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CLIMA.A.3 - Adaptation

Adaptation preparedness scoreboard

Draft country fiche for Belgium

Disclaimer

This draft country fiche was prepared in the context of the implementation of the EU's Strategy for Adaptation to Climate Change (EUAS). The indicators were developed and agreed with experts from the Member States (MS). This draft version of the fiche is published as background information to the public stakeholder consultation about the evaluation of the EUAS running from early December 2017 to early March 2018. It constitutes work in progress, a particular stage of information collection and dialogue between the Commission and the Member States. It presents a snapshot of the status in the country as of September or October 2017. The fiches are planned to be finalised and published as an annex to the strategy's evaluation report in the fourth quarter of 2018, before which they will be further updated and modified. Should you have any specific comments on the draft fiche, please send it to the mailbox CLIMA-CLIMATE-CHANGE-ADAPTATION@ec.europa.eu

Please note that the assessments (yes/no/in progress) need to be read in conjunction with the narrative that accompanies them. They assess the state of play *within* each country. While all effort has been made to ensure the coherence across fiches in the assessment of the same indicator, it should not be directly compared across the MS. Two countries with a "yes" on the same indicator could have a different national situation leading to that assessment. For a more detailed explanation of what each indicator means and how its value is determined, please refer to the description of the scoreboard, a document published alongside the country fiches.

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POLICY FRAMEWORK

Belgium is a federal state, composed of 3 geographic regions and 3 language-based communities, each with its own executive and legislative bodies. They intervene on an equal footing but in different areas of competence (further details are available on portal belgium.be).

The National Climate Commission (NCC) deals with domestic climate issues and the Coordination Committee for International Environmental Policy (CCIEP) treats the international environmental affairs. The NCC is responsible for the development, adoption and implementation of the NAS and the NAP. The National Climate Commission plays the main role in climate policy and within the National Climate Commission, it is the Working Group on Adaptation (WGA) that is in charge on adaptation policies. This Working Group is composed out of representatives of the different regions and the federal government¹.

In the analysis, horizontal mechanisms refer to collaborations between the Federal, Flemish, Walloon and Brussels-Capital region. Vertical mechanisms are mechanisms between these regions and the provincial and local levels.

Adaptation strategies

A1. National adaptation strategy

Belgium has an approved national adaptation strategy The National Adaptation Strategy (NAS) of Belgium was approved in 2010. The strategy described the main climate change impacts, the existing adaptation responses, a roadmap to a National Adaptation Plan (NAP) and some policy guidelines for an adapted future. The relevant sectors in terms of climate adaptation are Health, Tourism, Agriculture, Forestry, Biodiversity, Ecosystems and Water, Coastal, Marine and Tidal areas and Production Systems and Physical Infrastructure. The Strategy pursues the improvement of the communication and consistency between the adaptation activities.

A2. Adaptation strategies adopted at subnational levels

On the topic of climate adaptation, each region – the Walloon region, the Flemish Region and the Brussels-Capital region – develop their own adaptation plan. In addition, the federal government is also in charge of developing an adaptation plan for the federal policy domains. The National Adaptation Plan of Belgium complements the regional and federal plans by identifying specific adaptation measures that need to be taken at national level in order to strengthen cooperation and develop synergies between the different entities on adaptation.

Adaptation action plans

B1. National adaptation plan

A National Adaptation Plan has been approved in April 2017.

At the core of the Belgium adaptation policy is the Working Group on Adaptation (WGA), which is the central coordinating administrative body in charge of developing

¹<http://www.klimaat.be/nl-be/klimaatbeleid/belgisch-klimaatbeleid/nationaal-beleid/beslissingsorganen/>

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the national adaptation policy (strategy and action plan)², under the National Climate Commission. The Working Group on Adaptation includes the following governments:

- Flanders: Environment Department
- Walloon region: Agence wallonne de l'air & du climat
- Brussels: Environment Brussels
- The Federal level: Federal public service health, food chain safety and environment & Federal Public Service Foreign Affairs, Foreign Trade and Development Cooperation (DG Development Cooperation and Humanitarian Aid)

Priority sectors addressed in the NAP are biodiversity, crisis management, health, energy, research and international cooperation.

B2. Adaptation plans adopted at sub-national level

The National Adaptation Plan complements the Flemish, Brussels-Capital, Walloon and Federal Adaptation Plans which existed already.

The regional and the federal governments have adopted, each in their own area of competence, adaptation plans:

On 28 June 2013, Flanders adopted the Flemish Climate Policy Plan 2013 - 2020, including a section on adaptation known as the Flemish Adaptation Plan (VAP³). The primary goals are understanding the Flemish vulnerability to climate change and improving Flanders' ability to defend against the effects of climate change. The concurrent pursuit of these goals can be described as the "climate reflex". The 11 involved Flemish governmental departments maintain responsibility for the actions in their policy domain and they will bear the cost of these actions using their usual financial resources. In 2015, Flanders developed a first progress report 2013 - 2015 on climate change, including a section on adaptation.

On 2 May 2013 the Brussels-Capital Region adopted its Air-Climate-Energy Code (known as COBRACE). It serves as a legal basis for its Integrated Air-Climate-Energy Plan, which was adopted on 2 June 2016 and which includes a section on adaptation⁴. Other thematic plans which include adaptation measures are the 2012 Regional Water Management Plan, including the "flood prevention plan" ("PLUIES plan") created in 2003. A second regional water management is currently being adopted for the period 2016-2020 and integrates a consideration of floods⁵. The Region adopted the "forêt de Soignes" management plan (2003) and its Nature Plan (2016), which both include adaptation.

In January 2014, the Walloon government adopted its "Climate Decree" giving a legal framework to climate policy in Wallonia. The main implementation instrument is the "Air-Climate-Energy Plan⁶" which contains a section on adaptation. This section summarises the impacts & vulnerability assessments, as well as detailed adaptation actions in several sectors. Water management, forestry guidelines and agricultural advice are some examples of these. The draft plan was submitted to a public survey in June 2014 and the final version was adopted in April 2016.

²<http://www.klimaat.be/nl-be/klimaatbeleid/belgisch-klimaatbeleid/nationaal-beleid/nationale-adaptatiestrategie>

³ https://www.lne.be/sites/default/files/atoms/files/2013-06-28_VAP.pdf

⁴ http://document.environnement.brussels/opac_css/elecfile/PLAN_AIR_CLIMAT_ENERGIE_NL_DEF.pdf

⁵ <http://www.environnement.brussels/thematiques/eau/plan-de-gestion-de-leau>

⁶ http://www.awac.be/images/Pierre/PACE/Plan%20Air%20climat%20%C3%A9nergie%202016_2022.pdf

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On 28 October 2016, the federal government adopted the Federal Contribution to the National Adaptation Plan⁷, which identifies federal adaptation actions in crisis management and transport. The contribution was submitted to a public survey in 2014.

Also some provincial and local governments are developing adaptation plans, amongst others: the Province of Antwerp,⁸ and the City of Gent⁹

B3. Sectoral adaptation plans

No sectoral adaptation plan were found. Sectoral adaptation measures from the different policy departments are however integrated in the national, federal and regional adaptation plans.

SCOREBOARD

Step A: preparing the ground for adaptation

1. Coordination structure

1a. A central administration body officially in charge of adaptation policy making

Yes/ No

The WGA has recently finalised the National Adaptation Plan (April 2017) following a similar bottom-up approach. The group follows up and coordinates the adaptation policies and measures of the four administrative levels. It addresses the fact that regions have legislative powers in all sectors relevant to adaptation, and there is no hierarchical relationship between the regions and the federal authority.

1b. Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities

Yes/ In progress/ No

Sound horizontal coordination is a stated objective of the federal government in Belgium. Coordination among sectors is left to the scrutiny of each entity. The committees and contact groups established at regional (and federal) level provide the sectoral coordination mechanism within the governance system. These groups bring together representatives of various sectors likely to be affected by climate change (such as water, air, agriculture, nature and forests, health, spatial planning, etc.) and identify priority goals and adaptation strategies to be developed or implemented at regional (and federal) level. They exchange data and gather information on current actions undertaken by the different departments, and pursue communication and synergy between entities.

1c. Vertical (i.e. across levels of administration) coordination mechanisms exist within the governance system, enabling lower levels of administration to influence policy making

Yes/ In progress/ No

⁷ http://www.klimaat.be/files/5514/7915/5040/federale_bijdrage_adaptatieplan.pdf

⁸ <https://www.provincieantwerpen.be/content/dam/provant/dlm/dmn/klimaat/ProvinciaalAdaptatiePlan.pdf>

⁹ https://klimaat.stad.gent/sites/default/files/klimaatadaptatieplan_gent.pdf

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Vertical coordination between the federal and regional level exists through the working group described in 1a. and the provincial/local level.

At the regional level, the departments involved in adaptation are in touch with provinces and local authorities. However, there is no formal working group or coordination mechanism between the regional level and the provincial or the local authorities. Nevertheless, the regional levels are currently developing adaptation portals and instruments that local authorities can use to develop their own local adaptation plans.

Flanders:

- A climate atlas that reveals the most vulnerable areas in Flanders
- A tool to explore adaptation measures¹⁰

In the Walloon region, a comparable adaptation support tool for local authorities is available.¹¹

In Flanders and Wallonia, it is observed that some provinces are planning to take up the role to coordinate adaptation with the local authorities. However, no formalized coordination group has been established at the moment of this analysis.

Wallonia has just signed in last July the commitment to be a territorial coordinator of the Covenant of Mayors. Belgian provinces (8 out of 10) and associations of municipalities (intercommunales) are also territorial coordinators. There are 20 Covenant coordinators in Belgium.

The regional River Basin/Flood risk management plans do take into account climate change.

There is no federal coordination of the cities.

2. Stakeholders' involvement in policy development

2a. A dedicated process is in place to facilitate stakeholders' involvement in the preparation of adaptation policies

Yes / No

Stakeholders are involved in the preparation and implementation of adaptation policies in various ways.

There has been a public consultation on the federal plan 'adaptation to climate change' (later renamed 'federal contribution to the national adaptation plan') from February 17 – April 18 2014. These are citizens, NGOs and sectoral organisations. The plan was also submitted to federal advice council that include representatives of society.

In Flanders, stakeholder consultation was done by "round tables" two times in the process, once during a workshop after the first ideas were set on paper, and another time when the draft version was proposed to the different advisory boards, involving all types of stakeholders (industry representatives, environmental organisations, farmer organisations, youth associations, ...). Advice of the 'MINAraad' was provided on the draft Flemish Climate Plan.

¹⁰ <http://www.burgemeestersconvenant.be/klimaatadaptatie>

¹¹ <http://www.awac.be/index.php/en/thematiques/changement-climatique/adaptation#a-diagnosis-of-vulnerability-at-the-local-level>, <http://leswallonssadaptent.be>

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In the Walloon region, the adaptation plan was submitted for public consultation in the summer of 2014.

The Brussels adaptation plan has been submitted for public consultation in 2015 and was adopted later.

The national adaptation plan was submitted to federal and regional councils (advice approved by the general assembly of the federal council for sustainable development on 13 February 2017).

Some intersectoral and intrasectoral focus groups have also been set up at regional and federal levels. The role of these focus groups is to exchange data, gather information on the adaptation measures currently undertaken by the various departments (bottom-up approach), to identify the objectives and priority measures to be taken and/or reporting on measures undertaken.

A think tank consisting of academics and other experts on adaptation to climate change is subsidised by the Flemish government from 2015 – 2017 to jointly and cross-disciplinary develop and spread knowledge on adaptation. At the same time this think tank discusses in this way required measures and to identify in advance conditions and barriers to implementation¹².

The development of multi-level governance and the support to local authorities to develop adaptation plans is assisted by the regional government. In Flanders, there is an informal pilot group of cities and departments that have signed Mayors Adapt agreement. This pilot group is testing the instruments that the regional government is developing to assist local authorities in adaptation. Both the Flemish¹³ and the Walloon¹⁴ government are developing online instruments to support local authorities. No evidence was found that the Brussels Capital region is investing in comparable online instruments.

2b. Transboundary cooperation is planned to address common challenges with relevant countries

Yes/ No

Transboundary cooperation to address common challenges with relevant countries is not described as a policy objective in the NAS, and it is unclear how the international processes where Belgium participates influence the preparation of the adaptation policies.

Mainly related to flood risk management, some transboundary cooperation is observed. Belgium is part of two international river basins and takes part in transboundary water management commissions (Meuse and Scheldt): the country is also participating in Interregional Research Projects such as TIDE (Tidal River Development), AMICE, a project that aimed at transboundary coordination of adaptation to the effects of climate change in the Meuse catchment, or Future cities (Future Cities - Urban Networks to Face Climate Change), but no further joint action seems to be planned beyond the duration of the projects.

Transboundary co-operation with the Netherlands and Luxemburg is on-going on an ad-hoc basis through the Benelux secretariat. A Benelux workshop on adaptation took

¹² <http://www.dka.ugent.be/>

¹³ <http://www.vlaamseklimaatop.be/ondersteuning-lokale-overheden>
<http://burgemeestersconvenant.be/klimaatadaptatie>

¹⁴ <http://www.awac.be/index.php/en/thematiques/changement-climatique/adaptation#a-diagnosis-of-vulnerability-at-the-local-level>

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place in November 2014. In 2016, Benelux led workshops on adaptation in transport, energy, health and crisis management have taken place¹⁵.

The common Benelux work program 2017-2020 refers to climate adaptation.

Action 10 of the National Adaptation Plan ('Promote transnational cooperation on adaptation') aims to facilitate transnational cooperation on adaptation, covering both international cooperation between (neighbouring) countries and cross-border cooperation among countries with shared cross-border resources (e.g. water, protected areas) or other shared interests.

Step B: assessing risks and vulnerabilities to climate change

3. Current and projected climate change

3a. Observation systems are in place to monitor climate change, extreme climate events and their impacts

Yes / In progress/ No

Belgium has observation systems that allow for long term monitoring of temperature, precipitation and sea level. This monitoring work is carried out by the Royal Meteorological Institute (KMI/RMI)¹⁶.

Climate impacts are monitored, however, in a fragmented way and not always for the whole of Belgium.

- Impacts on forests and nature: by Brussels Environment¹⁷, Walloon Observatory of forest health¹⁸ and the research institute for nature and forest¹⁹
- Impacts on the oceans: the Flemish Hydrography and Royal Institute of Natural Sciences
- Impact on water: flood, water quality and drought – Flanders Hydraulics Research, The Flemish Water managers²⁰, the Walloon Waterways²¹, the Walloon Flood Portal²², Brussels Environment, Royal Institute of Natural Sciences

The information on extreme precipitation, heat waves, droughts is collected by KMI/RMI. In 2015 the Flanders Environment Agency (VMM) published the 'MIRA Climate Report 2015: About observed and future climate changes in Flanders and Belgium'. The indicators from the report are regularly updated on their website. Due to the dry conditions in Flanders, in June 2017 the VMM published a report on drought²³ based on hydrological and meteorological indicators.

¹⁵<http://www.benelux.int/fr/publications/publications/adaptation-au-changement-climatique-au-sein-du-benelux>

¹⁶ <http://www.kmi.be/meteo/view/nl/357714-Algemeen.html>

¹⁷http://www.environnement.brussels/thematiques/espaces-verts-et-biodiversite/la-foret-de-soignes/gestion-de-la-foret?view_pro=1&view_school=1

¹⁸ <http://owsf.environnement.wallonie.be/fr/index.html?IDC=5636>

¹⁹ <https://www.inbo.be/en>

²⁰ <http://www.waterinfo.be/>

²¹ <http://voies-hydrauliques.wallonie.be/opencms/opencms/fr>

²² <http://environnement.wallonie.be/inondations/>

²³ <http://www.waterinfo.be/download/e8cd3c39-0463-478e-a41b-1d3bfbad332c?dl=0>

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Since 1992 the EM-DAT database has recorded the number of victims (deaths and affected persons) of natural disasters in Belgium. Indicators are developed by the Federal Planning Bureau.²⁴

3b. Scenarios and projections are used to assess the economic, social and environmental impacts of climate change, taking into account geographical specificities and best available science (e.g. in response to revised IPCC assessments)

Yes/ In progress/ No

The NAS refers to studies that estimate the potential impacts of climate change in the short or long term by climate modelling. Projections are based on three climate scenarios that are commonly used in Belgium. They have been used to evaluate impacts in temperature, precipitation, extremes or the sea level.

The Flemish Environment Agency has published the most recent climate assessment report in 2015²⁵ and the research report on indicators for urban heat island effect in Flanders²⁶.

The AMICE project developed flood scenarios for the River Meuse based on climate change scenarios²⁷.

A recent project Cordex.be²⁸ (launched early 2015), aims to combine existing and new Belgian research activities in the domain of climate modelling to create coherent scientific basis for climate services in Belgium.

(i) Within cordex.be project:

The CORDEX.be framework is naturally structured by the concept of dynamical downscaling. Low-resolution model runs over large domains are nested successively to H-Res runs over small domains. This approach determines the data stream, the timing and the network structure of the Belgian research activities. High resolution models run at resolutions of 4 km, and, finally, Local Impact Models (LIMs) may have resolutions below 1 km. H-Res runs critically depend on the availability of RCM runs which in turn depend on GCM runs.

²⁴ http://www.indicators.be/fr/i/BGD_CLI_NDV/Victimes_de_catastrophes_naturelles

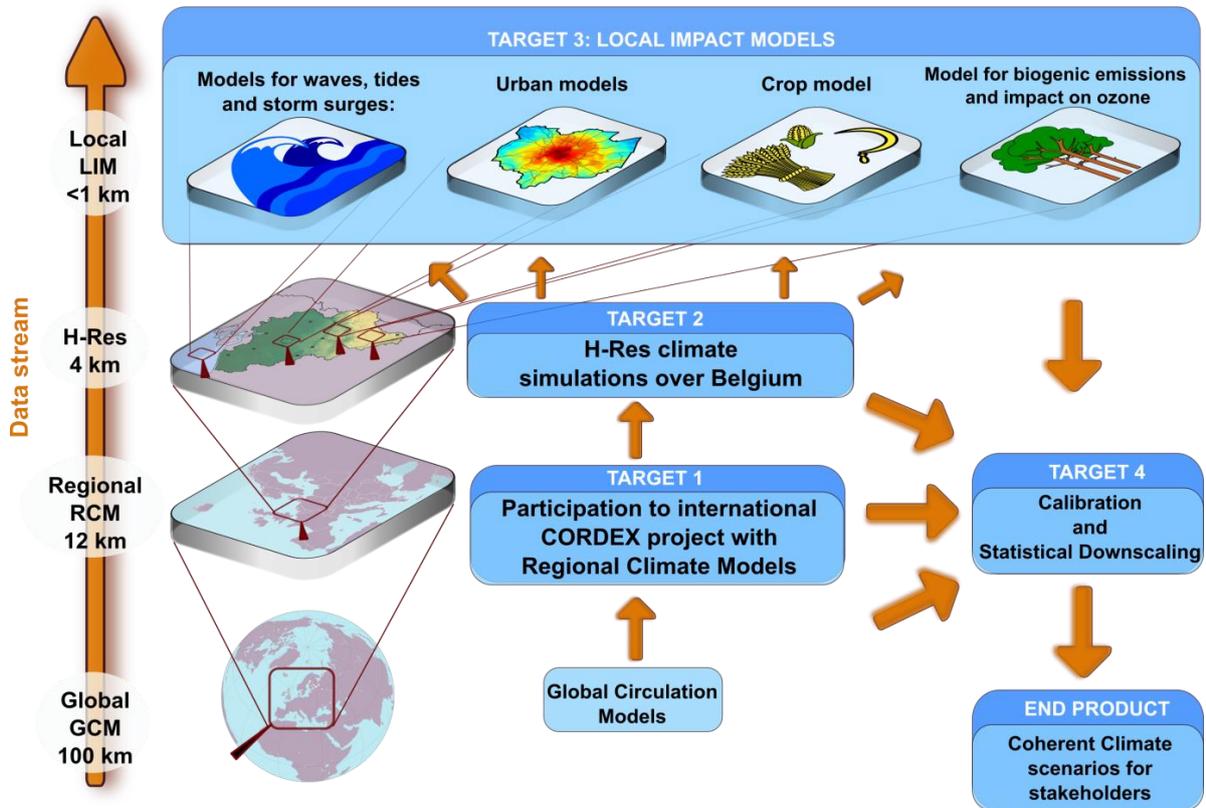
²⁵ <http://www.milieurapport.be/nl/publicaties/topicrapporten/mira-rapport-klimaat-2015/>

²⁶ <http://www.milieurapport.be/nl/publicaties/topicrapporten/mira-rapport-klimaat-2015/>

²⁷ <http://www.amice-project.eu/en/amice-project.php?refaction=10>

²⁸ <http://euro-cordex.be/>

The initiative



(ii) no national risk & vulnerability assessment was carried at national level but a synthetic table has been produced and published in the National Adaptation Plan by gathering the results of the regional impacts assessments (see answer point 3c).

3c. Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making.

Yes/ In progress/ No

A systematic approach to researching the effects of climate change in detail has not been pursued in Belgium to date. An overview of the effects of climate change to the policy areas health, tourism, agriculture, forestry, biodiversity, ecosystems and water, coastal, marine and tidal areas, and production systems and physical infrastructure, is provided in the NAS, allowing for a first vulnerability screening. This assessment took place at a very general level, mainly referring to impacts in a qualitative way.

There are some regional and local detailed impacts assessments, but they do not follow a coordinated and consistent approach for the country; this has resulted in fragmented type and level of detail of information per sector. A compilation of those results was made in order to give a global overview of the main impacts and their expected severity in Belgium (adapted from regional impact assessment studies) (cf table 1 of

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the national adaptation plan). Impact assessment has also taken place at federal level for sectors with federal level competence²⁹.

3d. Climate risks/vulnerability assessments take transboundary risks into account, when relevant

Yes/ **In Progress**/ No

It is unclear whether climate risks and vulnerability assessments take into account transboundary risks in a systematic way. However, 2b provides evidence that coordinated collaboration on transboundary risks takes place in relevant sectors, such as flood risk management. In addition, the NAP includes transboundary cooperation amongst its actions.

One of the examples on how climate projections are included in transboundary sectors is the Interreg AMICE project where scientists from France, Belgium and the Netherlands built a transnational scenario to evaluate the impacts on the whole river basin, from the source of the Meuse river in France until its end in the Netherlands. In addition, Flanders uses a drought and water scarcity indicator, which take into account upstream parts of the international basins³⁰.

4. Knowledge gaps

4. Work is being carried out to identify, prioritise and address the knowledge gaps

Yes/ In progress/ No

The Belgian Federal Science Policy Office is financing several projects on climate change impacts and adaptation through the former "Science for a Sustainable Development" programme³¹. Topics addressed include transport, hydrological events, and other sector-specific domains of interest. The issues of surface water, coastal management, fisheries and health are tackled. A small section of the programme is open to research supporting the development of standards for monitoring and implementing climate and atmospheric policy. Several research projects have been launched to increase knowledge of climate change impacts and adaptation through the BRAIN-be programme³².

In 2014, the call for project proposals by the Federal Public Planning Service Science Policy (Belspo), included climate change adaptation as one of its four priority themes. Special attention was directed to two research activities: understanding the impacts of climate change in sectors, and developing methods for policy decision-support tools that aim at evaluating effects of climate change.

5. Knowledge transfer

²⁹https://www.lne.be/sites/default/files/atoms/files/2013-06-28_VAP.pdf ;
<http://www.provincieantwerpen.be/content/dam/provant/dlm/dmn/klimaat/ProvinciaalAdaptatiePlan.pdf>; https://www.west-vlaanderen.be/kwaliteit/Leefomgeving/milieu/energie/Documents/klimaateffectschetsboek%20west-%20en%20oost-vlaanderen_def.pdf

³⁰ <http://www.milieurapport.be/nl/feitencijfers/milieuthemas/waterkwantiteit/>

³¹ http://www.belspo.be/belspo/ssd/science/pr_climate_nl.stm

³² https://www.belspo.be/belspo/brain-be/index_fr.stm

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5a. Adaptation relevant data and information is available to all stakeholders, including policy makers (e.g. through a dedicated website or other comparable means).

Yes/ In progress/ No

All available information on climate change and adaptation is published online, however to a certain degree, this information provision is still fragmented.

Flanders has several portals with abundant adaptation-relevant information.³³

Wallonia has a website with information on how adaptation to climate change is being addressed in the region and the relevant impacts study reports³⁴

Brussels offers limited information in its portal.

The federal government has a specific climate policy website where information is provided about the EU, national, and federal adaptation policy processes as well as climate change observations and impacts).³⁵

A dedicated online platform is planned (with a committed budget) according to the National Adaptation Plan (NAP).

5b. Capacity building activities take place; education and training materials on climate change adaptation concepts and practices are available and disseminated

Yes/**In progress/** No

A limited number of specific education and training materials could be identified in the available sources of information.³⁶

Some more generic materials, considering impacts and adaptation, exist, such as the "KLIMOS" environmental sustainability toolkit for development cooperation, or some scholar educational files on climate targeted to young students.

It is expected that the capacity building for public officers to develop adaptation plans will be developed in the near future in both Flanders³⁷ and Wallonia³⁸ as they are currently developing adaptation supporting tools for local authorities.

In addition, the Flemish Region organised a number of annual conferences, aimed at climate practitioners to share some of their experiences on mitigation and on adaptation³⁹.

³³ <http://www.vlaamseklimaatop.be/ondersteuning-lokale-overheden>
<http://www.burgemeestersconvenant.be>
<http://www.klimaatruimte.be/>
<http://www.milieurapport.be/nl/publicaties/topicrapporten/mira-rapport-klimaat-2015/>
<http://www.waterinfo.be>

³⁴ <http://www.awac.be/index.php/l-adaptation>.

³⁵ <http://www.klimaat.be/nl-be/>

³⁶ <http://www.awac.be/index.php/mediatheque/outils-de-vulgarisation> .

See also "Weather forecast in 2050" video to sensitize population to the future climate of Christmas in Belgium in 2050 (initiative during the WMO climate summit) : <http://www.awac.be/index.php/mediatheque/multimedia-1/item/98-bulletin-meteo-en-2050>

³⁷ <http://www.vlaamseklimaatop.be/ondersteuning-lokale-overheden>

³⁸ <http://www.awac.be/index.php/l-adaptation>

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Step C: identifying adaptation options

6. Adaptation options' identification

6a. Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts

Yes / No

Most actions identified in the federal and regional adaptation plans⁴⁰ correspond to existing planning and management that have a potential added value for adaptation (i.e. win-win or no-regrets). Risks and vulnerability assessments are the basis to select relevant adaptation options in the national, the federal and regional adaptation plans. These options have been identified by expert judgement of the relevant policy departments.

6b. The selection of priority adaptation options is based on robust methods (e.g. multi-criteria analyses, stakeholders' consultation, etc.) and consistent with existing decision-making frameworks

Yes / No

In the NAP, the process which led to the identification of adaptation measures was based on an analysis of the measures contained in the adaptation plans (three regions and the federal) to identify the gaps and/or the opportunities for synergies, the EU adaptation framework (in particular the EU Adaptation Strategy and its accompanying documents), and a study exploring first drafts of national adaptation actions which can be implemented jointly by the federal and regional authorities. The Adaptation Working Group of the NCC identified a set of measures based on this analysis. Their relevance and feasibility were analysed, in consultation with the relevant sectoral experts, following criteria such as the opportunity for implementation (focusing on the integration of adaptation into planned sectoral projects/process), the national added-value (meaning that the measures are beneficial to all four entities) and the urgency of action.

6c. Mechanisms are in place to coordinate disaster risk management and climate change adaptation and to ensure coherence between the two policies

Yes/ In progress / No

There is limited evidence available on established coordination mechanisms between the authorities dealing with disaster risk management and adaptation policies. There has been increased coordination in the context of the Federal contribution to the NAP.

Belgium foresees to upscale coordination between disaster risk reduction and climate change adaptation by convening a first meeting with the regional and federal crisis centre, adaptation experts, and scientists providing climate services. Future work will

³⁹<https://www.west-vlaanderen.be/kwaliteit/Leefomgeving/klimaat/Documents/Verslag%20interprovinciale%20klimaatdag%2013%20oktober%202016.pdf>

<http://www.vlaamsbrabant.be/wonen-milieu/milieu-en-natuur/vlaams-brabant-klimaatneutraal/samen-met-jou-naar-een-klimaatneutrale-provincie/klimaattop-vlaams-brabant/index.jsp>

⁴⁰ http://www.klimaat.be/files/5514/7915/5040/federale_bijdrage_adaptatieplan.pdf;

https://www.lne.be/sites/default/files/atoms/files/2013-06-28_VAP.pdf;

http://document.environnement.brussels/opac_css/elecfile/PLAN_AIR_CLIMAT_ENERGIE_NL_DEF.pdf;

http://www.awac.be/images/Pierre/PACE/Plan%20Air%20climat%20%C3%A9nergie%202016_2022.pdf

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build on the work realized in the framework of the cordex.be project and look how to mainstream climate change in disaster risk prevention/management. This would be in line with the implementation of measure 11 of the National Adaptation Plan and measure 5 of the Federal contribution to the National Adaptation Plan.

A national platform for disaster risk reduction (Sendai platform) has been established in 2016 (coordinated by the ministry of foreign affairs).

7. Funding resources identified and allocated

7. Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action

Yes / **In Progress** / No

There is not much evidence of consistent and funding for adaptation actions in each of the relevant departments. The adaptation actions have to be financed by each of the relevant policy departments and needs to be included in the annual department budget. So far, it is mainly the water-related departments that have significant amount of funds for climate related projects.

In 2017, the available funds currently spent are to assess impacts and to develop adaptation supporting tools to help local authorities to develop adaptation plans in Flanders⁴¹ and in Wallonia⁴². Flanders funds the development of climate scenarios and assessing the impacts for Flanders⁴³. In addition, there is a Thinktank⁴⁴ on adaptation, financed by the Environment department with the aim to bring together expertise. There appears to be no climate adaptation funding in Brussels.

There appears to be no multi-annual funding for climate adaptation.

Step D: Implementing adaptation action

8. Mainstreaming adaptation in planning processes

8a. Consideration of climate change adaptation has been included in the national frameworks for environmental impact assessments

Yes / **No**

At federal level, royal decrees laying down the procedure for granting the permits and authorizations required for certain activities carried out in the marine areas under Belgian jurisdiction (Royal Directive of 7 and 9 September 2003) are currently under consideration for review to take into account directive 2014/52/EU, where needed. Revision includes consideration to climate change, in accordance with the directive, as well as to the use of specific guidance document. A guidance document has been developed by the federal level to promote better integration of climate change mitigation and adaptation (and biodiversity) in SEA and EIA in the North Sea and has been published in October 2017.

The New EIA 2014/52/EU is in force in Flanders. Climate change is one of the aspects that is part of the environmental impact assessment⁴⁵.

⁴¹<http://www.vlaamseklimaattop.be/ondersteuning-lokale-overheden,en> <http://burgemeestersconvenant.be/klimaatadaptatie>

⁴² <http://www.awac.be/index.php/en/thematiques/changement-climatique/adaptation#a-diagnosis-of-vulnerability-at-the-local-level>

⁴³ This fund is available at VMM

⁴⁴ <http://www.dka.ugent.be/index.php/doelstelling/doelstelling>

⁴⁵ <https://www.lne.be/sites/default/files/atoms/files/r1b-alg-proc-en-meth-aspecten-2015.pdf>

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In the Walloon region and Brussels Capital – the former EU directive - 2011/92/UE - is used as a guideline for the EIA. Climate change is not yet (always) included⁴⁶.

8b. Prevention/preparedness strategies in place under national disaster risk management plans take into account climate change impacts and projections

Yes/ **No**

The national and provincial disaster management plans do not include direct reference to climate change in their strategy. Under the federal contribution to the National Adaptation Plan⁴⁷, there is a measure planned that would aim at evaluating the impacts of climate change in risk analysis and to, on the basis of these assessments, define actions.

Early warning systems are in place for crisis management during natural disasters (BE-alert).⁴⁸ Plans for the protection of critical infrastructure as well as crisis management plans (for floods⁴⁹, heat waves⁵⁰ and forest fires) consider climate change, but there is not evidence how future climate projections are taken in to consideration.

8c. Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change

Yes/ **No**

There are some policy instruments in the spatial planning that are used to avoid spatial development in risk areas, as there is the 'watertoets' in Flanders and the Signaalgebieden⁵¹. However, the information used as a basis of these decisions is mainly current (flood) risk information instead of climate change induced risks.

In forestry policy, there are policy instruments that contribute to climate change adaptation. According to the NAS, the Walloon forest code, the Flanders forestry policy and the Brussels forest plans are already aiming to get forest patches that are better adapted to climate change.

Some major water and flood management initiatives consider climate change: Plan PLUIES⁵², SIGMA plan⁵³, etc. However, there is no evidence found on guidance related to climate proof (re-)building.

8d. National policy instruments promote adaptation at sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies

Yes/ In progress/ No

Mainstreaming into policy sectors is the basis of the Federal contribution to the National Adaptation Plan and of the regional plans. Forestry, biodiversity, water, marine and coastal areas, health and spatial planning are areas highlighted for adaptation policy

⁴⁶ <http://environnement.wallonie.be/> and <https://stedenbouw.irisnet.be/vergunning/de-vergunningsaanvraag/evaluatie-van-de-milieueffecten-1>

⁴⁷ http://www.klimaat.be/files/5514/7915/5040/federale_bijdrage_adaptatieplan.pdf

⁴⁸ <http://be-alert.be/nl>

⁴⁹ <http://www.waterinfo.be/>

⁵⁰ <http://www.irceline.be/en> and <http://www.meteo.be/meteo/view/nl/1401103-Hittewaarschuwing.html>

⁵¹ <http://www.integraalwaterbeleid.be/nl/beleidsinstrumenten/watertoets>

<http://www.integraalwaterbeleid.be/nl/beleidsinstrumenten/signaalgebieden>

⁵² http://environnement.wallonie.be/de/dcenn/plan_pluies/index.htm

⁵³ <http://sigmaplan.be/nl/>

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mainstreaming. The priorities seem to vary throughout the range of available documents, also differing per region.

Sound foundations seem to be laid in the adaptation planning documents, and despite it being early in the Belgian adaptation process to prove an effective integration and promotion of adaptation considerations into priority sectors, a significant progress justifies the score of this domain. In Flanders, progress in mainstreaming adaptation in other policy domains is demonstrated in the bi-annual or yearly progress report.⁵⁴ Also the other regional adaptation plans proof that mainstreaming of adaptation take place in the different sectors.

8e. Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention

Yes/ **No**

The draft Belgian Federal Adaptation Plan⁵⁵ contained provisions to foster the consideration of climate risks in insurance and guarantee schemes, and to support the productive sectors in considering and addressing the impacts of, and adaptation to, climate change but this measure was not retained in the final version ('federal contribution to the national adaptation plan') adopted by the federal council of minister. Also in the Flemish Adaptation Plan, incorporating climate change in the insurance sector is an ambition but the progress report⁵⁶ indicated that the insurance sector is not yet including climate change in their products. No evidence was found on other incentives for investments in risk prevention.

9. Implementing adaptation

9a. Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents

Yes / **In progress** / No

The NAS as well as the national, federal and regional adaptation plans, have listed adaptation measures. Many of them are in the stage of implementation⁵⁷. The most significant adaptation activities implemented to date concern water and flood management and nature policy. Projects to climate-proof the river Scheldt take place within the SIGMA plan⁵⁸.

A large scale project⁵⁹ has taken place to adapt the coast to climate change, more specific to protect the coastline from storm and storm surges, that is taking sea level rise into account as well. The Flemish nature department is working to build a connected ecological network⁶⁰.

In Wallonia the Plan PLUIES⁶¹ has been quoted as an effort to face floods risks and climate change. Also the agriculture sector⁶² and the forestry sector⁶³ are implementing adaptation measures according to the regional adaptation plan.

⁵⁴ <https://www.lne.be/sites/default/files/atoms/files/VR%202016%201504%20MED.%20VORA2015%20-%203%20bijlage.pdf>

⁵⁵ http://www.klimaat.be/files/5514/7915/5040/federale_bijdrage_adaptatieplan.pdf

⁵⁶ <https://www.lne.be/sites/default/files/atoms/files/VR%202016%201504%20MED.%20VORA2015%20-%203%20bijlage.pdf>

⁵⁷ <https://www.lne.be/sites/default/files/atoms/files/VR%202016%201504%20MED.%20VORA2015%20-%203%20bijlage.pdf>

⁵⁸ <http://sigmaplan.be/nl/>

⁵⁹ <http://afdelingkust.be/nl/masterplan-kustveiligheid>

⁶⁰ <https://www.lne.be/sites/default/files/atoms/files/VR%202016%201504%20MED.%20VORA2015%20-%203%20bijlage.pdf>

⁶¹ http://environnement.wallonie.be/de/dcenn/plan_pluies/index.htm

⁶² <http://www.giser.be/>

⁶³ <http://www.awac.be/index.php/l-adaptation#l-adaptation-aux-changements-climatiques-en-foresterie>

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9b. Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)

Yes/ **No**

Cooperation mechanisms at provincial and local level are under development.

In Flanders, there is a pilot group of local authorities that help to co-develop adaptation support tools that will be provided by the Flemish government to local authorities in order to develop adaptation plans. These support tools include:

- A climate atlas that reveals the most vulnerable areas in Flanders
- A tool to explore adaptation measures⁶⁴

In the Walloon region, a comparable adaptation support tool for local authorities is available.⁶⁵

In Flanders and Wallonia, it is observed that some provinces are planning to take up the role to coordinate adaptation with the local authorities. However, no formalized coordination group has been established at the moment of this analysis.

Wallonia has recently signed a commitment to be a territorial coordinator of the Covenant of Mayors. Cooperation is therefore emphasized in a more formal way, albeit in very early stages.

However, in none of the regions, there is a formalised, continuous cooperation mechanism between regional level and the local level. Cooperation is taking place on an ad-hoc basis.

9c. Procedures or guidelines are available to assess the potential impact of climate change on major projects or programmes, and facilitate the choice of alternative options, e.g. green infrastructure

Yes/ No

Measure 9 of the Federal contribution to the National Adaptation Plan is a cross sectoral measure that foresees the mainstreaming of climate adaptation in the development of federal policies. This measure is implemented through:

1.) Integration of adaptation in the analysis procedure for regulation (the so called AIR – analyse d'impact de législation) as well as in the manual for impact analysis for regulation (see⁶⁶)

2.) Development of guidelines to promote better integration of climate change mitigation and adaptation (and biodiversity) in SEA and EIA in the North Sea. Guidelines have been drafted by consultants, they are currently translated and will be published in October 2017. The existing guides⁶⁷ for screening and scoping of projects in the framework of SEA will be updated according to the guidance.

Flanders has developed guidelines to integrate climate in EIA (already available).

⁶⁴ <http://www.burgemeestersconvenant.be/klimaatadaptatie>

⁶⁵ <http://www.awac.be/index.php/en/thematiques/changement-climatique/adaptation#a-diagnosis-of-vulnerability-at-the-local-level>, <http://leswallonssadaptent.be>

⁶⁶ <http://www.simplification.be/fr/content/analyse-d-impact>

⁶⁷ <https://www.health.belgium.be/fr/document-dorientation-pour-levaluation-des-incidences-environnementales-de-certains-plans-et>

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9d. There are processes for stakeholders' involvement in the implementation of adaptation policies and measures.

Yes / **No**

Many of the adaptation plans are government-driven. Stakeholders have a limited role in the implementation of adaptation measures. Although measures to mitigate the impacts of climate change are proposed to be taken up by the private sector, no indication of public private cooperation within this scope could be found.

Step E: Monitoring and evaluation of adaptation activities

10. Monitoring, reporting and evaluation.

10a. NAS/NAP implementation is monitored and the results of the monitoring are disseminated

Yes/ No

Monitoring is foreseen in the national, federal and regional adaptation plans. For the national adaptation plan, midterm evaluation is foreseen end 2018 and final evaluation will take place in 2020. Indicators as been identified in the National Adaptation plan.

In the federal contribution to the National Adaptation Plan, annual evaluation of implementation of the federal contribution is foreseen (first annual evaluation will take place end 2017). Midterm evaluation will take place in 2018 and final evaluation will be realised in 2020 and will be publicly available. A federal MRV law was adopted on 28 October 2016. It puts in place the framework for the reporting, monitoring and evaluation of federal policies and measures in the field of climate change and ozone layer protection. According to the Law all entities and departments of the federal authority in possession of relevant data and information shall communicate them annually in order to guarantee the timeliness, transparency, accuracy, consistency, comparability and completeness of the information reported.

10b. The integration of climate change adaptation in sectoral policies is monitored and the results of the monitoring are disseminated

Yes / **No**

At the national level, there is no system in place to collect and disseminate information on adaptation actions being carried out in different sectors as a part of a monitoring and reporting scheme.

In Flanders, the different policy sectors have to report on a bi-annual basis on the progress of the adaptation actions mentioned in the Flemish adaptation plan⁶⁸. The first progress report included the period 2013-2015. The next report is expect for the period 2015 – 2017.

No evidence was found on how the federal government, the Walloon and Brussels-Capital region currently monitor the integration of climate change adaptation in sectoral policies.

⁶⁸ <https://www.lne.be/sites/default/files/atoms/files/VR%202016%201504%20MED.%20VORA2015%20-%203%20bijlage.pdf>

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Measure 3 of the National Adaptation Plan foresees the development of a national online platform for climate adaptation; this measure is in early process of implementation. The web platform is expected in 2018.

10c. Regional-, sub-national or local action is monitored and the results of the monitoring are disseminated

Yes/**No**

There is no systematic mechanism to collect and disseminate information from provincial or local level about adaptation actions. However, the Flemish and the Walloon regions are currently developing decision support tools for local authorities that will help to collect and disseminate good practices from the local level.⁶⁹

11. Evaluation

11a. A periodic review of the national adaptation strategy and action plans is planned

Yes/**No**

The federal contribution to the National adaptation plan will be evaluated in 2018 (mid-term evaluation) and 2020 (final evaluation) to assess progress in the proposed measures⁷⁰. The strengths and weaknesses of the plan will be analysed and missing actions will be identified. Although most of the regions also mention the intention to evaluate the adaptation plans, no evaluation system has been proposed so far, nor a timeschedule for evaluation.

11b. Stakeholders are involved in the assessment, evaluation and review of national adaptation policy

Yes/**No**

No specific information on stakeholder involvement in the monitoring, evaluation or review of the adaptation strategies or plans seems to be available.

SUMMARY TABLE

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
Step A: Preparing the ground for adaptation		
1	<i>Coordination structure</i>	
1a	A central administration body officially in charge of adaptation policy making	Yes / No
1b	Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities	Yes / In Progress / No

⁶⁹ Flemish region: <http://www.burgemeestersconvenant.be/praktijkvoorbeelden>

Walloon region: <http://leswallonssadaptent.be/exemples-de-realisation/>

⁷⁰ http://www.klimaat.be/files/5514/7915/5040/federale_bijdrage_adaptatieplan.pdf

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
1c	Vertical (i.e. across levels of administration) coordination mechanisms exist within the governance system, enabling lower levels of administration to influence policy making.	Yes / In Progress / No
2 Stakeholders' involvement in policy development		
2a	A dedicated process is in place to facilitate stakeholders' involvement in the preparation of adaptation policies	Yes / No
2b	Transboundary cooperation is planned to address common challenges with relevant countries	Yes / No
Step B: Assessing risks and vulnerabilities to climate change		
3 Current and projected climate change		
3a	Observation systems are in place to monitor climate change, extreme climate events and their impacts	Yes / In progress / No
3b	Scenarios and projections are used to assess the economic, social and environmental impacts of climate change, taking into account geographical specificities and best available science (e.g. in response to revised IPCC assessments)	Yes / In progress / No
3c	Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making.	Yes / In progress / No
3d	Climate risks/vulnerability assessments take transboundary risks into account, when relevant	Yes / In progress / No
4 Knowledge gaps		
4	Work is being carried out to identify, prioritise and address the knowledge gaps	Yes / In progress / No
5 Knowledge transfer		
5a	Adaptation relevant data and information is available to all stakeholders, including policy makers (e.g. through a dedicated website or other comparable means).	Yes / In progress / No
5b	Capacity building activities take place; education and training materials on climate change adaptation concepts and practices are available and disseminated	Yes / In progress / No
Step C: Identifying adaptation options		
6 Identification of adaptation options		
6a	Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts	Yes / No
6b	The selection of priority adaptation options is based on robust methods (e.g. multi-criteria analyses, stakeholders' consultation, etc.) and consistent with existing decision-making frameworks	Yes / No
6c	Mechanisms are in place to coordinate disaster risk	Yes/ In Progress

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
	management and climate change adaptation and to ensure coherence between the two policies	/ No
7 Funding resources identified and allocated		
7	Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action	Yes / In Progress / No
Step D: Implementing adaptation action		
8 Mainstreaming adaptation in planning processes		
8a	Consideration of climate change adaptation has been included in the national frameworks for environmental impact assessments	Yes / No
8b	Prevention/preparedness strategies in place under national disaster risk management plans take into account climate change impacts and projections	Yes / No
8c	Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change	Yes / No
8d	National policy instruments promote adaptation at sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies	Yes / In Progress / No
8e	Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention	Yes / No
9 Implementing adaptation		
9a	Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents	Yes / In Progress / No
9b	Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)	Yes / No
9c	Procedures or guidelines are available to assess the potential impact of climate change on major projects or programmes, and facilitate the choice of alternative options, e.g. green infrastructure	Yes / No
9d	There are processes for stakeholders' involvement in the implementation of adaptation policies and measures.	Yes / No
Step E: Monitoring and evaluation of adaptation activities		
10 Monitoring and reporting		
10a	NAS/NAP implementation is monitored and the results of the monitoring are disseminated	Yes / No
10b	The integration of climate change adaptation in sectoral policies is monitored and the results of the monitoring are disseminated	Yes / No
10c	Regional-, sub-national or local action is monitored and the results of the monitoring are disseminated	Yes / No

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
11	<i>Evaluation</i>	
11a	A periodic review of the national adaptation strategy and action plans is planned	Yes / <u>No</u>
11b	Stakeholders are involved in the assessment, evaluation and review of national adaptation policy	Yes / <u>No</u>