

Working towards a 2nd French National Adaptation Plan for Climate Change: Challenges and Recommendations

FOREWORD BY THE MINISTER FOR THE ECOLOGICAL AND INCLUSIVE TRANSITION

'God always forgives, we men sometimes forgive, but nature never forgives.' These are the words of Pope Francis, whom I met during the course of my previous role as a Special Environmental Envoy in the run-up to the COP21 - words that come back to me every time I hear about adaptation to climate change. The effects of the droughts, wildfires, cyclones and torrential rain brought by the summer of 2017 were felt both in France and around the world.

It is our responsibility to protect our citizens from the consequences of climate disruption - a concept France made sure was one of the founding principles of the Paris Agreement. It is the natural counterpart to our resolution of limiting global warming to 2°C. The impact of climate change is already being felt, and there can now be no doubt that we must learn to live with its effects, while at the same time ramping up our efforts to reduce greenhouse gas emissions. Throughout mainland France and our overseas territories, from now on we must plan ahead for life within a 21st-century climate, learn to expect the unexpected, and prepare ourselves for what the scientific community is predicting: heatwaves, extreme climate events, droughts and water shortages. Resigning to this fate is not our only option: we may also choose to anticipate change and plan ahead.

In the Climate Plan published by the French government on July 6th 2017, 'adaptation' is the subject of Objective 19, which outlines the publication, before the end of 2017, of a new National Adaptation Plan for Climate Change (NAP) to be implemented by the current government. Its aim will be to improve measures to protect French citizens from extreme climate events, as well as to strengthen the resilience of our key economic sectors (agriculture, industry, tourism, etc.) in the face of climate change.

Through the work of the National Observatory on the Effects of Climate Change (ONERC), we are gaining a more and more precise picture of how climate change will affect us. This will enable us to better protect the French people against climate disruption and launch a major mobilisation of resources, as in many instances being able to successfully anticipate climate-related catastrophes can mean saving lives and reducing the cost of damage. Achieving this goal will mean mobilising all the climate stakeholders from elected officials to regional governments, businesses, civil associations and citizens, as we all have a role to play in adapting to climate change. France must also continue to set an international example and help guide other nations towards the same goal, using our expertise, experience and financial resources to help those most at risk, wherever they may be.

NICOLAS HULOT
Ministre d'Etat,
Minister for the Ecological and Inclusive Transition

FOREWORD BY THE PRESIDENT OF THE ONERC

I have been involved in climate action for over fifteen years, first as a local politician and then as the spokesperson for local authorities in France (UCLG). Today, as president of the 'Climate Chance' association, which helps non-governmental stakeholders make their voices heard in climate negotiations, I am delighted to accept the nomination as president of the special commission of the National Council for Ecological Transition in charge of guiding the action of the ONERC. Using a new format, this commission will carry on the work of my predecessor, Mr. Paul Vergès, Reunion Senator, who sadly passed away in 2016, was behind the 2001 law that made the fight against the greenhouse effect a national priority, and we will pay tribute to his memory by continuing this essential work.

Some of you may recall that in the past I have expressed reservations about adaptation to climate change, viewing it as a stop-gap solution given the absence of prospects for stabilising global warming. Because the need to adapt to climate change is inherently linked to our efforts to stabilise temperature rises, I consider it entirely necessary to tackle the dual issues of climate change mitigation and adaptation in a coherent fashion. This will mean taking into account the effects of climate change mitigation policies when developing our adaptation strategy.

The issue of adaptation is not the same today as it was ten years ago. Now, indeed, with the establishment of the Paris Agreement at the COP21 - signed by over 166 countries¹ - along with the commitments of non-governmental stakeholders and the combined efforts of all our citizens, the framework for stabilising temperature rises is more robust than ever. This recent dynamic clearly justifies our increased focus on the issue of adaptation, because despite all our current and future efforts to reduce greenhouse gas emissions, a certain level of climate change now remains inevitable.

In France and elsewhere, we must learn to live with warmer temperatures, higher sea levels, and more frequent droughts despite more intense periods of rainfall. We must also seek out adaptation strategies that are best suited to local conditions, and which respect the natural, social and economic balance of the area in question. In particular, this will involve providing support and guidance for economic developments linked to France's 'Ecological and Inclusive Transition', of which climate change mitigation and adaptation are both key elements. As the Paris Agreement reminds us, it is essential that we provide a dual narrative of climate change adaptation and mitigation at all levels: inter-communal, regional, national, European and global. This is why, in terms of climate action, bringing together all the local actors represents one of the most important challenges we face.

In order to strengthen the adaptation strategy that France has been developing since the 2000s, we must fight to dispel the taboo around certain subjects such as coastline urbanisation or irrigation. This is a major early step on the road to seeking and establishing an ambitious consensus on each issue, which may then be transformed into inclusive public policies understood and supported by all our citizens. The special commission over which I preside will devote its energies to this purpose, in particular by drawing upon the wealth of information gathered over the course of the national consultation for a new NAP, whose findings are summarised in this report. I would like to take this opportunity to acknowledge the work of all the participants who were actively involved in the development of the 34 thematic sets of recommendations, whose content will be essential to the establishment of the 2nd NAP.

As announced via the Climate Plan presented on July 6th 2017 by Mr. Nicolas Hulot, Ministre d'Etat and Minister for Ecological and Inclusive Transition, the 2nd NAP will be prepared by government

¹ As of September 26th, 2017

departments and submitted to public authorities at the end of 2017, following a public consultation phase. The special commission for which I am responsible will therefore be involved in the development of the plan and the monitoring of its implementation over the coming years. This activity falls within the framework for re-centering our environmental dialogue around the central operators that are the Economic, Social and Environmental Council and the National Council for Ecological Transition. I would therefore like to thank the members of this commission for agreeing to participate in the work undertaken. I will work to ensure that we refuse to shy away from any topic or idea, so as to provide quality recommendations for long-term application.

RONAN DANTEC

President of the Special Commission of the National Council for Ecological Transition in charge of guiding the action of the ONERC

SUMMARY

The national consultation for a second National Adaptation Plan (NAP) was a continuation of the work of the first NAP (2011-2015), and was undertaken in a context of increased awareness of the topic of climate change at the international, European, national and local levels. At global level, Article 7 of the Paris Agreement, adopted in 2015, emphasises the necessity of increased commitments regarding adaptation to climate change. This agreement galvanised the existing framework for climate action, made up of the EU Strategy on adaptation to climate change (2013), France's National Adaptation Strategy (2006), the Regional Plans for Sustainable Development, Urban Planning and Territorial Cohesion (SRADDET) and the Local Climate-Air-Energy Plans (PCAET) implemented via the Energy Transition for Green Growth Act (2015).

It is in this context that the work to prepare the second NAP has been undertaken, making the 'revision of the National Adaptation Plan by mobilising all climate stakeholders' an integral part of the government's 2016 roadmap towards Ecological Transition. This measure stipulates six interconnected clusters to be discussed and researched during the consultation: 'Governance and Steering', 'Knowledge and Information', 'Prevention and Resilience', 'Adaptation and Preservation of Natural Environments', 'Vulnerability of Economic Sectors' and 'Reinforcement of International Actions.' Each of these six clusters was tackled by a working group, tasked with submitting recommendations for a new NAP. The working groups were presided over by those central administration departments most affected by the topics involved, and were made up of members of the National Council for Ecological Transition, qualified experts from various backgrounds (scientists, economic operators, civil associations, etc.) and representatives from government departments. These six working groups met during the same period on three to four occasions between summer 2016 and summer 2017, mobilising some 300 participants in order to produce 34 thematic sets of recommendations. Dividing the work into 6 clusters allowed the groups to structure their work, but this did not mean that each cluster was studied in isolation from its counterparts. Several resources were used to establish transverse links between the recommendations, such as the involvement of certain participants in several working groups, discussions between the presidents of the working groups, the work of the inter-group support team and a cross-cutting seminar. In this way, the main overlaps were highlighted within a dedicated cluster of each set of recommendations.

Among the six working groups, five were tasked with producing technical sets of recommendations, while the 'Governance and Steering' group had a dual objective: to navigate the work of the other five groups, while also producing recommendations aiming to improve the governance of France's approach to climate change adaptation. Indeed, the assessment of the first NAP highlighted a number of significant areas for improvement in this regard, due mainly to the novel nature of this type of public action in France and Europe, as well as the fact that the actions of the first NAP were mainly incentivising in nature, and focused on improving knowledge and awareness. The evaluation process therefore insisted on the necessity of improved governance for the next NAP, whose actions should be more prescriptive and locally targeted. As such, the 'Governance and Steering' group set the general objective for the consultation process, in accordance with the terms of the Paris Agreement: 'Effective adaptation to the regional climate in both mainland France and its Overseas Territories by the middle of the 21st century, in line with a global temperature increase of 1.5 / 2°C compared to the pre-industrial levels.' In addition, the group's discussions were focused around five thematic sets of recommendations: connecting the policies of adaptation and mitigation, links between local climate policies, Overseas Territories, legal and technical environmental standards, and monitoring and evaluation. These reflections led to suggestions such as the implementation of a system of linkage and coupled scheduling for the adaptation and mitigation strategies, or the implementation of coordinated national and local monitoring committees.

The other five groups were tasked with producing technical recommendations for specific areas of action. The 'Prevention and Resilience' group tackled questions of prevention and risk management linked to certain dangers likely to be rendered more damaging by climate change (e.g. floods, droughts, etc.). Their investigations were structured around four thematic sets of recommendations two of which involved specific sectors (public health and forest/scrub fires) and two of which dealt with cross-cutting aspects: **prevention** measures and the transformation of local areas. Their discussions established four priority working areas for the second NAP: prioritising 'no regrets' and win-win strategies, mobilising and monitoring the involvement of all local actors, deepening the expertise

regarding mechanisms for transferring residual risk, and creating the environment of the future. These have led to recommendations such as the creation of joint health-environment observatories, developing local strategies for forest fire prevention, and identifying appropriate insurance options for adaptation and recovery after climate disasters in line with the 'Build Back Better' principle.

Some of the topics examined by this group, such as forests and floods, are highly linked to the work of the 'Adaptation and Preservation of Natural Environments' group. Indeed, climate change, in combination with other environmental pressures (e.g. pollution and artificial developments), causes serious damage to natural areas and erodes biodiversity. Properly functioning ecosystems provide a multitude of 'ecosystemic benefits' (e.g. climate regulation, flood prevention), and as such constitute one of the keys to improving our adaptation and mitigation efforts. In order to produce recommendations aiming to guarantee the favourable development of biodiversity and our environmental heritage, with a view to maximising synergies between the protection of natural spaces and human activity, this group structured its work around two lines of thought: the first was based on the type of area involved, thereby taking into account the specific characteristics of each type of ecosystem (aquatic, marine, forest, agricultural and mountainous), and the second was a cross-cutting approach, allowing the group to examine issues that affect all of the natural environments (such as general policies for climate action, biodiversity, soils and water resources). This work led to a wealth of recommendations, such as the promotion of nature-based solutions and plans to spatially reshape coastal areas.

The work of the 'Adaptation and Preservation of Natural Environments' group was also closely linked to that of the 'Economic Sectors' group, especially in terms of agricultural environments and the agribusiness and food processing sectors, which were examined on a joint basis by the two groups. The 'Economic Sectors' group also focused on four other sectors deemed to be either particularly vulnerable or presenting potential climate opportunities, such as the financial sector and the tourism, forestry and fisheries industries. In addition to this industry-based approach, the group also examined a broader issue affecting all sectors (aside from those subject to specific recommendations): socio-economic prospective studies and sectoral awareness. Their discussions led to the formulation of a number of recommendations, such as the identification of sectors in which awareness needs to be improved, in conjunction with socio-economic prospective studies for the duration of the second NAP, as well as the sharing of expertise within the financial sector in order to mitigate climate-related risks. The evaluation of the first NAP noted that not enough attention was paid to the issue of economic sectors, and that while the issue of adaptation to climate change is now better understood by the economic sectors, not all of them appreciate the importance of implementing adaptation initiatives - even though the General Council of the Environment and Sustainable Development considers this to be a rational choice when compared to the potentially high cost of inaction. The mobilisation of economic sectors has therefore arisen as a major challenge for the next NAP.

One of the major areas of focus for a broader mobilisation of all actors is improving knowledge and understanding of the situation, as highlighted in the National Strategy for Adaptation to Climate Change and the Evaluation Report for the first NAP. This area of focus was examined by the 'Knowledge and Information' group. The group dealt with the four major aspects of this issue: research and understanding, education and training, information and awareness, and climate services. The main recommendations arising from the group's work include, for example, the promotion of interdisciplinary research, the development of a resource centre focused on climate adaptation, and the development of a national network of climate services.

The work of the final group was focused on the issue of 'International Action.' Indeed, France has invested a great deal of time and energy to this issue, working to ensure that the Paris Agreement was adopted and successfully implemented, requiring each nation to regularly renew its climate ambitions. As such, France has a major responsibility in terms of the implementation of the Paris Agreement. It is in this context that the 'International Action' group put forward its recommendations to strengthen the integration of adaptation in all sectors, and at every level of international climate action. Its work applied to seven key issues: international presence and influence, including economic diplomacy; international scientific contributions; development aid, taking into account the need to strengthen national capacities to adapt to climate change; EU policies and programmes; sharing of information and feedback on experience; international activities of local operators; and cross-border cooperation. The group's work gave rise to the realization that boosting France's international climate actions would

require the concept of adaptation to be integrated into our international relations, and also that it would be necessary to develop a strategy to increase France's influence in this domain. In order to meet this dual objective, several recommendations were put forward, such as facilitating access to, and mobilisation of, European funding for French project developers, or increasing the amount of dedicated development aid funding for adaptation to climate change.

All these recommendations are designed to feed into the second NAP, announced in Objective 19 of the French Climate Plan, which was presented on July 6th 2017 by Mr. Nicolas Hulot, Ministre d'Etat and Minister for the Ecological and Inclusive Transition. Strengthening our ability to adapt will bring a major boost to our climate policy, which aims to lead us towards a low-carbon and resilient society, adapted to climate change, and in a broader sense will also help bring about France's ecological and inclusive transition.

INTRODUCTION

France's policy regarding adaptation to climate change, initiated in the early 2000s and based on what was then the latest information regarding the expected effects of climate change, reached a major milestone in 2015. As the Paris Agreement was being reached at the international level, domestically the final assessment of France's first National Plan for Adaptation to Climate Change (the NAP 2011-2015) was published and presented to the National Council for Ecological Transition. Increased awareness, particularly significant on a global scale, of the necessity of taking determined and resolute action to adapt to climate change because of the levels of global warming already observed, as well as climate inertia, was reflected in the subject matter of Articles 7 and 8 of the Paris Climate Agreement, which deal with the issues of adaptation and loss and damage, respectively.

The initial groundwork for the 2nd NAP was undertaken within the context of this renewed international framework. In terms of adaptation to climate change, the framework for action is also defined by the directions indicated in the National Strategy for Adaptation to Climate Change, adopted in 2006 and supplemented at the European level by the EU Strategy on adaptation to climate change, adopted in 2013. In addition, as part of the implementation of the Energy Transition for Green Growth Act, adopted in 2015, Regional Climate-Air-Energy Schemes (SCRAE) will evolve into Regional Plans for Urban Planning, Sustainable Development and Territorial Cohesion (SRADDET), and Local Climate-Energy Plans (PCET) will become Local Climate-Air-Energy Plans (PCAET), whose field of action includes adaptation. Work to develop the 2nd NAP will therefore benefit from a framework for action that is appropriately demarcated at all relevant levels.

Beyond this framework, the transition from the 2011-2015 NAP to the 2nd NAP will draw upon a comprehensive and constructive assessment process, which has been progressively enriched by various sources from the mid-term progress report issued in 2013 to the final report on the NAP 2011-2015 (cf. ONERC report to the Prime Minister and Parliament, 2016). When the issue of adaptation was examined during the environmental conference held in spring 2016, participants were able to draw upon feedback from a fully completed cycle of public policy. This situation makes France one of the most advanced countries in terms of public policy regarding adaptation to climate change, and therefore a natural partner at both European and international levels.

However, even if the final review highlighted several very significant advances in terms of the information and tools available, particularly the 'Drias - Futures of Climate' portal, the reports generated by the unit coordinated by Jean Jouzel and the conclusions of the research projects of the 'Management and Impacts of Climate Change' programme (GICC), it also identified several major areas for improvement. In particular, the review recommended reinforcing governance of the adaptation process, encouraging economic sectors to confront the realities of climate change, and boosting adaptation at local level. Adaptation to climate change can be seen as an opportunity, and achieved under optimum conditions by taking into account other societal issues.

These ideas form the foundation for the development of the second NAP, as part of the government's 2016 roadmap for ecological transition. The 'Launch of the revision of the National Plan for Adaptation to Climate Change' measure stipulates six main areas, which are interconnected, to guide discussions for the new plan: 'Governance and Steering', 'Knowledge and Information', 'Prevention and Resilience', 'Adaptation and Preservation of Natural Environments', 'Vulnerability of Economic Sectors' and 'Reinforcement of International Actions.'

Work began in 2016 with a consultation phase aiming to identify the necessary measures to be taken, via a collective and resolutely transparent exercise carried out in a spirit of openness and partnership. The French government, under the responsibility of the General Directorate for Energy and Climate, established a working group for each of these six main areas, with each group being presided over by the central administration authority most directly concerned by the issues in question. The members of the National Council for Ecological Transition were invited to join the working groups, as were qualified individuals from various fields and backgrounds (scientists, economic stakeholders, NGOs, etc.) and representatives from government departments.

Over the course of a 12-month working period, almost 300 participants divided into 6 groups met 3 or 4 times depending on the group. A seminar held on July 4th 2017 was an opportunity to gather participants from all the groups and allow them to collectively discuss the conclusions drawn by each

group. 34 thematic sets of recommendations (cf. Fig 1) were finalised in this way, overseen by the group presidents with support from the ONERC. The full sets of recommendations (Part A) stemming from the consultation process and which will feed into the 2nd NAP are available (in French) via the website of the Ministry of Ecological and Inclusive Transition: (<https://www.ecologique-solidaire.gouv.fr/adaptation-france-au-changement-climatique#e5>). Not all the recommendations were the subject of a full consensus. In cases where groups were unable to reconcile diverging opinions on a given matter, this was reflected in the formulation of recommendations. This interim step in the transition between the 1st and 2nd NAP ensures the results and observations of the working groups are made available to a wide audience. The main documentary resources used or mentioned by the working groups are listed in Part B, and are organised by cluster.

PART A

Recommendations for a new plan

Part A presents the main challenges, **themes** and recommendations arising from the national consultation that came to an end in July 2017, organised into six main areas corresponding to the six clusters examined during the consultation.

The thematic sets of recommendation are all issued in the same format (cf. Annex) in order to make them easier to read, although content may not appear on the same level in every document. These differences reflect varying levels of mobilisation on the subject of adaptation to climate change, depending on the theme in question.

It should be noted that certain elements indicated may not have been the object of a full consensus, and that several points will still be subject to debate, most likely in another setting.

Part A, Cluster 1. Governance

Adaptation to climate change has been a source of public concern for only a short period of time, and has been the subject of public policy for even less - the first national strategy was adopted just over ten years ago, in 2006. As such, it is not surprising that the first French national adaptation plan (NAP), which was one of the first to be developed in Europe or anywhere in the world, displayed notable limitations in terms of governance, despite the remarkable advances it was able to achieve in terms of public awareness and distribution of scientific information. Indeed, the approach to adaptation espoused in the first PNACC was, at the turn of the decade, deliberately less prescriptive and resolutely geared towards incentivising stakeholders and citizens. The assessment of the national approach to adaptation carried out by various bodies (including the General Council of the Environment and Sustainable Development and the Economic, Social and Environmental Council) did not fail to point out the necessity of changing the scale of public action, recommending initiatives that were both more prescriptive and more tailored to local needs.

The first discussions of the national consultation on governance allowed us to define a common working goal for all the components that was both realistic and in line with the letter and the spirit of the Paris Agreement. This general objective, which was adopted during the 2016 Environmental Conference, is cited in the foreword to each of the 34 sets of recommendations, and reminds readers that climate action must aim to achieve 'Effective adaptation to the regional climate in both mainland France and its Overseas Territories by the middle of the 21st century, in line with a global temperature increase of 1.5 / 2°C compared to the pre-industrial levels.'

While the objective may be clear, achieving effective governance of a recently developed public policy is no simple matter. Indeed, if the general principle of integrating the adaptation process into policies for each individual sector is appropriate, given the pervasive importance of the subject, to adjust other initiatives being implemented as part of wider programmes, this does not facilitate steering and monitoring, especially in terms of budget. As underlined in various assessments, the main challenge for the 2nd NAP in terms of governance resides in the development of recommendations that will allow us to reinforce the strategic steering of the adaptation approach, in such a way that the prescriptive nature of the initiatives may be progressively reinforced in cooperation with the levels of local governments, acting to supplement initiatives which are still largely focused on incentivisation.

The group's discussions were able to reflect this development, drawing upon the experience and feedback from operators at the forefront of climate initiatives during the 2011-2015 period. The first critical point unanimously put forward is the need to create greater cohesion between policies concerning adaptation to climate change and those concerning the reduction of greenhouse gas emissions (this is also the case at the EU and international levels: cf. 'International Action' cluster). Indeed, **pursuing** adaptation objectives while the atmospheric concentration of greenhouse gases has not yet been brought under control makes little sense. As such, it is recommended that efforts to increase cohesion among climate policies should be achieved by creating links with corresponding strategies, and applying similar timelines across the board. A revision of the National Adaptation Strategy, carried out in the wake of the first revision of the French Low-Carbon Strategy (SNBC) has therefore been suggested, as well as the pooling of tools and resources such as those used to forecast future climate scenarios.

The second major theme of the recommendations involved the local and regional linking of climate policies, which represents one of the main criticisms raised with regard to the first plan, whose aim was essentially to develop tools, methods and information for general use at all levels, but which was in reality particularly geared towards the largest spatial scales. A number of developments (e.g. 'Drias Futures of Climate', characterisation of extreme climate events) now make it easier to apprehend local issues at the appropriate management level (e.g. catchment basins, mountain ranges, etc.) An examination was carried out into the geographical cohesion of the adaptation process, from national through regional to local level, and relevant recommendations were issued. Questions regarding coherence, information exchange and feedback on experiences, as well as project steering at regional level, were all covered in specific suggestions. The Regional Plans for Urban Planning, Sustainable Development and Territorial Cohesion (SRADDET) was identified as the primary vector at regional level, supplementing the Local Climate-Air-Energy Plans (PCAET) and Local Plans for Territorial

Cohesion (SCoT) at local levels. In addition, the establishment of coordinated national and local monitoring committees is in accordance with the suggestions of the Prevention and Precaution Committee, formulated in 2013. Issues at European, transboundary and global levels were examined by the 'International Action' working group.

Overseas territories represent a particular area of focus for adaptation to climate change, due to a number of particular characteristics: certain climate risks are specific to these areas (such as tropical cyclones like the recent hurricane Irma that devastated Saint-Martin and Saint-Barthélemy), while the geopolitical environment is also unique. A new law aiming to reduce development disparity between mainland France and overseas territories, which came into effect on February 28th 2017, will act as a natural vector for adaptation to climate change. Where certain adjustments have been identified for all or part of France's overseas territories, these are indicated in the cluster provided for this purpose in each of the 34 sets of recommendations. In addition to reducing vulnerability via monitoring and management of the effects of climate change, as well as information development and working to increase local competencies, the recommendations aim to enhance, in terms of adaptation, the involvement of overseas territories in their own regional organisations, thereby contributing to their international influence.

In addition to the topics of climate policy and local/regional mobilisation, the question of official standards (both legal and technical) represents a relatively underused resource in the first PNACC, with two notable exceptions: the review of technical reference materials for transport infrastructure design and management, and new thermal regulations for the construction sector. Building on this positive experience, it has been recommended that we extend the idea to all areas affected by climate issues (and therefore potentially by climate change) through current and forthcoming regulatory actions. At the same time, the identification of legal standards (laws, decrees, etc.) and their implementation (government orders, ministerial circulars, etc.) representing a significant driver for climate change adaptation is a significant new addition to the recommendations. The next step will therefore be to suggest ways to develop these texts in order to help protect individuals and property from climate change in both the short and long terms.

Finally, the 5th set of recommendations put forward by the 'Governance' working group aims to establish the basis for systematic monitoring of the implementation of climate change adaptation initiatives, in order to facilitate EU-level and international reporting within the framework of France's international commitments (Paris Agreement, EU Strategy on adaptation to climate change), but above all to enable thorough evaluation of the effects of adaptation strategies. Although complex, this issue deserves particular attention so as to delay no longer the necessary methodological developments. Indeed, it is essential that we provide ourselves with the means to monitor the evolution of current vulnerabilities, and boost our efforts if they continue to grow rather than taper off in the medium term, as well as giving ourselves the means to reduce these vulnerabilities in the long term. France's development trajectory must be sustainable with regards to both the present and future climate.

The provisions indicated in the 5 sets of recommendations issued by the 'Governance' working group aimed to help build both a general framework for the other working groups, but also to initiate reflection in the general interest, to support more technical provisions suggested within the work of the other working groups.

Part A, Cluster 2. Prevention and Resilience

The consequences of natural disasters such as hurricanes, earthquakes, major flooding, landslides and droughts are often very serious in terms of both human casualties and economic damage².

Climate change may result in certain types of hazardous events occurring more often, or it may lead to their effects being felt more acutely by local populations and economic systems, as well as causing damage to ecosystems. These involve heatwaves, droughts, intense rainfall in certain regions and sea level rise. The recommendations listed to enhance adaptation in this new context fall within the national framework established by the '7 pillars of Risk Prevention'³, and at the international level within the Sendai Framework for Disaster Risk Reduction 2015-2030, which aims to achieve 'substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries', and works with long-term time frames.

In order to respond to these challenges, prevention tools for major natural hazards provide a suitable framework, highlighting the need to immediately anticipate certain developments (or even disruptions) linked to climate change - the difficulty is not knowing if the climate will change, but how long this change will take. For example, it is important to immediately undertake certain actions whose effects may only be felt decades away (forestry, urban renewal and redevelopment of certain exposed areas presenting major challenges, transport).

Over the course of three meetings, the initial framework of **7 Major Topics** was subject to a **comprehensive enhancement**, allowing the group to identify specific themes: forest fires, heritage, citizen involvement, coastlines, networks (including electricity and not only transport). After this, a second phase allowed these themes to be organised into four sets of recommendations.

Figure 2: Evolution of the breakdown of individual theme in 'Prevention and Resilience' over the course of the consultation.

Two thematic sets of recommendations:

- the '**forest and scrub fires**' theme overlaps significantly with the 'adaptation and preservation of environments' theme; in addition, this set of recommendations illustrates the necessity of beginning to plan immediately for new forest plantations, taking into account as much as possible a medium/long-term context in which droughts are more common and the risk of fire has increased, with new geographical parameters;
- the '**public health**' theme appeals for a major mobilisation of representatives and operators from the health sector it focuses on; however, a paragraph on the construction sector has also been retained in the 'prevention tools' theme, indicating the importance of developing building quality standards to integrate natural hazards and health risks, and moving from a way of thinking that focuses solely on mitigation to one that also integrates the adaptation to climate change.

Two cross-cutting sets of recommendations:

- The set of recommendations on '**prevention tools**' integrates recommendations in terms of a continuous improvement of our understanding of the impact of climate change on natural hazards and disasters, reduction of building vulnerability via town planning that integrates climate change, and the reinforcement of preventive initiatives. The work carried out on the mechanisms of **residual risk transfer** could also be taken further: insurance is a way for managing the global cost of risks, in a context of a potential increase of climate-related impacts. In particular this would involve using this option to encourage preventive practices that would improve resilience to climate change. After an event has occurred, the 'Build Back Better' principle enables to reduce future vulnerabilities;

² Report: 'Improving prevention and protection against natural hazards', French Insurance Association, 2015.

³ 1, Risk Awareness; 2, Monitoring and Alerting; 3, Informing and Educating; 4, Taking Risk into Account in Urban Planning; 5, Reducing Risk; 6 Preparing and Managing Risk; 7, Gathering Feedback/Experience.

- **'transformation of territories'** provides recommendations for projects to be carried out on a local or regional scale (regarding coastlines in particular), placing urban and rural planning within a long-term perspective integrating the inherent risks of climate change, using a sustainable development approach that includes for example respect for local ecosystems.

These four working areas for the 2nd NAP on the theme of Prevention and Resilience may draw upon elements of the methods largely highlighted by the working group:

- prioritising **no-regret** and win-win actions (or multifunctional approaches) with shared benefits for other social, economic and environmental issues. Once identified, no-regret actions can be easier to carry out, and provide a solid basis for future actions. These no-regret actions are often linked to mitigation actions (for example, thermal comfort of buildings can take into account sanitary issues and certain natural risks, such as flooding);
- above all, **mobilising and monitoring the involvement of all local actors**: local representatives, economic stakeholders (especially in the construction sector) and NGOs. The importance of local transformation highlights the key role played by regional and district representatives - for whom support materials should be provided so they may present pragmatic messages and suggestions - but also the need of supporting and highlighting local initiatives, and sharing experience so as to encourage other local areas to replicate best practices. It will also be necessary to further develop recommendations for overseas territories where disaster risks are more concentrated (high numbers of people living on coastlines, hurricanes and cyclones potentially becoming more intense).

A number of economic sectors contributing to everyday life of a given region or area, and if these are exposed to risks modified by climate change, their vulnerability may increase. This may concern, for example, the forestry sector, some networks and infrastructures, or elements of significant cultural heritage in a given area, which may be rare and irreplaceable. The set of recommendations formulated aims to ensure the transition to a preventive approach, rather than a simply defensive one: fighting against the causes of climate change and living with its effects.

Part A, Cluster 3. Natural Environments

Climate change, in combination with other pressures such as pollution and artificialisation of the soil, contributes to the deterioration of natural environments. In the same way as a person suffering from ill health is more sensitive to infections and other harmful influences from his surrounding environment, an ecosystem is all the more likely to be affected by climate change if it has already been damaged. However, the 'proper functioning' of natural ecosystems leads to a multitude of ecosystemic benefits (e.g. climate regulation, flood prevention) that contribute to a better mitigation and a better adaptation. It is therefore essential to preserve the health of ecosystems so as to increase their levels of resilience, thereby to participate to our society's adaptation to the effects of climate change.

On an international scale, the interdependence between biodiversity and climate is underlined by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) and reaffirmed in the Strategic Plan for Biodiversity 2011-2020, issuing from the Convention on Biological Diversity. At the national level, these concerns are present in the National Adaptation Strategy (2006), the National Biodiversity Strategy 2011-2020, the law on Reclaiming Biodiversity, Nature and Landscapes (2016), and partially in the NAP 2011-2015. However, assessments of the first NAP found that biodiversity was not given adequate attention, and that water resources and coastal areas should be treated as priority topics in the 2nd NAP.

As such, a working group dedicated to the adaptation and preservation of natural environments was established. Its work was initially based around four priority topics identified during the 2016 environmental conference: biodiversity, water, mountains and coastlines. However, the group quickly choose to broaden its scope of consideration. As such, its work was structured around two approaches:

- the first approach examines individual environments, in order to account for the specific characteristics of each type of ecosystem: aquatic, agricultural, marine, coastal, mountain and forest ecosystems;
- the second is a more lateral approach, allowing the group to reflect on issues that affect all natural environments: general principles, biodiversity, soils and water resources (quantity and quality).

These working approaches led to the identification of seven key subjects, each of which would result in specific sets of recommendations. However, these subjects are not inert, and a number of areas of overlap exist between them. As such, the full range of subjects is linked by a series of broad-spectrum **general principles**, working to supplement the National Adaptation Strategy 2006 and providing a guideline for climate action. The three general principles highlighted by the group are as follows: cohesion of public policy, local and regional mainstreaming, and the concept of adaptive governance. These were a subject of particular focus during discussions on water resources and aquatic ecosystems, where the three main challenges are water sharing, improving water quality and the preservation of aquatic ecosystems. In fact, in order to provide an adequate response to the issue of water sharing (a subject of much discussion), the group insisted on the necessity of establishing local and regional governance involving all stakeholders in order to reconcile the needs of each activity with environmental protection, as water sits at the heart of a multitude of environmental challenges. Water resources are a multilateral issue and was discussed on a number of occasions, in particular during working sessions on **agricultural environments and the agribusiness/food processing sectors**, which have already been affected by the increased risk of drought. As a result, this topic (which notably tackles the question of synergies between water, biodiversity and agriculture) was handled jointly with the working group on 'Economic Sectors' in order to strengthen coherence between the various examinations of this subject. This was also highly linked to the topic of **soils** - higher soil quality leads to ecosystem services such as the production of biomass, as well as water regulation and organic carbon capture and storage, which boost mitigation and adaptation. Discussions on this topic pointed to a broadening of perspectives on these issues, which were not taken into consideration in the previous plan. Soil quality is a multilateral issue that frequently came up in discussions, in terms of agricultural concerns but also regarding our **coastlines**, which have been subject to high levels of artificial development. As such, an examination was carried out of the challenges concerning geomorphological adaptation of coastal areas, along with the preservation of marine and coastal

ecosystems which are particularly vulnerable to climate change when this leads to problems such as erosion and marine flooding.

Mountain environments are also highly vulnerable, and were the subject of specific discussions in order to address significant challenges such as the lack of data and information, as well as how to reconcile environmental preservation with human activity. This issue was also the focal point of discussions regarding **forested environments**, which will require long-term support in order to sustain their social, environmental and economic uses. Providing this support will require a rich **biodiversity**, an essential factor in natural resilience regardless of the environment in question. The topic of biodiversity has therefore allowed us to examine several multilateral issues concerning all natural environments, such as nature-based solutions which use ecosystemic benefits to contribute to environmental adaptation.

Like other topics discussed, the issue of reclaiming biodiversity has links with a number of other subjects examined by the other working groups, particularly those linked to prevention and risk management, or economic activities that depend on natural resources. As such, a number of crossover issues exist between these various topics, and the working groups were able to justify *a posteriori* the establishment of a number of general principles for biodiversity.

The diversity of expertise found among the group's members allowed for a number of rich and fruitful discussions, culminating in a shared vision with a set of ambitious and coherent recommendations that will allow us to address a wide range of issues:

- developing nature-based solutions;
- planning spatial reshaping of our coastline;
- amplifying the dynamic of local and regional cooperation and co-development in order to reconcile competing uses of resources which are becoming more and more limited;
- enacting major limitations on artificialisation of the soil and non-draining ground surfaces.

The recommendations issuing from the national consultation aim to feed into the development of the 2nd NAP, but the work was carried out with the broader ambition of helping our society to transition away from deteriorating our natural environments, and move from a system of opposition between humans and nature to one built on synergies between the protection of natural environments and human activity.

Part A, Cluster 4. Economic Sectors

Economic sectors have adopted the concept of adaptation to climate change at very different paces in recent years. This is somewhat surprising, given that a number of reports (cf. Part B), including the General Council of the Environment and Sustainable Development assessment, have highlighted the cost of inaction, as well as risks for public service departments and opportunities for French companies in certain domains.

Nevertheless, mobilisation (which is often spurred by the impact of extreme climate events) is now increasingly based on long-term anticipation, and the consultation process has highlighted the fact that climate change can also present opportunities for economic development.

Several issues identified in the above mentioned reports were confirmed during the consultation: prioritising sector-based approaches; improving awareness and mobilisation; enhancing knowledge development and the spread of information regarding tried and tested solutions; providing support and guidance for economic sectors during their preparation and evolution. Finally, the General Council of the Environment and Sustainable Development also highlighted the importance of examining the financial sector.

The consultation process in the context of the 2nd NAP approached these aspects in a variety of ways: establishing a working group to examine the vulnerabilities of various economic sectors; underlining the importance of information and prospective studies including the economic dimension; improving analysis of individual sectors wherever possible.

We may also note the general desire to ensure that adaptation does not aggravate the environmental impact of a given sector, and underline that the notion of risk management remains a major entry point to adaptation for economic stakeholders, as companies were also highly involved in the work carried out by the 'Prevention and Resilience' working group.

The cross-cutting and all-encompassing aspects of **socio-economic prospective studies and sectoral awareness** raising both highlighting the necessity to act at the overarching level first to inform and accompany work of individual sector, and progressing towards the three major objectives identified: increasing awareness, reinforcing the ability to adapt, and integrating climate change into socio-economic and financial risk analysis.

On a more precise level, the objectives for systemic and localised prospective analysis for each sector are multiple: identify possible trajectories for development, map out impacts on competitiveness and develop ambitious solutions that will allow the sector to succeed including through far-reaching transformation of activities. These efforts will allow sectors to concomitantly approach issues such as job development, training needs and to anticipate potential conflicts arising from competition for resources.

The **tourism sector** will benefit from refined knowledge of the impacts of climate change, and improving how existing information (which is sometimes outdated or fragmented) is shared. Raising awareness among operators in the sector is a particularly important point for the tourism industry, where the highly varied range of operators, particularly small businesses, represents a significant challenge. The sector should draw upon prospective studies, to identify potential socio-economic consequences and anticipate diversification in activities, due to factors such as shortened periods of snowfall at mid-altitude or the specific challenges being faced by overseas territories.

Improved understanding of the consequences of climate change on fishing and aquaculture will allow us to examine new policy directions to be taken at both the national and the European level, in line with regional development and the preservation of ecosystems and the environment. This sector could take advantage of operators actively contributing to the monitoring of the state of marine and aquatic ecosystems.

While all sectors (fishing, shellfish and fish farming) are affected by extreme climate events, the recommendations are not limited to the search for short-term protective solutions. Stakeholders actively encourage further examination of the viability of their sectors and avenues for diversification, especially in order to develop necessary skills and develop job prospects.

The agricultural and agribusiness sectors are closely linked to other upstream and downstream sectors, as well as to regional and local development where adaptation must occur as coherently as possible. The challenges in terms of water management illustrate very well the interdependence between agriculture and a number of other sectors, local areas and societal objectives. Adaptation aims to enable this sector to move away from costly short term crisis management to a more resilient policy of transformation and anticipation of climate change.

The **forestry sector** is subject to particularly long-term management horizons, and the industry has long nurtured a profound understanding of the nature of long-term risk. However, there remains a need for prospective studies for the development of the forestry and timber sectors and its markets, in order to ensure forested areas can be renewed and adapted economically. In particular, the sector should look to develop a joint mitigation and adaptation strategy as part of the French Low Carbon Development strategy (SNBC).

The **financial sector** is aiming to raise awareness of the concept of adaptation to climate change, focusing on the sharing of information between different actors, from researchers to decision makers. An improved appreciation of the risks at hand will aim to adapt investment strategies as a result, and to create conditions that will allow various financial actors to get involved in financing climate change adaptation efforts in France. This is also a way to indirectly address sectors which are not the subject of a specific sets of recommendations (e.g. industries and services, particularly construction and transport).

These recommendations will require broad efforts in terms of dialogue and consultation, in order to enable the development of economic and financial analytical tools and methodologies that will improve our understanding of the risks being faced by asset portfolios, and will also facilitate the financing of the adaptation process.

Part A, Cluster 5. Knowledge and Information

Knowledge and information are at the heart of France's policy regarding adaptation to climate change. As such, since 2006, the 9 axes of the National Strategy for Adaptation to Climate Change are prefixed by a tripartite set of aims: 'develop knowledge bases', 'consolidate means of observation' and 'inform, train and raise awareness of all operators.' The 2011-2015 NAP also reflected France's objectives in the form of a series of measures broken down into 13 concrete initiatives pertaining to 'information', 'education and training' and 'research'. In 2016, the assessment report for the first NAP highlighted the necessity of anticipating the effects of climate change, and in particular the importance of knowledge and information in order to ensure successful adaptation under optimum conditions.

It was in this context that the eighty members of the 'Knowledge and Information' working group met four times over the course of June 2016 and mid-April 2017, as part of the national consultation process. Their work began with the identification of the main challenges associated with this working area. Owing to this approach, the group was able to rapidly establish an outline of the issue of knowledge and information: new information is produced by research, which contributes to education and training; the knowledge is distributed to others in the form of information, and improved access to their detailed content requires the development of specific services. This approach led to the formation of four areas of focus for the group's recommendations: knowledge and research; education and training; information and awareness; climate services.

The priority objective for the topic of **knowledge and research** is to develop upstream, finalised knowledge of the field in order to bolster the methodological bedrock, as well as the relevance and efficiency of adaptation initiatives undertaken at every geographical level. Among the recommended measures to achieve this goal, of particular note was the relaunching of a specific research programme looking into the impact of climate change and adaptation, whose interdisciplinary nature has been reaffirmed as essential.

The development of the **education and training** sector has also emerged as an essential aspect: inclusion of the challenges of adaptation in education and training programmes at all levels was the subject of one major recommendation issued by the group. Among a number of measures indicated, priority falls upon developing knowledge and an interdisciplinary approach to climate change education, as well as refining course curricula and job opportunities in higher education, including in courses offering professional training.

Regarding **information and awareness**, which supplement the previous point, the working group agreed on a dual objective: deploying a series of messages and methods of distributing information and methodologies, while also allowing individual operators to get involved in the process and organise their own informative initiatives. The members of the group also pointed to the need to develop and adapt these objectives at all levels, taking into account the specific characteristics of each local area, in particular at regional level. With this aim in mind, the group unanimously agreed on the need to set up a resource centre dedicated to adaptation to climate change, in order to facilitate the sharing of feedback and best practices, especially at regional level.

In terms of **climate information services**, the group issued recommendations aiming to make climate data available to all relevant stakeholders, as well as methods and tools allowing them to identify and quantify the effects of climate change (both those already observed and those expected for the future), and take necessary measures to adapt to these effects. As such, the working group was able to confirm the essential role played by climate services, providing the necessary climate information required in order to make decisions and implement measures to help local regions adapt to climate change. In order to achieve this, the group particularly recommended the development of a national network of climate information services, encouraging their extension into specific sectors particularly affected by adaptation, and giving access to climate information via means which are specifically adapted to the operators in question.

A number of their recommendations indicate the importance of utilising information and communications technology for this purpose, and in other areas to make use of citizen science. Similarly, the recommendations also point to the importance of utilising the wave of information provided via the succession of reports published by the IPCC during its 6th cycle. In terms of national

consultation, it will also be necessary to continue with certain initiatives undertaken within the first NAP, including the production of information on current climate effects published in the 'France's Climate in the 21st Century' report. Finally, some of the recommended measures could benefit from the 'Make our planet great again' initiative, attracting climate researchers from other countries and thereby contributing to the sharing of knowledge and experience as part of a wider movement of international cooperation for adaptation to climate change.

Interactions with the five other groups involved in the national consultation process also enabled the identification of links between the recommendations issued by different groups. For example, knowledge and research play a key role in terms of socio-economic prospective studies and increasing awareness in economic sectors. Similarly, the need to share knowledge and feedback, as highlighted by the International Action working group, led to recommendations pertaining to information and awareness.

The work carried out by the group has allowed us to set forth a series of ambitious recommendations that will comprehensively tackle all aspects of this topic. Their expertise and the constant involvement of relevant stakeholders have allowed for the formation of a shared vision. In particular, their recommendations are defined by a realistic appreciation of involvement at local and regional levels, as part of a national approach that is coherent, coordinated and shared. They also prioritise local solutions, jointly designed and undertaken by a variety of stakeholders, and pay particular attention to the specific requirements of overseas territories. Increasing our stock of climate knowledge and information remains, and will remain, an essential condition for the establishment of efficient climate change adaptation policies, and will also help to facilitate the decision-making process and persuade the population to accept these policies. That said, these improvements must be bolstered by the involvement of all relevant stakeholders, especially at local level in order to address specific issues, as well as a genuinely interdisciplinary approach. In conclusion, knowledge and information constitute a central pillar of France's policy in terms of adaptation to climate change.

Part A, Cluster 6. International Action

Adaptation to climate change took on a new dimension with the signing, on December 12th 2015, of the Paris Agreement by the 195 parties to the UNFCCC. Parties to the agreement 'recognise that adaptation is a global challenge faced by all' (Article 7, paragraph 2) and that 'the current need for adaptation is significant' (Article 7, paragraph 4). This was a moment of major political importance for France, as the country presided over the 21st Conference of Parties, which was extended until the adoption of the Agreement on November 4th 2016 and its subsequent implementation. France's increased involvement in international climate negotiations is in accordance with the conclusions drawn by the General Council of the Environment and Sustainable Development in its assessment of the first NAP, which recommended that France 'develop a diplomatic axis for adaptation to climate change within the framework of the next NAP'. It is in this context and with these objectives in mind that the 'International Action' working group set about its task.

This involves strengthening France's role as a leading voice in adaptation to climate change in international and regional cooperation bodies as well as boosting the role of France's local governments, companies and researchers in projects being launched. The achievement of this general objective represents a significant challenge, as it involves putting forward actions of an international scope within the framework of a nationally governed action plan, and creating functional links between the various levels of involvement: global, regional, European, transboundary, national and local.

The first recommendations focus on the development of a **strategy of international influence** built around monitoring the implementation of adaptation in national action plans and the initiatives of non-governmental actors of the Global Climate Action Agenda, as well as the economic diplomacy to promote adaptation via the spread of the French *savoir faire* at the international level. As such, the group recommended encouraging adaptation-related issues to be included on the agenda of major international and regional bodies, as well as supporting the implementation of a scheduling process for adaptation initiatives. The group also recommended developing exports of goods and services contributing to climate change adaptation.

The second major area of focus in the group's recommendations involved furthering France's **scientific contribution** and the role of French researchers in international teams working towards adaptation to climate change. In this sense, the involvement and visibility of French scientists in the work of the IPCC at all levels, an active contribution to the development of climate services at both global (GFCS) and European (Copernicus) level, as well as the proliferation of international programmes for scientific cooperation in terms of research and education will allow to sustain a certain level of excellence in French research, and therefore maintain its influence in global debates.

The issue of **development aid** was addressed in the first NAP, and now requires a more in-depth approach. The consultation process showed that progress still needs to be made, particularly in order to support the processes of planning and implementation of adaptation initiatives in developing countries, bringing local communities together and encouraging economic and social development at the local level.

The issue of **international actions of local French actors** is the subject of new, specific suggestions within a broader perspective of increased involvement of climate stakeholders and non-governmental actors via greater local and regional anchoring of adaptation initiatives.

Transboundary issues represent a particular challenge in terms of adaptation, as the effects of climate change do not stop at a nation's borders, and the situation in one country can have an impact on its neighbours. It is therefore necessary to take into account the specific characteristics of transboundary geographical areas in the development of adaptation actions. This involves strengthening observation and capitalisation devices and systems in order to adequately identify transboundary vulnerabilities, and the potential for these vulnerabilities to be transmitted from one country to another. This will also require boosting the adaptation capacity of cross-border areas and actors.

Adaptation initiatives at the **European level** are addressed mainly through the revision of the EU Adaptation Strategy, due to be published in 2018. This represents an opportunity for France to promote an ambitious position to reinforce the adaptation process at the European level, notably via

an increased incorporation of adaptation activities in Community policies. However, the low rates of use of European funds (Life, ESIF – Thematic Objective5, H2020, Copernicus, Interreg) by French project developers to implement and finance adaptation initiatives shows us the need to provide greater support and guidance to set up European projects, and also that adaptation needs to be better integrated into regional operational programmes (Thematic Objective 5 and Regional Plans for Urban Planning, Sustainable Development and Territorial Cohesion).

The full range of recommendations formulated here could usefully benefit from a dynamic of **knowledge and feedback sharing** between cooperation partners. Initiatives regarding adaptation to climate change grappling with a wide range of issues are flourishing in many parts of the world either in a coordinated fashion via alliances and partnerships, or working in isolation. One of the recommendations therefore suggests establishing a dedicated international cluster within the Adaptation Resources Centre (cf. 'Knowledge and Information' cluster) in order to pursue and further the work of monitoring, benchmarking and mapping out the work of climate actors, actions and existing methods of financing for adaptation efforts.

The provisions envisaged in these recommendations issuing from the working group on 'International Action' have the dual aim of putting forward specific adaptation initiatives for international action, and also of forging links with any recommendations from other working groups that have an international dimension.

Part B

Reference Documents

Over the course of the consultation for a new French national adaptation plan, a number of participants sought to bring certain documents, references and tools to the attention of the working groups, in order to increase the quality of the work carried out. While not exhaustive, Part B provides a list of these resources and encourages adaptation operators to read them, as their content is relevant far beyond the consultation process. Indeed, these resources will help to illuminate the development of the 2nd NAP, as well as the definition of actions on subnational levels within the framework of dedicated climate initiatives (e.g. Regional Plans for Sustainable Development, Urban Planning and Territorial Cohesion, Local Climate-Air-Energy Plans, Master Plan for the Refurbishment and Management of Water Resources, Local Plans for Territorial Cohesion, Inter-municipal Local Urban Planning Schemes, Prevention Plan for Natural Risks on the Shoreline).

CONCLUSION

The information gathered from the consultation for the new NAP and presented in this document (both in the form of thematic sets of recommendations and reference documents) does not fully reflect the breadth of reflection on the subject. Indeed, in certain sectors - such as transport and infrastructure or forestry - the concept has been considered for several years, and adaptation to climate change already figures among the main concerns of many operators in these sectors. Beyond the thematic sets of recommendations that reflect the state of collective thinking on the topic, the true value of the consultation process also resides in the vitality of the dynamic, which has been amplified since the establishment of the Adaptation Strategy in 2006.

There can be no doubt that France's hosting of the COP21, and the conclusion and ratification of the Paris Agreement to limit temperature increases at a sustainable level for humans, had a major mobilising effect on the country. The recurrence of droughts and heatwaves over the course of recent decades has also played a key role in driving greater awareness among the wider population and political decision makers.

This context, particularly favourable to question the adaptation actions that need to be taken, is boosted by the availability of powerful tools such as regionalised climate change projections, and new information regarding extreme climate events or rising sea levels. The years 2016 and 2017 were particularly fruitful in terms of transforming the energy of the adaptation movement into concrete suggestions and orientations for climate action, including in certain sectors which until now had been under-involved in the process.

Owing to this movement and the constructive contributions of the participants in the national consultation, the information contained in this report will feed into the 2nd NAP announced in Objective 19 of France's Climate Plan, presented on July 6th 2017 by Mr. Nicolas Hulot, Ministre d'Etat and Minister for the Ecological and Inclusive Transition. The recommendations published will continue to serve as a guide for national adaptation policies, even beyond the 2nd NAP. The success of the new plan will be measured essentially by its ability to mobilise every stakeholder involved, via a coordinated approach whose progress can be objectively measured.

This renewed approach to adaptation to climate change will provide a significant contribution to our climate policy, which aims to lead us towards a low-carbon and resilient society, adapted to climate change, and in a broader sense will also help bring about France's ecological and inclusive transition.

Appendix: Template for thematic sets of recommendations

Recommendations for a new National Adaptation Plan

Aiming to ensure effective adaptation to the regional climate in both mainland France and its Overseas Territories by the middle of the 21st century, in line with a global temperature increase of 1.5 / 2°C compared to the pre-industrial levels.

Cluster: *[indicate at least one of the 6 clusters: Economic Sectors, International Action, Prevention & Resilience, Adaptation and Preservation of Natural Environments, Knowledge & Information, Governance]*

Title *[Summary title]*

Adaptation objectives: *[indicate main objectives]*

Axes of the National Adaptation Strategy: *[Indicate the number(s) of the area(s) of strategic focus involved: 1. Developing knowledge and awareness, 2. Consolidating climate observation measures, 3. Informing, training and raising awareness for all climate operators, 4. Promoting a locally adapted approach, 5. Financing adaptation initiatives, 6. Making use of legislative and regulatory instruments, 7. Encouraging voluntary approaches and dialogue with private operators, 8. Accounting for specific characteristics of Overseas Territories, 9. Contributing to international exchanges]*

Context, challenges and justification: *[Explain the challenges being addressed by the objectives set out, explaining the context and especially any existing actions/measures on which the recommendation is founded, present the argument for implementing the recommendation, provide a systemic vision covering all aspects of the recommendation]*

Detailed description: *[describe the various aspects of the recommendation]*

Local/Regional and Overseas Territories aspects: *[Indicate how the recommendation affects local environments and any specific ultra-marine considerations included]*

Cross-over effects: *[Indicate areas of overlap with other public policies and their co-benefits, as well as synergies and potential problems in terms of climate change mitigation, social issues, environmental issues, economic issues and inequality reduction]*

Implementation and Monitoring: *[Indicate partner organisations at which the recommendation is aimed, where relevant provide an estimate of HR and budget needs, specify deliverables, major milestones and critical points, provide an estimated activity schedule for the short term (coming years), medium term (by 2030) and long-term (by 2050), suggest monitoring and efficiency indicators to be applied to the recommendation]*

Links with other recommendations: *[Indicate any relationship with recommendations issued for other topics, or more broadly]*

This report covers the recommendations issued during the national consultation for a 2nd National Adaptation Plan for Climate Change (NAP). This process was largely based on the assessment of the first NAP (2011-2015), which generated feedback on a fully completed public policy cycle. This makes France one of the most advanced countries in terms of planning for adaptation to climate change. The consultation also benefited from increased awareness of the issue, due largely to the success of the Paris Agreement, article 7 of which stresses the need for increased adaptation efforts.

It was against this background of renewed international awareness and ambition that the consultation process for the new NAP enabled some 300 participants from various fields of expertise to collectively develop, between summer 2016 and summer 2017, a series of recommendations to strengthen France's policy of adaptation to climate change. The breadth of discussion provided an insight into the needs and possibilities for action throughout a range of interconnected topics: governance, risk prevention, resilience of local areas, environmental preservation, economic sectors, improving knowledge and understanding, awareness and international action.

These recommendations will feed into the 2nd NAP, which was announced in Objective 19 of France's Climate Plan. Strengthening the adaptation process will bring a major boost to climate policies aiming to a low-carbon and resilient society, adapted to climate change, and in a broader sense will also help bring about France's ecological and inclusive transition.