

Environmental health :

A decade of Igas work (2013-2022)



According to the World Health Organization (WHO), environmental health comprises the aspects of human health, including quality of life, determined by the physical, chemical, biological, social, psychosocial and aesthetic factors of our environment.

It also concerns policies and practices for the management, reduction, control and prevention of environmental factors likely to affect the health of present and future generations.

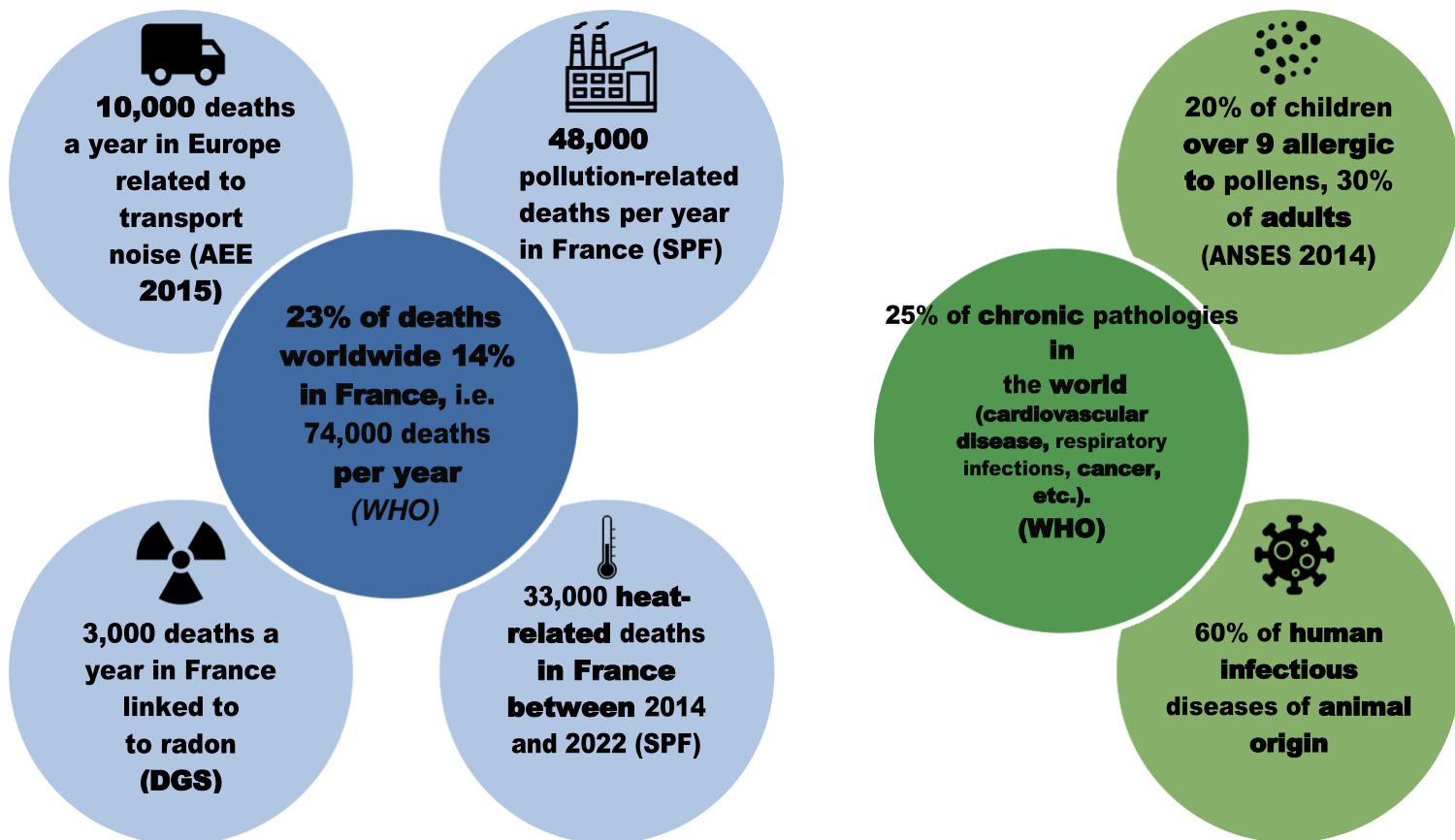
Faced with the major health and societal challenges that will be amplified by global warming, the Inspectorate General of Social Affairs (Igas) has undertaken to capitalize on its work in environmental health, carried out between 2013 and 2022, mostly jointly with other general inspectorates, to highlight the main converging avenues for progress.

Contents

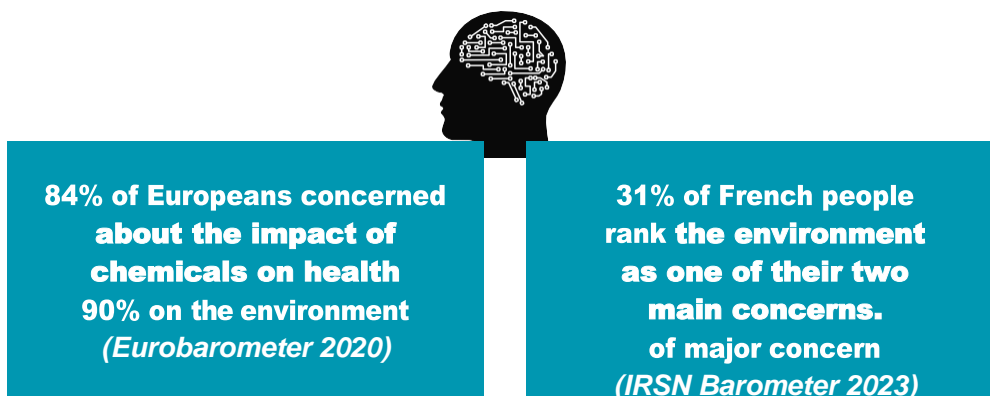
- ◆ **Health-environment : Key data** **P.1**
- ◆ **Environmental risks: a developing phenomenon with major health and social concerns** **P.3**
- ◆ **Health-environment is at the crossroads of many policies and is based on risk analysis.** **P.4**
- ◆ **A policy running out of steam in light of the stakes** **P.6**
- ◆ **Knowledge of risks needs to be improved** **P.8**
- ◆ **A framework for action in need of renovation** **P.9**

Health-environment : Key data

What are the health impacts on the environment?



What is the social perception of risk?



How is the health-environment policy organized?

- ♦ **6 ministries mainly involved** (health, ecology, agriculture, labor, research, economy)
- ♦ **Twenty or so national operators competent** in all or part of the health-environment field to provide scientific expertise.
- ♦ **A national health-environment plan (PNSE)**, supplemented by 32 plans specific to certain risk factors (e.g. radon, asbestos, endocrine disruptors, etc.).
- ♦ **Some fifteen environmental risk monitoring systems**

What are the social costs in France? Three examples

Social cost studies have been documented for certain environmental risk factors

Air pollution
100 bn/year
(Senate 2015)

Noise
57 billion/year*
(Conseil national
du bruit 2016)

**Endocrine
disruptors**
€27
billion/year
(Igas 2018)

Social cost is used to assess the economic impact of a social problem. It is made up of :

- ♦ the cost to the public purse (expenditure on prevention, care, etc.)
- ♦ so-called "external" costs (value of human lives lost, loss of quality of life, loss of production by businesses and administrations, etc.).

External costs make up the bulk of costs, and are by definition uncertain. Estimation methods may vary, and the margins of error in the results are significant.

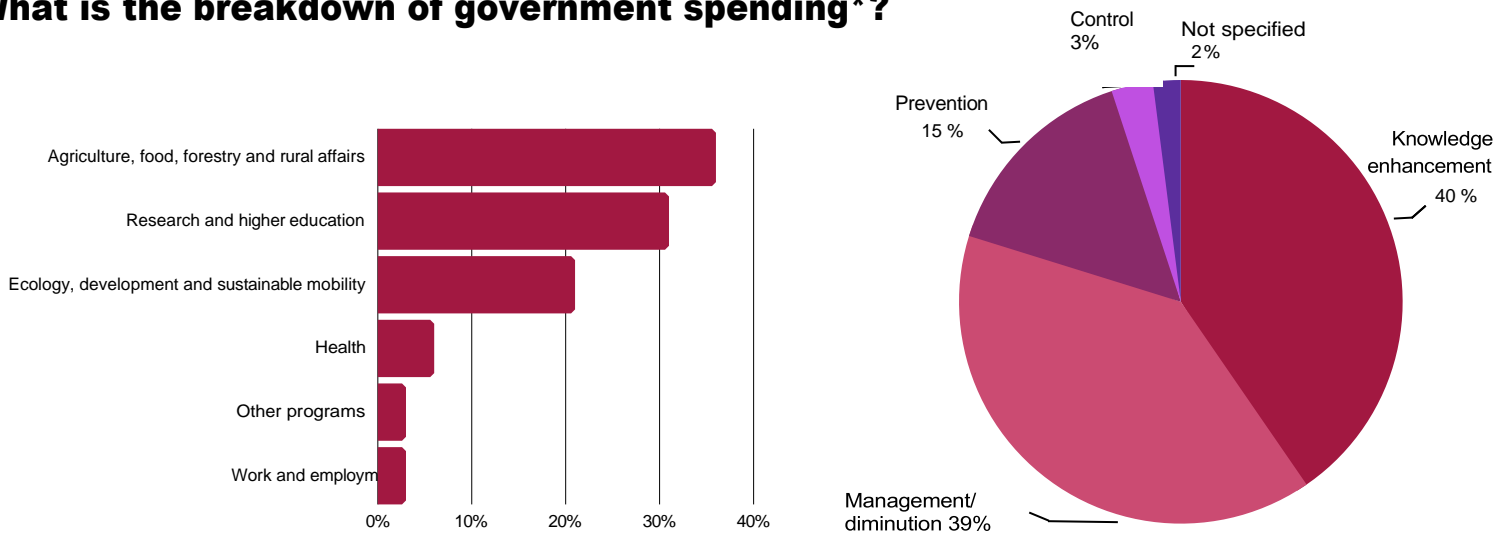
*A new estimate by the Conseil National du Noise in 2021 puts the cost at €157 billion/year).

What public spending on health and the environment?



*Excluding health expenses.

What is the breakdown of government spending*?



* Excluding personnel costs.

Environmental risks : a developing phenomenon with major health and social implications

The environment is one of the four main determinants of population health, along with genetic and biological factors, individual behaviors (e.g. smoking, physical activity, etc.) and access to a quality healthcare system.

Varied and omnipresent factors

Environmental risk factors are many and varied, and include chemical agents (pesticides, endocrine disruptors, asbestos, lead...), physical agents (noise, radiation...) and biological agents (legionella, salmonella, cholera, dengue...). The list of these factors is constantly evolving, as new risks emerge at a rapid pace.

These risk factors are present in living environments (air, soil, domestic environment, workplace, etc.) and consumer products (water, food, etc.). Global warming will amplify the impact of these risk factors, or introduce new ones (such as certain diseases transmitted by mosquitoes, which are currently little present in mainland France).

A major but still underestimated health impact

According to the WHO, 23% of deaths and 25% of chronic diseases worldwide are linked to environmental factors. In France, the World Health Organization (WHO) estimates that the environment is responsible for around 14% of mortality, or more than 74,000 deaths a year.

A significant part of this health impact is linked to outdoor air pollution, responsible for 48,000 deaths a year from fine particles alone.

With regard to other environmental risk factors, 10,000 premature deaths a year in Europe, for example, are thought to be linked to exposure to transport noise. However, the risk assessment system most probably underestimates the impact in terms of both quantity and severity.

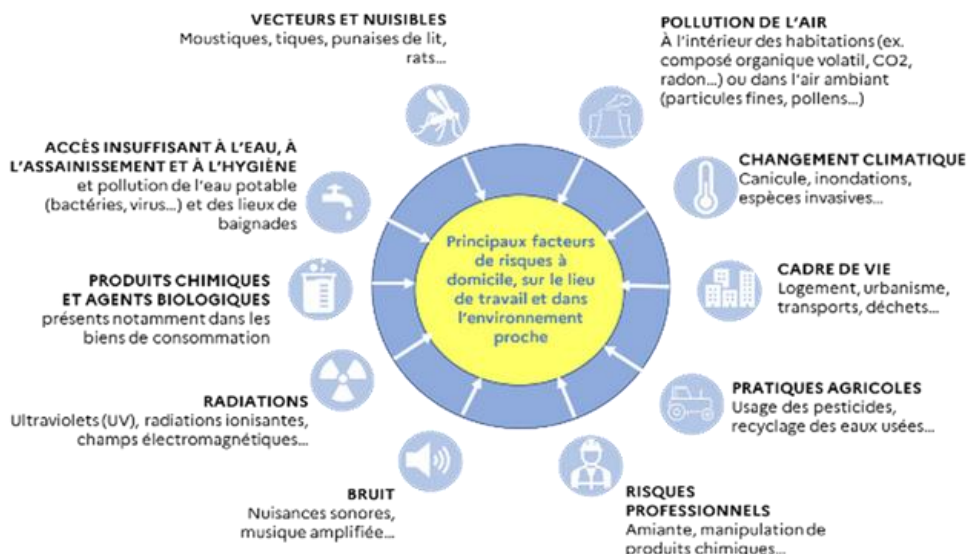
Very high economic and social costs

According to the Igas analysis in 2018, the social cost induced by air pollution, noise and endocrine disruptors, distinct harmful factors, represents a minimum of €180bn per year, or 7.8 GDP points[1]. These amounts include prevention costs, healthcare expenditure and socio-economic costs. Socio-economic costs represent the bulk of the costs.

In the case of air pollution, for example, health costs range from €0.52 billion to €2 billion a year, and the socio-economic costs are estimated at up to €100 billion by the European Commission's "Clean air for Europe" program and the French High Council for Public Health.

[1] Social cost studies are used to assess the economic impact of a social problem. The social cost is made up of the cost to public finances (expenditure on prevention, care, etc.) and the external costs affecting stakeholders (value of human lives lost, loss of quality of life, loss of production by businesses and administrations, etc.). These external costs are by definition uncertain.

Main environmental health risk factors



Source: Igas based on WHO.

Health-environment: a global approach at the crossroads of multiple public policies

Health-environment aims to reduce environment-related health risks

The main missions of the health-environment department are to :

- Raise awareness among decision makers and the public to promote a healthy environment;
- Implement public policies to improve the environment and health;
- Monitor and control the quality of living environments ;
- Monitor pathologies linked with the environment ;
- Assess and manage environmental health risks to protect populations.

A wide range of sectors...

Health-environment is at the crossroads of numerous public policies (health, environment, labor, housing, urban planning, transport, agriculture, industry, energy, etc.), each with its own terminology, legal framework and interests.

It is also at the crossroads of many scientific disciplines (e.g. epidemiology, toxicology, expology, ecology, sociology, economics...).

...and players at all levels

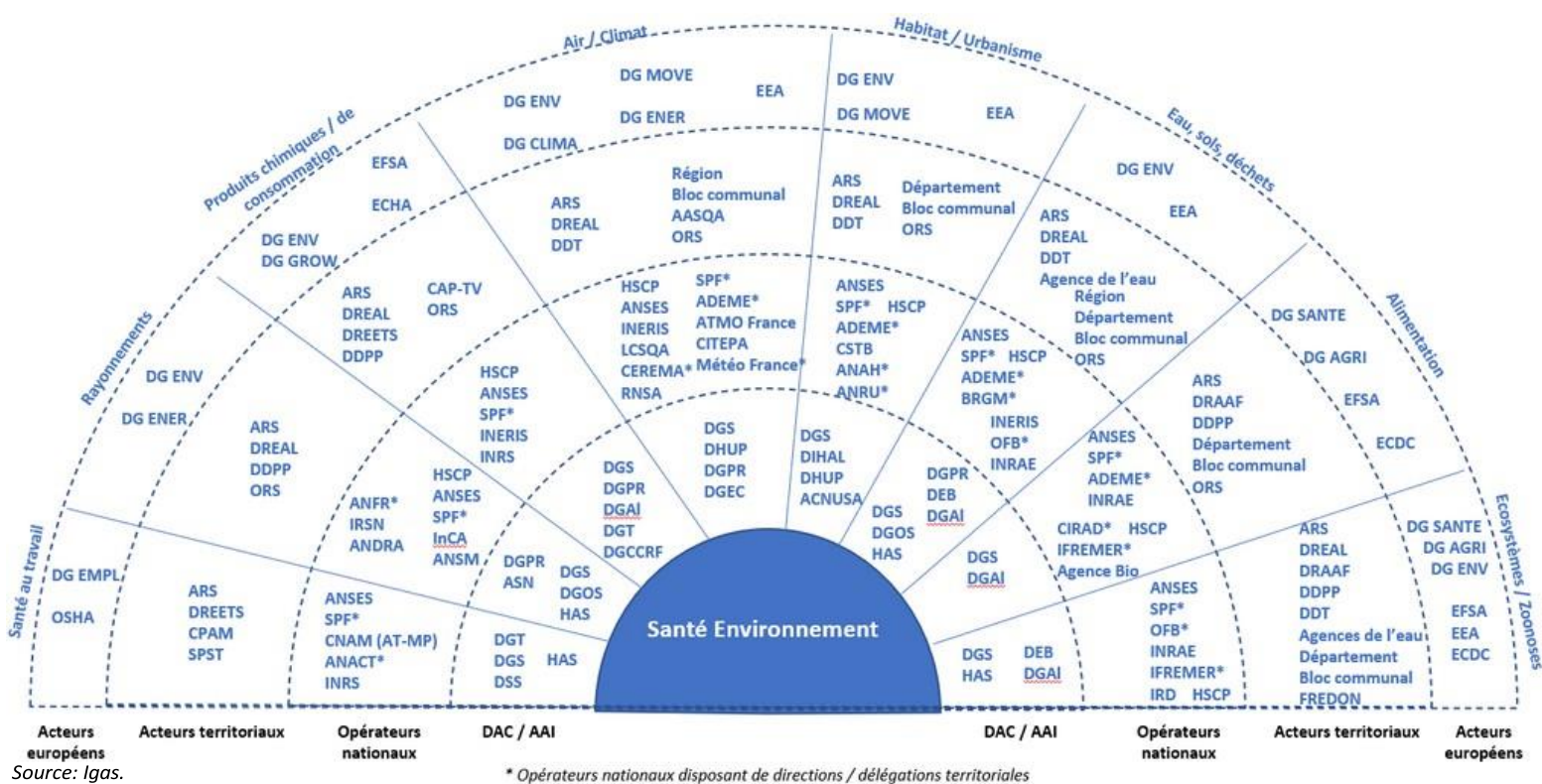
As a result of the diversity of our fields of action, a multitude of players are involved in environmental health.

At national level, six ministries are particularly involved in this field (health, ecology, labor, research, agriculture, economy), along with some twenty national operators, such as Santé Publique France and the Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (ANSES).

At a territorial level, the regional health agencies (ARS) are involved in the entire health-environment field. Several government departments in the départements or regions (Direction Départementale des Territoires (DDT), Direction Départementale de la Protection des Populations (DDPP), Direction Régionale de l'Environnement, de l'Aménagement et du Logement (DREAL), etc.) and the various levels of local authorities (régions, départements, EPCI, communes, etc.) are involved in the health and environment fields within their respective remits.

For example, local authorities are responsible for water quality, hygiene and sanitation in public places, and housing safety. Finally, associations are approved by the State to monitor certain risk factors (e.g., associations approved to monitor air quality).

Key players in the surveillance business, risk prevention or management in the health and environment field



A stronger framework in the 2000s

A policy organized around the PNSE

The law of August 9, 2004 recognized health-environment as one of the five main public health concerns, and introduced a national health-environment plan (PNSE) to prevent environment-related health risks. The PNSE is implemented at regional level in the form of regional health-environment plans (PRSE), to adapt national objectives to the specific characteristics of each region.

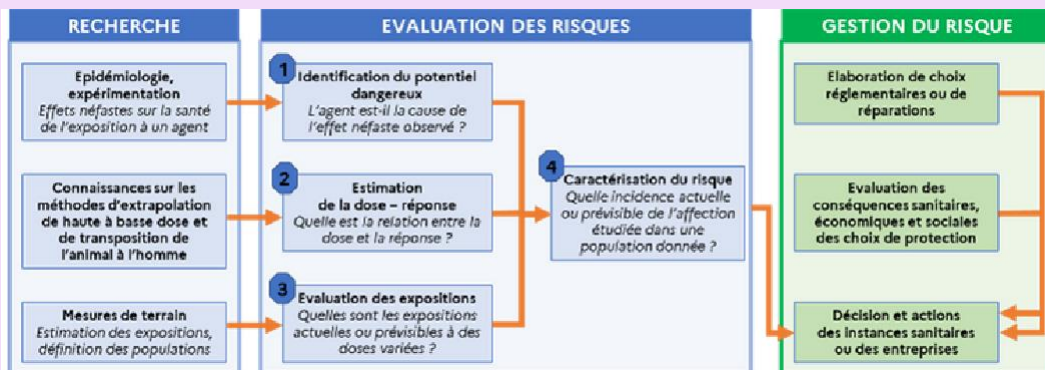
Since 2004, there have been four successive PNSEs, overseen by the Ministries of Ecology and Health. The Groupe Santé Environnement (GSE), chaired by a member of parliament, is a body for guiding and monitoring the PNSEs, and for consultation on health-environment policies.

International standards

Environmental health risk analysis methods are based on international standards. In particular, they form the basis of regulated processes for authorizing chemicals (such as the European REACH regulation), determining health reference values (e.g. water quality standards) or characterizing the health impact of an industrial site.

Based on research to characterize the hazard associated with a substance, the assessment process evaluates the risk, exposure by exposure. Management measures (e.g. banning a product, limiting pollutant emissions from a facility, etc.) are taken on the basis of this assessment.

Health-environment risk analysis method



Source: Igas based on Institut de veille sanitaire.

Health and the environment as part of a global approach

The "One health" approach

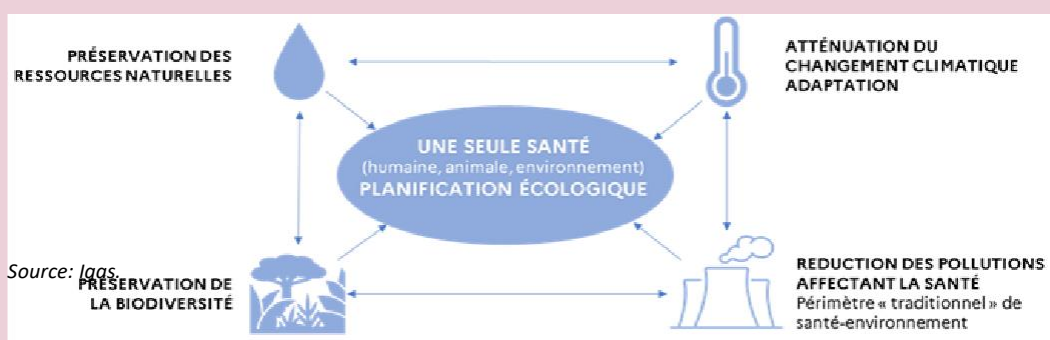
The Covid-19 health crisis served as a reminder of the close links between human health, animal health and environmental health, particularly in terms of the origins of infectious risks. 60% of human infectious diseases are of animal origin.

Environmental health must therefore be part of the "One Health" approach, which aims to integrate sanitary, veterinary and ecological dimensions. This holistic approach is promoted by United Nations (UN) agencies, notably the WHO, and is set out in an action plan to be implemented by Member States.

Ecological planning

The European Green Deal is a set of measures designed to set the European Union on the path to ecological transition, with the aim of achieving climate neutrality and a "zero pollution" target by 2050.

In France, this green pact is reflected in ecological planning, drawn up by the General Secretariat for Ecological Planning (SGPE), which pursues five strategic objectives: mitigating global warming, adapting to the inevitable consequences of global warming, preserving and restoring biodiversity, conserving resources and reducing pollution that impacts health. Environmental health can therefore be a driving force behind the ecological transition.



Source: Igas

A policy that is running out of steam in the face of the challenges ahead

Inspectorate general reports have highlighted recurring difficulties in health-environment policy.

Unclear strategic objectives

While the introduction of the PNSE has raised the profile of health-environment issues and led to progress in certain areas (e.g. indoor air quality), it has not resulted in a coordinated strategy.

The PNSEs have failed to produce a global, strategic and shared vision of environmental health. Priorities are not very clear (PNSE 3 includes 110 actions, compared with 58 in PNSE 2 and 45 in the first PNSE).

In many cases, the measures set out in the PNSE were not accompanied by means, timetables, results indicators or targets, making them impossible to evaluate. Only a very small fraction (5%) of PNSE 3 actions set quantified risk reduction targets (e.g., reduction in the incidence of legionellosis, reduction in the number of substandard housing units, etc.), compared with almost 50% for PNSE 1.

Moreover, the PNSE is not a single roadmap. This is borne out by the thirty or so thematic plans and strategies that are in principle linked to the NSEP (interministerial asbestos plan, plan to combat micropollutants in water, national radon action plan, national strategy against endocrine disruptors, etc.).

Some quantified targets are included in other plans (such as the 50% reduction in pesticide consumption by 2025 in the Ecophyto 2 plan), but without any overall consolidation of these targets within the PNSE to improve the overall visibility and coherence of health-environment policy.

This lack of strategic objectives contrasts with the six objectives defined by the European Commission as part of its "Zero Pollution" action plan.

This weakness makes it difficult to grasp the full scope of health-environment policy, which resembles a juxtaposition of policies to combat only those risk factors that have been clearly identified.

Limited governance

Given the diversity of the fields of action and the players involved, strategic impetus and overall operational coordination in the field of health and the environment are essential. However, in the absence of dedicated resources, the necessary interministerial steering is lacking, particularly in the case of the PNSE.

The Groupe santé environnement (GSE) has major limitations when it comes to carrying out its tasks of guiding and monitoring the PNSE and, more generally, of consultation: it has no legal existence, operates too informally, lacks transparency and has no resources of its own.

In theory, mediation on health-environment issues falls within the remit of the Commission nationale de la déontologie et des alertes en matière de santé publique et d'environnement (CNDASPE), but its activity is limited.

Insufficient resources

Annual expenditure on environmental health is estimated at €6 billion, 67% of which is borne by local authorities, 30% by the State (between €582 and €780 million per year, i.e. 0.3% of the general budget) and 3% by the social security system (excluding health expenditure linked to care). This amount should be set against the costs of inaction, estimated at €180 billion a year for the aggregation of three of the harmful factors[1]. Against this backdrop, funding for the implementation of the PNSE and PRSE appears inadequate.

[1] Air pollution, endocrine disruptors, noise exposure.

What are the objectives of the European Commission's "zero pollution" action plan for 2030?

- ◆ **Reduce** the number of premature deaths caused by air pollution **by 55%.**
- ◆ **Reduce** plastic waste discharged into the sea by **50%** and microplastics discharged into the environment by 30%.
- ◆ **Reduce** the use of chemical pesticides **by 50%.**
- ◆ **Significantly** reduce waste production and cut residual municipal waste production **by 50%.**
- ◆ **Reduce** the proportion of people chronically disturbed by transport noise **by 30%.**
- ◆ **Reduce** **by 25%** the number of ecosystems where atmospheric pollution threatens biodiversity

At ARS level, the resources allocated to environmental health (€40M in 2021, 9% of staff) do not appear to be commensurate with their missions, which include monitoring water quality (e.g., drinking and packaged water, bathing water, prevention of Legionnaire's disease, etc.), housing quality (e.g., the fight against insalubrity, lead poisoning in children, radon, etc.), and taking account of health issues around industrial sites and in planning policies (e.g., building permits, etc.). These include water quality control (e.g. drinking and packaged water, bathing water, legionella prevention, etc.), housing quality (e.g. combating insalubrity, lead poisoning in children, radon, etc.) and the consideration of health issues around industrial sites and in planning policies (e.g. building permits, road creation, urban planning documents, etc.).

A tangle of skills

The multitude of players involved in the health-environment sector has led to a tangle of competencies, between operators and government departments on the one hand, and local authorities on the other. Numerous reports have documented the difficulties in terms of legibility and effectiveness of public action (ambient and indoor air quality, combating substandard housing, etc.).

It is worth noting that inspection recommendations aimed at simplifying institutional organization have often been acted upon (e.g., creation of a single police force for food safety, transfer of cosmetovigilance to ANSES, reinforcement of ARS jurisdiction in vector-borne disease prevention and management).

A risk assessment system ill-suited to new challenges

The risk assessment method is no longer adapted to the new risks, whose health impact is characterized by chronic illnesses linked to prolonged exposure to low doses of toxic contaminants. This long timeframe makes it difficult to attribute the development of disease to a single toxic agent, given the multitude of past exposures, and also to assess the cumulative health impact of simultaneous exposure to different products ("cocktail effect").

The European authorization procedure for chemicals suffers from a number of shortcomings, reflecting the difficulties of reconciling public health objectives with economic competitiveness objectives. On the one hand, only a small proportion of products placed on the market are subject to an in-depth assessment procedure: between 2012 and 2018, out of around 21,000 registered substances, only 243 have undergone a more detailed assessment.

On the other hand, these European procedures stipulate that the competent public agencies^[1] base their opinions on regulatory tests supplied by manufacturers, bypassing most academic scientific studies, carried out by Inserm for example. This bias can lead to scientific controversy.

Glyphosate: between controversy and divided authorities

The divergent conclusions of various international and European assessment bodies on the dangers of glyphosate illustrate these limitations: the International Agency for Research on Cancer (IARC) classified glyphosate as a probable carcinogen in 2015, and Inserm established a link between glyphosate and certain cancers in 2021. On the other hand, in July 2023, EFSA did not identify any areas of critical concern for human health, animal health or the environment, while admitting a lack of knowledge about certain effects of glyphosate, and in 2022, ECHA had not classified it as carcinogenic, mutagenic or toxic to reproduction.

These scientific controversies place the public decision-maker in a situation of uncertainty, raising the question of the application of the precautionary principle.

Growing public concern

The Institut de Radioprotection et de Sûreté Nucléaire (IRSN) barometers on the perception of risks and safety confirm that climate and environmental issues have been among the top two or three concerns of the French for several years now. Moreover, scientific controversies are a further source of concern, and even mistrust.

In this context, informing the public about health and the environment, although a delicate matter due to the complexity of the subject and the uncertainties involved, is of prime importance. However, the systems in place have difficulty in reaching their target audiences, particularly vulnerable people, and remain inadequate.

Lack of trust also stems from a lack of transparency in decision-making procedures at both national and European level. Strengthening public confidence therefore requires both transparency and education.

[1] In particular the European Chemicals Agency (ECHA) and the European Food Safety Authority (EFSA).

Improving knowledge of risks

A better description of the exposome

Faced with the multiplicity of risk factors, whether linked to lifestyle, diet or environmental pollution, it is essential to improve the knowledge needed to take into account the exposome, understood as the integration over a lifetime of all the exposures that can influence human health, including the prenatal period. A great deal of research is underway on this subject, and needs to be supported.

An updated method for assessing the risks associated with chemical products

In 2020, the European Commission published a strategy for sustainability in the chemicals sector as part of the Green Pact, aimed among other things at limiting exposure to the most hazardous substances.

In particular, it proposes that, for the most harmful substances[1], management measures be enacted by product family (e.g. PFAS) rather than rules for each substance, and that restrictions be placed on all their uses, rather than use by use.

It also p r o p o s e s extending the generic approach to risk management - under which carcinogenic substances have been

banned in most consumer products and in uses involving exposure of vulnerable groups - to the most harmful substances, particularly in consumer products (toys, cosmetics, detergents, furnishing products, etc.).

The most harmful chemicals could then only be authorized for uses that are "essential" to society, if there is no acceptable alternative.

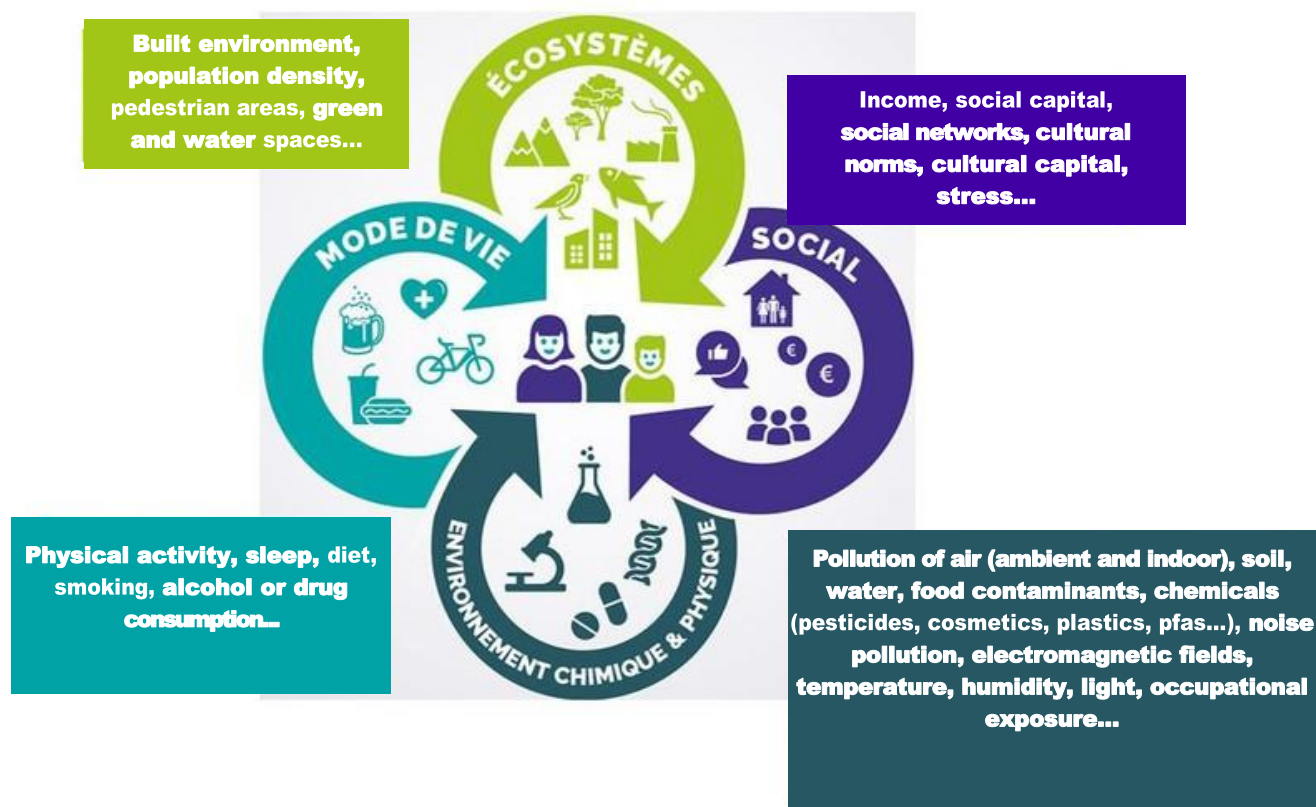
The aim is also to take greater account of combined effects and multi-exposure effects in health risk assessment, and to take greater account of academic studies in risk assessment, in addition to studies carried out by industry. The Commission's proposals should be strongly supported.

Agencies to be strengthened

As the resources of regulatory agencies are limited for verifying available studies or carrying out their own tests to evaluate products, it would appear necessary to strengthen the resources of the French food, environmental and occupational health safety agency (ANSES). ■

[1] Carcinogenic, genotoxic, reprotoxic, persistent or bioaccumulative substances and endocrine disruptors.

The human exposome



Source: Igas based on Institut national de recherche pour l'agriculture, l'alimentation et l'environnement.

A framework for action in need of renovation

A national strategy for a new ambition

It is recommended that a national strategy be put in place to prioritize issues, set multi-year targets with indicators, monitor implementation and ensure coordination with European regulations and the many related policies.

This strategy could take the form of a guideline law or a program presented to Parliament, including a period for public deliberation. In this context, the PNSE would be the tool for implementing this national strategy.

PRSEs should be better coordinated with regional health projects (PRS) and territorial planning tools, such as the regional plan for sustainable development and territorial equality (SRADDET), the State-Region plan contract (CPER), the local health contract (CLS)...

Interministerial coordination to be strengthened

This heightened level of ambition implies the assertion of an interministerial level in the steering of environmental health policy. Attaching this interministerial structure to the Prime Minister would ensure greater coherence and visibility for this policy.

This steering role could be entrusted to the General Secretariat for Ecological Planning (SGPE), as part of a global approach to ecological transition,

or to an interministerial "One Health" delegation attached to the Prime Minister. Decisions would be taken by an interministerial committee (e.g. the interministerial health committee).

Guaranteeing transparency and health democracy

The Groupe Santé Environnement (GSE) should be extensively overhauled (status, composition, operation, resources and clarification of missions) to bring it closer to the organizational model of the Conseil National de l'Alimentation (CNA) and make it a genuine forum for consultation with all stakeholders. In addition, public debate on risks should be better structured upstream of decision-making, notably through the sharing of scientific information, and through an exemplary policy of transparency in downstream decision-making (e.g. publication of French votes within the framework of European comitology).

The role of the Commission nationale de la déontologie et des alertes en matière de santé publique et d'environnement (CnDAspe) should be re-examined, with a view to transforming it into an environmental health "defender of rights".

Lastly, communication and environmental health education policies for the general public, schoolchildren and healthcare professionals should be stepped up. ARSs should also be given more resources to carry out their actions in terms of producing and disseminating local knowledge and data (e.g. generalization of regional environmental health observatories, regional resource centers, development of health impact assessments, etc.). ■

Find out more:

- Plan national santé environnement: "Un environnement, une santé" (2021-2025) - 2021, Ecological planning: an action plan to accelerate the ecological transition - 2022, <https://www.ecologie.gouv.fr/planification-ecologique-plan-action-accelerer-transition-ecologique>
- Inventaire des moyens consacrés par l'UE, l'Etat français et les collectivités territoriales à la santé-environnement - IGAS-IGA-IGF-CGEDD-CGAAER-IGESR, 2022
- Health-environment: research, expertise and public decision-making - IGAS-IGF-CGEDD-CGAAER-IGESR, 2020
- Evaluation of the third national health-environment plan and preparation of the next plan - IGAS, 2018
- Pour une politique publique nationale de santé-environnement au cœur des territoires - Economic, Social and Environmental Council (CESE), 2022
- Global evaluation of the National Health and Environment Plans (2004-2019) - Haut conseil de la santé publique, 2022
-
-