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Directorate A - International, Mainstreaming & Policy Coordination
CLIMA.A.3 - Adaptation

Adaptation preparedness scoreboard:

Draft country fiche for the Czech Republic

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. Not all indicators have the "in progress" status, some can only be "yes" or "no". 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

Adaptation strategies

A1. National adaptation strategy

The National Adaptation Strategy (NAS)[1] of the Czech Republic was adopted in October 2015 by the Government Resolution no. 861[2]. The NAS assesses the climate change impacts prevalent in the Czech Republic and defines appropriate adaptation measures including their linkages to mitigation. The priority sectors are forest management, agriculture, water regime in landscape and water management, urban landscape, biodiversity and ecosystem services, health, tourism, transportation, industry and energy, emergencies and protection of the population and environment.

A2. Adaptation strategies adopted at subnational levels

One regional and six local adaptation strategies cover a population of 1 884 707, i.e. 18 % of the Czech population. At this moment, the Ministry of the Environment has information on one adaptation strategy at regional level adopted, which covers ca. 12 % of the total population: the City of Prague, which is both a municipality and a greater territorial self-governing unit (region).
Two (Kopřivnice, Hlučín) adaptation strategies were adopted by the municipal council and four adaptation strategies (Hrádek nad Nisou, Nový Bor, Plzeň, Brno) were presented to the municipal council and are used as non-binding documents for the on-going elaboration of comprehensive development strategies of municipality or spatial planning.
The Czech Republic has to date five signatories to the Covenant of Mayors for Climate & Energy with respect to adaptation: Prague (population 1 246 780), Liberec (106 000),

[1] Ministry of the Environment, Strategy on Adaptation to Climate Change in the Czech Republic (2015), available at https://www.mzp.cz/C1257458002F0DC7/cz/zmena_klimatu_adaptacni_strategie/$FILE/OEOK-Adaptacni_strategie-20151029.pdf English executive summary: https://www.mzp.cz/C125750E003B698B/en/strategy_adaptation_climate_change/$FILE/OEOK_Adaptation_strategy_20171003.pdf
[2] Government Resolution no. 861/ 2015, available at https://apps.odok.cz/attachment/-/down/VPRAA3VATUSE

Litoměřice (24 101), Brno (377 973) , Písek (29 800) and Brno (377,973)[3]. Some other cities and towns are preparing their adaptation strategies as well.

Adaptation action plans

B1. National adaptation plan

The Czech Republic adopted its National Action Plan on Adaptation to Climate Change (NAP) in January 2017[4] by the Government Resolution no. 34[5]. The NAP aims to implement the NAS and is structured according to identified climate change impacts in the Czech Republic: long-term droughts; floods and flash floods; temperature increase; extreme meteorological events (heavy rainfall, extremely high temperatures and heat waves; extreme wind); and wild fires. The NAP contains 33 specific targets and one cross-cutting target focused on education and awareness-raising. These targets will be implemented through 52 priority measures detailed into 160 priority tasks.

B2. Adaptation plans adopted at sub-national level

There are five cities in the Czech Republic which are signatories to the Covenant of Mayors for Climate & Energy with respect to adaptation. Although some of these Czech cities started preparing an adaptation action plan, none have been implemented yet.

B3. Sectoral adaptation plans

The Strategy of Environmental Safety 2016-2020 with an outlook to 2030, implements the Sendai Framework for Disaster Risk Reduction 2015-2030. This Strategy includes measures for disaster risk reduction connected with climate change impacts, notably extreme meteorological events.
The Policy of Protection from Impacts of Drought and Water Scarcity was adopted by the Government in July 2017. The document describes the main adverse trends in climate and hydrological conditions in the last three decades, as well as future expected impacts of climate change on water balance. The document identified strategic goals, such as increased knowledge of current and future drought- and water scarcity risks, better preparedness based on operational plans and measures, increased public awareness, a balance between the availability of water resources and water demand across all sectors, and a restored natural water regime of the landscape.
The effects of climate change are considered in the second River Basin Management Plans (RBMP), when assessing the trends of water use up to the year 2021. The Program of Measures contains a "Drought and water scarcity" measure, which defines climate change risks. Due to the fact that the second RBMP was adopted whilst the NAS was being drafted, the NAS is not fully reflected in the second RBMP. The outcomes of the NAS and related NAP will be taken into account in the third RBMP.

Also Flood Risk Management Plans, as well as the Action Plan for Organic Farming 2016-2020, takes into account climate change issues. The Rural Development Programme 2014-2020 supports the implementation of adaptation measures within the agricultural sector.

SCOREBOARD

Step A: preparing the ground for adaptation

[3] Covenant of Mayors for Climate & Energy, Adaptation, the Czech Republic, available at http://www.covenantofmayors.eu/about/about/signatories_en.html?q=Search+for+a+Signatory...&country_search=cz&population=&date_of_adhesion=&status=&commitments2=1
[4] National Action Plan on Adaptation to Climate Change in Czech Republic (2017), available at https://www.mzp.cz/cz/narodni_akcni_plan_zmena_klimatu
[5] Government Resolution no. 34/ 2017, available at https://apps.odok.cz/attachment/-/down/RCIAAHVB5M6W

1 Coordination structure

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

Yes / No

The Ministry of the Environment is the national coordinator of the NAS development, adoption, implementation and evaluation. The Department of General Nature and Landscape Protection was responsible for the coordination and preparation of the document and the Department of Energy and Climate Protection was actively involved in the NAS preparatory phase, including consultations with the Czech Hydrometeorological Institute (CHMI).

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

Yes / In progress / No

During the development phase of the NAS, interdepartmental groups of experts from all relevant ministries and institutions for each sector were established. The work was conducted in twelve working groups covering specific sectors (biodiversity, forest management, agriculture, water balance in landscape and water management, industry and energy, health and hygiene, crisis management, etc.) coordinated by the Ministry of the Environment.
The main stakeholders involved in the preparation of the NAS were national-level institutions, i.e. relevant ministries: the Ministry of Agriculture (water, agriculture, forestry), the Ministry of Health (health and hygiene), the Ministry of Transport (adaptation of transportation), the Ministry of Industry and Trade (supply of electricity), the Ministry of Regional Development (spatial planning and regional development), the Ministry of Interior (civil protection and warning systems), the Ministry of Education, Youth and Sports and selected scientific and research institutions, e.g. the Czech Hydrometeorological Institute (CHMI) and the T.G. Masaryk Water Research Institute (WRI). Relevant ministries are also responsible for their respective implementation tasks defined in the NAS as well as the NAP.
Each working group consisted of representatives from relevant ministries, expert departments of the Ministry of the Environment, in some cases also the CHMI and WRI. A coordinator from the Ministry of the Environment facilitated each working group. The institution responsible for each sector developed inputs related to the specific sector (e.g. water issues were prepared by the Ministry of the Environment and the Ministry of Agriculture, forest management by the Ministry of Agriculture, etc.).
An inter-ministerial working group on climate change issues was established in January 2015. This group cooperates, consults and works further on the basis of the NAS and was involved in preparation process of the NAP. An adaptation platform was established in January 2016 within the framework of the inter-ministerial working group to prepare the NAP.

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

Stakeholders, including representatives from regions and municipalities, had a chance to participate directly in preparation of the NAP through the inter-ministerial consultations. Some of them actively participated in this process and submitted written comments.
The main target of the communication strategy of the NAP is not only to ensure the access to information, but also to include public and other stakeholders into

implementation of the NAS. In the future, the evaluation and monitoring of the NAS and adaptation measures set in the NAP will be secured through the inter-ministerial working group on climate change, which has also some members from non-governmental non-profit organisations. Furthermore, the communication strategy aims to use two-way communications (bottom-up and top-down communication) between the Ministry of the Environment and public, including National Network of Local Action Groups in the Czech Republic or Union of the Towns and Municipalities of the Czech Republic. The inter-ministerial working group on climate change issues will be serving as communication mediator for this communication.
In order to enhance coordination, the Ministry of the Environment of the Czech Republic became a national coordinator of the Covenant of Mayors in 2017.

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

The development of the NAS involved only the sectoral national ministries and the relevant scientific and research institutions such as the Global Change Research Institute of the Czech Academy of Sciences (CzechGlobe) and Charles University Environment Centre. These stakeholders were also consulted on the final draft of the NAS. Business, non-governmental sectors, interest groups and other stakeholders did not participate in the formulation of the NAS. However, the Strategic Environmental Assessment process (SEA) of the NAS allowed the general public to participate in the form of written comments including public hearing. Stakeholders had the opportunity to participate directly on preparation of the NAP via the inter-ministerial consultations and participation in thematic working groups. Several stakeholders actively participated in the form of written comments, including Chamber of Commerce and Confederation of Employers and Business Union, Czech Geological Survey, Association of Municipal and Private Forest Owners, Forest Management Institute, Institute of Botany AS CR, The Water Supply and Sewerage Association of the Czech Republic, Green Circle (network of NGO dealing with environmental issues), Chance for Buildings and others.

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

Yes / No

Trans-boundary co-operation for adaptation to climate change was considered when drafting the NAS and NAP. The national experts from the Czech Republic and Slovenia organised meetings where they exchanged experiences and lessons learned from the preparation of the NAS and NAP. In addition, an onsite exchange of adaptation practice was organised in the Czech Republic.
Furthermore, the Czech Republic has frameworks for bilateral co-operation with neighbouring countries, i.e. Germany (Czech-German Commission on Environment and its working groups), Austria, Slovakia and Poland. There is close co-operation in the field of water management (e.g. trans-boundary early warning systems, flood prevention measures, etc., especially with Germany). The Czech Republic participates actively in the activities of the international commissions for Elbe, Oder and Danube river basins. Transboundary projects are supported through the Interreg EUROPE 2014-2020 (Bavaria, Saxony, Poland, Austria and Slovakia) in the fields of risk prevention, flood

management systems and cooperation of rescue services. There were no relevant transboundary projects found for the Interreg IV C programming period 2014-2020.[6]
The Visegrad group (V4) also addresses issues related to climate change adaptation in specific sectors (water management, nature protection etc.) on political level and within its working groups.
The Czech Republic is actively involved in the EU Strategy for the Danube Region and in the activities of its Priority Area 5, Environmental Risks, which, among others, addresses the challenges of water scarcity and droughts and focuses on the implementation of Danube wide flood risk management plans, taking into account the potential impacts of climate change as well.
The Czech Republic is a Party to the Framework Convention on the Protection and Sustainable Development of the Carpathians (Carpathian Convention). In 2014, the Fourth Meeting of the Conference of the Parties to the Carpathian Convention adopted the Strategic Agenda on Adaptation to Climate Change in the Carpathian Region, which is being implemented mainly through the activities of the Working Group on Adaptation to Climate Change under the Convention.
Within the macro-regional strategies, the Czech Republic is a member of European Meteorological Services Network (EUMETNET).

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

The Czech Hydrometeorological Institute (CHMI) provides information on actual weather conditions and alerts to extreme hydrological and meteorological situations. It also publishes data and information on climate change science, observations, scenarios and impacts. Regarding climate change impacts, a general qualitative description of impacts with some key figures from the modelling analysis is given. Monitoring of water courses done by CHMI based on specific indicators provide different applicable data series showing the impacts of climate change. The CHMI performs the function of a state institute for the area of air quality protection, hydrology, water quality, climatology and meteorology, with a competence to establish and operate State monitoring and observation networks, including international data exchange pursuant to the WMO principles.
Regarding climate extremes, the warning system has been further improved on the basis of the innovated Integrated Warning Service System in the Czech Republic. This system includes forecast warning information on 26 dangerous phenomena and each phenomenon is assigned a danger level (low, medium, extreme). A large number of stations with operative presentation of measured data and forecasts have been placed on the website of the reporting and forecasting flood service.[7]
Observation and collection of information on climate change and its impacts (i.e. droughts) is supported by several institutions: the Committee on the Environment of the Czech Academy of Sciences and its institutes (CzechGlobe and others[8]), the National Forestry Committee, University departments and sectoral institutes.
Currently the indicators showing impacts of extreme weather events are developed for floods such as Return Period of Floods, Flood Effects. Indicators for other impacts of climate change and extreme weather events are currently being developed for the NAP.

[6] INTERREG IVC Approved projects database, available at http://www.interreg4c.eu/projects/index.html
[7] http://hydro.chmi.cz/hpps/#
[8] http://www.intersucho.cz/en/

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

A Comprehensive Study on Impacts, Vulnerability and Risks Sources Connected to Climate Change in the Czech Republic from November 2015 was conducted for the Ministry of the Environment by EKOTOXA.[9] It provides an assessment of impacts and vulnerabilities to climate change adaptation in the Czech Republic on general level as well as per adaptation sector. This study is mainly based on a study from 2011 analysing the results of a research project which developed scenarios and projections to assess the economic, social and environmental impacts of climate change. This study also includes information on indicators and a cost & benefit analysis.[10]
The main model used for climate change scenarios to date in the Czech Republic is ALADIN-CLIMATE/CZ regional climate model. The basis for the estimates of impacts is a specific project allowing the integration of the regional climate model (RCM) ALADIN–CLIMATE/CZ with A1B emission scenario for 1961-2100 with horizontal resolution of 25 km, completed in 2011. These projections (they do not cover key uncertainties due to climate models or socioeconomic scenarios) have been used to screen the environmental impacts of climate change in specific sectors (water management, agriculture and forestry sectors) and to inform the initial identification of potential adaptation options.
The Comprehensive Study on Impacts[11] mentioned above also has a section with an overview of the latest development in this field, mentioning several recent projects involved in modelling climate change impacts in the Czech Republic, and/ or projects developing systems to monitor and share data on such impacts. An example is the CzechAdapt project (2015-2016)[12] which developed, besides others, a regularly updated online database to show the impacts of climate change, vulnerability assessments and adaptation measures for the Czech Republic based on the best available methods, e.g. GCM CMIP5 models and regional models coming from another project, EUROCORDEX – a coordinated downscaling programme.[13] There are also a couple of regional projects, focusing on specific Czech regions and adaptation sectors (AdaptaN[14], UrbanAdapt[15]).
Hence, there is progress made in the Czech Republic on using the latest science, scenarios and projects to assess the impacts of climate change.

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

Yes / In progress / No

Some assessments of risks and vulnerabilities have been carried out through research projects. The most complex one so far has been the research project -"Specification of

[9] A Comprehensive Study on Impacts, Vulnerabilities and Risks Sources Connected to Climate Change in the Czech Republic (2015), available at https://www.mzp.cz/C1257458002F0DC7/cz/studie_dopadu_zmena_klimatu/$FILE/OEOK-Komplexni_studie_dopady_klima-20151201.pdf
[10] CHMI (2011), Specification of existing estimates of climate change impacts in hydrology, water management, agriculture and forestry sectors and proposals for adaptation measures
[11] A Comprehensive Study on Impacts, Vulnerabilities and Risks Sources Connected to Climate Change in the Czech Republic (2015), available at https://www.mzp.cz/C1257458002F0DC7/cz/studie_dopadu_zmena_klimatu/$FILE/OEOK-Komplexni_studie_dopady_klima-20151201.pdf
[12] CzechAdapt project, available at http://www.klimatickazmena.cz/cs/
[13] http://www.euro-cordex.net/
[14] http://www.adaptan.net/
[15] http://urbanadapt.cz/en

existing estimates of climate change impacts in hydrology, water management, agriculture and forestry sectors and proposals for adaptation measures" coordinated by the CHMI[16]. The outcomes were used in the preparation of the NAS, as mentioned above. The Comprehensive Study on Impacts mentioned above[17] provides an assessment of climate risks / vulnerability for all ten priority sectors of the NAS. Further analysis of the expected impacts of water regime / water management, agriculture, forestry, health, urbanised landscape and biodiversity in the Czech Republic is done by the CHMI.

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

Yes / **In progress** / No

For the time being, climate risks / vulnerability assessments in the framework of the NAS and NAP do not take transboundary risks into account. This issue is partially covered through co-operation of the Czech Republic with the neighbouring states in the field of water management (trans-boundary water protection in the framework of the UNECE and in the international basins of Danube, Elbe and Oder rivers), but it is yet to be defined how these will address climate change, and how they will relate to the NAS.

4 Knowledge gaps

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

Yes / **In progress** / No

There is co-operation between the policy-making level (Ministry of the Environment, Ministry of Agriculture) and scientific organisations in defining and working on research priorities.
Accordingly, the NAS contains a number of measures to improve the knowledge base on adaptation and research focus areas. There is also a list of institutions which focus on climate change adaptation research. Some of them are part of the National Climate Programme which is responsible for creating research teams and publishing results.
The NAP contains the same research priorities mentioned in the NAS and mentions that the National Policy on Research, Development and Innovation for 2016-2020 includes research in global changes, i.e. also into adaptation to climate change. Moreover, the R&D strategy of the Ministry of the Environment for 2016-2025 is in coherence with this national research policy.
In addition, there are several funding programmes which were indirectly linked with the research gaps. National programme ADAPT was underway between the years 2008-2016. In 2017 there is an evaluation planned of this programme which will decide if a new period of ADAPT will be launched. The main objective of this programme was the modernisation of the monitoring system in order to secure more accurate extreme weather event predictions and adapt to them. Other programmes were run under Norwegian grants between the years 2009-2014, with some work to be continued in the 2015-2021 funding period.

5 Knowledge transfer

[16] CHMI (2011), Specification of existing estimates of climate change impacts in hydrology, water management, agriculture and forestry sectors and proposals for adaptation measures
[17] A Comprehensive Study on Impacts, Vulnerabilities and Risks Sources Connected to Climate Change in the Czech Republic (2015), available at https://www.mzp.cz/C1257458002F0DC7/cz/studie_dopadu_zmena_klimatu/$FILE/OEOK-Komplexni_studie_dopady_klima-20151201.pdf

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

The Ministry of the Environment publishes general and specific information on its websites regarding climate change adaptation, key documents and links to other relevant sources.[18]
CHMI also publishes climate change adaptation information on key climate change impacts, scenarios, climate change in the Czech Republic and expected impacts in the Czech Republic.[19] It also provides Q&A, glossary, the main international documents and other basic facts, besides the hydro-meteorological information.
There are several other web portals with information on climate change and climate change adaptation.[20]

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 general communication strategy is part of the NAS and the NAP. The former specifies types of awareness raising events related to the relevant sectors, targeted activities for media and the public. The NAS also includes a general approach to environmental education and the legal basis for it (i.e. programmes for schools, awareness raising campaigns, exhibitions, etc.), which includes cooperation between the Ministry of the Environment and the Ministry of Education, Youth and Sports.
The NAS also defines the need to mainstream climate change adaptation into educational programmes and relevant strategic materials, and attributes the ministries responsible for doing so. There is no mentioning of training.
To improve capacity building in the field of climate change adaptation, a State Programme for environmental education and awareness raising for 2016-2025, adopted in 2016 incorporates climate change as a focus area. The aim of this State Programme's climate objective is to raise awareness about climate change and its impacts in the Czech Republic and to encourage support for education programmes and campaigns in this field.

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

The NAS sets general directions and examples of suitable adaptation measures for all ten priority sectors. Risk and vulnerability assessments carried out through various research projects and the Comprehensive study have been taken into account when defining measures.

[18] http://www.mzp.cz/cz/adaptace_na_zmenu_klimatu
[19] http://portal.chmi.cz/historicka-data/pocasi/zmena-klimatu/zakladni-informace
[20] http://www.zmenaklimatu.cz/cz/; http://www.regio-adaptace.cz/cs/; http://www.adaptacesidel.cz/?news-date=2017-04-28; http://www.intersucho.cz/cz/

The adaptation options considered are usually based on existing practices and measures, where win-win value or low-regrets are considered (e.g. fighting floods, rural development, agro-environmental measures, etc.). The adaptation options take into account local conditions and also include the potential link to other sectors and to mitigation measures in that sector.
The NAP identifies the main climate risks and analyses the impacts and adaptation measures for each climate risk. As such, targets and measures for a certain climate risk are analysed for a variety of sectors. The annex to the NAP provides adaptation measures in detail, including the sector, responsible body, timeline of delivery, link to sectorial policy and financial needs. An Inter-sectoral working group for climate change adaptation was created during the NAP drafting process. The Inter-sectoral working group was comprised of national experts and stakeholders who could actively participate in drafting process.

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

The selection of adaptation options in the NAS has been based on expert judgement. The prioritisation of adaptation measures proposed in the NAP per sector was made according to a robust multicriteria analysis, in consultation between different ministries and thematic working groups. The priority was given to measures with positive impact on climate change adaptation and positive spill over and cross-cutting effects on sectors and on the whole economy. The NAP measures were prioritised according to 4 criteria: (1) multiple adaptation effects to tackle the impacts of climate change, (2) spill over social, economic or mitigation impacts, (3) impact on the environment and ecosystems, and (4) financial needs for implementation. Criterion (1) was evaluated by the thematic working groups and was attributed a value twice as important as criteria (2), (3) and (4). The latter were assessed by external consultants. Based on this multi-criteria analysis, adaptation measures were categorised into priority one measures and priority two measures.

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

Through the thematic working groups for the NAS and NAP development, inter-sectoral coordination between disaster risk management and climate change adaptation has been established. Experts from the Safety and Crisis Management Department of the Ministry of the Environment who are responsible for disaster risk management have been involved in the preparation of the relevant NAS and NAP chapters. The Strategy of Environmental Safety 2016-2020 with an outlook to 2030, which implements the Sendai Framework for Disaster Risk Reduction 2015-2030, has also been prepared by climate change adaptation experts. The strategy includes measures for disaster risk reduction for disasters caused by climate change, mainly extreme meteorological events.
A multi-sectoral National platform on disaster risk reduction (DRR) to coordinate actions and activities related to disaster risk reduction (Sendai Framework DRR) and climate change was established in February 2015.

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

Both the NAS and the NAP identify existing and potential economic instruments to fund proposed adaptation measures. Besides the EU funds, there are several national programmes available for specific sectors. For instance "Programme on landscape protection" and "Programme for restoration of natural functions of landscape", which have a high potential value for vulnerable sectors (agriculture, water management, forestry and biodiversity adaptation), as they might increase climate resilience. In addition, several programmes supporting the building and/or reconstruction of fish ponds, small water reservoirs, improvement of water courses and support of the irrigation facilities are administrated by the Ministry of Agriculture, including a long term programme for the prevention of floods.
However, there is no specific budget available for financing cross-cutting/coordinated adaptation action, or a dedicated fund to finance adaptation actions proposed in the NAS and the NAP. A number of tasks will include legislative amendments. Then the scope of implementation will be known with more accurate amount of resources needed. Most actions carried out to date have been implemented through one-off specific projects.

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

The national frameworks for environmental impact assessment (EIA) and strategic environmental assessment (SEA) have been revised to include considerations on adaptation. As the new EIA Directive is in place, the Czech authorities have finished harmonising the national legislation to transpose the new EIA Directive which includes considerations of aspects related to adaptation. The draft of the amendment transposing the new EIA Directive came into force on 1 November 2017.
The amendment transposing the new EIA Directive requires the assessment of impacts of the project related to climate change (the impact of the project on climate, vulnerability of the project to climate change and risk of major accidents and/ or disasters caused by climate change), including the assessment of impacts relevant to adaptation.

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

Status Pending

The Czech Republic has developed a very comprehensive multihazard system based on an integrated early warning system connected with a special rescue and response system. The system was tested on occurring weather extremes (floods in the last 15 years). The Commission is currently analysing to what extent disaster risk management plans and the associated risk scenarios take climate change projections into account.

After the publication of this fiche on 7 December 2017, the Commission services received the following text proposal from the Czech authorities, to replace the last sentence of this section. The proposal will be analysed and used by the Commission services as appropriate in updating the fiche before its finalisation in the 2nd half of 2018.

"At present, there are risk scenarios for floods, flash floods, drought, extreme wind and extreme high temperatures. Risk scenarios are prepared for the needs of ministries and regional governments and cities."

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

Yes / **No**

The Ministry of Regional Development, responsible for the spatial planning, is involved in the inter-ministerial working group on adaptation and the NAP and NAS contain several actions for spatial planning. The update of the Spatial development policy of the Czech Republic[21] from 2015 does not mention climate change adaptation explicitly. However, it contains several priorities of spatial development for sustainable development, which deal with climate change adaptation, e.g. in the field of flood damage prevention and biodiversity reinforcement. The policy also refers to sustainable development, as a major principle to be considered.
In response to recent frequent large-scale flood events in the Czech territory, the Ministry of Agriculture and the Ministry of the Environment (in line with the national Water Act) developed a General plan of protected localities suitable for prospective surface water accumulation and also set up basic rules determining land use in these areas.

After the publication of this fiche on 7 December 2017, the Commission services received the following text proposal from the Czech authorities, to replace the previous sentence of this section. The proposal will be analysed and used by the Commission services as appropriate in updating the fiche before its finalisation in the 2nd half of 2018.

"The Ministry of Agriculture and the Ministry of the Environment (in line with the national Water Act) developed a General plan of areas protected for the accumulation of surface waters and the basic principles of the use of these areas. This document defines a set of sites that are morphologically, geologically and hydrologically suitable for accumulation of surface water."

The General plan serves as one of the supporting documents for spatial development.

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

Because the NAP was adopted recently there is only limited evidence on implementation and mainstreaming yet (details are in 9a). However in some sectors, i.e. agriculture, water management, disaster risk management and education adaptation mainstreaming has been identified – description can be found under B3/9a.

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

Yes / **No**

Only limited evidence could be found that adaptation is mainstreamed in insurance policies or alternative policy instruments to provide incentives for investments in risk prevention. There are some insurance schemes in the agriculture sector that cover some specific current extreme events. Use of agriculture-related insurance is supported by the

[21] https://www.mmr.cz/getmedia/d23c51e1-64c8-44f2-b1cd-6f98eb5e46ed/2015_VIIII_7_SDP_update1_EN.pdf?ext=.pdf

Relief & Guarantee Farming and Forestry Fund and a new fund is in preparation to cover those risks for farmers that are not insurable commercially. However, prevention and adaptation are mentioned as a tool, rather than insurance, to reduce further damage by extreme events.

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 NAP was adopted in 2017. However, the implementation of the NAP is planned to be evaluated in 2019 as a basis for the preparation of an updated NAS. In the current NAS, the tasks for ministries to implement sector specific actions have already been allocated, and potential funding for adaptation actions is clearly identified. In 2016, the Czech Republic adopted the State Programme for Environmental Education and Awareness Raising which contains specific targets and measures focused on education and dissemination of information regarding climate change mitigation and adaptation.
Already implemented activities of the NAP include the measures for water retention in forests and promotion of restoration of the water management function of small water reservoirs.
Moreover, some measures that could have an adaptive value are being undertaken by various Ministries/Departments, i.e. in the agriculture, forestry, biodiversity, human health and water management sectors. During the NAP drafting process, existing and new adaptation actions were identified in order to ensure the continuity and improvement of adaptive capacity of the Czech Republic to future climate conditions.
The River Basin Management Plans introduced support to the implementation of the adaptation measures identified in the 2004 National Programme to Abate the Climate Change Impacts in the Czech Republic. Reportedly, the revision of the River Basin Management Plans takes due consideration of an increased frequency of floods, and adds other flood risk management measures. For example, the context of climate change has been considered in the 2nd River Basin Management Plans (RBMP) in order to assess the trends of water use up to the year 2021. The Programme of Measures contains a "Drought and water scarcity" measure, which is defining climate change risks.

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

Yes / **No**

Currently there is no cooperation framework on regional or local levels. Nevertheless, the Strategic Framework Czech Republic 2030 and Strategy regional development Czech Republic 2021+ sets creation of cooperation mechanism on subnational level as one of its tasks.

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**

We could not find any procedures or guidelines for assessment of the potential impact of climate change on major projects or programmes aside from the environmental impact assessment and strategic environmental impact assessment frameworks addressed in 8a.

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

Yes / **No**

In some sectors, education and public awareness raising and active involvement of non-state organizations is envisaged within the framework of the NAP.

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**

Since the NAP was adopted only in 2017, and the NAS only in 2015, there is so far no monitoring and reporting on the NAS or the NAP. Evaluation of monitoring of the NAS and adaptation measures set in the NAP will be shaped through the inter-ministerial working group on climate change. A set of indicators to measure vulnerabilities to climate change and adaptation will be tracked and evaluated. Data collection and evaluation will be based on the period of 4 years and will serve as background for update of NAS, NAP and reporting requirements of the Czech Republic.
Until this point, one relevant publication is the report on national adaptation actions under Article 15 of the Mechanism for monitoring and reporting (MMR), from 2015.

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

Yes / **No**

A set of indicators to measure vulnerabilities to climate change and adaptation is being developed. The list of indicators is already identified. Further there will be identification of already available data and necessary steps to eliminate data gaps for the indicators. The final phase will set up a baseline for measurement which will be done for the year 2014. The finalisation of the set of indicators is planned for the end of 2017.

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

Yes / **No**

Currently there is no monitoring and reporting system on regional and local levels in place. Nevertheless the Strategic Framework of the Czech Republic 2030 sets creation of monitoring and reporting system on subnational level as one of its tasks.

11 Evaluation

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

Yes / No

There are clear deadlines given for the review of the NAS and the NAP in both documents. The NAS will be reviewed and updated in 2020. From then onwards, the Strategy will be reviewed once in every ten years.
The NAP will be evaluated in 2019 and this evaluation will form the basis for the revision of the NAS. From then onwards, the NAP will be reviewed every 4-5 years, depending on the reporting obligations of the Czech Republic within the framework of its international commitments.

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

Yes / No

Evaluation of monitoring of the NAS and adaptation measures set in the NAP will be through the inter-ministerial working group on climate change which has part of its members from regional and local authorities associations, research institutions, professional or non-governmental and non-profit organisations. The communication strategy aims to use two-way communications between the Ministry of the Environment and public, including National Network of Local Action Groups in the Czech Republic or the Union of the cities and municipalities. The inter-ministerial working group on climate change will be serving as a communication mediator.

SUMMARY TABLE

Adaptation Preparedness Scoreboard		
No.	**Indicator**	**Met?**
Step A: Preparing the ground for adaptation		
1	***Coordination structure***	
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
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

Adaptation Preparedness Scoreboard		
No.	**Indicator**	**Met?**
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 management and climate change adaptation and to ensure coherence between the two policies	**Yes**/ In Progress / 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	**Status Pending**
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**

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