

**PROPOSAL OF TARGETS AND INDICATORS
CONCERNING THE EXPECTED OUTCOMES
OF THE 3rd NATIONAL ENVIRONMENTAL HEALTH
ACTION PLAN (PNSE3)**

Report

1 DECEMBER 2016

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Action no.55: Promote the setup of health safety plans concerning drinking water supply

Action no.56: Protect abstraction points that are used for drinking water supplies against accidental pollution and diffuse pollution (continuation of action 28.1 of the PNSE2)

Action no.60: Work on validating transfer models by focusing them on substances with major health implications (e.g.: trace metals, PCB)

Action no.61: Carry out the second stage of diagnostic surveys in day nurseries, primary and secondary schools and sixth-form colleges, drawing on feedback from the first stage of the "sensitive institutions" operation

Action no.62: Clamp down more effectively on noise pollution from powered two-wheelers

Action no.63: Tackle noise "black spots"

Action no.65: Set up measures to ensure that the pesticides distributed and used in the overseas départements are authorised products

Action no.66: Test for endocrine disrupting substances in children's products and toys via sampling and laboratory analyses and implement management measures depending on the findings

Action no.67: Support work looking into the substitution of endocrine disrupting chemicals

Action no.68: Restrict the use of BPA in thermal paper (till and bank card receipts for example)

Action no.74: Look into the fate of nanomaterials, through a life cycle approach including the aging and "waste" stages and acquire knowledge about industrial waste from the manufacture of nanomaterials and nanomaterial-containing waste

Action no.80: Produce an indicator of exposure to extremely low-frequency electromagnetic fields linked to the proximity of high-voltage lines

Action no.94: Encourage the population to get involved in environmental health decisions

Action no.95: Promote Local Initiatives for Environmental Health Actions and other environmental health measures at municipal and/or inter-municipal level

Action no.97: On a voluntary basis, conduct trial runs of some health impact assessments at district level to allow for the best possible consideration of the environmental and health challenges

Action no.98: Develop tools for use by all stakeholders to incorporate the subject of health into planning documents and development projects via a comprehensive approach factoring in all of its determinants (economic, environmental and social)

Action no.99: Develop the dissemination of information aimed at expediting the consideration of air quality and its health impacts, particularly on vulnerable people (young children for example), in urban planning and development projects (opening of day nurseries or schools near busy roads), especially when providing the State with the necessary information for drawing up urban planning documents

Action no.102: When building childcare centres, assess the acoustic performance guidance tools and, where applicable, issue acoustic recommendations for bringing them up-to-date

Action no.103: Develop communication taking best practices on board so as to best protect the population from hearing risks, linked in particular to listening to loud music

Action no.104: Analyse the training programmes, in terms of both initial training and continuing professional development, of the advocacy stakeholders specified in the PNSE1 and PNSE2, and supplement existing provisions

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EXECUTIVE SUMMARY

In May 2015, the French High Council for Public Health (HCSP) received a joint referral from the Directorate-General for Health and Directorate-General for Risk Prevention asking it to formulate the *target outcomes* for the actions of the 3rd National Environmental Health Action Plan (PNSE3) and to state the *indicators* considered to be the most appropriate for measuring progress towards these targets. In the field addressed by this report, *target outcome* generally means a reduction in the population's level of exposure to pollution or contamination of certain living environments or products which are known, or suspected of being able to induce harmful effects, as well as, sometimes, an improvement in knowledge on the possible risks, thanks to the implementation of the plan's actions. This referral thus aimed at making the Plan more assessable, since the statement of these *outcomes* and the description of the change in appropriate *indicators* must make it possible to assess its performance in due course.

To be able to respond to this referral within a compatible timeframe with the Plan's progress, the HCSP has called on an extensive working group – the *Committee for the assessability* of the PNSE3, or Copev – made up of twenty-eight experts from academia or organisations and institutions in charge of environmental risk management. To ensure that the approach taken to assessing the particularly complex subject of the PNSE3 is both multidisciplinary and multiprofessional, every single action has been considered from various perspectives when appropriate; for that, six thematic groups were set up (outdoor air and indoor environment; quality of water intended for human consumption, protection of water resources, polluted soils and sites; emerging and re-emerging risks; physical agents; global change and health impacts; food quality), which each determined target outcomes and associated indicators according to a shared methodology, with the ultimate aim of enabling the Copev to adopt the key common targets that came out of this comparative analysis. Where relevant, several target outcomes were adopted, shedding light on the different aspects of the end goals. A number of actions (42 out of the Plan's 107 actions) were put to one side before getting underway as their statement was so precise that they clearly announced their own expected outcome.

The extent to which the different existing information sources on each of the areas in question were capable of producing usable data for assessing the development over time of relevant signals (on environmental quality, population exposure and sometimes even health indicators) was systematically analysed with a view to identifying which ones could be used to produce the *outcome indicators*. Since certain limits (in the spatial or temporal resolution of information for example, or in its accessibility) often became apparent, proposals were made so that a given information system could be improved at the earliest possible opportunity, thereby increasing the possibility of it being used to assess the impacts of the Plan.

For many actions, the statement of expected outcomes is downscaled to a smaller territorial level to allow for it to be taken up, where relevant, by the stakeholders in charge of drawing up regional environmental health plans (PRSEs). For it is particularly at this local level that the stated target of reducing socio-territorial inequalities regarding exposure (which could represent a guideline for future PRSEs) can be put into practice.

A first draft of the report based on this collegial work was submitted to some thirty external experts who were chosen for their expertise in specific areas, in late spring 2016. The draft thus forwarded to the chairs and vice-chairs of the 'Environmental Health Group' (GSE) and its working groups for comments incorporated these experts' contributions (it was not possible to request the GSE's opinion on the general procedure adopted at an earlier stage, as initially planned, for reasons outside of the HCSP's control).

When formulating these proposals for target outcomes of the PNSE3 and associated indicators, the French High Council for Public Health – mindful of not overstepping its remit – was very careful not to make any remarks on the Plan itself, sticking firmly to the statement of actions as adopted by the writers of the PNSE3. Likewise, it was not the HCSP's role to define the means to be harnessed for implementing these actions. In some cases, the HCSP did, however, suggest a level of accomplishment of the actions concerned (accomplishment expressed, for example, in terms of expected reduction of the exposure level of a target population, over a certain period). It will be for the decision-makers to decide whether or not to adopt these various targets, as well as the degrees of ambition outlined by the HCSP, with particular account taken of the means that the public authorities will strive to mobilize for implementing the PNSE3.

1. CONTEXT

The overarching aim of the National Environmental Health Action Plan (PNSE) is to reduce the health risks associated with environmental factors to which the general population, and specifically the most vulnerable or at-risk sections of society, are exposed. From this, it is expected to help improve the health of the population and reduce health inequalities due to environmental factors. The 3rd PNSE (PNSE3) was launched at the end of 2014 and will apply from 2015 to 2019¹.

How can this overarching ambition be put into practice? By setting out to meet the specific targets concerning hazardous agents or pollution, environments and/or populations which break down this general aim into smaller components, and by defining a series of actions enabling these specific targets to be met, in line with the HCSP's recommendations concerning the drafting of the PNSE3 during the assessment of the PNSE2 (HCSP, 2013). The essential purpose of the PNSE drafting exercise is thus to determine the priorities and arrangements underpinning this general mobilisation of resources aimed at achieving this end goal.

Because the Plan's authors had a tight deadline for finalising the PNSE3, they chose to develop it around targets that are often expressed in general terms, whether with regard to reducing exposure, improving the health of the general population or population sub-groups, improving information, communication and training, or improving knowledge by relying on contributions from research. This statement was based on the resources to be mobilised and actions to be taken, without establishing clearly defined targets for each action or sub-action or associated indicators for assessing the progress accomplished. This makes it difficult to assess the plan, both when it reaches the end of its period of application or during its implementation.

2. AIM OF THE REFERRAL

The French High Council for Public Health (HCSP) received a joint referral from the Directorate-General for Health (DGS) and the Directorate-General for Risk Prevention (DGPR) on 19 May 2015 (cf Annexe 2), asking it to formulate *target outcomes for the actions of the PNSE3*, along with the indicators considered the most appropriate for assessing progress towards meeting these targets. In this instance, *target outcome* means the expected changes – considered positive – in environmental conditions to which populations are exposed, and more rarely in their health, thanks to the effective, practical implementation of the plan's actions, with their diverse activities and mobilised resources.

This referral is aimed at confirming the plan's assessability and must make it possible to judge its performance in due course.

Assessment of public health policy, which seeks to use existing resources in the most efficient way possible, calls for both the statement of clear targets describing the outcomes sought and the means for achieving them, i.e. the statement of a well-defined, coherent set of activities which will contribute to reaching these goals (CDC, 1999; CDC, 2006(a); CDC, 2011). Reconstruction of the rationale behind the plan's implementation is part of the procedure to be set up to this end, because it facilitates the design and conduct of the project and the assessment of its performance. With its actions and sub-actions, the PNSE3 has given precedence to this set of activities, and for that it is

¹ http://social-sante.gouv.fr/IMG/pdf/pnse3_v_finale.pdf

grounded in an implicit approach that the various stakeholders all had in mind. The purpose here is to make this approach explicit.

This assignment also drew on the work that the HCSP conducted when assessing the PNSE2 (HCSP, 2013), especially in terms of the reliability and availability of data which was able to serve as outcome indicators.

To complete this assignment, the HCSP set up a "Committee for the assessability of the PNSE3" (Copev) on which members of various HCSP specialised committees sit alongside external experts. The Copev has been tasked with coordinating the procedure and writing this report on the "formulation of the target outcomes and outcome indicators" of the plan.

3. WORKING METHOD

3.1. Working method for formulating the target outcomes and outcome indicators

These specific targets, henceforth referred to as *target outcomes*, must be **SMART** (CDC, 2006(b)), which stands for: **S**pecific, **M**easurable, **A**chievable, **R**elevant and **T**ime-bound.

Specific: This involves clearly defining the type of change envisaged as the target (what) and the population (who) or setting (where) in which this change is expected.

Measurable: This involves being able to quantify the extent of the change expected (how much) and therefore defining the data that will be collected to measure this change, its source(s) and the methods that will be adopted to process the data collected, which will form the *outcome indicators* (see below). It also involves defining the "baseline value" of the variable thus measured so as to be able to ascertain the extent of the change, i.e. to provide a *performance measure* of the action taken.

Achievable: This implies making sure the target is feasible within the allocated time and given the resources and main tools to be leveraged.

Relevant: The achievement of such a target is supposed to have a *direct* effect, even if only one-off, on the overarching aim of the PNSE3. This is what provides a measure of its relevance.

Time-bound: This involves determining the time frame (possibly broken down into stages) in which to achieve the target in question (i.e. when). A target might be "short-term", "medium-term" or "long-term" (CDC, 2011). The actions set out in the plan often need to be implemented over the long term, and call on the involvement of different partners (DGS, 2009). The effects of such actions on environmental quality are usually only possible to observe after a long period of time has passed because of the high inertia of the systems in question. As such, the long term is generally the most suitable time frame for bringing about a change in environmental factors (and even more so, of course, for the health impacts of changes brought about on these environmental factors the moment we are talking about "low risks" and chronic exposure). For all that, in some instances it can be worthwhile identifying certain short-term targets – typically within the year (or medium-term targets where applicable), for these short-term targets can represent milestones which become easier to manage, as partial outcomes can become apparent at such intervals. Accordingly, assessing their achievement can reveal gaps or shortcomings in the plan's implementation or make it possible to set new milestones, thereby saving on resources and keeping the stakeholders concerned on board through any subsequent amendments and improvements.

If relevant, several target outcomes may be defined for each action that shed light on the different aspects of the goals being pursued.

On the other hand, in a large number of cases, the very statement of the action as described in the PNSE3 will do away with the need to formulate target outcomes for, by being limited to the achievement of a particular task stated in the action's title (cf Annexe3), it can stand alone. That said, in some of these cases it will be possible to take the underlying approach further with a statement given of the outcomes that accomplishing the task is likely to produce.

Based on the target outcomes formulated in this way, *outcome indicators* have been defined. Outcome indicators are factors or variables – whether qualitative or quantitative – providing an easy, reliable means of measuring the changes associated with the action being taken. In order to propose the most suitable outcome indicators for meeting the target outcomes, a number of questions need to be asked (Rogers T *et al*, 2011).

Questions to ask when defining outcome indicators:

1. What do we want to find out; who provides information on the extent to which the target outcomes are being achieved?
2. What data do we need to answer the question? (data which already exists or needs creating; this requires an analysis of its quality)
3. From which information sources can we obtain this data? (type, parties involved in its production and storage/use)
4. What collection method(s) need organising?
5. When (and how often) will the data be collected?
6. How will the data be analysed?

The HCSP has been asked to formulate these outcome indicators but it does not have any basis for determining the performance level that these indicators must reach, as this is the role of the decision-maker who, by doing so, defines the ambition s/he has set him/herself by assigning the corresponding resources. For all that, for a certain number of actions the Copev did consider it of use suggesting orders of magnitude which it sees as achievable, with a view to helping the government departments responsible, as well as the bodies they consider worth setting up for this purpose, to provide a formal framework for these strategic deliberations. Given the tight deadline the Copev was set for the submission of its work, it was not possible to conduct a detailed review of the literature on the experiences reported to guide the establishment of these levels of ambition. The decision was thus made to establish these levels of ambition on the basis of expert opinions, after a collegial discussion. These proposals are put forward for information only, as the outcomes expected naturally depend to a significant extent on the means deployed; it is therefore for the decision-makers to confirm or adjust these proposals accordingly.

Careful attention has been paid to the availability and quality of corresponding data, taken from a range of information systems which may be managed by public authorities or other bodies. When it was found that certain datasets, considered necessary for the PNSE3's assessment, did not present the necessary form, spatial or temporal resolution, the Copev took this into account in the indicators' definition, and suggested certain improvements to be made to the information systems.

3.2. Practical procedure for formulating the target outcomes and outcome indicators

To begin with, a list of the main thematic areas covered by the PNSE3 was drawn up to group together the actions concerning fields that would merit being considered together. The Copev approved this list and its members were allocated to one or more of these thematic groups.

Six thematic areas were defined primarily from the point of view of environment or agents:

1. Outdoor air / Indoor environment* (including radon, asbestos, pesticides and occupational exposure) / Allergies, including pollen and mould;
**NB: the WG was asked to be mindful of the fact that the notion of indoor environment goes beyond that of indoor air, to encompass, for example, exposure to lead via external dust or dust deposits from paint crust or via the consequences of humidity or insufficient thermal/acoustic insulation.*
2. Quality of water intended for human consumption and protection of water resources (including pesticides)/polluted soils and sites;
3. Emerging and re-emerging risks (EDs, nanomaterials, reprotoxins, neurotoxins, including occupational exposure);
4. Physical agents (EMF, including LED, noise pollution);
5. Global change and health impacts (including climate change and infectious agents, vectors, allergies and pollen);
6. Food quality (the share food is responsible for in overall exposure to hazardous agents).

Of note is that, unlike the previous plans, the PNSE3 has been completely separated from the Occupational Health Action Plan and issues bearing on occupational risks, save for a rare few exceptions (farmers for pesticides; check-out assistants for BPA), which the HCSP finds regrettable as it undermines the effectiveness of public action in both of these major spheres of study.

Each action has also been analysed on the basis of cross-cutting themes when relevant. The cross-cutting themes suggested and approved by the Copev are as follows:

1. Health-conscious territorial planning
2. Social and territorial inequalities in exposure to environmental stressors and health inequalities
3. Health promotion, information and training and participation on the part of citizens
4. Possibility of applying the target outcomes and outcome indicators at regional and/or local level
5. Schemes and tools for conducting the PNSE and regional environmental health plans (PRSEs)
6. Research.

Then, the 107 actions of the PNSE3 were allocated to one or more of these six thematic areas¹ (cf Annexe 4).

Within a given thematic area, the Copev members were assigned the various actions of the PNSE, with each action having to be analysed by at least two "rapporteurs". A leader was appointed for each thematic group, tasked with ensuring the work progressed properly and smoothly and that the

¹ In a large number of cases, the very statement of the action as described in the PNSE3 will do away with the need to formulate target outcomes for, by being limited to the achievement of a particular task stated in the action's title, it can stand alone. These actions were not taken into account in this work. The list of these actions can be found here: Annexe 3)

time frame was stuck to, in liaison with the coordination group (HCSP General Cabinet Office, Numtech and Chair of the Copev).

The rapporteurs set out a common methodology for formulating target outcomes and outcome indicators, both for the "environments/agents" themes and the cross-cutting themes. This meant that the targets and associated indicators for both these groups of themes followed the same general methodology as stated previously, described below.

The following was therefore presented for each action:

- The thematic area covered;
- One or more proposals of target outcomes together with the time frame at the end of which they will need to be assessed (in some cases, one or more intermediate outcomes may prove relevant);
- The answers to be found to the questions in order to propose one or more associated outcome indicators;
- One or more proposals of outcome indicators; where applicable, a level of ambition for the action, expressed regarding the outcome indicator(s);
- The demonstration that the target outcome/outcome indicator pair is SMART;
- If relevant for the action in question, the setting out of one or more cross-cutting themes through new targets and associated outcome indicators, subsequently described as "additional".

For the sake of limiting the document length, the identified tools to be leveraged (which will lead to the indicators adopted), along with a brief statement of the hypotheses explaining how the change is supposed to come about and the causal link(s) between action and outcome, are indicated, for each action, in Annexe 5 entitled *Challenges of the PNSE3 actions and justification for the target outcomes proposed*.

The document proposed in Annex 6 adopts the methodology thus set out and, for each action, has been completed by each of the groups tasked with formulating target outcomes and associated indicators. To illustrate, this grid has been completed for three actions in Annex7.

Note that the targets defined in this way and their associated indicators should not be set in stone as an assessment is an evolving process. As the plan proceeds, the stakeholders shall have to review the assessment arrangements to add, remove or amend some of its components or make any other change that appears necessary (DGS, 2009; CDC, 2006(c); CDC, 2011), as and when new knowledge comes to light or information systems are improved for example.

3.3. Recommendation for improving information systems

In parallel with the work aimed at coming up with target outcomes along with associated indicators, an analysis was performed of the ability of the information systems currently available on environmental quality or on relevant health variables to produce statistics of a suitable spatial, temporal or population resolution for assessing the plan's effects and the extent to which the targets

defined by the Copev are met. The decision was made not to process local data as it was not possible to have an exhaustive knowledge thereof; this task was left up to the different PRSEs.

The purpose was to:

- identify which information systems were likely to produce the indicator capable of measuring the extent to which the targets of the PNSE3 are met or the data required to establish it;
- carry out a critical analysis of the quality of the main environmental (ambient [i.e. outdoor] air, polluted soils and sites, quality of water resources and water intended for human consumption, transport noise, etc.) or health (biomonitoring data, malformation registries, etc.) databases identified as potential sources for establishing the indicators;
- study the characteristics of these indicators in spatial (geographic scale of the data), temporal (how often the data is updated) or population (profile of the populations studied) terms as well as how accessible and usable they are, working together with the operators of these databases;
- formulate recommendations for improving the accessibility and usability of databases with a view to assessing the PNSE3 and future regional plans (PRSEs).

An analysis grid was drawn up to help complete these analyses (see Annex 8). An example of a completed grid for a specific action can be found here: Annex 9. All of the analysis grids are available in an appendix that can be downloaded from the HCSP website.

In the report, for the actions for which information systems are available, the tables present the characteristics of these indicators in terms of:

- temporal resolution (how often the data is updated): this is considered satisfactory when the data encompasses at least the time frame of the plan and it is updated at intervals which are compatible for assessing the extent to which the target set has been met and for finding out how the indicator is evolving over the years;
- spatial resolution (geographic scale of the data): this is considered satisfactory when the data encompasses mainland France and the Overseas *départements* and regions and is available at a fairly small scale (e.g.: at municipality level) when required by the target.
- data quality or relevance: this is considered satisfactory when details concerning the variables for establishing the indicator are readily available and/or there is no bias in the indicator's interpretation;
- accessibility and/or use: this is considered satisfactory when the information is organised and grouped together in a database (e.g.: spreadsheet program, general information system, etc.), which is available online, free of charge (in keeping with the European Directive INSPIRE¹).

3.4. Review of the Copev's proposals

The proposals of target outcomes and associated indicators for the PNSE3 actions, as well as the recommendations drawn up on the information systems, were submitted for a critical review by experts identified for their renowned expertise in the thematic scope of the PNSE3 as well as by the

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Chair and members of the 'Environmental Health Group' (GSE), whose role is to monitor the implementation of the plan's actions.

When the Copev considered it appropriate, it amended the version of its report in line with the feedback received.

4. PROPOSAL OF TARGET OUTCOMES FOR THE FUTURE ASSESSMENT OF THE PNSE3, AND ASSOCIATED INDICATORS

The interested reader will find the detail presentation of the Outcomes and Indicators (in French) in the HCSP report:

<http://www.hcsp.fr/explore.cgi/avisrapportsdomaine?clefr=581>

5. CONCLUSIONS

By formulating these proposals for target outcomes of the PNSE3 and associated indicators, the HCSP provides a basis to assist with the future assessment of the current plan. Having already delivered an opinion on a preliminary draft of the Plan¹, the HCSP does not comment here on the relevance of the actions – which were kept exactly as adopted by the PNSE3 writers. For the sake of greater applicability, some statements expressed in general terms or which, as is often the case, are limited solely to improvement of the knowledge of population exposure levels or environmental pollution levels, have been clarified in more specific terms or expressed in terms of changes in this exposure, which introduces an element of judgement on the intention of the Plan's authors and "deploys" the underlying rationale to these descriptive statements. It is not the HCSP's role to define the means to be harnessed for implementing these actions. That said, in some cases (as announced in the document submitted to the departments that commissioned this opinion to present the procedure that would be followed), the HCSP did, however, suggest a level of accomplishment of the actions concerned (accomplishment expressed, for example, in terms of expected reduction of the exposure level of a target population, over a certain period), in other words it estimated the expected *impact* of the action's implementation based on what experts considered achievable. It will be for the decision-makers to decide whether or not to adopt these various targets, as well as the degrees of ambition outlined, with particular account taken of the means that the public authorities will be able to mobilise.

The HCSP is pleased that some of the recommendations it had made at the end of the PNSE2's assessment with a view to preparing for the PNSE3 were taken on board – and particularly that the latter incorporates actions concerning environmental exposure through food and the link between biodiversity and health, which did not feature in the PNSE2. However, it regrets the omission of certain topics which strongly impact public health – not least the influence climate change is having on health (with the exception of certain diseases that can be transmitted by vectors) and measures to combat substandard housing, which are noticeably absent from the PNSE3. It also disapproves of

¹ HCSP, 2014. Comments on the draft PNSE3 and recommendations for improving its assessability, in response to the Directorate-General for Health's referral dated 5 August 2014. Not published.

the stance that continues to be taken whereby the sphere bearing on occupational risks is considered separate from the scope covered by the PNSE3; this procedural barrier undermines both plans as the interactions between certain aspects pertaining to occupational risks and risks related to the general environment can be altogether significant.

This analysis looked at national targets, unless justified by the title of some actions (such as when they focused on certain overseas territories or zones concerned by potentially high emissions of radon gas within the subsoil). As such, the indicators for assessing their level of achievement mainly come from information systems or surveys concerning either the country as a whole or a representative sample of the target population. Whenever possible and relevant, these targets and indicators were nevertheless downscaled to a smaller territorial level (mostly regional but sometimes sub-regional), and subsequently described as 'additional targets', which will be able to back up the ongoing work to draw up the third-generation PRSEs. For it is particularly at this local level that the stated target of reducing socio-territorial inequalities regarding exposure (which could represent a general guideline for future PRSEs) can be put into practice. These targets have been fine-tuned on the basis of data collected from a national perspective, as soon as the data in question could be used at a devolved level. It was not feasible to consider performing this analysis at local level, firstly because the sheer range of different issues to be addressed would make this impossible within the set timeframe, and secondly because this comes under the responsibility of stakeholders tasked with drawing up PRSEs which, as clearly highlighted in the PNSE2 assessment report, are much more than mere offshoots at local level of the PNSE. Accordingly, the HCSP recommends setting up a national portal to identify, on a field-by-field basis, the data and information systems that are available locally. Such a portal would allow the stakeholders concerned (State departments, associations, researchers and so on) to access such information for research purposes and, in this way, spark constructive interregional deliberation and discussion in this respect.

6. RECOMMENDATIONS AND OUTLOOK

The HCSP has therefore refrained from changing the title of the Plan's actions and endeavoured to stay faithful with the intentions of its authors, to the extent it understood them, when required to specify targets which did not come across clearly enough in the statement of some actions, so as to improve their assessability. The fact is that this "translation" exercise often proved necessary – a sign that the assessment stakes were not sufficiently taken on board by the various parties involved in the plan's drafting. The HCSP would like to believe that preparations for the next Plan will accord greater consideration to the assessability dimension, which is crucial for prioritising and conducting public policy.

The recommendations that follow will focus on the improvement of information systems. This is because, despite the significant quantitative and qualitative headway made in this area since the first PNSE, there is still room for improvement to enable the risks to be assessed with more precision and the outcome of the substantial mobilisation of public and private resources required to implement the plan to also be assessed. In that regard, the recommendations already formulated at the end of the PNSE2's assessment on these information systems are still largely applicable, for a number of limits are yet to be cleared up (including spatial and temporal resolutions, quality of information, updating intervals, lack of data on a certain number of pollutants or in certain areas of the environment and national/regional coordination). Note that during the procedure followed in this

instance to analyse the ability of these information systems to complete the Plan's outcome indicators in a relevant manner, access to existing data was satisfactory overall. Some data could not be recovered for all that (see Annex 10) for various reasons. The main one being the time required to extract and use the data needed as the databases had not been designed for this purpose; another reason was the lack of appropriate data, or sometimes the slow response on the part of the organisation or institution in possession of the data.

However, as noted back in 2013 already, public access to information is not guaranteed for all areas, and what was written in the PNSE2 assessment report remains entirely valid: *"This subject is of the utmost importance. Although it is understood that some pieces of data are sensitive and prudence must therefore be exercised in their provision (restriction as to the spatial scale of analysis, respect of confidential data, caution regarding their interpretation, etc.), this can but be the exception to the rule. The spirit and text of Directive 2003/4/EC on public access to environmental information (drawing on the Aarhus Convention) aim to make it easier for any stakeholder to use the information produced in this way to ascertain the quality of the environments of interest with regard to reference standards (statutory limit values, the situation elsewhere or before, etc.). This involvement on the part of civil society is encouraged as it contributes to progress. Today this mindset can be taken further. The amount of relevant information available – as much in terms of environmental data as socio-economic, health and demographic data for example – is such that there is no point expecting that a public administration – however motivated – can take full advantage of it. Making this data publicly available increases society's capacity – to an almost unlimited extent – to analyse and shed light on the situation. Of course, this has democratic ramifications as any party is free to hold to account the bodies considered responsible for a review of the situation that strikes as unsatisfactory in the light of this citizen-led analysis"*. There is significant room for improvement and proposals are made throughout this report when this was considered particularly relevant.

However, a major shift can be noted in the way in which these information systems are managed and this must be highlighted, as it reflects the gradual implementation of European Directive 2007/2/EC of 14 March 2007, known as INSPIRE. Whereas the HCSP reported back in 2013 that *"there is generally evidence of widely dispersed information that has not been centralised to any great extent, which prevents its use for completing the indicators of expected outcomes in the PNSE2"*, this "centralising" view comes up against its own limits. The idea of bringing together the very large number of public databases within one "meta-system", which would make it possible to cross-link and compare these different datasets, now appears frankly unrealistic. The technical hurdles would be too great to overcome. Instead, what the INSPIRE Directive strives to do is establish spatial data infrastructure (SDI) within the European Community in the form of a network of services for accessing datasets online, spread across the websites of the various stakeholders to enable the data to be disseminated and shared. It encourages data producers to structure access to their data in the form of interoperable flows (particularly via regional SDI sharing platforms) and geostandards which facilitate data recovery, irrespective of the producer, for a given theme. For example, accredited associations for the monitoring of air quality (AASQAs) work with their Federation Atmo France on producing geostandards (measurements, mapping, emissions, etc.) and implementing them in their IT systems.

Such a development offers considerable potential for making effective use of the data collected by the various organisations, as it will gradually enable the information produced by a variety of stakeholders (in the environment, health, social affairs and transport sectors to name but a few) to be used in a comparative and utterly decentralised manner, in line with the needs of any number of

possible users – particularly for study or research purposes. With this in mind, the traditional process of concatenating data within national or European databases is no longer a priority. There is sometimes the impression that too many financial and human resources (in relative terms) are poured into the collection of data, and not enough devoted to analysing and interpreting this data to gain an understanding of phenomena and to using it to assess actions and guide stakeholders.

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