



Adaptation preparedness scoreboard:

Country fiche for Poland

Note to the Reader

Under Action 1 of the EU's Strategy on adaptation to climate change (COM(2013)216), in collaboration with the Member States, the Commission developed an 'adaptation preparedness scoreboard'. Using the scoreboard, the Commission prepared country fiches on each Member State in an iterative consultation process.¹ The country fiches assess the Member States' adaptation policy as of June 2018, including the content of NASs and plans, for the following aspects:

- Institutional structure
- Quality of national vulnerability assessments
- Knowledge creation (national observation systems in relevant sectors² and climate modelling), transfer and use
- Action plans:
 - Quality (incl. the basis used for assessment of adaptation options)
 - Actual implementation mechanisms
- Funding mechanisms
- Mainstreaming into sectoral policies, in particular:
 - Disaster risk reduction
 - Spatial planning
 - Environmental impact assessment (EIA) (how the Directive is transposed)
 - Insurance policy
- Transboundary cooperation
- Monitoring mechanisms in different sectors and governance levels

¹ The first versions of the fiches, prepared in consultation with the Member States in 2014-15, were unpublished and used to fine-tune the scoreboard. The second drafts were published, after consulting the Member States, as background documents to the public consultation on this evaluation in December 2017. https://ec.europa.eu/clima/consultations/evaluation-eus-strategy-adaptation-climate-change_en The final Member State consultation on the draft fiches took place in June 2018.

² These relate for example to meteorology, floods, drought, sea level, coastal erosion, biodiversity, human/animal/plant health etc.

The fiches are based on internal work by the Commission and on targeted assistance from an external contractor. They also served as input to the assessment of Action 1 of the Strategy during its evaluation. Annex IX of the Commission's SWD(2018)461 on the evaluation of the Strategy presents a horizontal assessment of the 28 country fiches, while Annex X presents the list of scoreboard indicators and the methodology used in applying them.

The assessments in the country fiches (yes/no/in progress) need to be read in conjunction with the narrative that accompanies them. They assess the state of play within each EU Member State. 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 Member States. 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".

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List of abbreviations

CF	Cohesion Fund
EAFRD	European Agricultural Fund for Rural Development
EEA	European Economic Area
EMFF	European Maritime and Fisheries Fund
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
HELCOM	Baltic Marine Environment Protection Commission - Helsinki Commission
IMGW	Institute of Meteorology and Water Management
IOŚ-PIB	Instytut Ochrony Środowiska – Państwowy Instytut Badawczy
ISOK	System of Protection Against Extreme Hazards
MPA	Miejskie Plany Adaptacji do Zmian Klimatu (urban climate adaptation plans)
NAS	National Adaptation Strategy
OP	Operational Programme

POLICY FRAMEWORK

Adaptation strategies

A1. National adaptation strategy

The “Polish National Strategy for Adaptation to Climate Change by 2020 with the perspective by 2030” (NAS 2020)³ was adopted by the Polish Government in October 2013. Its main goal is to ensure the sustainable development of Poland in a changing climate. It links directly to the EU Adaptation Strategy. The NAS 2020 sets out strategic goals for adaptation action in several sectors considered to be particularly vulnerable to climate change in Poland, namely: water management, agriculture, forestry, biodiversity and protected areas, health, energy, building industry, transport, mountain areas, coastal zone, spatial development and urban areas. It includes legislative, organisational and information actions, as well as research programmes.

The NAS 2020, provides the high-level framework that is referred to when planning adaptation action at national, regional and local level.

Many other strategic documents, at national, regional and local levels, highlight the importance of climate adaptation in Poland (e.g. the Strategy for Responsible Development for the period up to 2020, including the perspective up to 2030⁴; the National Environmental Policy 2030⁵, and the Energy Security and Environment Strategy – perspective up to 2020⁶). Many of these documents were created before the adoption of the NAS 2020 in 2013 (e.g. Strategy for “Sustainable development of the countryside, agriculture and fisheries in 2012-2020”⁷, which explicitly mentions adaptation in rural areas as part of its five core objectives).

A2. Adaptation strategies adopted at subnational levels

The local and regional (voivodeship) authorities are free to shape their adaptation policies. The Ministry of Environment has published a guidance document concerning the preparation of urban adaptation plans in 2014. Adaptation strategies at a local level are being developed in the framework of a project conducted by the Ministry of Environment: “Development of Urban Adaptation Plans for cities with more than 100,000 inhabitants in Poland” (MPA), which covers 44 major Polish cities, mainly over 100,000 residents. Warsaw’s Climate

³ Ministry of Environment, 2013, Polish National Strategy for Adaptation to Climate Change (NAS 2020), https://klimada.mos.gov.pl/wp-content/uploads/2014/12/ENG_SPA2020_final.pdf

⁴ MIIR, 2017, Strategia na rzecz Odpowiedzialnego Rozwoju do roku 2020 (z perspektywą do 2030 r.) URL: <https://www.miir.gov.pl/media/48672/SOR.pdf>

⁵ Under preparation. Personal contact with MS contact.

⁶ According to the website of the Polish Ministry of Energy, this strategy is expected to remain in place until the end of 2018 when it will be replaced by two separate strategic documents covering Polish Energy Policy and the National Environmental Policy 2030. The new documents being prepared will be aligned with the The Strategy for Responsible Development, URL: <http://www.me.gov.pl/Energetyka/Strategia+Bezpieczenstwo+Energetyczne+i+Srodowisko>, Accessed: 16/05/2018

⁷ Ministry of Agriculture and Rural Development, 2012, Strategia zrównoważonego rozwoju wsi, rolnictwa i rybactwa na lata 2012-2020, URL: <http://www.minrol.gov.pl/Informacje-branzowe/Strategia-zrownowazonego-rozwoju-wsi-rolnictwa-i-rybactwa-na-lata-2012-2020/Dokumenty-analzy> The strategy is being updated.

Change Adaptation Strategy is being prepared as part of project ADAPTCITY⁸, which is due to conclude in December 2018.

Adaptation action plans

B1. National adaptation plan

Poland has neither developed nor is it planning to develop a National Adaptation Action Plan. While working on the NAS, Poland has opted for a "soft-coordination model" for implementation, which is based on support, incentives, guidance, and soft measures.

B2. Adaptation plans adopted at sub-national level

In terms of climate adaptation action plans, the most prominent initiative is the “Development of Urban Adaptation Plans for cities with more than 100,000 inhabitants in Poland” (Miejskie Plany Adaptacji – MPA) project⁹, which was launched in January 2017. The project aims to conduct a vulnerability assessment and relevant adaptation action planning for Polish cities (44 cities are currently covered by the project). It aims to assess the vulnerability and risks of each city to climate change, and to plan adaptation solutions, including soft and hard measures with respect to the identified hazards. All urban adaptation plans will be developed in accordance with a single methodology. The project is expected to contribute to improving the safety and quality of citizens’ lives, and to support the local authorities in accessing financial resources for the investments. Urban adaptation plans will have a dynamic and open character, so it is expected to be easy to update or reshape assumptions moving forward. The project is coordinated by the Ministry of Environment, delivered by a consortium including state and private entities, and co-funded from the Cohesion Fund under the Infrastructure and Environment Operational Programme (OP) 2014-2020. The project consortium is led by the governmental research body: Institute of Environmental Protection – the National Research Institute which was in charge of NAS 2020 preparation. The project is due to end in January 2019.

Another example of adaptation policy implementation at a sub-national level is CLIMCITIES¹⁰ - “CLIMate change adaptation in small and medium size CITIES”¹¹. The project provides training to local authorities and local leaders from NGOs, media, universities and other interested stakeholders in Polish cities and towns (with population from 50,000 to 99,000 inhabitants). The training sessions are complemented by e-learning platform and an on-line library. The project started in 2017 and is supported by the European Economic Area (EEA) Grants, with a contribution from Poland’s state budget. It complements the MPA project, which is dedicated to preparation of climate adaptation strategies for larger cities.

⁸ ADAPTCITY, URL: <http://adaptcity.pl/english/about/>, Accessed: 16/05/2018

⁹ MPA, URL: <http://44mpa.pl/>, Accessed: 16/05/2018

¹⁰ CLIMCITIES, URL: <http://climcities.ios.gov.pl/>, Accessed 16/05/2018

¹¹ Contact with MS contact

B3. Sectoral adaptation plans

In 2015, the Polish Government amended the 2003 law on the Coastal Protection Programme¹². The amendment reflected the NAS 2020 vulnerability assessment with regard to Polish coastal zones, and amplified protection of Polish coast against, among other risks, floods, erosion, and cliff degradation. Programme implementation is coordinated by the Ministry of Marine Economy.

The “Development of drought impacts prevention plans for the river basins” project¹³ is carried out under the Infrastructure and Environment OP 2014-2020 (Priority Axis 2.2: Environmental protection including adaptation to climate change) and co-funded by the Cohesion Fund (PLN 13,600,000 out of the total project budget of PLN 16,000,000, ca. EUR 4,000,000). The project is coordinated by the National Water Management Authority and will run between 2016 and 2020. The drought impacts prevention plans are developed by regional water management authorities. Flood risk management plans were adopted in October 2016 for three river basin districts in Poland (i.e. Odra River Basin, Vistula River Basin and Pregola River Basin¹⁴).

PKP Polskie Linie Kolejowe S.A., a company with majority stock held by the State Treasury, commissioned a study to prepare a climate adaptation plan for the Polish rail infrastructure¹⁵. The document will identify possible actions needed for good line maintenance, efficient running of trains and areas for future investment. It will cover the planning, execution, operation and maintenance of the railway lines. Impacts to be analysed will include: heavy rains and storms, strong winds, high and low temperatures, floods and landslides. The work will analyse: satellite imagery, meteorological and climatic data, existing climate scenarios up to a minimum of 2070, including IPCC scenarios. The project is expected to end in 2018.

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

¹² ISAP, Ustawa z dnia 25 września 2015 r. o zmianie ustawy o ustanowieniu programu wieloletniego "Program ochrony brzegów morskich", URL: <http://prawo.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20150001700> , Accessed: 16/05/2018

¹³ KZGW, URL: <http://www.kzgw.gov.pl/index.php/pl/materialy-informacyjne/opracowanie-planow-przeciwdzialania-skutkom-suszy-na-obszarach-dorzeczy>, and dedicated project website: <http://stopsuszy.pl/en/http://stopsuszy.pl/en/>, Accessed: 16/05/2018

¹⁴ KZGW, URL: <http://www.kzgw.gov.pl/index.php/pl/materialy-informacyjne/plany-zarzadzania-ryzykiem-powodziowym> Accessed: 16/05/2018

¹⁵ Polskie Linie Kolejowe, URL: , Accessed: 16/05/2018 Polskie Linie Kolejowe, URL: <https://www.plk-sa.pl/biuro-prasowe/informacje-prasowe/przygotowanie-sieci-kolejowej-do-zmian-klimatu-3472>/<https://www.plk-sa.pl/biuro-prasowe/informacje-prasowe/przygotowanie-sieci-kolejowej-do-zmian-klimatu-3472/> , Accessed: 16/05/2018

The Ministry of Environment¹⁶ has prepared the NAS (that was subsequently adopted by the Polish Government) and is a *de facto* coordinator of adaptation action in Poland. Its role arises from its competencies in environmental protection. The Ministry of Environment prepares adaptation strategies, feeds into the Climate-ADAPT website, reports to the EC and UNFCCC, and supports adaptation initiatives, such as CLIMCITIES¹⁷, building capacity among regional and local policy makers. The Ministry fulfils most of its adaptation action through a state research institute: IOŚ-PIB (in Polish Instytut Ochrony Środowiska – Państwowy Instytut Badawczy).

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

Yes / **In progress** / No

The NAS 2020 states that in line with the multi-level governance rule and, given the horizontal character of adaptation measures, the creation of new institutions dedicated to coordination of the implementation of the NAS is not envisaged. No evidence has been identified of horizontal coordination within the governance system during the drafting of the NAS 2020.

Since June 2015, multi-level and cross-sectoral governance has been supported by a Working Group on Climate Change Adaptation¹⁸. The group aims to:

- Support the implementation of the NAS 2020 and mainstreaming of adaptation at regional level by indicating directions of adaptation action to be included in the regional strategic documents that will further be reflected in the local adaptation plans
- Facilitate knowledge sharing between the levels of governance,
- Support monitoring and reporting of adaptation action at regional and local levels
- Create a cooperation and experience exchange platform between national, regional, and local stakeholders and an international cooperation platform, and
- Support implementation of the MPA project, which is dedicated to adaptation action in Polish cities (greater than 100 thousand inhabitants).

The Working Group has been created as part of a project supporting the activities of the “Partnership: Environment for growth” network, which brings together the environmental protection institutions and the EU fund-managing authorities¹⁹. The Working Group received support under the Technical Assistance OP 2007-2013 (co-funded from the Cohesion Fund), which continues in the current programming period (2014-2020).

¹⁶ MOS, URL: <https://www.mos.gov.pl/en/>, Accessed: 16/05/2018

¹⁷ CLIMCITIES, URL: <http://climcities.ios.gov.pl/>, Accessed: 16/05/2018

¹⁸ Partnerstwo Środowisko dla Rozwoju, URL: <http://sdr.gdos.gov.pl/SitePages/ZmianyKlimatu.aspx>, Accessed: 16/05/2018

¹⁹ GDOS, URL: <http://www.gdos.gov.pl/ruszyla-grupa-robocza-ds-adaptacji-do-zmian-klimatu>, Accessed: 16/05/2018

During the preparation of strategic documents in other policy areas, the Ministry of Environment is consulted upon the potential interactions with climate adaptation policies and actions²⁰.

While progress is being made on horizontal coordination the lack of clarity regarding systematic coordination and division of responsibilities means that a ‘yes’ score is not yet justified.

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

No evidence has been identified of vertical coordination within the governance system during drafting of the NAS 2020. One of the aims of the Working Group on Climate Change Adaptation (see Indicator 1b) is to support coordination between different levels of governance. The local and regional (voivodeship) authorities are free to shape their adaptation policies, so long as they are in line with national legislation. The Ministry of Environment has published a guidance document on the preparation of urban adaptation plans in 2014²¹ and is supporting local administration and government by coordinating preparation of adaptation plans in 44 cities through the MPA project²².

No evidence has been found of national or regional coordination of cities under the framework of the Covenant of Mayors.

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**

No evidence of significant and systematic stakeholder involvement could be found with respect to the preparation of the NAS 2020. As a result of the state-run project KLIMADA, the NAS 2020 was created by staff members of the IOŚ-PIB, a governmental research institute working on environmental protection issues, and affiliated experts. The KLIMADA project website was created only after the NAS 2020 was adopted. The website’s “public dialogue” feature calls for stakeholder contributions including sharing of best practices.

Some ad-hoc stakeholder involvement is in place in the preparation of adaptation policies (see below).

²⁰ Personal communication with MS contact.

²¹ Ministry of Environment (2014), Podręcznik adaptacji dla miast - wytyczne do przygotowania Miejskiego Planu Adaptacji do zmian klimatu. https://www.mos.gov.pl/fileadmin/user_upload/Podrecznik-adaptacji-dla-miast.pdf

²² MPA, URL: <http://44mpa.pl/miejskie-plany-adaptacji/>, Accessed: 16/05/2018

The abovementioned Working Group on Climate Change Adaptation can be seen as a stakeholder involvement platform even if limited in scope. The Working Group's meetings are, in principle, open to participants who are not registered in the network. However, their participation has to be approved beforehand by the chair of the Working Group. External participants join the sessions "very rarely". By the end of April 2017, six sessions of the Working Group had taken place, with only three formal interventions from non-public authorities: the floor was open to one university, one private company (presenting experience from an urban adaptation project in Radom), and a foundation dedicated to sustainable development²³.

There are sporadic cases of structured stakeholder engagement, such as the ongoing public consultation of the Warsaw's Climate Change Adaptation Strategy²⁴. The city encourages a wide range of inputs, including voices on possible individual actions, under the headline of "IDEAS for CLIMATE" and organises dozens of consultation meetings. The consultation is a part of a wider ADAPTCITY project, co-founded by LIFE+ and the National Fund for Environmental Protection and Water Management²⁵.

At the local level, as part of the project CLIMICITIES, training has been provided to local authorities covering current knowledge on climate change and adaptation, preparation of city adaptation plans and how to involve inhabitants in the climate adaptation actions²⁶. Guidance on the preparation of urban adaptation plans, issued by the Ministry of Environment alongside the NAS, highlights the importance of involvement of all relevant stakeholders during preparation and implementation of the urban adaptation plans²⁷.

Since 2015, under the actions of the ENEA network working group on Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA), a series of training courses has taken place for stakeholders on considering climate change in investment projects²⁸.

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

Yes / No

There is no apparent cross-border cooperation on climate adaptation in Poland and the NAS includes only national components. However, in the area of flood protection Poland

²³ GDOS, URL: <http://sdr.gdos.gov.pl/SitePages/ZmianyKlimatu.aspx>, Accessed: 16/05/2018

²⁴ UM Warszawa, URL: <http://konsultacje.um.warszawa.pl/konsultacja/pomysl-na-klimat-strategia-adaptacji-do-zmian-klimatu-dla-mst-warszawy>, Accessed: 16/05/2018

²⁵ ADAPTCITY, URL: <http://adaptcity.pl/>, Accessed: 16/05/2018

²⁶ ZIELONA INFRASTRUKTURA, URL: <http://zielonainfrastruktura.pl/projekt-adaptacji-do-zmian-klimatu-w-malych-i-srednich-miastach/>, Accessed: 16/05/2018

²⁷ MOS, https://www.mos.gov.pl/fileadmin/user_upload/Podrecznik-adaptacji-dla-miast.pdf, Accessed: 16/05/2018

²⁸ Personal communication with MS contact,

cooperates on a regular basis with its neighbours: Slovakia, Czech Republic, Germany, Lithuania, and Ukraine²⁹.

Notably, Poland is not a partner in the Baltadapt project, which aims to exchange knowledge and “develop a climate change adaptation strategy and a framework for its implementation” in the Baltic Sea region³⁰. It is, however, a member of HELCOM (Baltic Marine Environment Protection Commission - Helsinki Commission) for which “adaptation to climate change is a central question”. HELCOM defines adaptation as “adjustment and development of the necessary new measures to protect the Baltic Sea marine environment to allow for reaching the vision of a healthy Baltic Sea even in a changing climate.”³¹. Poland is involved in the EU Strategy for the Baltic Sea Region³² that includes “climate change adaptation, risk prevention and management” among its objectives³³.

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 Institute of Meteorology and Water Management (IMGW, a national research institute) oversees climate change monitoring and maintains a log of extreme climate events. A dedicated unit within the IMGW in charge of collecting data on the state of the atmosphere and the hydrosphere uses a complex technical infrastructure, including systems for a) observing-measurement, b) Tele-information and communication, and c) data processing, forecasting and warning. Additionally, monitoring of selected climate variables is carried out by a number of research institutes and universities in Poland. Apart from monitoring, the IMGW oversees preparation and dissemination of forecasts and warnings for the general public, as well as for state defence.

Ensuring an effective system for protecting the country against extraordinary threats is particularly important due to the growing number of such events and the increasing scale of their economic and social impacts. As it is becoming increasingly important to improve the effectiveness of flood risk management, an IT system has been developed for the Country’s Protection Against Extreme Hazards (ISOK). It contains the widest collection of expertise and information about water management in Poland³⁴.

There is no open database for data on whirlwinds, hurricanes, droughts, heat waves or precipitation. Data on extreme events are available at the Ministry of the Interior and

²⁹ National Water Management Authority, URL: <http://www.kzgw.gov.pl/pl/Wspolpraca-z-Republika-Federalna-Niemiec.html>, Accessed: 16/05/2018

³⁰ BALTADAPT, URL: <http://www.baltadapt.eu/index.php>, Accessed: 16/05/2018

³¹ HELCOM (2013), Climate change in the Baltic Sea Area HELCOM thematic assessment in 2013, <http://www.helcom.fi/Lists/Publications/BSEP137.pdf>

³² EUSBSR (2009), URL: http://ec.europa.eu/regional_policy/sources/cooperate/baltic/pdf/2010_baltic.pdf

³³ EC (2017), European Union Strategy for the Baltic Sea Region ACTION PLAN, COM(2009) 248

³⁴ Personal communication with MS contact

Administration and The Institute of Meteorology and Water Management – National Research Institute (IMGW-PIB).

The impacts of extreme weather events, such as financial losses, are not assessed in the context of adaptation policies³⁵. However, such assessments may be prepared for emergency response and risk management activities³⁶. In such cases, these are prepared by regional authorities.

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

In the projects KLIMADA and KLIMAT (assessing “Impact of the climate change on environment, economy and society”)³⁷, a series of scenarios and projections have been produced. The KLIMADA website refers to simulations undertaken for the EU project ENSEMBLES, which used the SRES A1B emission scenario from IPCC 2000³⁸. Scenarios and projections in the KLIMAT project were prepared for the years 2011-2030 using a model supporting calculations for the IPCC’s Fourth Assessment Report (the reference scenario used experiment 20C3M and projections used scenarios SRES A2, A1B and B1)³⁹. Geographic specificities were considered in the modelling work.

Between 2011 and 2015, the Institute of Soil Science and Plant Cultivation (a state research institute) developed an information system on climate change impacts for agriculture and adaptation methods⁴⁰. The project outcome fine-tuned the available climate change models to the Polish agricultural sector’s needs.

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

Yes / In progress / No

Climate risk and vulnerability assessments for selected sectors were completed by the KLIMADA⁴¹ project (delivered between 2011 and 2013), which led to adoption of the NAS 2020.

³⁵ Personal communication with MS contact

³⁶ Example of financial loss assessment following a severe weather event in Poland in 2017 can be found here: <https://pomorskie.eu/documents/39036/1691913/Raport+straty+po+nawa%C5%82nicy/2bca1fc0-a68d-44fd-8eea-b14294de6144>

³⁷ KLIMAT project website: <http://klimat.imgw.pl/>

³⁸ IPCC, URL: <http://www.ipcc.ch/ipccreports/sres/emission/index.php?idp=0>, Accessed: 16/05/2018

³⁹ KLIMAT, 2012, Warunki klimatyczne i oceanograficzne w Polsce i na bałtyku południowym, URL: <http://klimat.imgw.pl/wp-content/uploads/2013/01/tom1.pdf?edmc=>

⁴⁰ IUNG “System informacji o wpływie zmian klimatycznych na rolnictwo oraz metodach adaptacji” official website, <http://www.klimat.iung.pulawy.pl/o-systemie>

⁴¹ KLIMADA, URL: <http://klimada.mos.gov.pl/en/about-project/>, Accessed: 16/05/2018

The following sectors have been covered in the risk assessments: agriculture, forestry, biodiversity, human health, water, coastal areas, mountain areas, transport, energy, built environment, spatial planning/urban planning. The ministries responsible for a given sector coordinated the risk assessment for their sector. Moreover, the KLIMAT project developed by the IMGW has assessed the long-term climatic pressures on agriculture and forestry, water management, energy security, as well as broader socio-economic conditions. The assessment is based on different datasets that will soon become outdated as the most recent only provide data to 2010.

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

Yes / **In progress** / No

Transboundary risks are taken into account in the collaborative effort undertaken by Poland and its neighbouring countries with regards to flood prevention and flood-related damage mitigation⁴² (see Indicator 2b). The NAS 2020 explicitly mentions that legislative and organisational adaptation actions should “take into account the cross-border aspects”. There are relatively few signs, however, of transboundary risks being systematically considered.

4. Knowledge gaps

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

Yes / **In progress** / No

The NAS 2020 notes that reinforcement of research in the area of adaptation is important and there is a need to create programmes and finance adaptation research in: energy, construction, geology, transport, agriculture and forestry management, water and maritime management. The NAS states that research in the area of climate change and adaptation aligns with the national research programme, which was published in 2011. No more recent publications regarding priorities for research in Poland were identified. The NAS does neither mentions any processes to tackle knowledge gaps periodically nor suggests how such gaps should be identified. It includes a recommendation, however, that research should cover:

- Setting up an information exchange and securing funding for research and implementation of techniques facilitating adaptation
- Establishment of research programmes in the areas of energy, construction, geology, transport, agriculture and forestry and water management
- Assessment of environmental valuation techniques including valuation of ecosystem services
- Assessment and implementation of new quality standards for equipment which could prevent or limit negative impacts of extreme weather conditions.

The OP Infrastructure and Environment 2014-2020 provides funding for climate change and adaptation initiatives, including activities related to improving the knowledge base and

⁴² National Water Management Authority, URL.: <http://www.kzgw.gov.pl/index.php/pl/wspolpraca-miedzynarodowa/wspolpraca-z-republika-federalna-niemiec>, Accessed: 16/05/2018

increasing competency in climate mitigation and adaptation (Action 9)⁴³. Among others, the OP is financing a new project aimed at providing improved knowledge about climate change and climate adaptation, which will be launched by the Institute of Environmental Protection - National Research Institute in June 2018⁴⁴. It will establish a "Knowledge base on climate change and adaptation to their effects and channels of its dissemination in the context of increasing resilience of the economy, environment and society to climate change and counteracting and minimizing the effects of extraordinary threats". The study is co-financed by the OP Infrastructure and Environment 2014-2020 and aims to provide:

- Updated climate scenarios – projections of change of temperature and precipitation up to 2100, with special focus on year 2050
- An interactive tool providing information about climate risks and adaptation actions for decision makers at various governance levels
- A website dedicated to the knowledge of climate change, collecting information about the consequences of extreme weather events.

While progress in being made, a 'yes' score would require the knowledge gaps in the NAS and the research priorities pursued (e.g. through KLIMADA2) to be aligned either by the revision of the NAS or the revision of the research programmes.

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

The KLIMADA website, created when the NAS 2020 was prepared, is regularly updated with information about adaptation activities in Poland and the EU. As a source of information on climate adaptation, it is far from comprehensive. It provides some data and updates about climate change and adaptation activities but the information presented lacks detail and does not identify the sources from which it was taken. Another source of information is the IMGW⁴⁵ KLIMAT website, which includes publications prepared as part of the research study "Impacts of climate change on economy, environment and society".

The website created for the project "Development of Urban Adaptation Plans for cities with more than 100,000 inhabitants in Poland"⁴⁶ is another official source of information available to all stakeholders. More detailed information on the adaptation of cities will be published on the website, as the project progresses⁴⁷.

The new project led by the Institute of Environmental Protection – National Research Institute, concerning the "Knowledge base on climate change and adaptation to their effects"

⁴³ MIIR, 2018, Szczegółowy opis osi priorytetowych Programu Operacyjnego Infrastruktura i Środowisko 2014-2020, URL: https://www.pois.gov.pl/media/55204/SzOOP_POIS_6.pdf

⁴⁴ Instytut Ochrony Środowiska, URL: <http://ios.edu.pl/brak-kategorii/konferencja-baza-wiedzy-o-zmianach-klimatu-i-adaptacji-do-ich-skutkow/>, Accessed: 16/05/2018

⁴⁵ IMGW, URL: <http://klimat.imgw.pl/>, Accessed: 16/05/2018

⁴⁶ MPA, URL: <http://44mpa.pl/>, Accessed: 16/05/2018

⁴⁷ Personal communication with MS contact

(see Indicator 4a) aims to provide the necessary knowledge, in the field of climate change and its impact, to improve the effectiveness and efficiency of adaptation activities in sectors and areas vulnerable to climate change⁴⁸. The project is nationwide and is directed at decision makers in the central administration who should take actions related to the selection and implementation of climate adaptation activities and measures.

Every document or tool developed by the Ministry of the Environment is published and has an open-source character⁴⁹.

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

There are some actions on capacity building for urban areas that are not driven by the NAS. A promising attempt to share adaptation knowledge among stakeholders is the CLIMCITIES (“CLIMate change adaptation in small and medium size CITIES”)⁵⁰ project, which provides training to local authorities and local leaders from NGOs, media, universities, as well as other interested stakeholders in Polish cities and towns (with populations from 50,000 to 99,000 inhabitants). The training sessions are complemented by an e-learning platform and an online library. The project started in 2017 and is supported by EEA Grants, with a contribution from Poland’s state budget. It complements the MPA and ADAPTCITY projects dedicated to preparation of climate adaptation strategies for larger cities. The “Knowledge base” project, KLIMADA2, soon to be launched by the Institute of Environmental Protection - National Research Institute, will further contribute to capacity building.

The Ministry of Environment also published two guidance documents relevant to adaptation: “Guidance on preparing investment that considers climate change mitigation and adaptation including resilience to natural disasters”⁵¹, and the “City Adaptation Handbook – guidance on preparation of Urban Adaptation Plans”⁵². It has also released a “Guide to investment preparation respecting climate change mitigation and adaptation as well as resilience to natural disasters”⁵³, which describes how to take climate change into consideration during the process of EIA. Since 2015, under the actions of the ENEA network and the Ministry of the Environment, a series of training courses have taken place on consideration of climate change in investment projects⁵⁴.

⁴⁸ Personal communication with MS contact

⁴⁹ Personal communication with MS contact

⁵⁰ CLIMCITIES, URL: <http://climcities.ios.gov.pl/rekrutacja>, Accessed: 16/05/2018

⁵¹ Ministry of Environment, 2015, Poradnik przygotowania inwestycji z uwzględnieniem zmian klimatu, ich łagodzenia i przystosowania do tych zmian oraz odporności na klęski żywiołowe, URL: http://klimada.mos.gov.pl/blog/2015/10/30/poradnik_przygotowania_inwestycji/

⁵² Ministry of Environment, 2014, Podrecznik Adaptacji dla Miast, URL: https://www.mos.gov.pl/fileadmin/user_upload/Podrecznik-adaptacji-dla-miast.pdf

⁵³ GDOS, no date, URL: https://www.gdos.gov.pl/files/artykuly/5437/Lagodzenie_zmian_klimatu_i_adaptacja_do_zmian_klimatu_w_ocenie_oddziaływania_na_srodowisko.pdf Accessed: 16/05/2018

⁵⁴ Personal communication with MS contact

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 2020 identifies adaptation options based on a climate risk and vulnerability assessment completed by the KLIMADA project for selected sectors (water management, agriculture, forestry, biodiversity and protected areas, health, energy, building industry, transport, mountain areas, coastal zone, spatial development and urban areas), which take into account geographical specificities. The assessment was based on climate scenarios developed at the Interdisciplinary Centre for Mathematical and Computational Modelling of the Warsaw University. The scenarios cover the period 2001-2030 divided into two-time slices: 2001-2010 and 2021-2030. The KLIMADA project methodologies include modelling (atmosphere and hydrodynamics), expert judgment, and desk research⁵⁵.

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 NAS 2020 identifies climate risks and a range of relevant adaptation options. Three general principles established by the NAS 2020 were that adaptation options selected should:

- Reduce vulnerability to climate risk by taking it into account at the investment planning stage
- Provide rapid response plans in the event of climate disasters (floods, droughts, heat waves)
- Be prioritised based on their cost-effectiveness in addressing threats to human health and lives and permanent loss and damage.

The adaptation options are divided into four categories: legislation, organisation, information, and research. They are formulated to match the overarching NAS 2020 objectives:

- Objective 1: Ensuring the energy security and good environmental status
- Objective 2: Efficient adaptation to climate change in rural areas
- Objective 3: Development of transport in the conditions of climate change
- Objective 4: Ensuring the sustainable regional and local development with consideration to climate change
- Objective 5: Stimulating innovations conducive to adaptation to climate change
- Objective 6: Development of social behaviour conducive to adaptation to climate change.

⁵⁵ Ministry of Environment, 2015, Pordadnik przygotowania inwestycji z uwzględnieniem zmian klimatu, ich łagodzenia i przystosowania do tych zmian oraz odporności na klęski żywiołowe,

Preparing the list of adaptation option and matching them to the NAS 2020 objectives was a multi-stage process based on expert assessments. The preliminary list of adaptation options was assessed and complemented by the relevant ministries. The outcome was compared with the directions set out in the Government's strategies and submitted to experts for reassessment.

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**

No evidence was found of an established mechanism for coordinating disaster risk management and climate adaptation, or of methods to include climate projections in disaster risk management and vice versa.

NAS 2020 does not list improvements to disaster risk management as one of its goals or priority actions. It recognises, however, that the Polish strategy for growth, which was valid when the NAS 2020 was prepared, already included adaptation measures regarding disaster risk management.

The Ministry of the Environment cooperates with the institutions responsible for the disaster risk management but does not have a coordination function for this process⁵⁶. The Government Centre for Security is responsible for the coordination of activities related to monitoring, prevention and counteracting threats, as well as launching procedures related to crisis management.

The National Plan for Crisis Management⁵⁷ does not state whether climate impacts and projections have been considered when planning disaster risk management.

7. Funding resources identified and allocated

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

Yes / **In progress** / No

The NAS 2020 provides an overview of funds available for climate adaptation in the 2014-2020 period, including domestic, EU and international sources of finance. Domestic funds include the National and Regional Funds for Environmental Protection and Water Management, which comprise funds from the Green Investment Scheme (income from sale of Annual Allocation Units under the Kyoto Protocol), local and regional governments' budgets, and the state budget.

While EU funds, particularly European Structural and Investment Funds (ESIF), play an important role in financing adaptation actions in Poland, the overview in the NAS 2020 of EU funds available for climate adaptation is very limited and general (referring broadly to

⁵⁶ Personal communication with MS contact

⁵⁷ RCB, 2017, Krajowy Plan Zarządzania Kryzysowego, URL: <http://rcb.gov.pl/wp-content/uploads/RCB-KPZK-cz%C4%99%C5%9B%C4%87-A.pdf>

“national and regional operational programmes”). The NAS 2020 mentions LIFE but fails to name the main sources of funds, namely the European Fund for Regional Development, the Cohesion Fund, and the European Social Fund. Among international sources of funding the NAS 2020 lists the World Bank and the International Monetary Fund. The NAS 2020 does not provide any details of any of the sources of funding that it mentions or any evidence of disbursements under those funds. An attempt to provide an overview of EU funds available for adaptation has been published on the KLIMADA website⁵⁸ but it is an incomplete list of possible sources.

In 2014 a Partnership Agreement⁵⁹ was signed by the European Commission and Poland to set out plans on the use of ESIF in Poland over the 2014-2020 period. The agreement refers to the NAS 2020 in several instances, and includes an estimate that EUR 1.2 billion will be dedicated to all of the adaptation actions listed in the NAS 2020, including around 35% of the adaptation investment needs in the water sector. Furthermore, the Partnership Agreement includes a commitment to take a horizontal approach to adaptation action framed by the NAS 2020 by considering it in relation to each sector and thematic objective that is co-funded by ESIF. While this was decided after the adoption of the NAS 2020, no update was made to reflect the role of ESIF in implementing the NAS 2020, and little relevant information is available on the KLIMADA website. The availability of EU funds is, however, a major factor encouraging adaptation action in Poland.

As of January 2018, the Infrastructure and Environment OP 2014-2020 has financed 47 projects under Priority Measure 2.1. “Adaptation to climate change including with protection and increase of resilience to disasters, in particular natural disasters and environmental monitoring”. The total amount of EU co-financing for these projects is over EUR 620 million⁶⁰.

The funding allocated to date has been directed to projects in vulnerable sectors, primarily water management and flood risk management (e.g. review and update of flood risk maps, flood risk assessment, drought management plans). There are also examples of cross-cutting actions, such as the development of the urban adaptation plans (the MPA project) and the project aimed at the development of the knowledge base on climate adaptation (see Indicator 4b).

While adaptation actions are being financed, particularly by ESIF, not all priority sectors receive consistent funding for implementation and the link between the actions included in the NAS 2020 and funding disbursed is unclear. Hence, this indicator is scored as ‘in progress’ score.

⁵⁸ GDOS, no date, URL: https://www.gdos.gov.pl/files/artykuly/5437/Lagodzenie_zmian_klimatu_i_adaptacja_do_zmian_klimatu_w_ocenie_oddziaływania_na_srodowisko.pdf, Accessed: 16/05/2018

⁵⁹ Ministry of Infrastructure and Development, 2014, Programowanie perspektywy finansowej 2014 -2020 - Umowa Partnerstwa, URL: https://ec.europa.eu/info/sites/info/files/partnership-agreement-poland-may2014_pl.pdf Accessed: 16/05/2018

⁶⁰ Based on the list on financed projects updated on 4 January 2018 available on the website of the Operational Programme for Infrastructure and Environment 2014-2020, URL: <http://www.pois.gov.pl/strony/oprogramie/projekty/lista-beneficjentow/>, Accessed: 16/05/2018

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

In 2015, the Law on EIA and SEA was updated to reflect climate adaptation needs⁶¹. The law transposes the EU EIA and SEA Directives into Polish law.

In terms of EIA, the risk that a project poses in terms of major accidents or natural disasters is assessed taking into account climate change (Article 63). The EIA must include information about the risk of climate change as well as its potential contribution to climate adaptation (Article 66). The provisions regarding SEA have not been specifically amended to reflect climate adaptation needs; only general requirements related to environmental protection are included in Article 51.

The Directorate General for Environmental Protection, in charge of EIA and SEA in Poland, has issued a brochure: “Climate change mitigation and adaptation in the environmental impact assessment”⁶². The brochure broadly explains the modalities of EIA in terms of climate adaptation.

In 2015 the Ministry of Environment published “Guidance on preparing investment that takes into account climate change mitigation and adaptation including resilience to natural disasters”⁶³. The guidance supports potential beneficiaries of EU co-funding in the 2014-2020 programming period.

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

Yes / **No**

Projections of future climate impacts, and the extent to which climate change is currently affecting climate risks, are not incorporated in the Polish National Risk Management Plan⁶⁴.

⁶¹ Ustawa z dnia 3 października 2008 r. o udostępnianiu informacji o środowisku i jego ochronie, udziale społeczeństwa w ochronie środowiska oraz o ocenach oddziaływania na środowisko, URL: <http://isap.sejm.gov.pl/Download.jsessionid=FB3ECA4E089934F164109A10995E20A5?id=WDU20081991227&type=3>, Accessed: 16/05/2018

⁶² GDOS, no date, https://www.gdos.gov.pl/files/artykuly/5437/Lagodzenie_zmian_klimatu_i_adaptacja_do_zmian_klimatu_w_ocenie_oddziaływania_na_srodowisko.pdf

⁶³ Ministry of Environment, 2015, Poradnik przygotowania inwestycji z uwzględnieniem zmian klimatu, ich łagodzenia i przystosowania do tych zmian oraz odporności na kłeski żywiołowe, URL: http://klimada.mos.gov.pl/blog/2015/10/30/poradnik_przygotowania_inwestycji/

⁶⁴ RCB, 2017, Krajowy Plan Zarządzania Kryzysowego, URL: <http://rcb.gov.pl/wp-content/uploads/RCB-KPZK-cz%C4%99%C5%9B%C4%87-A.pdf>

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

Yes / **No**

According to the National Spatial Development Concept 2030⁶⁵ (NSDC) adopted in 2015, Polish spatial policy should be “striving to increase space capacity to adapt to climate change impacts”. This is a national level document, covering spatial, urban and maritime areas. It notes that “expected climate change until 2030 will have only moderate impact on spatial planning in Poland”. The impacts are foreseen in settlement networks, agriculture, and several other sectors in the coastal areas, river valleys and mountain areas. According to the NSDC, indirect impacts of climate change are expected to arise from legislative and regulatory changes, including increased spending on water management infrastructure and recovery from extreme climatic events. Implementation of the NSDC is coordinated by the Ministry of Development⁶⁶ but the progress of implementation is unclear with regard to adaptation to climate change.

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

NAS 2020 recognises the need to mainstream climate adaptation into national policies as specified in the EU White Paper. NAS 2020 includes specific objectives for sectors such as water management, coastal zone management, energy, biodiversity and forest management, spatial development and construction, health protection and rural areas. These objectives have been defined in line with the national development strategy and relevant integrated development strategies.

At sectoral level adaptation is promoted by one central instrument: the Partnership Agreement between the EU and Poland for the period 2014-2020⁶⁷ adopted in May 2014. Most recently, integration of adaptation into sectoral policy making has further been confirmed in a horizontal strategy (“Strategy for Responsible Growth”⁶⁸) adopted by the Polish government in February 2017.

The Partnership Agreement for Poland covers the European Regional Development Fund (ERDF), the Cohesion Fund (CF), the European Social Fund (ESF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). This was a key driver of climate adaptation inclusion in the sectoral policies in Poland; as most of them are delivered through or significantly affected by the OPs

⁶⁵ Ministry of Development (2011), Koncepcja przestrzennego Zagospodarowania Kraju, Uchwała Nr 239 Rady Ministrów z dnia 13 grudnia 2011 r. w sprawie przyjęcia Koncepcji Przestrzennego Zagospodarowania Kraju 203, URL: <http://isap.sejm.gov.pl/DetailsServlet?id=WMP20120000252&min=1>

⁶⁶ BIP, URL: http://mr.bip.gov.pl/strategie-rozwoj-regionalny/17847_strategie.html, Accessed: 16/05/2018

⁶⁷ EC, 2014, Partnership agreement with Poland, URL: https://ec.europa.eu/info/publications/partnership-agreement-poland-2014-20_en

⁶⁸ Ministry of Development, 2017, Strategia na rzecz Odpowiedzialnego Rozwoju, URL: https://www.mr.gov.pl/media/35716/SOR_2017_maly_internet03_2017.pdf

disbursing EU funds. The partnership priorities focus on business environment, entrepreneurship and innovation, social cohesion, active labour market participation, network infrastructure, environment and resource efficiency. Adaptation action is promoted mainly through environment and resource efficiency priority action but it is mainstreamed to some extent through all of them. According to some experts, it is the regional OPs that play the key role in NAS 2020 implementation⁶⁹.

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

Yes / **No**

Priority Action 6.2.1. of the NAS 2020 aims to increase uptake of insurance policies in territories at high risk of natural disasters. No evidence was found of adaptation being mainstreamed in insurance or alternative policy instruments in Poland.

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 2020 is the national level document. In addition, the local and regional (voivodeship) authorities are free to shape their adaptation policies in line with the national policy. There is no national adaptation plan in Poland in addition to the NAS 2020 and no dedicated sectoral plans have been identified. Sixteen regional OPs (2014-2020) developed at voivodeship level may include measures aimed at climate adaptation, however no dedicated regional climate adaptation plans have been identified. NAS 2020 includes an indicator for monitoring the implementation of the Strategy, concerning urban adaptation plans developed for cities above 100,000 inhabitants. This is now being realised through the MPA project.

Both horizontal and sector specific actions are being implemented however at the time of preparation of the scoreboard there were no published reports summarising progress in implementation of the NAS 2020⁷⁰ (this data was being collected from the regional authorities by the Ministry of Environment).

Polish authorities engage in a range of adaptation actions that are in line with the NAS 2020, mainly through European Structural and Investment Funds. A non-comprehensive list of on-going adaptation measures in Poland includes:

- Developing and adopting flood and drought prevention plans for the river basins by the national and regional water management authorities
- Capacity building

⁶⁹ Wisniewska, M, 2014, Adaptacja do zmian klimatu, URL: <http://www.reo.pl/assets/dokumenty/wiadomosci/lipsiewrz14/raport-adaptacja.pdf>

⁷⁰ Personal communication with MS contact

- “Good climate for Counties” project, supported by LIFE + financial instrument was running between 2010 and 2015 engaging local actors in a series of climate adaptation actions including creating of County Network for Climate and Network of Local Civil Society Initiators, signing declarations, organising debates and conferences⁷¹
- CLIMCITIES project⁷²
 - Guidelines for Urban Adaptation Plans preparation
 - Developing adaptation action plans for cities (MPA project⁷³)
 - Fostering research and innovation e.g. PREPARED project in the area of waste water management⁷⁴, projects supported by the National Science Centre⁷⁵
 - Changes in legislation relative to EIA, coastal management, rain water collection
 - "Guide to investment preparation respecting climate change mitigation and adaptation as well as resilience to natural disasters" developed by the Ministry of Environment in 2015 (see Indicator 8a.)
 - Creating of an information system on climate change impacts for agriculture and adaptation methods⁷⁶ by the Institute of Soil Science and Plant Cultivation

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

Yes / No

In terms of supporting adaptation at subnational level, the most prominent initiative is the MPA project, launched in January 2017. It aims at vulnerability assessment and relevant adaptation action planning for Polish cities (around 44 cities are currently covered by the project). The project is coordinated by the Ministry of Environment, delivered by a consortium including state and private entities, and co-funded from the Cohesion Fund under the Infrastructure and Environment OP 2014-2020. The project consortium is led by the governmental research body: Institute of Environmental Protection – National Research Institute that oversaw preparation of the NAS 2020. The estimated duration of the project is 20 months for each of the 44 cities.

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

⁷¹Project official website, URL: http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=3773, Accessed: 16/05/2018

⁷² CLIMCITIES, URL: <http://climcities.ios.gov.pl/>, Accessed: 16/05/2018

⁷³ KLIMADA, URL: <http://klimada.mos.gov.pl/projekt-mpa/> Accessed: 16/05/2018

⁷⁴ PWIK Gliwice, URL: <http://pwik.gliwice.pl/7-program-ramowy-prepared.html>, Accessed: 16/05/2018

⁷⁵ For example: NCN, URL: <https://www.ncn.gov.pl/finansowanie-nauki/przyklady-projektow/oleksyn> , Accessed: 16/05/2018

⁷⁶ IUNG, URL: <http://www.klimat.iung.pulawy.pl/o-systemie> , Accessed: 16/05/2018

The NAS 2020 does not include a specific action on publication or application of such guidelines or procedures. However, guidelines assessing the potential impact of climate change on projects are included in "Guide to investment preparation respecting climate change mitigation and adaptation as well as resilience to natural disasters". It describes, analyses and gives instructions, including methodologies, on how to take into consideration climate adaptation and mitigation during project preparation and development, including in EIA and SEA analysis and procedures.

The aim of the guide is to provide methodologies and hints concerning the way in which climate issues should be integrated into the process of developing investments and projects at the stage of:

- SEA and EIA in relation to: climate mitigation, climate adaptation and resilience, including ecosystem-based approaches
- Cost - benefit analysis, including calculation of shadow costs and external costs of GHG emissions, carbon footprint analysis, sensitivity and vulnerability analysis of projects in relation to climate changes and natural disasters
- Risk analysis, including climate-related risks
- Climate options analysis and assessment, including climate impact on projects and projects impacts on climate.

The guide addresses:

- EU funds beneficiaries under 2014-2020 financial perspective
- Managing, intermediary and implementing authorities (responsible for appraisal of the applications and projects submitted under EU funding)
- State and local budget beneficiaries
- Relevant government authorities issuing or consulting decisions and consents

It is a requirement to follow the guide when preparing applications for funding in the 2014-2020 financial period, thus, the guide is applied in practice ⁷⁷.

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

Yes / **No**

No evidence has been identified on the involvement of non-public administration stakeholders in the implementation of adaptation actions. However, the public consultation preceding adoption of the Warsaw's Climate Change Adaptation Strategy⁷⁸ is an encouraging signal that the civil society and wide range of non-public administration stakeholders gets to be engaged in adaptation action planning and delivery.

⁷⁷ Personal communication with MS contact

⁷⁸ UM Warszawa, URL: <http://konsultacje.um.warszawa.pl/konsultacja/pomysl-na-klimat-strategia-adaptacji-do-zmian-klimatu-dla-mst-warszawy>, Accessed: 16/05/2018

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**

Monitoring and evaluation of the implementation of the NAS 2020 started in December 2017 and is coordinated by the Ministry of the Environment. Information collected about climate issues and extreme weather events will include actions at national, regional and local levels. Different sectoral ministries, marshal offices and provincial governors received a request to summarize the effects of implementing the NAS 2020 in a dedicated questionnaire. Individual parts of the questionnaire relate to specific measures identified in the NAS 2020 document. The evaluation will be completed by the end of the third quarter of 2018, so progress reports have not yet been published.

At the same time, a comprehensive monitoring system for adaptation policy is currently being developed relating to the work on National Environment Policy 2030 and will be implemented with the adoption of the document at the turn of 2018/2019. The document will contain adaptation and mitigation components and it will be implemented and coordinated in line with the NAS 2020.

The NAS 2020, alongside the strategic objectives, sets out several relevant monitoring indicators. Some adaptation-relevant monitoring data can be found on the STRATEG website managed by the Polish Statistical Office⁷⁹.

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

Yes / **No**

Monitoring and evaluation of sectoral policies is the responsibility of the associated ministries and institutions. As noted under Indicator 10a, at the end of 2017, the Ministry of the Environment had prepared and forwarded to other sectoral ministries a questionnaire about implementation of the NAS 2020 in accordance with the commitments and thematic scope of actions and measures from the NAS 2020⁸⁰. As indicated above, the evaluation process will be carried out by the end of the first half of 2018, so progress reports have not been published yet.

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

Yes / **No**

⁷⁹ STRATEG, URL: <http://strateg.stat.gov.pl/> Accessed: 16/05/2018

⁸⁰ Personal communication with MS contact

As noted under Indicator 10a, monitoring of the implementation of the NAS 2020 by the Ministry of the Environment started at the end of 2017 and is conducted at the level of marshals and provincial governors. Information and data on the tasks carried out in the regions consider the climate adaptation and resilience to natural disasters⁸¹. However, no reports have been published yet.

11. Evaluation

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

Yes / No

Only one review of the NAS 2020 is planned; data collection supporting the review started in 2017. Further adaptation measures and actions will be included in the document “National Environmental Policy 2030”, which is currently being prepared by the Ministry of the Environment. The new policy document will include a separate implementation system⁸².

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

Yes / **No**

As noted under Indicator 10a, the Ministry of Environment has circulated a questionnaire to the sectoral ministries and sub-national authorities to feed into the assessment of the NAS 2020 but there has been no further active stakeholder involvement.⁸³

⁸¹ Personal communication with MS contact

⁸² Personal communication with MS contact

⁸³ Personal communication with MS contact

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	<u>Yes</u> / No
1b	Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities	Yes / <u>In progress</u> / 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 / <u>In progress</u> / No
2 <i>Stakeholders' involvement in policy development</i>		
2a	A dedicated process is in place to facilitate stakeholders' involvement in the preparation of adaptation policies	Yes / <u>No</u>
2b	Transboundary cooperation is planned to address common challenges with relevant countries	<u>Yes</u> / No
Step B: Assessing risks and vulnerabilities to climate change		
3 <i>Current and projected climate change</i>		
3a	Observation systems are in place to monitor climate change, extreme climate events and their impacts	Yes / <u>In progress</u> / 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 / <u>In progress</u> / No
3c	Sound climate risks/vulnerability assessments for priority vulnerable sectors are undertaken to support adaptation decision making.	<u>Yes</u> / In progress / No

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
3d	Climate risks/vulnerability assessments take transboundary risks into account, when relevant	Yes / <u>In progress</u> / No
4	<i>Knowledge gaps</i>	
4a	Work is being carried out to identify, prioritise and address the knowledge gaps	Yes / <u>In progress</u> / No
5	<i>Knowledge transfer</i>	
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 / <u>In progress</u> / No
5b	Capacity building activities take place; education and training materials on climate change adaptation concepts and practices are available and disseminated	<u>Yes</u> / In progress / No
Step C: Identifying adaptation options		
6	<i>Identification of adaptation options</i>	
6a	Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts	<u>Yes</u> / 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	<u>Yes</u> / 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 / <u>No</u>
7	<i>Funding resources identified and allocated</i>	
7a	Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action	Yes / <u>In progress</u> / No
Step D: Implementing adaptation action		
8	<i>Mainstreaming adaptation in planning</i>	

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
<i>processes</i>		
8a	Consideration of climate change adaptation has been included in the national frameworks for environmental impact assessments	<u>Yes</u> / No
8b	Prevention/preparedness strategies in place under national disaster risk management plans take into account climate change impacts and projections	Yes / <u>No</u>
8c	Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change	Yes / <u>No</u>
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 / <u>In progress</u> / No
8e	Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention	Yes / <u>No</u>
9	<i>Implementing adaptation</i>	
9a	Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents	Yes / <u>In progress</u> / No
9b	Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)	<u>Yes</u> / 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	<u>Yes</u> / No
9d	There are processes for stakeholders' involvement in the implementation of adaptation policies and measures.	Yes / <u>No</u>
Step E: Monitoring and evaluation of adaptation activities		
10	<i>Monitoring and reporting</i>	

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
10a	NAS/NAP implementation is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
10b	The integration of climate change adaptation in sectoral policies is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
10c	Regional-, sub-national or local action is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
11 Evaluation		
11a	A periodic review of the national adaptation strategy and action plans is planned	<u>Yes</u> / No
11b	Stakeholders are involved in the assessment, evaluation and review of national adaptation policy	Yes / <u>No</u>