scientific literature in several fields (mainly economics, nutrition, marketing and sociology). We do not claim this to be an exhaustive review of the literature on the subjects covered. We give priority to collective expert reports (INRA, INSERM, IPCC, etc.) and literature reviews where available but, where such documents are unavailable, we also used more specific studies.

Approach: We reviewed French public policies and categorized them into 21 intervention tool groups. Our work then focused on analysing their relevance and effectiveness. This was achieved by generating two key scores: one that reflects the transformative potential of the measure, i.e. its ability to bring about changes in eating behaviour if its impact is maximised; the other that serves as a proxy for identifying the effectiveness of the intervention tool as it exists in France today (development and implementation assessment score). Together, the two scores are combined to generate a "total score", which provides an overview of the possible impact of the public policies currently being implemented on food sustainability in France. With this approach, we hope to contribute to the political debate on French public policies on food, as well as to scientific and methodological analyses on the evaluation of a set of public policies at a comprehensive level. As far as the authors are aware, no reference frameworks are available for carrying out this work, which is why we have proposed this analytical framework. Of course, this framework is incomplete and does not allow for a detailed assessment of the impact of the policies studied. Its usefulness lies elsewhere: by bringing together the available data and grouping and analysing these figures from a new perspective, our framework aims to highlight both the existing shortcomings in the monitoring and evaluation of individual public policies, and to identify avenues for strengthening public action towards healthy, sustainable and accessible food.

Grading and assessment criteria: The first key score concerns the transformative potential of measures. The transformative potential can be assessed as "significant", "moderate" or "limited/weak" on the basis of literature reviews and expert consultations. Where these are inconclusive, our analysis is guided by the following questions: can the measure in question have a significant impact on eating habits? What degree of confidence do we have in this impact? Do the studies converge? What is the scope of the measure under consideration (i.e. does it involve a large proportion of the population, and will changing their eating behaviour be likely to have a significant/moderate/weak contribution to the transition pathway)? For this reason we give the regulation of advertising and marketing an intermediate rating, because there is an established correlation between frequency of exposure to advertising and frequency of consumption, but there is uncertainty regarding the scope and speed of changes in eating behaviour. Conversely, the transformative potential of information measures (certification labels, claims, product labels) is judged to be "limited", since studies in this area are not convergent at the international level, nor do they show any definite impact on consumption (but rather on attitudes). The second score relates to an assessment of the development and implementation of public policies, and is itself a function of four sub-scores, obtained using qualitative reasoning (**Table 2** in the Appendix) supported by a criteria grid (**Table 3** in the Appendix). For each of the four sub-scores, we have designed a table with four levels, each corresponding to a score, details of which are given in the appendix. We mainly used the evaluation reports (when available) to assign the "means" score and the "assessment" score, combined with the lessons from the literature regarding "design". Regarding the "objectives" of the measures, we analysed: how well the official objectives of the measures (as expressed in the strategic documents in which they are launched) are defined (e.g. explicit, quantified, precise); their level of ambition (in relation to the objectives mentioned in Section 2); and whether they are consistent with the three issues considered here (which means, at the very least, that a measure with a social aim should have no adverse effect on health, for example). So, for example, we give taxes and VAT a "C" grade for "objective", as this is neither clear nor consistent with the government's main nutritional or environmental policies. Also, the policy of nutritionally reformulating supermarket products is given a "C" for "design", since studies show that this type of voluntary approach is particularly unsuitable. Lastly, the table of criteria (Table 3) is fundamental to the evaluation approach we have developed and is based on our expertise in public policy.

1.3. Lessons from our analysis of public action in France: there is considerable room for improvement in the national food strategy

The findings of this study give an idea of the size of the gap that must be bridged by public authorities to promote sustainable, healthy, and accessible food (see **Figure 4**). In fact, the aggregate score in each of the four food environment dimensions, including for both transformative potential and policy implementation, does not exceed C (on a scale of A to D). This doesn't mean, far from it in fact, that nothing is being done, but rather that given the scale of the change to be achieved, the ambition of current measures and their implementation is not yet sufficient. We can see that the transformative potential of currently implemented measures, grouped here into 21 types and according to the four food environment dimensions, is "low" on average. Implementation of measures varies from one example to another, but overall there is considerable room for improvement. Replicating the process for other national contexts would be a worthwhile exercise to test the hypothesis that the results would be broadly

FIGURE 4. **Results of the assessment of currently implemented measures, according to main food environment dimension**

Assessment of the transformative potential and implementation by public authorities of the main types of public policy aimed at healthy, sustainable and/or accessible food for all (n = 21). Scale A-D.

Interventions on the food environment	Physical environment	Socio-cultural environment	Economic environment	Cognitive environment
Aggregate score	**C**	**C**	**C**	**C**
Transformative potential of mobilized measures *	**Low**	**Low**	**Low**	**Low**
Assessment of development and implementation **	**C**	**C**	**B**	**C**
• Consistency of public authority objectives	B	C	C	B
• Design of public policies	B	C	B	B
• Means mobilized for implementation	C	D	A	C
• Robustness of monitoring mechanism	C	D	C	C

* *The transformative potential is expressed in terms of the ability of mobilized measures to drive eating behaviours towards more healthy and sustainable diets, or the ability to significantly reduce food-related inequalities.*

** *The general opinion on the implementation of the types of measures studied is based on the evaluation of the four dimensions of a public policy (objective, design, means, monitoring).*

similar to those of our France-focused study, despite differences in tool types used. Indeed, the literature review by Capacci *et al.* (2012), which focuses on European policies, seems to show a certain uniformity across the continent in terms of the types of measures applied. The review by Temme *et al.* (2020), based on a systematic analysis of the scientific and grey literature on demand-side policies concerning the consumption of animal products, fruit and vegetables, or tackling over-consumption or the obesity crisis, reaches similar conclusions. It states that policies are mainly incentive-based (and not therefore particularly transformative), and very rarely aim to reduce the consumption of animal products, despite this being the main lever for environmental action. For a community-level analysis, we can refer to the work of the European Environment Agency (EEA, 2023).

a) Limits to implementation

We note that the measures with the greatest potential impact on dietary behaviour suffer from shortcomings in their design and implementation: as an example we can consider the specific taxes applied to certain foods, which include 21 taxes on agri-food products (IGAS, 2016) as well as taxes on alcoholic and non-alcoholic beverages. The main criticism levelled at these taxes is the absence of a coherent strategy, as well as the lack of an impact assessment for most, despite the sums at stake for public finances (grade assigned: B). As regards the regulation of the physical food landscape, or of advertising and marketing, there is an even larger gap between a measure's potential and its observable real-life impact (grades D and C, respectively).

In general we have observed that the potential of a large number of measures is limited by suboptimal design and/or implementation. The objectives of measures are often imprecise (for example, what is the exact aim of the "zero waste challenge", which is intended for secondary school pupils and part of the PNA? Is it to reduce waste by changing eating habits, raising awareness or training people in relevant methods?) and unambitious (for example, when it comes to regulating marketing, are the warning messages sufficient?). In terms of design, we have shown, in line with the scientific literature, that most measures are weakened by their incentive or non-binding nature. Furthermore, the resources mobilized to implement measures are generally inadequate. We found that such resources are often deficient or even non-existent, both in financial (additional budgets) and human terms. In fact, it is rare for a measure's introduction to be associated[7] with an increase in the number of staff in the ministries or agencies involved in its implementation. As regards the monitoring and evaluation of measures, there is a considerable difference between policies whose scope is restricted and specific to certain public policy sectors (social, health), and policies with a broader remit whose monitoring is less precise or entirely absent (health, environment). In this respect, it should be noted that the measures contained in the national strategy to prevent and combat poverty are the most detailed (e.g. provision of breakfast, social pricing in canteens), and are assessed using monitoring indicators (but not impact[8]

[7] From an analytical point of view, it is also rare for a measure to be easily *associated* with the resources it mobilizes. This calls for greater transparency on the part of public authorities regarding the allocation of their resources (human and financial), a point also noted by the IGAS (2016) mission regarding the PNNS3 (section 1.2.4.9).

[8] We distinguish two types of indicators. "Monitoring" indicators are designed to monitor the implemented policies, and seek to measure the number of municipalities involved, the number of meals served, or the number of people trained, for example – in other words, performance metrics. While "impact" indicators seek to highlight the consequences of the measures on the more general objectives in terms of reducing inequalities, adopting healthier behaviour or reducing the rate of overweight people among the population, for example.

indicators). Health policy, particularly embodied by the PNNS, is assessed for some of its measures (e.g. nutritional campaigns, Nutri-score, nutritional reformulations), but not for others (e.g. food education). There is also the issue of the resources needed to monitor regulatory measures. Thus, there is an urgent need to take advantage of existing expertise to improve the design and implementation of public action.

b) Too much incentive, not enough regulation?

This assessment also enables us to draw conclusions about the design of measures and to note that, when it comes to the food environment, regulator action remains timid. With the exception of product taxation and consumer subsidies (food aid, lunch vouchers), which nevertheless lack clear and coherent objectives in line with their cost to public finances, most of the identified measures are incentive-based. This is the case for social pricing in institutional catering, the "breakfast" and "milk and fruit" programmes, and the promotion of local initiatives to improve access to food (particularly through Territorial Food Projects) aimed at voluntary local authorities. As far as private actors are concerned, the State favours co-regulation mechanisms (charters, collective agreements) concerning nutritional reformulation targets or advertising and marketing practices, even though these soft approaches are deemed less effective than regulatory approaches (INSERM, 2017; OQALI, 2013). However, as proof that such approaches can be envisaged, the French government has set public catering operators ambitious targets for sustainable sourcing and providing vegetarian options, which will gradually be extended to private operators. Similarly, the anti-food waste policy was able to use legislative and regulatory leverage in the Garot Law in 2016 (in conjunction with others) in the aim to achieve its objectives. Two fields in which France is at the vanguard at the European level.

c) Insufficient transformative measures

We noted that mobilized measures with a significant potential are relatively rare (six have a grade higher than C - see Box 2). This assessment highlights the gap between the ambitions of food policy as defined in the French Rural and Maritime Fishing Code or sectoral strategies (SNBC, National Health Strategy, etc.) and what we can understand regarding the scope of current policies, according to the indicators we have set ourselves. This observation invites public authorities to strengthen their existing tools and to explore new, more effective levers for action. To achieve this, inspiration can be drawn from numerous scientific studies, as well as promising and innovative examples from other countries, particularly in terms of multi-stakeholder approaches (Denmark), regulation of marketing and advertising (Chile, United Kingdom), social action (Scotland, United States, United Kingdom), convergence of nutritional recommendations with ecological issues (Germany), or food policy governance (analysis of existing laws and the need for revision in light of the "bio-food policy" in Quebec, High-Level Implementation Committee to monitor implementation of the food strategy in Ireland, etc.). In the final section, we discuss a series of policies and governance mechanisms.

d) Very "health" oriented action and a sidelined "accessibility" issue

This overview also reveals a certain imbalance, with most interventions aimed at changing eating habits, focusing solely on the "health" dimension of food. Measures aimed at reducing obesity or increasing the consumption of fruit and vegetables among the population, for example, dominate both the scientific literature and the public policies of the French government (see Appendix). Environmental sustainability is sometimes seen as a co-benefit of these policies (e.g. consumption benchmarks for organic products in the PNNS), without the contribution to sustainability being an explicit aim. Moreover, when this is the case, sustainability is almost exclusively considered from the perspective of institutional catering and the fight against waste - two important sectors for the food transition, but which are far from sufficient given the scale of the changes required.[9]

These latter two public action sectors also have social objectives. For example, the anti-food waste policy explicitly links the reduction of waste (environmental benefit) with the recovery of foodstuffs for food aid (social benefit). However, this approach, which is heavily subsidized by the public authorities (€360 million in tax exemptions on donations for retailers),[10] does not encourage people to question the upstream problem of agricultural and agri-food overproduction, while also neglecting the needs of beneficiaries (associations and individuals) and raising ethical questions (Ramel, 2020). Action in the institutional catering sector is more encouraging and it is easier to link the discourse on "sustainable food for all" in this field, given that it is a subsidised public service that is subject to ambitious environmental objectives. However, school canteen attendance is socially differentiated, which is partly a result of overly high prices, while 55% of head teachers surveyed said they had not introduced a pricing policy for the most disadvantaged students (Cnesco, 2017).[11] This is the reality being addressed by the State by supporting the introduction of social pricing in canteens, a measure in the National Strategy to Combat Poverty that has not been taken up by other plans relating to food policy. As a result, public action on accessibility is relatively disconnected from environmental and health issues, at least at the institutional level, even though health-related co-benefits can often be simultaneously achieved (e.g. the school fruit and vegetable scheme). Furthermore, when these measures are associated with environmental and/or nutritional policies, as is the case with certain measures within the "social justice" section of the National Food Programme, the relevance of their objectives and design is called into question.[12]

[9] Institutional catering accounts for 5.2% of all meals consumed according to Rogissart (2023).

[10] Annual amount estimated by the IGAS mission on the fight against food poverty in 2019 (Le Morvan & Wanecq, 2019).

[11] See also a survey carried out by the Association des Maires de France in 2020, which shows significant differences depending on the size of the towns surveyed (smaller towns are much more likely to have a single pricing system).

[12] According to France Stratégie (2021), these measures suffer from two main shortcomings: they are "not very, or not at all, binding", and some of them are aimed at the whole population without any specific targeting.

In conclusion, accessibility remains an area of public action that has been sidelined by French food policy, meaning that it is even more essential that the ministries co-managing the national strategy actively cooperate with the Ministry of Solidarity. More generally, and in view of the social issues surrounding food, which we outline in the next section, the authors believe that it is critical to fully integrate the social aspect with the other dimensions of the food transition, right from the very outset of the policy design stage. Each measure should therefore be considered from the perspective of its contribution to public health and/or environmental sustainability, but also from that of its contribution to reducing inequalities or promoting a *just* food transition. This does not disqualify single-objective public policies, provided that they do not have a detrimental effect on other areas. This approach favours an *integrated* approach to food policies in terms of their development and implementation.

e) Towards a strategy that orchestrates "small" and "large" measures in the same direction

This assessment thus leads us to question, from a transitional perspective, the relevance of past strategy. It is not an issue of questioning the very existence of measures with little transformative potential, but rather of questioning the overall balance, including more proactive measures, which would enable them to contribute to overall change: for example, media campaigns such as "eat five fruit and vegetables a day", or nutritional and environmental labelling. Scientific assessments show that these measures on their own cannot bring about the level of change needed (IGAS, 2016; INSERM, 2017; SAPEA, 2020; Group of Senior Scientific Advisers, 2020; EC, 2018; Temme *et al.*, 2020; Capacci *et al.*, 2012; HSCP, 2017). However, they can contribute, under certain conditions, to changes in social norms and attitudes (attributes sought by individuals in a food product), in conjunction with other actions on the food environment, or to an increase in the acceptability of stronger measures (Temme *et al.*, 2020). Other policies may also have diffuse benefits, such as local food access initiatives which, although modest in scale, contribute to local life, social links and the resilience of local agri-food systems. They could also provide the basis for more ambitious policies in future, while contributing to the systemic transformation of food in the long term. Similarly, although the social policies identified in the analysis (food aid, school breakfast or school milk and fruit schemes, affordable pricing in canteens, reduced VAT on food) are mostly non-transformative (or impossible to assess), most of them nevertheless play a significant role as a "social safety net". Furthermore, an analysis of how these social policies are designed and implemented by public authorities reveals the leeway available to improve their effectiveness. For the most part, these measures continue to have their place in transforming the food model, at least in the short and medium terms, but to do so they require better integration into the overall strategy, and alignment with the priorities for healthy, sustainable and accessible food.

The challenge of the National Strategy for Food, Nutrition and Climate is to enable progress in this direction in three areas for improvement: 1) draw up a clear horizon against which the relevance of existing policies can be assessed; 2) put new, more ambitious public action options on the table and; 3) strengthen the integration of measures, both in terms of objectives and implementation processes (governance). This forms the basis of our proposals in Section 3.

Finally, it should be noted that we focused specifically on public policies in this assessment, and the conditions for their effectiveness (potential, implementation), rather than on the interactions of the actors around them, whose role is critical in enabling and shaping these policies. A great deal of research has shown that private-sector influence strategies have a role in modifying and weakening the implemented measures, so that they do not constitute a major challenge to their practices (see for example, Benamouzig and Cortinas Muñoz, 2022, Boubal, 2019, Hercberg, 2022 Serra-Mallol, 2021).

BOX 3. NATIONAL LEVEL ACTION TO MAXIMIZE THE POTENTIAL OF REGIONAL INITIATIVES AND ACTIONS

We have included only a small number of regional transition initiatives (and other local initiatives) in our analysis. This is not due to any prejudice regarding their ability to bring about major change at their level, or to their ability to disseminate, create dialogue and potentially have large-scale impacts that would in turn affect national public policies. In this respect, the initiatives[13] led by the TETRAA project (*Territoires en transition agroécologique et alimentaire*), the ALTAA collective (*Alliance des acteurs engagés pour les transitions agricoles et alimentaires des territoires*) and the *Territoires à VivreS* projects are promising examples of the pioneering role of grassroots experimentation. However, we believe that their action will not be sufficiently transformative without proper support and encouragement from an appropriate and ambitious national-level action framework, which is then rolled out at the local level. In addition, IDDRI is soon to publish a study on Territorial Food Projects which, in line with research work on the subject, supports the hypothesis that moving to the local level does not systematically lead to the development of more ambitious or systemic projects. Territorial strategies can be pre-empted by actors that are part of the status quo (e.g. conventional agriculture) and stripped of their groundbreaking dimension (Pahun, 2020). As territorial food policies are mainly incentive-based, the current framework encourages the perpetuation of major socio-spatial inequalities between territories, while simultaneously seeming to have been overtaken by the challenges of integration (over time, between scales, and between actors) required for food policy implementation (Loudiyi, 2020). As a result, we concentrate our efforts here on the national level, which is an essential building block in the construction of a coherent and ambitious strategy for sustainable, healthy and accessible food.

[13] See Territoires à VivreS; Territoires en transition agroécologique et alimentaire; Collectif ALTAA..

2. CHANGING THE RATIONALE BEHIND ACTION FOR THE TRANSITION

2.1. An urgent need for action

The first lesson to take from the scientific literature and data is the need to change course in environmental, health and social terms. Our current food systems, and the public policies that shape them, are too far removed from the objectives sought in these three areas.

a) Managing the transition in terms of what we eat and how it is produced

Food accounts for 24% of household carbon budgets (Barbier *et al.*, 2019). This includes the various stages of the food chain (production, processing, transport, distribution, consumption). According to the latest IPCC report, all aspects of the food system must be considered if we are to have an impact on reducing emissions (IPCC, 2022). It should be noted, however, that agricultural production remains the main source of greenhouse gas emissions, accounting for two-thirds of the total (Barbier *et al.*, 2019). Furthermore, the environmental challenges posed by food are not limited to GHG emissions, but also concern land use, water consumption, pollution (air, water, soil), biodiversity and nutrient cycles. In fact, food production is the most important determinant of biodiversity loss, through land conversion, the use of chemical inputs or impacts associated with the value chain (e.g. food waste, transport) (Dudley & Alexander, 2017; IPBES, 2019). Several targets of the Kunming-Montreal biodiversity agreement, adopted in December 2022, thus relate to the sector, including the aim of halving the risks associated with pesticides as well as nutrient losses to the environment. Finally, it is useful to use a "planetary boundaries" approach (Rockström *et al.*, 2009) to holistically consider the various challenges that the agri-food transition must address, given the significant contribution of agriculture to destabilizing the Earth system (Campbell *et al.*, 2017). On a global scale, livestock production impacts heavily on most of these boundaries: it accounts for 80% of the accepted measure of land conversion (mainly deforestation), 60% for climate change and 150% for nitrogen cycles (Bowles *et al.*, 2019). On a European and French scale, more extensive production methods (for ruminants) or based on co-products (for monogastric animals: pigs and chickens) nevertheless play an important role in landscape management (Pärtel, 2005) and nutrient recycling (Van Selm *et al.*, 2022). From the literature, we find two major changes to the diet that are essential for reducing the impact of the agricultural sector.

The first is to reduce the proportion of animal products (meat and dairy products) in diets, as emphasized in the agri-food transition scenarios conducted at both European and global levels (Poux and Aubert, 2018; Willet *et al.*, 2019; Couturier *et al.*, 2016). According to these scenarios, meat consumption is expected to fall by around 50% by 2050. The scenarios produced by ADEME (2022) for France show a variety of pathways, ranging from a 3% drop in the most conservative scenario to a 70% decline in the most ambitious. Rogissart (2023) dismisses the least ambitious scenario because of the technological gamble involved and its vulnerability. The consensus order of magnitude is a 50% drop in meat consumption[14] on average, which would in fact cover a wide range of dietary situations. By way of comparison, the reduction in meat consumption envisaged by the government in the second National Low-Carbon Strategy (SNBC 2) is only 20%. Rogissart (2023) also notes that current trends in individual meat consumption are not as favourable to the environment and health as one might think: up 22% between 1970 and 1990, then down 11% between 1990 and 2012. Since then, both total and individual consumption appear steady, or are even rising again. At the current rate, and without public authorities being proactive, there is no chance of achieving the targets for reducing meat consumption.

Secondly, agroecological transition scenarios allow for the promotion of low-input organic and agroecological production methods as part of a 360-degree approach to planetary boundaries (Poux & Aubert, 2018; Billen *et al.*, 2021; Couturier *et al.*, 2016). These transition perspectives add a second priority in terms of changing diets: more plants, but also more food from sustainable production methods, including animal products. As far as animal products are concerned, this means promoting a sensible level of meat and dairy product consumption from sustainable production methods, the environmental benefits of which are recognized. For example, some agricultural transition scenarios (agroecological scenarios) place greater emphasis than others on extensive ruminant farming, particularly for its benefits to biodiversity and landscapes. Nevertheless, the aim remains to reduce the consumption of animal products, while at the same time promoting certain extensive farming methods, in line with the "less and better" vision.

Thus, the two food system transformations[15]–the transition to a more plant-based, organic, agroecological and locally-produced diet, with less waste; and the agroecological transition at the production level–are inseparable if we are to achieve all of the environmental objectives set at European level (Röös *et al.*, 2022).

b) Critical social and health issues

The issues surrounding food are not only environmental: they are also health and social. Here too, the indicators are worrying, even in a wealthy country like France. If we first consider the indicators relating to public health: health-related dietary inequalities have not fallen (IGAS, 2016), obesity and overweight are reaching "epidemic proportions" (WHO, 2023),

[14] With contrasting views on the types of meat to be reduced as a priority, depending on the scenario, between ruminants, which play an important role in agroecological systems, and monogastric animals (pigs, chickens). See this comparison of scenarios.

[15] Actions to reduce the footprint of the food system must also consider the need to reduce waste, and to reduce the overall amount of food consumed - which is possible without compromising nutritional needs (IPCC 2022).

while public health recommendations have not been sufficiently implemented in France. Consumption of fruit and vegetables, pulses and wholegrain products remains low, while consumption of salt, sugar, cooked meats and red meat is too high (Santé Publique France, 2018). Consumption patterns are influenced by social inequalities (Brocard *et al.*, 2022). Similarly, food poverty seems to be on the rise, reflected in record figures for food insecurity (17% of adults; ANSES, 2017) and those turning to food aid (almost 9% of the population according to the IGAS in 2019, 2 to 4 million according to INSEE in 2022). This raises several questions, especially when we consider the economic consequences of the food transition (more plant-based, more sustainable). Will such a diet cost more? How can we ensure that the transition is fair for all citizens, and that it does not reinforce food-related inequalities?

The scientific consensus is that the food transition is essential if we are to meet the health, environmental and social challenges. This assessment partly reflects the limitations of the policies currently in place. In the following section, we draw on the scientific literature[16] to elucidate on the inadequacies of current policies and to guide food strategy formulation.

2.2. From consumer responsibility to the responsibility of public and private stakeholders to act on the food environment

a) Framework of the responsible individual consumer

Public food policies are mainly based on systems for informing and educating "citizen-consumers" (Capacci *et al.*, 2012; INSERM, 2017; Macura *et al.*, 2022). The underlying rationale is that consumers are responsible for food issues: the aim is to guide their behaviour, which is understood to be the result of individual choice (Dubuisson-Quellier, 2016). According to this paradigm, direct action by the State on food practices is considered illegitimate, and collective objectives (e.g. public health) must be achieved through incentive mechanisms that support and guide consumers. Such a paradigm is based on the erroneous assumption that the "responsible" and "well-informed" consumer is able to make the "right" choices–the choices of a "good citizen" –without a legislator curtailing his or her individual freedom (INSERM, 2017). However, the literature confirms that public action limited to information and education has little or no effect on dietary behaviour (IGAS, 2016; INSERM, 2017), and that this approach does not bring about long-term change (Macura *et al.*, 2022). Furthermore, putting the emphasis on citizen responsibility is a strategy used to shift attention away from the need to change the existing food system (Michel *et al.* 2020), which in fact encourages public policies to remain unchanged. Intervention targeted at the structuring of choice, via nudges[17] for example, is highly uncertain in terms of effectiveness (Vecchio *et al.* 2019, Kwasny *et al.*, 2022). Secondly, and due to "fundamental asymmetries in terms of information and power" (SAPEA, 2020), it seems misguided to consider that the consumer is entirely free to make his or her own choices. Finally, a narrative centred on valuing the "active consumer" who makes the "right" food choices is blind to social inequalities. In fact, these inequalities are reflected in the differing abilities to implement the dietary recommendations proposed by the public authorities. For example, regarding nutritional messages, calls to "eat better" are interpreted differently according to whether the individuals surveyed come from working, middle, or upper-class backgrounds (Régnier & Masullo, 2009).[18]

b) An inadequate framework

A glance over the last twenty years also reveals the limits of this approach. As society's concerns about food increased (health, naturalness, the environment, local production, etc.), accompanied by the roll out of the responsible consumer approach, a transitional narrative developed: change was going to come from the gradual translation of concerns into action, under the guidance of incentives and information. We can see that this vision has not worked out as expected: per capita meat consumption has not fallen for several years now, and we are still far from a pathway compatible with our environmental objectives (Rogissart, 2023). Organic food is still a niche market, largely subject to the vagaries of inflation, and animal welfare has not become a real issue that influences purchasing behaviour. It can be said that a significant gap remains between "declarative" attitudes and intentions, and the reality of practices. Our interpretation is that this gap is not fundamentally an indication of the irrationality of the citizen-consumer, an irrationality that would need addressing at the individual level through information, persuasion or nudges, for example (Bergeron *et al.*, 2018, de Bakker and Dagevos, 2012). Instead, this is the consequence of a significant lack of collective action on all aspects of the food environment, that would enable the achievement of social change in the food sector. It should be noted that, more generally and beyond food issues, the literature is gradually moving away from a "consumer" approach towards the adoption of the "lifestyle" concept, which encourages us to go well beyond individual action and to demonstrate the need for structural change in the way we organize ourselves (Newell *et al.*, 2021; UNEP, 2020; Akenji *et al.*, 2021).

The limitations of the current framework can be seen both in its inability to foster a transition that is up to the challenge,

[16] The scientific studies (collective appraisals, literature reviews) that we have used here enable us to draw conclusions about the objectives and rationales of public action to regulate eating behaviour, and about the types of measures (*interventions*) implemented and their effectiveness.

[17] A nudge refers to the idea of intervening in the architecture of choice in order to change behaviour. It is sometimes compared to the idea of encouragement, to emphasize its non-binding nature. It was popularized by the work of C. Sunstein and R. Thaler.

[18] The authors note that the upper classes are most likely to be aware of, and to adopt, the accepted norms of dietary behaviour and body weight, while the lower and working classes tend to be aware of these standards, but view them critically, while the most vulnerable individuals are indifferent to them.

and in the frustrations arising from this gap between declared intentions and practical reality, which is detrimental to collective change. This is true for all consumer-citizens, but particularly for the most financially limited. Caught between contradictory guidelines and having to bear the responsibility of leading the societal transition where the food environment remains unchanged, consumers find it difficult to make changes themselves, which can lead to feelings of rejection or powerlessness and discouragement because they perceive that their own (virtuous) behaviour is insufficient to change the overall situation (WBAE, 2020). This discrepancy between food expectations as perceived by the agricultural sectors and the reality of consumer practices can also lead to resentment from agricultural actors towards consumers who are unwilling to pay for the transition they demand (e.g. nutritional quality labels, taking animal welfare and the environment into consideration when making purchases). Finally, it should be noted that this framework tends to reserve virtue for a small fraction of society, given that much of the population lacks the resources to respond to recommendations such as "five fruit and vegetables a day" or "eat organic", which in turn may create mistrust and/or may encourage less affluent social groups to create their own versions of rewarding actions (Johnston *et al.*, 2012; Dubuisson-Quellier & Gojard, 2016; Brocard *et al.*, 2022). Moving away from this individual responsibility framework towards one aimed at acting on the food environment as a whole could thus help strengthen the inclusiveness of the transition.

c) Importance of influencing food supply via the physical and economic environment

Food supply, i.e. the nature and conditions of access to food products, is a priority for public action. Crucial supply aspects, namely the physical environment (available products, distribution channels, ease of access to products, etc.) and the economic environment (food prices, promotions, etc.), need to be mobilized to influence the accessibility, availability, convenience, and desirability of food products (Herforth & Ahmed, 2015; Recchia et al, 2021; Mah *et al.*, 2019; Gittelsohn *et al.*, 2017; Raine *et al.*, 2005). Public intervention on the determinants of supply is therefore justified and relevant (IGAS, 2016; WBAE, 2020). Individual behaviour cannot change without structural change (IPCC, 2022), which means that food supply in its own right must be considered as a relevant area for public intervention. This is in line with other studies that point to the importance of food systems (including agricultural production, processing and distribution) in influencing practices, and which also show that it is essential for supply and demand to evolve in tandem (Sahlin *et al.*, 2020; Huber *et al.*, 2020; IPES-Food, 2017). This is the direction being taken at the European level by the Sustainable Food Systems Framework Law, with its rationale of "minimum sustainability requirements" aimed at preventing the marketing of products that do not respect certain characteristics.

However, very few public policies currently target this area. For example, legislation focuses mainly on consumers and producers, and much less on actors in the middle of the chain (manufacturers, distributors) (Group of Senior Scientific Advisors, 2020). However, supermarkets and hypermarkets, which account for nearly 70% of food purchased, would be a pertinent area for action, even though their current practices are far from adequate in terms of environmental sustainability (Climate Action Network, 2023).

d) Shifting gears to change the socio-cultural environment

Beyond their material consistency, food practices are also largely shaped by the social norms that individuals internalize and pursue. These social norms, which govern eating times and practices,[19] together with social representations of food and the food cultures of social groups, form a final dimension of the food environment, the socio-cultural environment (Baril *et al.*, 2012). Sociological research in this area highlights the role of lifecycles (or biographical moments), social position and household structure (INRA, 2010), as well as religious beliefs and the role of friends and family (Plessz *et al.*, 2016).

Clearly, this change in socio-cultural norms is crucial, given the place of meat and animal proteins in our diets and cultures (Dagevos, 2021), as illustrated by the slow dissemination of flexitarian practices (Verain *et al.*, 2022; FranceAgrimer, 2021). More specifically, taking action on the price of organic produce or the geographical locations of producer shops to change eating habits must be accompanied by action on the social norms that govern them, to guarantee the effectiveness and inclusiveness of policies. Food consumption, as a routine activity, is in fact highly linked to habitual and repetitive behaviours, as well as the inertia of current practices (ANSES, 2017)[20]. In social terms it is influenced by imitation (adherence to social norms), for example when individuals are told about what other people eat (Stok *et al.*, 2014), but also by social pressure, which makes it difficult, for example, for individuals in non-vegetarian social groups to maintain a vegetarian diet (Fresan *et al.*, 2020). Consequently, the expert group associated with the European Commission (Group of Senior Scientific Advisors, 2020) recommends mobilizing social rules, such as standards and norms, as levers for transforming the food system. It should be noted that standards are increasingly being used in the science and policies of the ecological transition in the broadest sense (Nyborg *et al.*, 2016; Newell *et al.*, 2021, UNEP, 2021).

Action on this dimension particularly requires the mobilization of all those who propose food standards, in a way that is consistent with a national strategy. It should be noted that both public and private actors are already acting on this socio-cultural

[19] France has specific eating times, maintaining the three traditional meals, while the time spent eating has not changed since 1986 (de Saint-Pol, 2012). In terms of eating practices, norms are linked to the social groups to which people belong, which will attribute a different value to the same practice (e.g. buying organic, not wasting food, eating breakfast), based on registers that are specific to them (Gojard & Dubuisson-Quellier, 2016; Elliott, 2013; Le Pape & Plessz, 2017). The same practice therefore has a different meaning depending on who you are, which can hinder or, on the contrary, promote its appropriation.

[20] The INCA 3 study shows that among the main criteria for food choice, individuals consider habits to be the determining factor, second only to price.

dimension by targeting those who have an impact on dietary behaviour, such as health or welfare professionals but also, more recently, influencers (e.g. PNNS, PNA). Private-sector actors are also important influencers, there are those, for example, that shape the portrayal of food as a household expenditure that should be reduced as much as possible (e.g. the marketing campaigns of the French supermarket chain E. Leclerc) or who define concepts to encourage the adoption of certain behaviours (e.g. Interbev's campaign that promotes the flexitarian as "an enlightened consumer who eats everything and [who] eats with a conscience",[21] and the Intermarché campaign on "ugly" fruit and vegetables). As a result, we need to consider private actors as having an impact not only on the physical environment (e.g. what's on the shelves) and the economic environment (e.g. food pricing) of individuals, but also on their socio-cultural environment (social representations). A proactive approach to the socio-cultural environment would therefore call for the greater regulation of private sector practices, and the development of this field for public authorities.

e) Reorienting and organizing cognitive action

It should be noted that while the information-education framework significantly restricts the levers that public authorities can mobilize, this does not mean that action on the cognitive environment should be abandoned: on the contrary, it needs to be redirected and organized.

Although the responsible consumer framework does not encourage the voluntary regulation of the messages conveyed by private actors - indeed, it would be enough to maximize the information sources available to ensure that consumers adopt the "right" behaviour - the food environment approach, on the other hand, encourages us to direct or even reduce the prescriptive force of these vectors (marketing, advertising, positive claims) on eating behaviour. In fact, there is an abundance of information on food packaging and advertising: the development of the Nutri-Score, the "no added sugar"[22] label, the "organic farming" label, nutritional messages on media advertising, etc. These are all initiatives launched and supported by public authorities to influence behaviour by making individuals more responsible, without affecting the practices of supply-side actors. Added to this is the multitude of private initiative labels and advertising messages, which are sometimes confused with government nutritional messages. False environmental claims are another risk factor, which are being addressed by a European Commission directive.[23] Moreover, the proliferation of sometimes contradictory information is detrimental to the clarity and reliability of the message. A final problem concerns the apathy of some individuals resulting from exposure to repeated health messages (INSERM, 2017). For example, the average person spends 75 seconds in a supermarket aisle, which leaves little time to decipher all the information (Sénat, 2022). Cognitive intervention therefore suffers from significant limitations. Nevertheless, it can be useful in putting certain issues onto the political agenda through the visibility that this information provides, and in encouraging manufacturers to review their recipes and manufacturing processes. For example, the fact that 48% of food advertisements are for products with a D or E rating is an incentive to focus on marketing and advertising regulations (Santé publique France, 2020). In this regard, cognitive interventions can be relevant, provided they are organized and combined with broader changes, particularly concerning food supply.

f) Intermediate conclusion

To sum up, the review conducted in Section 2 into the available literature on changes in lifestyles and eating behaviour suggests that we should move away from a focus on individual responsibility. This approach appears inadequate, and sometimes even counter-productive, in terms of triggering the necessary societal change for dietary transition. In addition, our assessment in Section 1 shows that public action on food can be considered relatively weak. Food policy appears: a) relatively fragmented with incomplete governance and steering,[24] b) to be based mainly on an incentive-based approach, relying on information and communication tools, c) to have mutually inconsistent objectives, d) to have limited human and financial resources, and e) to have monitoring and evaluation mechanisms that are often inadequate or even deficient.[25]

The proposals for the national strategy must be based on this twofold observation: neither the philosophy of action nor its implementation are currently adequate. So what should be the aims of public authorities? What role should they play? Is a more proactive approach legitimate? In this respect, the lessons from the literature are clear: the food transition challenge can only be met by an approach focused on food environments, that integrates the various dimensions of food, and which is given sufficient (particularly regulatory) resources. So what is the legitimacy of the current French food policy approach, which favours self-regulation by private actors, when this mode of governance "does not offer the guarantees of state public standards" (INSERM, 2017, p54)? This model, which aims to preserve

[21] Interbev represents the interests of the livestock and meat industry in France.

[22] It should be remembered that all nutritional claims are subject to European regulations dating from 2006, and are therefore partly regulated by the public authorities.

[23] Green Claims Directive.

[24] This observation was made by an IGAS mission (2016) regarding the PNNS3, whose governance is much more elaborate than that of the NAP. The PNNS has a steering committee, a monitoring committee with stakeholders, and local networks run by the ARS. The NAP, on the other hand, benefits from having its own budget and seeking to coordinate with other plans, but was not designed to be assessable (NAPs 2 and 3 were not), according to France Stratégie (2021). Both institutions emphasize the key role of indicators and the availability of data, as well as the clarity, legibility and coherence of objectives.

[25] With the exception of certain nutrition and anti-poverty programmes, which have precise objectives, adapted resources and more appropriate monitoring. On the other hand, these measures (e.g. social pricing, school breakfasts, reformulation of the industrial supply) are among the least transformative because of their limited scope and/or insufficient design.

the freedom of choice of consumers by limiting public action, in reality amounts to allowing private interests to dominate the food environment and thus to shape the food preferences and practices of consumers (iPES-Food, 2019; WBAE, 2020). Conversely, public action must enable us to move away from a model where consumer food choice "runs the risk of being more imposed than chosen" (INSERM, 2017, p47), towards a model that gives citizens a new capacity for choice.

Thus, this new approach does not deny individual freedoms regarding eating behaviour, but questions the structuring of collective institutions that shape this behaviour and, as a result, places a significant proportion of the responsibility for trajectory change onto these collective institutions, an accountability that is currently obscured by the individual responsibility approach.

3. PROPOSALS FOR A NATIONAL STRATEGY TO MEET THE CHALLENGE

Member States are at a pivotal moment in the implementation of the food dimension of the EU's "Farm to Fork" strategy. In addition to the work on national strategic plans for agriculture that they have been submitting as part of the Common Agricultural Policy (CAP) since the 2023-2027 period, Member States could be encouraged to submit national food plans. In practical terms, the aim is to translate the Farm to Fork guidelines – which aim to reduce both animal product consumption and the use of synthetic inputs (pesticides, fertilizers and antibiotics)[26] – into the food sector of Member States. Finally, it must be noted that the success of the SNANC is also crucial to the success of the agroecological transition, through its simultaneous action on food demand. It is thus the key to a fairer agri-food system that respects planetary boundaries and promotes health.

In this section, we build on the analyses from the previous sections and draw on examples from other countries and the scientific literature to advance proposals.

BOX 4. LESSONS FROM COMPARING INTERNATIONAL FOOD STRATEGIES

A non-exhaustive international review of multi-sector food strategies shows that a fairly small number of countries have implemented such strategies. These countries and regions include Finland (strategy adopted in 2017), Sweden (2016), England (2022), Scotland (2018, 2022), Ireland (2021), Denmark (2018), Canada (2019), Quebec (2018), and soon Germany (2023). These strategies are based on different development processes, with varying degrees of stakeholder and public consultation. For example, Quebec's strategy that emerged from the 2016-2017 Food Summit, used a website to gather the opinions of citizens, along with surveys and a series of meetings with experts. In England, an independent review was conducted into solutions for reducing the carbon footprint of the English food system while addressing public health and inequalities. Nearly 300 organizations were consulted and citizen summits were organized to gather evidence to support the recommendations made to government,[27] which then proposed its strategy. Finally, Germany stands out for its strong reliance on scientific expertise, framed by four converging objectives (human health, well-being and social cohesion, environment and animal welfare)[28] and followed by a stakeholder consultation process (ongoing). In France, the idea of a national multi-sectoral strategy originated with the Citizens Convention for Climate, whose proposal was reworked by the government and included in the Climate and Resilience Act, and was the subject of contributions from the National Food Council (*Conseil National de l'Alimentation* - CNA),[29] the High Council for Public Health and the National Council for Ecological Transition.

In addition to the development process, these national and regional strategies offer a range of governance tools: Quebec has implemented a multi-year roadmap, a dedicated secretariat within its Ministry of Agriculture, and an inter-ministerial coordination and review of the laws and strategic plans of the organizations managed by the Ministry of Agriculture; England has published an independent mid-term review by three national agencies (health, environment, climate); Ireland has created a High-Level Implementation Committee and a specific committee to monitor environmental measures; while Scotland has produced the Good Food Nation Bill which acknowledges the need to produce food strategies at national and local levels, while creating an independent commission to monitor implementation.

Close collaboration with private actors, and sometimes the stricter regulation of these stakeholders, is also a feature of all of these strategic documents. Finally, these national and regional approaches differ in the issues they address: only the German scientific report treats animal welfare as a fundamental pillar, and some strategies are more focused on economic considerations (competitiveness, access to labour, innovation), such as those of Sweden and Ireland. Nevertheless, environment, health and the fight against inequalities is integrated into the majority of cases. The scope also varies: some strategies concern the entire farm to fork food system (e.g. Ireland, England, Finland) or focus on consumption (e.g. Canada, Denmark, etc.).

[26] Aubert, P-M. Towards a sustainable European food system: for a successful operationalization of the "Farm to Fork" strategy. IDDRI Blog post, 20 May 2020.

[27] This research has resulted in a report and various supporting documents, which can be consulted on the National Food Strategy website.

[28] See the very comprehensive report by the Scientific Council for Agricultural and Food Policy and Consumer Health Protection at the Ministry of Agriculture and Food (WBAE, 2020).

[29] Contribution published in March 2022.

3.1. What is expected from this strategy? A triple change

The SNANC must aim to make healthy, sustainable food a reality for everyone. This can be achieved if three fundamental changes are made (see **Figure 5**).

3.2. Strength of project leadership and governance

a) Food policy governance

Food is a relatively new area of public action which, despite increasing convergence since the 2010s (Loudiyi, 2022), is still organized on a sectoral basis. Although the French policy is presented as cross-cutting, which must therefore be defined and implemented by several ministries, food policy remains imbued with an agricultural approach. This is first and foremost the case at the institutional level: since 2010, the Ministry of Agriculture has been the official lead ministry (Loudiyi, 2022; France Stratégie, 2021). There is also a historical agricultural influence on the framing of food issues (Candel & Pereira, 2017), which tends to evolve under pressure from actors in other public action spheres (mainly health), whose legitimacy is contested by these same agricultural actors to ensure they retain ownership of the issue (Michel *et al.*, 2020). This fragmentation is not specific to France, but is common to many countries (Babiker *et al.*, 2022). Such compartmentalization of public action poses a problem from a transition perspective. It hinders the anticipation of possible synergies and contradictions between public action from different sectors (Babiker *et al.*, 2022), but also cooperation between actors (Vinnari & Vinnari, 2014), and the overcoming of controversies between value systems and power configurations within and between sectors (Candel & Pereira, 2017). Calls for the "integrated" governance of food systems or an "integrated" food policy are therefore multiplying in the face of the limitations of the current governance model (SAPEA, 2020; iPES-Food, 2019; Candel & Peira, 2017; Vinnari & Vinnari, 2014; Termeer *et al.*, 2017; Babiker *et al.*, 2022; Parsons, 2022).

Governance is thus a priority area for food policy, which should be pursued in parallel with interventions on food environments. Below we list a number of proposals that we feel are key to moving in the right direction.

A clear contribution to ecological planning. Of course, we need to consider how the national food strategy fits in with the national CAP strategic plan, but also with national policies. In France, the National Strategy for Food, Nutrition and Climate must take its place in the renewed vision of ecological planning that is gradually taking hold. The aim is twofold. Firstly, it should be a forum for integrating health, environment and social policies, which implies the co-piloting of a consultation process involving a wide range of actors, and defining guidelines and measures to promote co-benefits or, at the very least, avoid contradictions. Secondly, it should also be seen as the proactive department of the National Low-Carbon Strategy in the food sector,[30] as a building block of France's climate strategy. The aim would be for it to incorporate both climate and biodiversity objectives, and to propose a coherent set of objectives for food and its agricultural counterpart (including quantified targets, pathways for change, and monitoring indicators), enabling the realization of a "less but better" trajectory for animal production. As part of the iterative ecological planning process, in conjunction with the objectives of the General Secretariat for Ecological Planning, this sectoral strategy, although more advanced than what could have been achieved as part of the strictly climate-related process, would then be integrated by the SNBC into its agriculture/food component, with potential need for adjustment. According to this vision, the SNBC would be seen as an

[30] In the same way as it should be/is perceived as the proactive aspect of health policies and the solidarity pact in the food sector.

FIGURE 5. **The National Strategy for Food, Nutrition and Climate must achieve three fundamental changes to ensure a healthy and sustainable diet for all**

area where sectoral strategies that have already incorporated climatic considerations can be integrated and made consistent. In the short term, given the agendas of the two processes, specific coordination work must be envisaged.

Territorial dimension of the strategy.[31] There is a clear imperative to clarify the responsibilities for food policies between the different levels of public action.[32] This imperative is all the more apparent when it comes to Regional Food Projects (PATs), which particularly suffer from incomplete food governance at the territorial level. As previously mentioned in the territorial action box, they are not really tools for transforming food systems, but rather consultation forums. What's more, they are in a deployment and implementation phase that suffers from certain limitations (weak and precarious funding, difficult integration into the institutional system, lack of monitoring and evaluation). As a result, they are not yet in a position to embody and implement national food policy at the local level. In the short term, therefore, we need to work to strengthen these projects, by overcoming the limitations identified, reinforcing their environmental aspects, and developing genuine multi-stakeholder governance. By 2030, under these conditions, PATs could become significant tools for regional food action.

b) Project leadership and a citizens' panel

The success of SNANC will depend on its project leadership: how might this manifest itself?

It would be necessary to **create the post of interministerial food delegate** to embody and steer the strategy.[33] He or she could report to the Prime Minister's office and coordinate closely with the SGPE, drawing on the departments and offices of the Ministries of Agriculture, Ecology, Health and Solidarity that are dedicated to food policy, whose human resources would be strengthened. On the financial side, a decisive step forward would be to give the SNANC its own budget, as is the case for the PNA but not for the PNNS, to facilitate the transparency and effectiveness of its actions. The delegate should undertake the commitment to make the SNANC the common thread running through the government's action on food issues. The practical organization of the SNANC's text will also be an indicator of the cross-cutting nature of the strategy: unlike the previous PNAN, it is important that the major issues of the strategy, represented by the three ministries with responsibility, are continually linked in proposals for action, and not siloed into divisions. The social issue should be a common thread, and linked with the forthcoming Solidarity Pact.

The vision and narrative of the transition produced by the strategy should be reflected in food-related political discourse. This would mean overcoming certain "taboos" in public communication: the need to reduce animal protein consumption as part of a "less but better" approach, coordinated with the agricultural transition; the legitimacy of public authorities to act on food practices for the common good, particularly by acting on all public and private actors that influence and structure our food practices. These elements would constitute subtle but essential markers for triggering the transition. They would also show that interministerial compromises have been reached and agreed, enabling the ministers concerned to align their positions and take the strategy forward. The alternative is for the strategy to be a roadmap for the administration, but one that does not commit politicians through its overall vision.

Furthermore, given that political resolve will play an important role in the success of the strategy, as will the popularization in the public debate of this "plan" for the food transition, **an ambitious citizens' initiative** with a well-defined role could be envisaged. For example, a citizens' panel could be set up to bring SNANC to life. The Citizens Convention for Climate has shown the value of the contribution of citizens, not only in making political choices and proposing measures, but also in discussing the relevant implementation methods, in addition to experts and public actors (Saujot *et al.*, 2020; Treyer, 2020). This panel could therefore have a dual role: to support the strategy's implementation, which will obviously give rise to many questions for which citizen deliberation could be very useful; and to monitor implementation to boost the democratic imperative of transparency. Mobilizing citizens in this way would be a sign of strong project leadership and could also help to popularize the plan's ambition among society.

c) Monitoring and assessment

Our analysis shows that monitoring and assessment varies widely across the 21 intervention types studied. It is essential for the SNANC to be regularly monitored and evaluated, as is the case with PNNS, for example. There are three possible levels:

- **Evaluation of implementation and democratic transparency:** The first level consists of regularly answering the question: have the plans been implemented? In this respect, the exercise carried out for SNBC 1[34] is very interesting and can serve as an example.[35]
- **Quantitative assessment of results**: quantified results, which can be used depending on the temporal dynamics of the measures (short or medium-term impact) and the availability of robust studies (some public health studies take time, and we have also observed that some major surveys

[31] An analysis of these tools will be the subject of a future IDDRI publication.

[32] At present, in legal terms, local governments do not have authority regarding food.

[33] It should be noted that the IGAS (2016) proposed the creation of an interministerial delegate for health and nutrition issues, reporting to the Prime Minister.

[34] For each of the 44 recommendations, an indicator is allocated with one of these 3 options: *** The policies in place are consistent with the recommendation and enable the transition to begin; ** The policies in place are close to the recommendation, but do not yet enable the transition to begin at the expected pace; * The policies in place are still a long way from the recommendation and require significant reinforcement to enable the transition to begin at the expected pace. Follow-up to the National Low-Carbon Strategy.

[35] Another example is the evaluation grid used by the High Council on Climate Change in its 2022 annual report to assess the coherence of the measures implemented to achieve the sectoral guidelines of the SNBC, which also has the advantage of being able to be thought of in terms of annual progress.

cannot be repeated at the planned intervals, which is a problem for public policy management).

— **Qualitative assessment of current trends**: In the context of transition, which involves structural changes, immediate results are not always available. This doesn't mean that nothing has changed and that public action is not beginning to achieve results. It may therefore be useful to answer the question: is there an observable moment when a trend begins, and are there signs that the transition is underway, even if quantified results are not yet available?

The French National Food Council *(Conseil national de l'alimentation)*, with its capacity for stakeholder consultation, should see its role strengthened to contribute to the monitoring and evaluation of the SNANC on a regular basis throughout its implementation.

3.3. Proposals for the four food environment pillars

Our analyses lead us to propose three main action types for each dimension of the food environment (cognitive, socio-cultural, economic, physical). Each action type is operationalized by specific measures to be implemented by public authorities and/or private actors. These measures may involve improving existing measures,[36] or developing new approaches. **Figure 6** illustrates our proposals for initiating coherent and ambitious action on food environments. The aim of this section is not so much to propose a finalized action programme, but rather to show that a wide range of measures is available to kick-start the transition.

[36] In this case, the measures are identified by an asterisk (*), and can be found in the diagnostic table in the Appendix.

FIGURE 6. Twelve proposals for coherent and ambitious action on food environments

PHYSICAL ENVIRONMENT

+ **Encourage the development of a commercial environment that is conducive to healthy and sustainable food**
  Implement mandatory publication of the ratios of plant/animal and organic/conventional products sold by supermarkets - move towards binding targets by 2030
+ **Support the establishment of a healthier and sustainable industrial food supply**
  Set regulatory targets for the nutritional reformulation of products and develop a new action framework for private sector actors on reformulation for environmental purposes (incorporation of organic products, reduction of animal products, etc.)
+ **Mobilize public catering outlets**
  Prioritize training for catering staff in plant-based cooking.

SOCIO-CULTURAL ENVIRONMENT

+ **Reduce marketing and advertising pressure**
  Ban advertising on prime-time television and radio of products with the lowest Nutri-Score and environmental ratings, following the South Korean example
+ **Promote a new inclusive and positive narrative on healthy and sustainable eating**
  Promote a new approach to "French cuisine" linking gastronomic culture, pleasure, health and the environment through partnership communication campaigns based on the New Nordic Diet model
+ **Mobilize the prescriptive power of professionals and opinion leaders**
  Encourage content creators (TV, radio, social network influencers) to form an ambassador network, committing to a charter and training

ECONOMIC ENVIRONMENT

+ **Promote the accessibility of quality food**
  Create a network of "food solidarity champions" to encourage the development and consolidation of innovations in the field
+ **Analyse the structuring of food prices**
  Consider, following a study, price regulation of organic products and ready-made vegetarian meals to prevent actors from making excessive profits
+ **Develop a new framework for public spending and tax revenue from food**
  Strengthen experimentation and evaluation of public food service schemes at the territorial level, as recommended by the CNA

COGNITIVE ENVIRONMENT

+ **Regulate the nature and amount of information**
  Define the flexitarian concept and manage its use to make it a vector for action on the socio-cultural environment
+ **Finalize the integration of environmental sustainability as a criterion in nutritional policy**
  Finalize the integration of sustainability in nutritional recommendations (rebalance plant/animal protein; adopt a diet-based rather than a product-based approach; set consumption limits for meat)
+ **Improve knowledge and skills in the area of lifelong nutrition**
  Experiment with the setting up of regional "Food Centres", designed as spaces for training and the promotion of sustainable nutrition

a) Physical environment

Measures relating to the physical environment offer significant potential for action, since they touch on a key aspect of the food environment: what foodstuffs are available in a given area? Which products are (most) visible, accessible and abundant (Sobal & Wansink, 2007). We can also talk of an "obesogenic" environment where the food landscape encourages inappropriate nutritional behaviour, making public action to prevent obesity an essential focus (Lake, 2018). At the micro level (canteens, cafeterias, supermarkets), studies are numerous and convergent. At the macro level, Méjean & Recchia (2022) highlight that the association between the characteristics of the food landscape and diet or health impacts are still difficult to establish or contradictory from one study to another.[37] They call for the effects of the physical environment to be considered not only in people's homes, but also in the places where they carry out their activities, and their journeys, to better account for the opportunities for shaping dietary behaviour. In addition, a specific field of research demonstrates the impact of the commercial environment, which includes the distribution of shopping locations, but also the characteristics of the customer experience (Adam and Jensen, 2016; Mah *et al.*, 2019; Moran *et al.*, 2020). This commercial environment is not regulated in France, unlike schools (vending machines have been banned since 2004) and public and then private catering (regulations on wastage, quality and the greening of the supply). Nonetheless, a number of levers remain unexplored that could help change eating habits. At a regional level, this dimension is largely the subject of government underinvestment, since the authorities have tended to implement food strategies on a larger scale, i.e. at the level of urban planning or regional development policies that regulate where food provision sites are located. The notion of food swamps and "deserts" is widely studied in American literature (Cooksey-Stowers 2017; Osorio, 2013), but their relevance has yet to be substantiated in France (Muller *et al.*, 2021, Recchia *et al.*, 2021). We have therefore identified three action levels to support the development of a plant-based, high-quality and healthy food supply. At each level of action, the aim is to work simultaneously to improve the sustainability of the supply as a whole, to discourage the development of supply that is harmful from an environmental or health perspective, and to promote the development of a good quality plant-based food supply.

1. Towards a healthier, more sustainable industrial food supply

a. (*) Set regulatory nutritional targets for the reformulation of processed products (which means changing recipes).

b. In the short term, propose a voluntary action framework for companies in relation to reformulation for environmental purposes (e.g. incorporation of organic products, reduction of animal products), which could become more binding by 2030.

c. (*) Promote research and development for plant production, and the development of easy-to-cook, tasty plant products (including minimally processed products) as part of the National Plant Protein Strategy.[38]

2. Mobilizing public catering facilities

a. (*) Extend the provisions of the Climate and Resilience Act to all institutional catering establishments (including care homes for the eldery, hospitals and prisons),[39] and support operators in these changes.

b. (*) Make it a priority to train catering staff in plant-based cooking, introduce sustainability criteria into public procurement contracts, and legally establish a "food exception" regarding the rules of free competition, which would give priority to buying local production.[40]

c. Implement behavioural measures in canteens, such as displaying the vegetarian dish as the "default" or the "daily special", and meat dishes as alternative options (e.g. at a symbolic additional cost, or presented less visibly).[41]

3. Towards a commercial environment conducive to healthy and sustainable food (sales areas and restaurants)

a. Make it compulsory for retailers to publish data on the ratios of plant/animal and organic/conventional products sold, as well as the sale and wastage of each product. By 2030, more binding targets could be set: WWF UK, for example, suggests a target of a 50/50 ratio between animal and plant protein by 2030.[42] There could be progressive regulatory targets for supermarket/hypermarket product ranges, following the example of the UK and the US.[43] At a later stage, environmental labelling could be used to

---

37 This may be due to the great variability of food landscapes depending on the context, which makes comparisons difficult.

38 The strategy was funded with €100m from the recovery plan. The United Kingdom has a similar initiative (UK Research & Innovation Fund).

39 Article 60 of the Climate and Resilience Act (law no. 2021-1104 of 22 August 2021) stipulates that the obligation to supply at least 50% sustainable and quality products, including at least 20% organic products, will be extended to private catering from 2025, and 60% quality meat and fish products from 2024. Article 59 requires a daily choice of a vegetarian menu in State canteens (public companies and administrations) and universities, as well as a weekly menu in school canteens. Finally, it provides for a trial of a daily vegetarian option for voluntary local authorities from 1 January 2023. The extension to the medical and social sector follows on from initiatives carried out abroad, such as the introduction of daily vegetarian menus (offered by default) in New York City hospitals, which have a 95% satisfaction rate.

40 These measures are designed to make it possible to achieve the ambitious targets set by the Climate and Resilience Act. For an explanation of the food exception, see Bréger, T., & Dutilleul, F. C. (2016). Droit commercial: pour une exceptionalimentaire. Revue Projet, 4, 65-69.

41 It is also possible to play on social norms by indicating the number of people who have chosen the targeted dish the day before, in order to increase consumption. For an exploration of measures in this area, see for example Grundy *et al.* (2022) and Kwasny *et al.* (2022).

42 As proposed, for example, by the WWF in the UK, which has carried out a detailed study of the main distribution chains in the UK (WWF, 2022).

43 These measures are on a smaller scale than what we are proposing, but they follow the same rationale: to improve the quality of the retail food environment through action on the in-store range. Examples include the English "Healthy Living" programme, the Scottish "Healthcare Retail Standard" programme, and the American "WIC: Women Infant and Children" consumer assistance programme, which concern certain shops. See the English and Scottish strategies.

discriminate between types of production methods for animal products, to promote agroecological production methods.

b. Identify the presence (or otherwise) of food deserts and slums on a national scale, and consequently develop a regional planning food strategy, with the support of local authorities.

c. Introduce minimum sustainability requirements for the marketing of products, anticipating the rationale introduced by the European Sustainable Food Systems Framework law ("minimal sustainability requirements") and develop the promotion of products that are beneficial from a nutritional and/or environmental perspective, initially by drawing up a voluntary framework for action for distributors (social marketing).

b) Socio-cultural environment

The second building block of change concerns the socio-cultural environment. This can often be seen as an obstacle to the transformation of dietary behaviour, given the cultural importance of certain foods such as meat (Piazza *et al.*, 2015; Vinnari & Vinnari, 2014), or the specific constraints of certain social groups (Brocard *et al.*, 2022). For example, the social networks of the working classes are less changeable over time, making it more difficult for these groups to become familiar with new dietary recommendations (Plessz *et al.*, 2016). The socio-cultural environment is rarely used as a lever for action, despite the dynamism of research into the sociology of food and eating behaviours. The main lever identified concerns reducing exposure to marketing and advertising, which is well documented in the literature as a priority for public authorities (IGAS, 2016; EC, 2018; INSERM, 2017). However, our assessment shows that the effectiveness of French measures is limited, particularly because they are implemented with too much flexibility (charters), or limited to certain audiences (children) or specific media (television) (INSERM, 2017); while other types of action have been little developed. Moreover, this relative inaction by the State leaves the field open for economic actors to shape some of the social representations associated with food. In addition, research into the power of social norms highlights the influence that the dynamics of social behavioural sanctions can have or, conversely, how they can encourage behaviour when individual behaviour is visible to the group (Robinson *et al.*, 2014; Nyborg *et al.*, 2016; Grundy *et al.*, 2022; Baril *et al.*, 2012). The role of opinion leaders should also be highlighted (SAPEA, 2020; Stoll-Kleemann, 2017). Finally, paying attention to the socio-cultural environment means considering the diversity of representations of food among social groups, whose constraints, but also practices and expectations, may vary. In conclusion, the aim here is to create a space of freedom for individuals through regulation, while constructing inclusive, non-blaming narratives of the dietary transition. We therefore propose three areas of work for public authorities.

1. Reduce marketing and advertising pressure

a. Following the South Korean example,[44] ban advertising on prime-time television and radio of products with the lowest ratings according to Nutri-Score (or to their nutritional profile) or to environmental standards.

b. Prohibit certain high-impact marketing practices such as promotional offers (free gifts, points, "3 for 2"), or the use of brand spokespeople (celebrities) for certain food products.

c. Regulate the promotion of brands with unsatisfactory nutritional (and/or environmental) profiles on all media, such as sponsorship of sporting or cultural events, as is being planned in the United Kingdom.[45]

2. Promoting a new, inclusive and positive narrative on healthy and sustainable food

a. Promote a new approach to "French cuisine" that links gastronomic culture, pleasure, health and the environment via multi-media, multi-partner communication campaigns, based on the New Nordic Diet model.[46]

b. Popularize predominantly plant-based diets (flexitarian, vegetarian, vegan) and provide advice on how to reduce meat products and meet the nutritional recommendations for dairy products in the diet, particularly via campaigns and a website, as planned in Scotland.[47]

c. Conduct a multi-partner project to increase the consumption of pulses, following the Danish example (Wholegrain Partnership).[48]

3. Mobilizing the prescriptive power of professionals and opinion leaders

a. Develop initial and ongoing training for key groups who influence food behaviour (people involved in health, early childhood care, social work, catering).

b. Encourage content creators (TV, radio, social network influencers) to commit to a training charter; create an ambassador network.

c. Experiment with a community-wide programme that uses social, economic and political levers to increase the consumption of plant-based products, along the lines of the successful experiment conducted in North Karelia (Finland).[49]

---

[44] This example is cited in the Inserm collective report (2017). For the time being, banning advertising on the basis of environmental and nutritional labelling ratings seems complicated, as they are not yet compulsory, but this may change in the future.

[45] Gauthier, 2019.

[46] The New Nordic Diet is an example of an integrated policy that affects the various components of food practices via multiple types of action (cooking classes, storytelling, product identification on the shelves), proposing a new diet based on local traditions and ingredients, with 35% fewer animal products. See Saxe (2014). One limitation concerns the fact that individuals who already had a healthier diet compared to others, were more likely to adopted this diet (Michelseen *et al.*, 2014).

[47] Scotland's food strategy.

[48] SAPEA (2020). Chapter 7. France should amplify and continue the efforts launched by the "Une idée légumineuse" campaign in 2022.

[49] Institut national de santé publique du Québec, 2012

c) Economic environment

The economic environment is a key area for public authority action, whether through the various mechanisms for subsidizing consumption or controlling taxation. However, while the transformative potential of this type of measure is widely recognized in the scientific literature (see table in Appendix), we note that the objectives in this area are neither clear, consistent nor ambitious, with the exception of specific programmes with little overall impact, such as the *"Malin"* programme or aid to local authorities for affordable pricing in institutional catering. However, the first stage of any public measure is to clarify its key purpose, before considering its costs, benefits and potential unintended consequences (e.g. regressivity). Furthermore, the value of certain measures, when assessed in light of the necessary transformation of the food system, seems to be called into question, as is the case for food aid or the current VAT structure. While these measures currently meet fiscal and social needs, they are not sustainable and may even hinder progress. Nevertheless, we need to proceed step-by-step to move towards a new food system that is fairer, healthier and more sustainable. This is why we suggest that public authorities explore the various possible options for a food tax adapted to health and environmental issues (which products should be taxed, which actors, for what amount and for what impact on which groups) before recommending its introduction.

1. Promoting access to quality food for all

a. Introduce free canteen meals for children on a means-tested basis, as developed in England and Scotland,[50] as a first step towards universal free provision.

b. (*) Support alternatives to food aid via a dedicated, permanent fund, enabling the best solutions to be tested, evaluated and rolled out on a large scale, while supporting food banks in reforming their model, in line with opinion 91 of the CNA and the Scottish approach.[51] At the same time, and to generate resources, reduce and then stop the tax exemption for donations provided for under the Garot law, as the system is now well established.[52]

c. Create a network of "social food champions" bringing together actors working for access to healthy and sustainable food, to encourage the development and consolidation of innovations in the field.

2. Exploring the development of food prices and possible intervention mechanisms

a. Study the development of food prices in a number of major sectors, integrating costs that are not reflected in consumer prices (public health, pollution control, etc.).

b. Following a study, consider regulating the price of organic products and/or prepared vegetable dishes to prevent operators from generating excess profits on these products compared with their conventional and meat equivalents, thus offering an economic framework favourable to the consumption of these products.[53]

c. Study the feasibility and effects of a tax on advertising and public relations expenditure by the agri-food sector (see the Veblen Institute's proposal for an 8% tax (2023),[54] with exemptions for certain sectors, such as organic farming).

3. Develop a new architecture for public revenue and food expenditure

a. Commission a study of the benefits and costs to the public purse of existing taxes on food services and products, propose clarification of their purpose (health, taxation, production control, etc.) and suggest ways of reforming them.

b. Explore the feasibility of deploying "healthy and sustainable food" vouchers, tailored to the needs and expectations of the target audience, and at the same time consider the contribution to the food transition of the "meal voucher" scheme.[55]

c. Step up experimentation and evaluation of public food service schemes at the local level, as recommended by the CNA.[56]

---

50 For reasons of tax fairness, it would seem more appropriate to offer free food on a means-tested basis in the first instance. However, in the longer term, with the aim of building a public food service and thinking about fairer taxation, it might be desirable to propose universal free provision up to a certain age, as is the case for education, supported by changes in taxation. Scotland, for example, is planning to extend free meals to all children under the age of 6. Studies have shown the acceptability and technical feasibility of the measure (Jessiman *et al.* 2023), as well as its positive effect on canteen attendance (Kitchen *et al.* 2012).

51 The government has announced a fund "for sustainable food aid" with a budget of €60 million in 2023, which should be strengthened and made permanent. CNA, 2022 (opinion 91).

52 Annual tax expenditure estimated at €360 million (LeMorvan and Wanecq, 2020).

53 Pascal Canfin MEP (2023) has proposed a dialogue-based approach with supermarkets to consider the introduction of "margin ceilings based on the sustainability of products."

54 It should also be remembered that the IGAS (2016) proposed increasing the rate of the special tax on television advertising to fund preventive actions in the field of nutrition.

55 From the perspective of fighting against vulnerability, an increase in minimum social benefits would be just as effective (bearing in mind the pre-existing issues of non-use), it would focus mainly on food expenditure, and it would certainly be less stigmatizing. Nevertheless, we propose to continue discussing this voucher idea stemming from the Citizen's Convention on Climate for several reasons: (a) it makes it possible to symbolically safeguard part of the budget for food, and thus to link up with a gradual exit from the food aid system in order to implement a public food service, (b) the voucher enables the notion of "sustainability" and the fight against inequalities to be put at the centre of the transition, and thus offers the opportunity to find the conditions for a compromise that satisfies the various issues (social, health, environmental), (c) finally, it makes it possible to put forward a reciprocity approach in public policies: if we want to discuss the terms of payments for food vouchers, then we should do the same for "*titres-restaurants*". For more details on our approach, see Brocard, C., Saujot, M. (2022).

56 In its Opinion 91 on the fight against food insecurity (2022), the CNA (*Conseil national de l'alimentation* - National Food Council) proposes a trial on the introduction of a social security system for food within the general social security system, as well as elements for an initial discussion of the concept.

d) Cognitive environment

The final component of the food environment refers to the skills, knowledge and information that are made available to individuals, as well as the useable, beneficial and appropriate nature of these skills according to the different social groups. The reception of food information (in the form of labels, nutritional messages, etc.) is largely dependent on the socio-demographic characteristics and values of the individual receiver, the nature of the message issuer (public authority, colleague, influencer, etc.) and that of the message (Schnepper *et al.*, 2022; Régnier & Masullo, 2009; Baril & Paquette, 2016). Thus, the issue is not about making information or skills available so that they can be appropriated by individuals, so that this can change their attitudes towards food, or even ultimately their eating behaviour. However, it would appear that this is generally the approach adopted by public authorities in this field, which focuses mainly on increasing the number of sources of information (standards, nutritional and environmental labelling) and giving credibility to the issuer (e.g. confidence in the organic label). In addition to these shortcomings in implementation, there are a number of levers that public authorities should use (more effectively) to have an impact on eating habits. It should be remembered that an ambitious process is underway to develop and implement environmental labelling, which will provide unified information on environmental impacts. Together with all of the SNANC's initiatives, environmental labelling could help trigger a virtuous circle of improvement in the environmental quality of products and dietary change.

1. Regulating the nature and quantity of nutritional and environmental information

a. Establish and disseminate a definition of the flexitarian[57] concept and regulate its use for marketing purposes, so that it can be employed as a concept for effective action in the socio-cultural environment.

b. (*) Define minimum thresholds for access to promotional terms (labels, claims, etc.) according to a shared and compulsory methodology,[58] accompanied by monitoring and control by the appropriate institution. This is in line with the European "Green Claims" directive, which will be up to Member States to apply.

c. Develop environmental labelling in France and on a European scale and make it a pillar of information, education and eco-design around the environmental impact of food. It should reflect the agroecological transition by promoting plant products and distinguishing sustainable animal products.

2. Incorporating environmental sustainability as a criterion of nutritional policy

a. Finalize the integration of sustainability into official nutritional recommendations by:

- i. Recommending a higher proportion of plant proteins in protein-rich food groups, following Canada's example;[59]
- ii. adopting a diet-based rather than a product-based approach to public communication, tailored to social groups;
- iii. setting a maximum consumption recommendation for meat, including poultry, as Germany has done.[60]

b. Encourage ANSES and Santé Publique France to assess and disseminate knowledge on the benefits and risks associated with diets low in animal products, both for the general population and for specific groups (children, vulnerable groups, pregnant and breastfeeding women, etc.), as is currently underway in Germany.[61]

c. Ensure the taste, nutritional and environmental quality of food aid coming from ESF+ (European Social Fund) and donations.

3. Improving nutrition-related knowledge and skills throughout life

a. Make education on taste, food and nutrition a specific part of the educational pathway via a "participatory" approach (gardening, cooking, farm visits, etc.) that understands the inequalities among pupils, and that also involves school management, as is being tested in Great Britain and Scotland.[62]

b. Make parents aware of sustainable food and get them involved in setting up food education activities, including during holiday periods.[63]

c. Experiment with the creation of regional food centres, designed as meeting places for those with an involvement in food (health, social, environmental, etc.) and to promote a healthy and sustainable diet for the population.[64]

---

57 Flexitarianism refers both to an increasingly active field of scientific literature and to a possible cultural approach to the transition in diets (see Dagevos, 2021; FranceAgrimer, 2021).

58 The UK's National Food Strategy (2022) provides for the definition of general principles, including a compulsory methodology for studying "sustainability" claims as a basis for information on food products.

59 "Among protein foods, consume plant-based more often"

60 Renner *et al.* (2021).

61 Richter *et al.* (2020).

62 The recommendations of CNA Opinion 84 (2019) also encourage a "doing" approach that is aware of social, territorial and health inequalities. See the food strategies of Scotland and the United Kingdom.

63 As recommended by the CNA (2019), France Stratégie (2021) and the European Commission (2018). As far as school holidays are concerned, England has set up the Holiday Activities and Food Programme (£220 million in 2021), which includes, for example, cookery workshops and advice for families on food supplies.

64 See the example of the Maison engagée et solidaire de l'alimentation developed by the VRAC association in Lyon. See the model of the Youth and Culture Centres (MJC) approved by the Ministry of Youth and Sports.

APPENDIX

See the policies' assessment Table (in French).

TABLE 1. Description and assessment of the 21 types of public action (or public policies) regarding food.

INTERVENTION TYPES IDENTIFIED TO CHANGE FOOD CONSUMPTION BEHAVIOURS	DESCRIPTION	AGGREGATE SCORE
PHYSICAL ENVIRONMENT (INFRASTRUCTURE AND PRACTICALITIES)		
SOCIAL. Promoting local initiatives for food access (shared gardens, mobile schemes, food baskets, group purchasing, etc.), particularly via PATs	Promoting access to healthy food for people in precarious situations by developing local initiatives.	C
HEALTH. Regulation of food landscape (i.e. the type of shops and products available in specific locations vending machines in schools, markets, third-party food outlets, short distribution channels, etc.)	Construction of the physical food environment to which citizens are exposed, particularly children and people in vulnerable situations.	C
HEALTH. Quality and type of the in-store food offer	Improving the quality of food in nutritional terms through collective agreements.	C
HEALTH/ENVIRONMENT. Quality of public and private food provision in institutional catering (*Egalim*)	Improving the sustainability and nutritional quality of food provided by institutional catering by setting regulatory targets for "sustainable" products, complying with nutritional recommendations and introducing a weekly vegetarian meal.	B
HEALTH/SOCIAL. "Fruits and vegetables" and "milk and dairy products" programmes (primary and secondary schools)	Free supply of food products to schools.	C
SOCIAL. Breakfast programme for nursery and primary schools (REP/REP+)	Provision of free breakfasts to children enrolled in primary school in certain geographical areas identified as priorities by the government.	C
SOCIO-CULTURAL ENVIRONMENT (INFLUENCING GROUPS AND NORMS IN THE MEDIUM TO LONG TERM)		
GENERAL/ENVIRONMENT. Commitment campaigns (e.g. zero waste challenge for secondary schools, tasting classes, food heritage days)	Work with the public, particularly young people, to increase awareness of agri-food issues.	D
HEALTH. Regulation of advertising and marketing	Advertising regulation through compulsory nutritional warnings and the development of codes of good conduct.	B
HEALTH/ENVIRONMENT. Training for those involved in making food choices (e.g. health professionals, educators, medical and social establishments, social assistance, institutional catering)	Training professionals to implement practices or raise awareness of healthy and/or sustainable eating habits.	D
HEALTH/ENVIRONMENT. Media campaigns (fat/salt/sugar, five fruit and veg a day, eat healthy and be active, legumes, organic)	Media intervention (radio, TV) through information campaigns and promotion of certain products or behaviours that are beneficial to health and/or environmental sustainability.	C
ENVIRONMENT. Transparency of organizational practices	Making it obligatory for caterers to inform the public about the proportion of sustainable and quality products served each year.	C
ECONOMIC ENVIRONMENT (PRICES, TAXATION, RESOURCES)		
GENERAL/SOCIAL. Reduced VAT on food products and services	Control of VAT rates on food products and services, mainly for fiscal and economic reasons. VAT on food products reduced to 5.5%, and 10% for commercial catering.	C
GENERAL/HEALTH. Specific taxes (sugary drinks, alcoholic beverages, food products)	All taxes and duties that apply specifically to certain food products and beverages, and which have an indirect impact on consumption (n=21).	B
SOCIAL. Consumer subsidies: meal vouchers, the French Programme Malin.	Subsidies for food consumption targeted at certain groups and earmarked for certain food products/services.	B
SOCIAL. Social pricing in public institutional catering	Indirect support for public institutional catering via socially differentiated pricing according to household income and/or situation.	C
SOCIAL. Food assistance (all types)	All food support (mainly in kind, but also varying degrees of financial transfers) targeted at households in situations of food insecurity.	C

INTERVENTION TYPES IDENTIFIED TO CHANGE FOOD CONSUMPTION BEHAVIOURS	DESCRIPTION	AGGREGATE SCORE
COGNITIVE ENVIRONMENT (INFORMATION, SKILLS, KNOWLEDGE)		
HEALTH. Nutritional labelling (Nutri-Score)	Voluntary information aimed at consumers to guide their choices towards healthier products, and putting pressing on upstream industry.	C
ENVIRONMENT. Environmental labelling	Voluntary information scheme for consumers to help them choose sustainable products, and putting pressure on upstream industry. Scheduled for 2023.	D
HEALTH/ENVIRONMENT/GENERAL. Transparency and information. Nutritional information, labels (organic label, SIQO), terms and information ("no added sugar", "homemade", use-by date, origin…) on food packaging or food served in public catering outlets (meat origin).	Voluntary public information systems (e.g. organic label, "no added sugar" label), or systems resulting from private initiatives (e.g. "zero pesticide residues", Demeter organic label) aimed at differentiating certain food products/ services on the basis of their health, social and/or environmental qualities.	D
HEALTH. PNNS nutritional recommendations outside campaigns (advice, guides, nutritional messages, warnings on advertisements, institutional catering and food aid, etc.)**	Official public health recommendations, which serve as a basis for other policies, particularly information policies (nutritional messages, booklets, websites…).	C
GENERAL. Food education	Education on food-related issues, mainly via the national education system.	C

Table 1. Description and assessment of the 21 types of public action (or public policies) regarding food. Details of the evaluation for each intervention tool are only available in French at this stage, in the form of an appendix to the study available on the IDDRI website.

TABLE 2. Summary of analysis categories used for the assessment

Analysis categories	Total score	Transformational potential	Evaluation of development and implementation	Objective(s), coherence of public action	Design of the measure	Means deployed	Robustness of monitoring mechanism
Type	Aggregate (C+D columns /2)	Score based on analysis	Aggregate (columns E+F+G+H+I /4), used to calculate the total score	Score based on analysis	Score based on analysis	Score based on analysis	Score based on analysis
Scale	Score 0-5 converted to A-D	Score (1;3;5), i.e. respectively (weak; modest; significant)	Score (0;1;3;5) converted to A-D	Score (0;1;3;5) converted to A-D	Score (0;1;3;5) converted to A-D	Score (0;1;3;5) converted into A-D	Score (0;1;3;5) converted to A-D
Description (which question(s) do we want to answer?)	Today, does the mobilization of this measure (or by intervening in this type of food environment) move us towards sustainable, healthy and accessible food?	In the event of optimal implementation, what is the transformative potential of this type of measure, i.e. what is its capacity to generate sufficiently large-scale changes in food consumption or behaviour to guide us towards sustainable, healthy and accessible food?	How can we assess this type of intervention in the light of the information available on its development and implementation?	Is there a specific, ambitious objective that is consistent with all other policies?	Which type of this public policy was chosen? Regulatory, voluntary, framework for self-regulation by private actors, etc.? Where is the measure anchored (a law, a strategy, a decree, etc.)? How strong are the means of action mobilized by public authorities?	Are the resources mobilized by the public authorities consistent with the objective?	Is monitoring planned? Are there results/ impact indicators for the measure? If so, what are the conclusions?

TABLE 3. Construction of non-aggregated scores: table of criteria

Numerical score as signed	Transformational potential	Objective(s), coherence of public action	Design of the measure	Means deployed	Robustness of monitoring mechanism
5	Significant	The measure's objectives are precisely described (e.g. quantified objectives), coherent (at very least does not cause adverse health, environmental or social effects) and also ambitious.	The State has the means to achieve its ambitions and chooses the path (e.g. regulatory, incentives) shown to be most effective.	The human and/or financial resources mobilized are sufficiently substantial and/or specific to the measure.	The measure has monitoring indicators and impact indicators (on the major objectives pursued). It has also been the subject of recent evaluations/ assessments, enabling its further development.
3	Moderate	2 out of 3	The design of the public policy is sub-optimal in terms of: implementation, prescriptive power, relevance to the transition objective.	Specific but limited resources	2 out of 3
1	Limited, low	1 out of 3	The design of the measure does not enable it to achieve its stated objectives.	The measure is implemented with no change in resources.	1 out of 3
0	/	0 out of 3	The measure is not accompanied by an implementation tool.	The measure is being implemented with no change in resources, and there is evidence that this undermines its effectiveness.	To our knowledge, no monitoring or evaluation is planned.

REFERENCES

Adam, A., & Jensen, J. D. (2016). What is the effectiveness of obesity related interventions at retail grocery stores and supermarkets? - a systematic review. *BMC Public Health*, *16*(1), 1–18. https://doi.org/10.1186/s12889-016-3985-x

ADEME (2021). *Transition(s) 2050 : Choisir maintenant, agir pour le climat.*

Akenji, L. *et al.* (2021). 1.5 degree lifestyles: towards a fair consumption space for all. *Hot or Cool Institute*.

ANSES (2017). *Étude individuelle nationale des consommations alimentaires 3 (INCA 3)*.

Barbier, C., Couturier, C., Pourouchottamin, P., Cayla, J.-M., Sylvestre, M., & Pharabod, I. (2019). *Le bilan énergétique et carbone de l'alimentation en France de la production à la consommation de la production à la consommation*.

Baril, G., & Paquette, M.-C. (2016). *L'efficacité du marketing social en promotion des saines habitudes de vie. Synthèse des connaissances*. Institut National de Santé Publique du Québec.

Baril, G., Paquette, M.-Claude., & Lague¨, Johanne (2012). *Les normes sociales et l'alimentation : analyse des écrits scientifiques*. Direction du développement des individus et des communautés, Institut national de santé publique Québec.

Benamouzig, D., Cortinas Muñoz, J., (2022). *Des lobbys au menu: l'activisme sanitaire des entreprises agro-alimentaires contre la santé publique*, Raisons D'agir, 2022.

Bergeron, H., Castel, P., Dubuisson-Quellier, S., Lazarus, J., Nouguez, E., Pilmis, O. (2018). *Le biais comportementaliste*, Paris, Presses de Sciences Po.

Billen, G., Aguilera, E., Einarsson, R., Garnier, J., Gingrich, S., Grizzetti, B., Lassaletta, L., le Noë, J., & Sanz-Cobena, A. (2021). Reshaping the European agro-food system and closing its nitrogen cycle: The potential of combining dietary change, agroecology, and circularity. In *One Earth* (Vol. 4, Issue 6, pp. 839–850). Cell Press. https://doi.org/10.1016/j.oneear.2021.05.008

Boubal, C. (2019) L'art de ne pas gouverner les conduites, Étude de la conception des campagnes de prévention en nutrition, *Revue française de sociologie* 2019/3 (Vol. 60);

Bréger, T., & Dutilleul, F. C. (2016). Droit commercial : pour une exception alimentaire. *Revue Projet*, *4*, 65–69. https://doi.org/10.3917/pro.353.0065.

Brocard, C., Saujot, M. (2022). Chèque alimentation durable: analyses et propositions pour renforcer l'accessibilité et la durabilité de l'alimentation. *Note*, IDDRI.

Brocard, C., Saujot, M., Brimont, L., & Dubuisson-Quellier, S. (2022). *Pratiques alimentaires durables : un autre regard sur et avec les personnes modestes*.

Campbell, B. M. *et al.* (2017). Agriculture production as a major driver of the earth system exceeding planetary boundaries. *Ecology and Society*, *22*(4). https://doi.org/10.5751/ES-09595-220408

Candel, J. J. L., & Pereira, L. (2017). Towards integrated food policy: Main challenges and steps ahead. *Environmental Science and Policy*, *73*, 89–92. https://doi.org/10.1016/j.envsci.2017.04.010

Canfin, P. (2023). Comment réussir la transition agro-écologique ?. Terra Nova. 02.2023.

Capacci, S. *et al.* (2012). Policies to promote healthy eating in Europe: a structured review of policies and their effectiveness. *Nutrition Reviews*. https://doi.org/10.1111/j.1753-4887.2011.00442.x

Chabason, L. (2022). Quelle gouvernance de la transition écologique dans le contexte d'un nouveau mandat présidentiel?, *Note* IDDRI.

Cnesco (2017). Enquête sur la restauration et l'architecture scolaires. Paris.

Conseil national de l'alimentation (CNA) (2018). *Avis 81. Alimentation favorable à la santé.*

Conseil national de l'alimentation (CNA) (2019). *Avis 84. Éducation à l'alimentation.*

Conseil national de l'alimentation (CNA) (2022). *Avis 90. Nouveaux comportements alimentaires.*

Conseil national de l'alimentation (CNA) (2022). *Avis 91. Prévenir et lutter contre la précarité alimentaire*.

Cooksey-Stowers, K., Schwartz, M. B., & Brownell, K. D. (2017). Food swamps predict obesity rates better than food deserts in the United States. *International Journal of Environmental Research and Public Health*, *14*(11). https://doi.org/10.3390/ijerph14111366

Cour des Comptes (2023). *La taxe sur la valeur ajoutée (TVA), un impôt à recentrer sur son objectif de rendement pour les finances publiques*. Conseil des Prélèvements Obligatoires (CPO).

Couturier, C., Charru, M., Doublet, S., & Pointereau, P. (2016). *Le scénario Afterres 2050*.

Dagevos, H. (2021). *Finding flexitarians: Current studies on meat eaters and meat reducers*, Trends in Food Science & Technology 114 (2021) 530–539

de Bakker, E., Dagevos, H. (2012). *Reducing meat consumption in today's consumer society: questioning the citizen-consumer gap*, Journal of Agricultural and Environmental Ethics, vol 25, issue 6

de Batz, C., Faucon, F., & Voynet, D. (2016). *Evaluation du programme national nutrition santé 2011-2015 et 2016 (PNNS 3) et du plan obésité 2010-2013*. Inspection Générale des Affaires Sociales (IGAS).

de Saint-Pol, T. (2012). *Le temps de l'alimentation en France*. Insee Première.

de Schutter, O. *et al.* (2019). *Towards a Common Food Policy for the European Union - The policy reform and realignment that is required to build sustainable food systems in Europe.* iPES-Food. 112 pages.

Dubuisson-Quellier, S. (2016). Gouverner (par) les conduites des consommateurs. Le cas de la politique publique de consommation durable. in *Gouverner les conduites*, Presses de Sciences Po, Paris, 193-228.

Dubuisson-Quellier, S., & Gojard, S. (2016). Why are Food Practices not (More) Environmentally Friendly in France? The role of collective standards and symbolic boundaries in food practices. *Environmental Policy and Governance*, *26*(2), 89–100. https://doi.org/10.1002/eet.1703

Dudley, N., & Alexander, S. (2017). Agriculture and biodiversity: a review. *Biodiversity*, *18*(2–3), 45–49. https://doi.org/10.1080/14888386.2017.1351892

Dupré, M. & Fossard, R. (2022). *La communication commerciale à l'ère de la sobriété. Taxer la publicité pour consommer autrement*. Institut Veblen et Communication & Démocratie.

Durand, R. A., Hercule, J., & Mathias, E. (2022). *Citepa. Rapport Secten édition 2022 Émissions de gaz à effet de serre et de polluants atmosphériques en France. Agriculture et sylviculture*.

Durette, G., & Paquette, M.-C. (2021). Liens entre l'environnement alimentaire communautaire et l'alimentation. *Institut National de Santé Publique Du Québec*.

European Environmental Agency (EEA). (2023). Transforming Europe's food system - Assessing the EU policy mix.

Elliott, R. (2013). The taste for green: The possibilities and dynamics of status differentiation through "green" consumption. *Poetics*, *41*, 294–322. https://doi.org/10.1016/j.poetic.2013.03.003

Etievant, P., Bellisle, F., Dallongeville, J., Etilé, F., Guichard, E., Padilla, M., Romon-Rousseaux, M. (éditeurs). (2010). *Les comportements alimentaires. Quels en sont les déterminants ? Quelles actions, pour quels effets ?* Expertise scientifique collective, rapport, INRA. 275 pages.

Fosse, J., Furic, P., Gomel, C., Hagenburg, M., & Rousselon, J. (2021). *Pour une alimentation saine et durable. Analyse des politiques de l'alimentation en France*. France Stratégie.

FranceAgriMer (2020). *Végétariens et flexitariens en France 2020*. Enquête IFOP pour FranceAgriMer.

Fresán, U., Errendal, S., & Craig, W. J. (2020). Influence of the socio-cultural environment and external factors in following plant-based diets. *Sustainability (Switzerland)*, *12*(21), 1–13. https://doi.org/10.3390/su12219093

Gauthier, A. (2019). *L'efficacité des stratégies de réglementation de la publicité et de la promotion alimentaires. Synthèse des connaissances*. Institut National de Santé Publique du Québec. Voir plus particulièrement la section 4.2.3.

Gay, F., Férat, F., & Blatrix Contat, F. (2022). *Rapport d'information sur l'information du consommateur*.

Gittelsohn, J., Trude, A. C. B., & Kim, H. (2017). Pricing strategies to encourage availability, purchase, and consumption of healthy foods and beverages: A systematic review. In *Preventing Chronic Disease* (Vol. 14, Issue 11). Centers for Disease Control and Prevention (CDC). https://doi.org/10.5888/pcd14.170213

Glanz, K., Sallis, J. F., Saelens, B. E., & Frank, L. D. (2005). Healthy Nutrition Environments: Concepts and Measures. *American Journal of Health Promotion*.

Gojard, S., & Dubuisson-Quellier, S. (2016). *Logiques de consommation autour de l'alimentation durable (LOGICADU)*.

Groupe des conseillers scientifiques principaux (2020). *Vers un système alimentaire durable. Le point de vue des sciences sociales.* Bruxelles. Direction générale de la recherche et de l'innovation, Commission Européenne. Avis scientifique n°8. 66 pages.

Grundy, E. A. C. *et al.* (2022). Interventions that influence animal-product consumption: A meta-review. *Future Foods*, *5*. https://doi.org/10.1016/J.FUFO.2021.100111

Haut Conseil de la Santé Publique (HSCP) (2017). *Pour une Politique nationale nutrition santé en France. PNNS 2017-2021*.

Hercberg, S. (2022). Mange et tais-toi, humenSciences, collection Débat.

Herforth, A., & Ahmed, S. (2015). The food environment, its effects on dietary consumption, and potential for measurement within agriculture-nutrition interventions. *Food Security*, *7*(3), 505–520. https://doi.org/10.1007/s12571-015-0455-8

HLPE (2017). *Nutrition and food systems. A report by the High-Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security*.

Huber, E., Aubert, P.-M., Loveluck, W. (2020). Identifying research needs for a sustainable EU protein transition. Research report submitted to the European Sustainable Agricultural Dialogue platform. Paris-Bruxelles, IDDRI & ESAD.

IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 1148 pages. https://doi.org/10.5281/zenodo.3831673

Inserm (2017). *Agir sur les comportements nutritionnels. Réglementation, marketing et influence des communications de santé*. http://ipubli-inserm.inist.fr/handle/10608/1

Institut National de Santé Publique du Québec (2012). Le projet de la Carélie du Nord en Finlande : un mouvement de société en faveur des saines habitudes de vie. *TOPO*. http://www.phac-aspc.gc.ca/cd-mc/cvd-mcv/index-fra.php

IPCC (2022). *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926

iPES-Food (2017). *Alimentation et santé : décryptage*. International Panel of Experts on Sustainable food systems, October 2017

Jessiman, P.E., Carlisle, V.R., Breheny, K. *et al.* (2023). A qualitative process evaluation of universal free school meal provision in two London secondary schools. *BMC Public Health* 23, 300. https://doi.org/10.1186/s12889-023-15082-3

Johnston, J., Rodney, A., & Szabo, M. (2012). Les gens bien mangent bien : comprendre le répertoire culturel de l'alimentation éthique. *Idées d'Amériques*, *3*. https://doi.org/10.4000/IDEAS.475

Kwasny, T., Dobernig, K., & Riefler, P. (2022). Towards reduced meat consumption: A systematic literature review of intervention effectiveness, 2001–2019. *Appetite*, *168*. https://doi.org/10.1016/J.APPET.2021.105739

Lake, A. A. (2018). Neighbourhood food environments: Food choice, foodscapes and planning for health. *Proceedings of the Nutrition Society*, *77*(3), 239–246. https://doi.org/10.1017/S0029665118000022

le Morvan, F., & Wanecq, T. (2019). *La lutte contre la précarité alimentaire. Évolution du soutien public à une politique sociale, agricole et de santé publique*. Inspection Générale des Affaires Sociales (IGAS).

le Pape, M. C., & Plessz, M. (2017). C'est l'heure du petit-déjeuner ? Rythme des repas, incorporation et classe sociale. *Annee Sociologique*, *67*(1), 73–106. https://doi.org/10.3917/anso.171.0073

Loudiyi Culleron, S. (2020). *Construire une géographie des politiques alimentaires intégrées : acteurs, échelles et gouvernance*. Mémoire d'habilitation à diriger des recherches. Université Clermont-Auvergne, VetAgroSup.

Macura, B., Ran, Y., Persson, U. M., Abu Hatab, A., Jonell, M., Lindahl, T., & Röös, E. (2022). What evidence exists on the effects of public policy interventions for achieving environmentally sustainable food consumption? A systematic map protocol. *Environmental Evidence*, *11*(1). https://doi.org/10.1186/s13750-022-00271-1

Mah, C. L., Luongo, G., Hasdell, R., Taylor, N. G. A., & Lo, B. K. (2019). A Systematic Review of the Effect of Retail Food Environment Interventions on Diet and Health with a Focus on the Enabling Role of Public Policies. *Current Nutrition Reports*, *8*(4), 411–428. https://doi.org/10.1007/s13668-019-00295-z

Méjean, C., & Recchia, D. (2022). Urban foodscape and its relationships with diet and health outcomes. In *The Proceedings of the Nutrition Society* (Vol. 81, Issue 4, pp. 272–278). NLM (Medline). https://doi.org/10.1017/S0029665122002701

Méjean, C. *et al.* (2017). Social disparities in food preparation behaviours: a DEDIPAC study. *Nutrition Journal*. https://doi.org/10.1186/s12937-017-0281-2

Micheelsen, A., Havn, L., Poulsen, S. K., Larsen, T. M., & Holm, L. (2014). The acceptability of the New Nordic Diet by participants in a controlled six-month dietary intervention. *Food Quality and Preference*, *36*, 20–26. https://doi.org/10.1016/j.foodqual.2014.02.003

Michel, L., Fouilleux, E., & Bricas, N. (2020). Conclusion Générale. Politiser pour ne rien changer ? L'alimentation entre critiques et canalisation de la critique. In E. Fouilleux & L. Michel (Eds.), *Quand l'Alimentation se fait Politique(s)...* Presses Universitaires de Rennes.

Moran, A. J., Gu, Y., Clynes, S., Goheer, A., Roberto, C. A., & Palmer, A. (2020). Associations between governmental policies to improve the nutritional quality of supermarket purchases and individual, retailer, and community health outcomes: An integrative review. *International Journal of Environmental Research and Public Health*, *17*(20), 1–23. https://doi.org/10.3390/ijerph17207493

Muller, B., Bricas, N., Vonthron, S., & Perrin, C. (2021). *Cartographier les inégalités d'accès aux commerces alimentaires dans le Grand Montpellier*. www.chaireunesco-adm.com

Newell, P., Daley, F., Twena, M., (2021). *Changing our ways? Behaviour change and the climate crisis*, The report of the Cambridge Sustainability Commission on Scaling Behaviour Change

Nyborg, K. *et al.* (2016). Social norms as solutions. In *Science* (Vol. 354, Issue 6308, pp. 42–43). American Association for the Advancement of Science. https://doi.org/10.1126/science.aaf8317

OQALI (2013). *Étude d'impact des chartes d'engagements volontaires de progrès nutritionnel sur les volumes de nutriments mis sur le marché*. ANSES, INRAE.

Osorio, A. E., Corradini, M. G., & Williams, J. D. (2013). Remediating food deserts, food swamps, and food brownfields: helping the poor access nutritious, safe, and affordable food. In *AMS Review* (Vol. 3, Issue 4, pp. 217–231). Springer. https://doi.org/10.1007/s13162-013-0049-6

Pahun, J. (2020). *L'agriculture face aux politiques alimentaires : une analyse comparée dans trois régions françaises*. Thèse en science politique. Université Paris-Est.

Parsons, K. (2022). *12 tools for connecting food policy. Rethinking Food Governance.*

Pärtel M., Bruun H.H. & Sammul M. (2005). Biodiversity in temperate European grasslands: origin and conservation. Grassland Science in Europe, 10, 1-14.

Piazza, J., Ruby, M. B., Loughnan, S., Luong, M., Kulik, J., Watkins, H. M., & Seigerman, M. (2015). Rationalizing meat consumption. The 4Ns. *Appetite*, *91*, 114–128. https://doi.org/10.1016/j.appet.2015.04.011

Plessz, M., Dubuisson-Quellier, S., & Gojard, S. (2016). How consumption prescriptions affect food practices: Assessing the roles of household resources and life-course events. *Journal of Consumer Culture*, *16*(1), 101–123. https://doi.org/10.1177/1469540514521077

Plessz, M., Dubuisson-Quellier, S., & Gojard, S. (2016). How consumption prescriptions affect food practices: Assessing the roles of household resources and life-course events. *Journal of Consumer Culture*, *16*(1), 101–123. https://doi.org/10.1177/1469540514521077

Policies and interventions to improve the nutritional intake and physical activity levels of European Commission (2018). *Europeans Review of Scientific Evidence and Policies on Nutrition and Physical Activity-Objective A2: Effectiveness and Efficiency of Policies and Interventions on Diet and Physical Activity*. *Summary report*. 35 pages.

Poux, X., Aubert P.M. (2018). Une Europe agroécologique en 2050: une agriculture multifonctionnelle pour une alimentation saine. IDDRI, *Study* 09/18.

RAC (2023). Rapport : *L'heure des comptes pour les supermarchés*, Réseau Action Climat.

Raine, K. D. (2005). Determinants of Healthy Eating in Canada An Overview and Synthesis. *Canadian Journal of Public Health*.

Ramel, M. (2020). L'accès à une alimentation durable : éviter une double peine pour les personnes en précarité alimentaire. *Revue Européenne de Droit de La Consommation*.

Recchia, D., Méjean, C., Perignon, M., Rollet, P., Bricas, N., Vonthron, S., Perrin, C., & Chaboud, G. (2021). Accès physique et fréquentation des commerces alimentaires dans le Grand Montpellier. *So What*. www.chaireunesco-adm.com

Régnier, F., & Masullo, A. (2009). Obesity, tastes and consumption : Integrating eating norms and social membership. *Revue Francaise de Sociologie*, *50*(4), 747–773. https://doi.org/10.3917/rfs.504.0747

Renner, B., Arens-Azevêdo, U., Watzl, B., Richter, M., Virmani, K., & Linseisen, J. (2021). DGE position on a more sustainable diet. *German Nutrition Society (DGE)*. https://doi.org/10.4455/eu.2021.030

Richter, M., Kroke, A., Grünewald-Funk, D., Heseker, H., & Virmani, K. (2020). Update to the position of the German Nutrition Society on vegan diets in population groups with special nutritional requirements German Nutrition Society-Position. *German Nutrition Society (DGE)*. https://doi.org/10.4455/eu.2020.044

Robinson, E., Thomas, J., Aveyard, P., & Higgs, S. (2014). What everyone else is eating: A systematic review and meta-analysis of the effect of informational eating norms on eating behavior. *Journal of the Academy of Nutrition and Dietetics*, *114*(3), 414–429. https://doi.org/10.1016/j.jand.2013.11.009

Rockström, J. *et al.* (2009). Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecology & Society*, *14*(2).

Rogissart, L. (2023). *Réduction de la consommation de viande : des politiques publiques bien loin des objectifs de durabilité*.

Röös, E. *et al.* (2022). Agroecological practices in combination with healthy diets can help meet EU food system policy targets. *Science of the Total Environment*, *847*. https://doi.org/10.1016/j.scitotenv.2022.157612

Rüdinger, A. (2023). *Planification de la transition bas-carbone en France: faire mieux avec moins,* IDDRI Blog.

Sahlin, K.R., Röös E., Gordon L.J., (2020). *'Less but better' meat is a sustainability message in need of clarity*, Nature Food volume 1, pages 520–522 (2020)

Santé Publique France (2018). *Etude de santé sur l'environnement, la biosurveillance, l'activité physique et la nutrition (ESTEBAN 2014-2016). Volet Nutrition. Chapitre Consommations alimentaires.*

Santé Publique France (2020). *Exposition des enfants et des adolescents à la publicité pour des produits gras, sucrés, salés*.

Science Advice for Policy by European Academies (SAPEA) (2020). *A sustainable food system for the European Union.* Evidence Review Report n°7. Berlin: SAPEA. https://doi.org/10.26356/sustainablefood

Saujot, M. et Brimont, L. (2021). *Loi Climat et Résilience: une opportunité pour mieux prendre en compte le climat dans les politiques alimentaires*, Billet de blog Iddri.

Saujot, M., Berghmans, N., Rüdinger, A., Treyer, S., Colombier, M., Brimont, L., Briand, Y., (2020). *Convention citoyenne pour le climat: 149 mesures pour une nouvelle vision de la transition*, Etude IDDRI n°7

Saxe, H. (2014), The New Nordic Diet is an effective tool in environmental protection: it reduces the associated socioeconomic cost of diets 1-3. *Am J Clin Nutr*, 99, 1117–1142. https://doi.org/10.3945/ajcn.113.066746

Schnepper, R., Blechert, J., Stok, F. M., (2022) Reception of health messages: effects of stigmatization and forcefulness, *Journal of Public Health*, Volume 44, Issue 2, Pages 387–393, https://doi.org/10.1093/pubmed/fdaa233

Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection at the Federal Ministry of Food and Agriculture (WBAE). (2020). *Expertise: Promoting sustainability in food consumption: Developing an integrated food policy and creating fair food environments*.

Serra-Mallol, C. (2021). *Une stratégie de la connaissance négative*. Revue d'anthropologie Des Connaissances, *15*(4). https://doi.org/10.4000/rac.24188

Sobal, J., & Wansink, B. (2007). Kitchenscapes, tablescapes, platescapes, and foodscapes: Influences of microscale built environments on food intake. *Environment and Behavior*, *39*(1), 124–142. https://doi.org/10.1177/0013916506295574

Société française de santé publique, (2019). Analyse du projet de Programme National Nutrition Santé 2019-2023

Stok, F. M., de Ridder, D. T. D., de Vet, E., & de Wit, J. B. F. (2014). Don't tell me what I should do, but what others do: The influence of descriptive and injunctive peer norms on fruit consumption in adolescents. *British Journal of Health Psychology*, *19*, 52–64. https://doi.org/10.1111/bjhp.12030

Stoll-Kleemann, S., & Schmidt, U. J. (2017). Reducing meat consumption in developed and transition countries to counter climate change and biodiversity loss: a review of influence factors. *Regional Environmental Change*, *17*(5), 1261–1277. https://doi.org/10.1007/S10113-016-1057-5

Temme, E. H. M. *et al.* (2020). Demand-Side Food Policies for Public and Planetary Health. *Sustainability (Switzerland)*, *12*(15). https://doi.org/10.3390/SU12155924

Termeer, C. J. A. M., Drimie, S., Ingram, J., Pereira, L., & Whittingham, M. J. (2018). A diagnostic framework for food system governance arrangements: The case of South Africa. *NJAS - Wageningen Journal of Life Sciences*, *84*, 85–93. https://doi.org/10.1016/j.njas.2017.08.001

Treyer, S., (2020). *Convention citoyenne pour le climat: réussir l'atterrissage périlleux d'un objet institutionnel non identifié*, Blog Iddri, 2020

UNEP (2020). *Emission Gap Report*, United Nations Environment Program

Van Selm B., Frehner A., de Boer I.J.M., *et al.* (2022). Circularity in animal production requires a change in the EAT-Lancet diet in Europe. Nature Food, 3 (1), 66-73.

Vecchio, R., Cavallo, C., (2019). *Increasing healthy food choices through nudges: A systematic review*, Food Quality and Preference 78 (2019) 103714

Verain, M., Dagevos, H. Jaspers, P., (2022). *Flexitarianism in the Netherlands in the 2010 decade: Shifts, consumer segments and motives*, Food Quality and Preference 96 (2022) 104445

Vinnari, M., & Vinnari, E. (2014). A Framework for Sustainability Transition: The Case of Plant-Based Diets. *Journal of Agricultural and Environmental Ethics*, *27*(3), 369–396. https://doi.org/10.1007/s10806-013-9468-5

Vonthron, S., Perrin, C., & Soulard, C.-T. (2020). *Foodscape: A scoping review and a research agenda for food security-related studies*. https://doi.org/10.1371/journal.pone.0233218

Willett, W. *et al.* (2019). Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447-492.

World Health Organization (WHO). (2021). *Food systems for health: information brief*.

National food strategies in Europe

There are few examples of food strategies at the international level, and they are mainly to be found in Europe. Strategies are also being drafted in some countries, such as Germany. Here is a non-exhaustive list.

1. Canada: Ministry of Agriculture and Agri-Food (2019). Food Policy for Canada.

2. Scotland: Scottish Government (2018). Good Food Nation. Programme of measures.

3. Finland: Finnish Ministry of Agriculture and Forestry (2011). Food 2030 – Finland feeds us and the world.

4. Ireland: Department of Agriculture, Food and the Marine (2021). Food Vision 2030 – A world leader in sustainable food systems.

5. Québec: Government of Québec (2018). 2018-2025 Biofood Policy: Feeding Our World.

6. United Kingdom: Department for Environment, Food and Rural affairs (2022). Government food strategy.

7. Sweden: Ministry of Enterprise and Innovation (2016). A national food strategy for Sweden – more jobs and sustainable growth throughout the country.

Appendix references: diagnostic assessment of French food policies

Accardo, A., Brun, A., & Lellouch, T. (2022). La crise sanitaire a accentué la précarité des bénéficiaires de l'aide alimentaire. *Insee Première*, *1907*.

Adam, A., & Jensen, J. D. (2016). What is the effectiveness of obesity related interventions at retail grocery stores and supermarkets? - a systematic review. *BMC Public Health*, *16*(1), 1–18. https://doi.org/10.1186/s12889-016-3985-x

An, R. (2013). Effectiveness of subsidies in promoting healthy food purchases and consumption: A review of field experiments. *Public Health Nutrition* (Vol. 16, Issue 7, pp. 1215–1228). https://doi.org/10.1017/S1368980012004715

Andreyeva, T., Marple, K., Marinello, S., Moore, T. E., & Powell, L. M. (2022). Outcomes Following Taxation of Sugar-Sweetened Beverages. A Systematic Review and Meta-analysis. Key Points + Invited Commentary + Supplemental content. *JAMA Network Open*, *5*(6), 2215276. https://doi.org/10.1001/jamanetworkopen.2022.15276

Badia, B., Brunet, F., Carrera, A., Kertudo, P., & Tith, F. (2014). *Inégalités sociales et alimentation*. Fors-Recherche sociale pour FranceAgriMer et Ministère de l'Agriculture, de l'Agroalimentaire et de la Forêt.

Berardi, N., Sevestre, P., Tepaut, M., & Vigneron, A. (2012). *The impact of a "soda tax" on prices. Evidence from French micro data.* Banque de France.

Bere, E., Hilsen, M., & Klepp, K. I. (2010). Effect of the nationwide free school fruit scheme in Norway. *British Journal of Nutrition*, *104*(4), 589–594. https://doi.org/10.1017/S0007114510000814

Bere, E., Veierød, M. B., Skare, Ø., & Klepp, K.-I. (2007). Free school fruit-sustained effect three years later. *International Journal of Behavioral Nutrition and Physical Activity* . https://doi.org/10.1186/1479

Bihan, H. *et al.* (2012). Impact of fruit and vegetable vouchers and dietary advice on fruit and vegetable intake in a low-income population. *European Journal of Clinical Nutrition*, *66*(3), 369–375. https://doi.org/10.1038/ejcn.2011.173

Brimont, L., & Saujot, M. (2021). Affichage environnemental alimentaire : révéler les visions pour construire un compromis politique. IDDRI.

Brocard, C., Saujot, M., Brimont, L., & Dubuisson-Quellier, S. (2022). Pratiques alimentaires durables : un autre regard sur et avec les personnes modestes. IDDRI.

Buscail, C., Gendreau, J., Daval, P., Lombrail, P., Hercberg, S., Latino-Martel, P., & Julia, C. (2019). Impact of fruits and vegetables vouchers on food insecurity in disadvantaged families from a Paris suburb. *BMC Nutrition*. https://doi.org/10.1186/s40795-019-0289-4

Caillavet, F., Darmon, N., Dubois, C., Gomy, C., Kabeche, D., Paturel, D., & Pérignon, M. (2021). *Vers une sécurité alimentaire durable : enjeux, initiatives et principes directeurs*. Terra Nova.

Caillavet, F., Fadhuile, A., & Nichèle, V. (2016). Taxing animal-based foods for sustainability: Environmental, nutritional and social perspectives in France. *European Review of Agricultural Economics*, *43*(4), 557–560. https://doi.org/10.1093/erae/jbv041

Caillavet, F., Fadhuile, A., & Nichèle, V. (2019). *Assessing the distributional effects of carbon taxes on food: Inequalities and nutritional insights in France*. https://www.elsevier.com/open-access/userlicense/1.0/

Capacci, S. *et al.* (2012). Policies to promote healthy eating in Europe: a structured review of policies and their effectiveness. *Nutrition Reviews*. https://doi.org/10.1111/j.1753-4887.2011.00442.x

Conseil Supérieur de l'Audiovisuel (CSA) (2020). *Rapport au Parlement en application de l'article 14 de la loi du 30 septembre 1986 sur l'application de la charte alimentaire*. 121 pages.

Cour des Comptes (2023). *La taxe sur la valeur ajoutée (TVA), un impôt à recentrer sur son objectif de rendement pour les finances publiques*. Conseil des Prélèvements Obligatoires (CPO).

Darmon, N., Lacroix, A., Muller, L., & Ruffieux, B. (2014). Food price policies improve diet quality while increasing socioeconomic inequalities in nutrition. *International Journal of Behavioral Nutrition and Physical Activity*. https://doi.org/10.1186/1479-5868-11-66

Daudigny, Y., Deroche, C., (sénateurs). (2014). *Rapport d'information fait au nom de la mission d'évaluation et de contrôle de la sécurité sociale (1) et de la commission des affaires sociales (2) sur la fiscalité comportementale*. Sénat.

de Batz, C., Faucon, F., & Voynet, D. (2016). *Evaluation du programme national nutrition santé 2011-2015 et 2016 (PNNS 3) et du plan obésité 2010-2013*. Inspection Générale des Affaires Sociales (IGAS).

Dégrémont, M. (2020). *Document de travail - Les projets alimentaires territoriaux, un levier pour une transition écologique partagée. Le cas de l'Albigeois*. France Stratégie.

Délégation interministérielle à la prévention et à la lutte contre la pauvreté (DILPL) (2021). *Stratégie nationale de prévention et de lutte contre la pauvreté : le point sur la mise en œuvre 2018-2021. Rapport d'étape national*. 80 pages.

Delgado-Noguera, M., Tort, S., Martínez-Zapata, M. J., & Bonfill, X. (2011). Primary school interventions to promote fruit and vegetable consumption: A systematic review and meta-analysis. In *Preventive Medicine* (Vol. 53, Issues 1–2, pp. 3–9). https://doi.org/10.1016/j.ypmed.2011.04.016

Denier-Pasquier, F., & Ritzenthaler, A. (2020). *Pour une alimentation durable ancrée dans les territoires. Avis du conseil économique, social et environnemental.* CESE.

Dive, J., & Tamarelle-Verghaeghe, M. (2022). *Rapport d'information sur l'évaluation de l'alimentation saine et durable pour tous.* Sénat.

Dive, J., & Tamarelle-Verghaeghe, M. (députés). (2022). *Rapport d'information déposé par le comité d'évaluation et de contrôle des politiques publiques sur l'évaluation de l'alimentation saine et durable pour tous*. Assemblée Nationale.

Etievant, P. *et al.* (2010). *Les comportements alimentaires. Quels en sont les déterminants ? Quelles actions, pour quels effets ? Expertise scientifique collective, synthèse du rapport.*

European Commission, Agrosynergie (2022). *Evaluation support study of the EU school fruit, vegetables and milk scheme*.

European Commission, ICF (2022). *SC 2097106: Mapping of pricing policies and fiscal measures applied to food, non-alcoholic and alcoholic beverages*. Final Implementation Report.

Fosse, J., Furic, P., Gomel, C., Hagenburg, M., & Rousselon, J. (2021). *Pour une alimentation saine et durable. Analyse des politiques de l'alimentation en France*. France Stratégie.

France Stratégie (2022). *Les 35 mesures. Suivi et évaluation 2022*. Comité d'évaluation de la stratégie nationale de prévention et de lutte contre la pauvreté. 240 pages.

France Stratégie (2022). *Rapport d'évaluation 2022.* Comité d'évaluation de la stratégie nationale de prévention et de lutte contre la pauvreté. 190 pages.

Friant-Perrot, M. (2018). Enfants : réguler le marketing alimentaire. *La Santé En Action*. https://archivesic.ccsd.cnrs.fr/

Gay, F., Férat, F., & Blatrix Contat, F. (2022). *Rapport d'information sur l'information du consommateur*. Sénat.

Gottschalk, I., & Leistner, T. (2012). Consumer reactions to the availability of organic food in discount supermarkets. *International Journal of Consumer Studies*. https://doi.org/10.1111/j.1470-6431.2012.01101.x

Gouvernement (2021). *Nutri-Score : évaluation à 3 ans du logo nutritionnel.*

Groupe des conseillers scientifiques principaux (2020). *Vers un système alimentaire durable. Le point de vue des sciences sociales.* Bruxelles. Direction générale de la recherche et de l'innovation, Commission Européenne. Avis scientifique n°8. 66 pages.

Grunert, K. G., & Wills, J. M. (2007). A review of European research on consumer response to nutrition information on food labels. In *Journal of Public Health* (Vol. 15, Issue 5, pp. 385–399). https://doi.org/10.1007/s10389-007-0101-9

Guillaume, H. (président), Ohier, M. (rapporteur) (2011) Rapport du comité d'évaluation des dépenses fiscales et des niches sociales. p28.

Harel, C. (05.12.2022). La campagne de communication sur le bio a porté ses fruits. *LSA*. https://www.lsa-conso.fr/la-campagne-de-communication-sur-le-bio-a-porte-ses-fruits,426369

Haut Conseil de la Santé Publique (HCSP) (2010). *Objectifs de santé publique Évaluation des objectifs de la loi du 9 août 2004. Propositions*. Avis et rapports.

Haut Conseil de la Santé Publique (HCSP) (2017). *Propositions pour une Politique Nationale Nutrition Santé à la hauteur des enjeux de santé publique en France (PNNS 2017-2021)*.

Inserm (2014). *Inégalités sociales de santé en lien avec l'alimentation et l'activité physique*.

IPCC (2022). *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926

Kitchen, S., Tanner, E., Brown, V., Crawford, C. *et al.* (2012). *Evaluation of the Free School Meals Pilot. Impact report*. UK Department of Education. Free school meals pilot: impact report - GOV.UK (www.gov.uk)

Kleinman, R. E., Hall, S., Green, H., Korzec-Ramirez, D., Patton, K., Pagano, M. E., & Murphy, J. M. (2002). Diet, breakfast, and academic performance in children. *Annals of Nutrition and Metabolism*, *46*(SUPPL. 1), 24–30. https://doi.org/10.1159/000066399

le Morvan, F., & Wanecq, T. (2019). *La lutte contre la précarité alimentaire. Évolution du soutien public à une politique sociale, agricole et de santé publique*. Inspection Générale des Affaires Sociales (IGAS).

Leos-Urbel, J., Schwartz, A. E., Weinstein, M., & Corcoran, S. (2013). Not just for poor kids: The impact of universal free school breakfast on meal participation and student outcomes. *Economics of Education Review*, *36*, 88–107. https://doi.org/10.1016/j.econedurev.2013.06.007

Louwagie, V. (présidente) et Hammadi, R., (rapporteur) (2016). *Rapport d'information déposé par la commission des finances, de l'économie générale et du contrôle budgétaire en conclusion des travaux d'une mission d'information sur la taxation des produits agroalimentaires*. Assemblée Nationale.

Lucas, P. J., Patterson, E., Sacks, G., Billich, N., & Evans, C. E. L. (2017). Preschool and school meal policies: An overview of what we know about regulation, implementation, and impact on diet in the UK, Sweden, and Australia. *Nutrients* (Vol. 9, Issue 7). MDPI AG. https://doi.org/10.3390/nu9070736

Mah, C. L., Luongo, G., Hasdell, R., Taylor, N. G. A., & Lo, B. K. (2019). A Systematic Review of the Effect of Retail Food Environment Interventions on Diet and Health with a Focus on the Enabling Role of Public Policies. *Current Nutrition Reports*, *8*(4), 411–428. https://doi.org/10.1007/s13668-019-00295-z

Marchand, F., & Chabanet, D. (2022). *Projets Alimentaires Territoriaux « Plus vite, plus haut, plus fort »*. Sénat.

Ministère de l'Agriculture et de la Souveraineté Alimentaire. Plateforme en ligne Ma-cantine. Accès le 06.04.2022. ma cantine (agriculture.gouv.fr)

Ministère des Solidarités et de la Santé (2021). *Bilan à mi-parcours du Programme National Nutrition Santé 2019-2023*.

Ministère des Solidarités et de la Santé-IPSOS (2021). *La tarification sociale des cantines scolaires et la « cantine à 1 euro »*.

Mirtcheva, D. M., & Powell, L. M. (2009). Participation in the national school lunch program: Importance of school-level and neighborhood contextual factors. *Journal of School Health*, *79*(10), 485–494. https://doi.org/10.1111/j.1746-1561.2009.00438.x

Moran, A. J., Khandpur, N., Polacsek, M., & Rimm, E. B. (2019). What factors influence ultra-processed food purchases and consumption in households with children? A comparison between participants and non-participants in the Supplemental Nutrition Assistance Program (SNAP). *Appetite*, *134*, 1–8. https://doi.org/10.1016/j.appet.2018.12.009

Ni Mhurchu, C., Turley, M., Gorton, D., Jiang, Y., Michie, J., Maddison, R., & Hattie, J. (2010). Effects of a free school breakfast programme on school attendance, achievement, psychosocial function, and nutrition: A stepped wedge cluster randomised trial. *BMC Public Health*, *10*. https://doi.org/10.1186/1471-2458-10-738

Niebylski, M. L., Redburn, K. A., Duhaney, T., & Campbell, N. R. (2015). Healthy food subsidies and unhealthy food taxation: A systematic review of the evidence. In *Nutrition* (Vol. 31, Issue 6, pp. 787–795). Elsevier Inc. https://doi.org/10.1016/j.nut.2014.12.010

Nohlen, H. *et al.* (2022). *Front-of-pack nutrition labelling schemes: an update of the evidence*, EUR 31153 EN, Publications Office of the European Union, Luxembourg, 2022, ISBN 978-92-76-55032-7, doi:10.2760/932354, JRC130125

OQALI (2013). *Étude d'impact des chartes d'engagements volontaires de progrès nutritionnel sur les volumes de nutriments mis sur le marché*.

OQALI (2021). *Suivi du Nutri-Score par l'OQALI. Edition 2021.*

Pernin, J.-L. (2014). Le bio à la cantine. Impact sur les attitudes et comportements des parents d'élèves. *Économie Rurale*, *339–340*, 113–127. https://doi.org/10.4000/economierurale.4259

Rogissart, L. (2023). *Réduction de la consommation de viande : des politiques publiques bien loin des objectifs de durabilité*. I4CE.

Salomé, M., Arrazat, L., Wang, J., Dufour, A., Dubuisson, C., Volatier, J.-L., Huneau, J.-F., & Mariotti, F. (2021). Contrary to ultra-processed foods, the consumption of unprocessed or minimally processed foods is associated with favorable patterns of protein intake, diet quality and lower cardiometabolic risk in French adults (INCA3). *European Journal of Nutrition*.

Santé Publique France (2020). *Exposition des enfants et des adolescents à la publicité pour des produits gras, sucrés, salés*.

Scientific Advisory Board on Agricultural Policy, Food and Consumer Health Protection at the Federal Ministry of Food and Agriculture (WBAE) (2020). *Expertise: Promoting sustainability in food consumption. Developing an integrated food policy and creating fair food environments*.

Sécurité sociale (2021). *PLFSS 2021 – Annexe 5: Présentation des mesures d'exonérations de cotisations et contributions et de leur compensation*.

Temme, E. H. M. *et al.* (2020). Demand-Side Food Policies for Public and Planetary Health. *Sustainability (Switzerland)*, *12*(15). https://doi.org/10.3390/SU12155924

Thow, A. M., Downs, S., & Jan, S. (2014). A systematic review of the effectiveness of food taxes and subsidies to improve diets: Understanding the recent evidence. *Nutrition Reviews*, *72*(9), 551–565. https://doi.org/10.1111/nure.12123

UFC-Que Choisir (28.09.2021). *Labels alimentaires et signes de qualité. Promesses non tenues: une révision s'impose!* Etude réalisée par l'INRAE.

WWF, Greenpeace, & le Basic (2020). *Etude de démarches de durabilité dans le domaine alimentaire. Annexe méthodologique détaillée*.

Environment, inequality, health: what strategy for French food policies?

Charlie Brocard, Mathieu Saujot (IDDRI)

The Institute for Sustainable Development and International Relations (IDDRI) is an independent think tank that facilitates the transition towards sustainable development. It was founded in 2001. To achieve this, IDDRI identifies the conditions and proposes the tools for integrating sustainable development into policies. It takes action at different levels, from international cooperation to that of national and sub-national governments and private companies, with each level informing the other. As a research institute and a dialogue platform, IDDRI creates the conditions for a shared analysis and expertise between stakeholders. It connects them in a transparent, collaborative manner, based on leading interdisciplinary research. IDDRI then makes its analyses and proposals available to all. Four issues are central to the institute's activities: climate, biodiversity and ecosystems, oceans, and sustainable development governance.
To learn more about IDDRI's activities and publications, visit www.iddri.org

Brocard, C., Saujot, M. (2023). Environment, inequality, health: what strategy for French food policies? *Study* N°01/23, IDDRI, Paris, France, 36 p.

ISSN 2258-7071

Ce travail a bénéficié d'un soutien financier dans le cadre du projet européen Horizon 2020 Pathways for Sustainable Food et d'une aide de l'État gérée par l'ANR au titre du programme « Investissements d'avenir » portant la référence ANR-10-LABX-14-01.

CONTACT
charlie.brocard@iddri.org
mathieu.saujot@iddri.org

Institut du développement durable et des relations internationales 41, rue du Four – 75006 Paris – France

www.iddri.org
IDDRI_ThinkTank