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DIRECTORATE-GENERAL
CLIMATE ACTION
Directorate A - International, Mainstreaming & Policy Coordination
CLIMA.A.3 - Adaptation

Adaptation preparedness scoreboard:

Draft country fiche for Lithuania

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.

Contents

POLICY FRAMEWORK

A. Adaptation strategies

A1. National adaptation strategy

Lithuania adopted a 'Strategy for National Climate Management Policy 2013-2050' in November 2012[1]. This is an integrated strategy which covers both adaptation and mitigation issues and includes implementation considerations. As far as we know, there are no plans to develop a separate Climate Change Adaptation Strategy.

Previously, it had approved in 2008 the National Strategy for the Implementation of the UNFCCC until 2012. Specific measures for both mitigation and adaptation to climate change were described in this strategy.

Lithuania conducted in 2015 a study on the identification of sector specific vulnerabilities to climate change and related risk assessments. Per sector, this includes details on the opportunities to adapt to climate change and relevant adaptation measures. The study focuses on the following sectors: energy, transport, industry, agriculture, landscape, spatial planning, ecosystems and biodiversity, fisheries and aquaculture sector, forestry, tourism, groundwater resources, and waste management.

A2. Adaptation strategies adopted at subnational levels

Two of the 10 counties (*apskrytis,* NUTS III level), Panevėžys and Klaipeda, have conducted comprehensive vulnerability studies, though no regional adaptation strategies have been adopted yet.

Lithuania has taken part in several transboundary EU funded projects[2] in which adaptation options to be applied at local level have been analysed and elaborated.

B. Adaptation action plans

B1. National adaptation plan

An Action Plan on the implementation of the goals and objectives of the Strategy of National Climate Change Management Policy 2013-2020, was adopted in April 2013 and contains measures for the year 2013-2016. The Action Plan consists of general provisions, targets, objectives, measures, financial resources, implementing institutions, assessment criteria and values.

Following the Strategic planning methodology approved by the Government, the plan is prepared for the three years period and is updated annually by adding one more year. In 2014 new Action Plan with measures for 2015-2017 was adopted by the Resolution No. 833 of the Government of the Republic of Lithuania. In 2016, an

[1] http://www.am.lt/VI/files/File/Klimato%20kaita/Nacionaline_klimato_kaitos_valdymo_politikos_strategija_EN_galutinis.docx

[2] These include: ASTRA (Developing Policies and Adaptation Strategies to Climate Change in the Baltic Sea), Baltadapt, BaltCICA (Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region), BalticClimate, Baltclim, RADOST.
See: http://www.baltadapt.eu/, http://climate-adapt.eea.europa.eu/transnational-regions/baltic-sea/general
http://www.balticsea-region-strategy.eu/

updated Action Plan with measures for 2017-2019 was adopted by the Resolution No. 846 of the Government of the Republic of Lithuania.

B2. Adaptation plans adopted at sub-national level

Municipalities, together with relevant national level ministries, are responsible for the implementation of the Action Plan described under B1. National adaptation plan

Apskritys (counties) and municipalities are the effective level of governance for the implementation of climate adaptation policy in Lithuania. Counties consider adaptation in strategic planning documents. Municipalities are identified as the appropriate implementation level in the Action Plan for the completion of the NAS.

No *apskritis* level strategies have been adopted yet. Activities at county level have so far been limited to vulnerability studies in the counties of Panevėžys, and Klaipeda. In Klaipeda, the study was conducted though the EU funded project ASTRA.). Flood risk has received the most attention at the *apskrytis* level. The EU funded projects ASTRA and BaltCICA focus on coastal management and flood risks for the city and county of Klaipeda. The counties of Klaipeda and Tauragè have adopted Programmes for preparation of flood threat and removal of flood consequences.

The capital city Vilnius is currently developing an Adaptation Action Plan (the first of its kind in Lithuania).

B3. Sectoral adaptation plans

The following priority sectors have been identified: energy, transport, industry, agriculture, landscape, spatial planning, ecosystems and biodiversity, fisheries and aquaculture sector, forestry, tourism, groundwater resources, and waste management.

In 2015, a study was conducted on sector specific vulnerabilities to climate change and related risk assessments.[3]

Adaptation measures at sector level are embedded in specific sector development programmes, such as those that aim to promote innovative technologies for manure treatment, sustainable farming and reduction of greenhouse gasses in agriculture (National rural development programme 2014-2020), and measures with investments in public transport (National transport development programme 2014-2022).

[3]http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf

SCOREBOARD

Step A: preparing the ground for adaptation

1 Coordination structure

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

Yes / No

The Lithuanian Ministry of Environment (MoE) is the main coordinating institution responsible for development of climate change mitigation and adaptation policy and its implementation, transposing the EU climate policy legislation and advising for other institutions on integrating climate policy objectives and concerns into sectors which are not under MoE's responsibilities. Other Ministries (Energy, Finance, Transport and Communications, Health, Education and Science, Foreign Affairs, Economy, Interior, Agriculture), municipal and other institutions within their remit are responsible for mainstreaming climate goals and objectives into sectoral strategies and programmes and implementing related activities in Lithuania.[4]

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

Yes / In progress / No

Systematic horizontal coordination mechanisms exist. The Strategy for National Climate Change Management Policy for 2013-2050 is developed by the Ministry of Environment. The implementation of the Strategy is carried out by the Ministry of Environment, Ministry of Energy, Ministry of Finance, Ministry of Transport and Communications, Ministry of Health, Ministry of Education and Science, Ministry of Foreign Affairs, Ministry of Economy, Ministry of the Interior, Ministry of Agriculture and municipal and other institutions within their remit. The implementation of the Strategy is coordinated by the Ministry of Environment.

In addition, the goals and objectives of the Strategy are implemented by cross-sectorial policies, such as the National Progress Programme for 2014-2020, the National Sustainable Development Program and specific economic sectors development programmes or short-term planning documents.

The Action Plan is prepared by the Ministry of Environment and endorsed by the Government of the Republic of Lithuania.

The approaches applied for the implementation of the Strategy and its Action Plan ensure the horizontal as well as vertical coordination - Governmental and municipal institutions responsible for the implementation of the concrete measures are identified in the Action Plan.

Also horizontal and vertical coordination of the implementation of adaptation policy is ensured through the work of the National Climate Change Committee. The Committee consists of experts from government, municipal, science and non-

[4] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Governance'

governmental organizations (NGOs) and has an advisory role. The main objective of the Committee is to advise on the development and implementation of the National climate change management policy.[5]

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

Vertical coordination mechanisms exist. It is partly ensured by the work of the National Climate Change Committee in which experts from government and municipal level are represented.[6]

The National Climate Change Committee is responsible for both climate change policy development and its implementation, and represents the established coordination mechanism between different governance levels as not only national institutions are involved, but also municipalities, science and non-governmental organisations. Cities in the framework of the Covenant of Mayors are coordinated by a non-governmental Association of Local Authorities in Lithuania, which ensures cooperation and knowledge exchange of municipalities and national institutions. Each River Basin District Management Plan contains a section "Climate change impacts on surface and groundwater bodies". It is predicted that climate change during analysed period (up to 2020), under the current forecasts, most likely are not going to be too significant to prevent the achievement of the objectives of the water protection targets. Nevertheless, multiple climate change prevention, mitigation and adaptation actions are foreseen in several related strategical documents, i.e. the rural development program, National Climate Change Management Policy Strategy and others.

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

A dedicated process has been in place to facilitate stakeholders' involvement in the preparation of the adaptation policies. Stakeholders are also involved in the preparation of adaptation policies. Stakeholders have possibilities to review and to provide comments and proposals regarding the draft legal acts as they are made publically available during their preparation. In order to develop sectoral e. g. public health, agriculture, biodiversity, coastal management, river basin management programs and select measures as well as indicators for the evaluation targeted working groups with stakeholders involved were created. The National Climate Change Committee consists of experts from government, municipal, science and non-governmental organizations (NGOs). The targeted working groups to develop specific management programs were created and played an important role in preparation works of these programs. At the moment,

[5] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Governance'

http://www.am.lt/VI/index.php#a/12869

[6] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Governance'

these groups are gathering according to the need and are managing broader range of question on mitigation and adaptation in separate sectors.[7]

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

Yes / No

The transboundary cooperation is established with several countries in the Baltic Sea Region to address common challenges. Lithuanian non-governmental and academic institutions are also quite active in various regional projects being implemented in the area of adaptation to climate change. Lithuania has taken part in several transboundary projects, including Astra, Baltadapt, BaltCICA, BalticClimate, Baltclim, RADOST[8]. Lithuania has been active within the Baltic Sea Region Climate Change Adaptation Strategy and Action Plan. In these projects the adaptation options to be applied at local level are analysed and elaborated[9]. In addition, Lithuania takes part in the implementation of the EU Strategy for the Baltic Sea Region (EUSBSR, 2009) [10].

The Strategy of National Climate Change Management Policy sets targets and objectives in the most vulnerable sectors (agriculture, forestry and biodiversity conservation, water resource management, energy, transport, industry, public health, *etc.*) which are relevant to transboundary cooperation. The transboundary cooperation in flood risk management is organized within the framework of already existing intergovernmental agreements between Lithuania, Latvia and Poland to cooperate and exchange information and data in environmental fields. No need to create new specific working groups or procedures was identified. The transboundary cooperation is also ensured through implementation of the four River basin management plans.

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 Lithuanian Hydrometeorological Service under the Ministry of Environment (LHMS) is responsible for meteorological (including agrometeorological, aeronautical and marine) and hydrological observations and forecasts.

[7] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Governance'

Communication with Jurga Valainyte, Chief Specialist of Climate Change Policy Division, Pollution Prevention Department, Ministry of Environment of the Republic of Lithuania.

[8] http://www.astra-project.org/; http://www.baltadapt.eu/; http://www.baltcica.org/; http://www.balticclimate.org/en/project; http://www.bef-de.org/index.php?id=52; http://www.klimzug-radost.de/en

[9] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Governance'

[10] http://www.balticsea-region-strategy.eu/

The website of LHMS[11] contains information on climate change. In addition, it provides records on extreme events, related to temperature, rain fall, wind speed, and snow fall. Moreover, LHMS provides warnings on dangerous and catastrophic hydro-meteorological phenomena, sudden weather changes, ozone layer depletion, etc.

Measures improving the observation of climate and ensuring the implementation of the Strategy, are already planned and being implemented. This includes, among others, increasing capacities of the LHMS observation network, renewing measurement equipment of automatic agro meteorological stations network and solar ultraviolet radiation, developing satellite climatology.[12]

Meteorological data is collected only from meteorological stations. Sometimes there is information about damage from extreme meteorological phenomena near meteorological stations, but it is only a visual recording of damage. There is no systematic information about it.

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

Climate projections for the 21st century are based on outputs from numerical climate models in Lithuania. Having in mind that recent climate change is caused by human activities, future climate projections are made according to the scenarios of social-economic development. They reflect the human population, economic growth and the greenhouse gas emissions caused by this development. Two greenhouse gas emission scenarios are considered, A1B (relatively high-emission scenario) and B1 (low-emission scenario).

In Lithuania (Vilnius University) climate predictions are made by downscaling COSMO-CLM, HadCM3, and ECHAM5 models output data. Modelling of climate change projections scenarios of Lithuania and its regions was finalized in 2015.

By the agreement with the Ministry of Environment, the Institute of Ecology of Vilnius University carried out the study "The study of climate change impact to the land ecosystems, biodiversity, water resources, agriculture and forestry and human health and the strategic plan for the mitigation of consequences" (2007[13]). This study is still one of the most important studies, which comprehensively investigates the impact of climate change on ecosystems, biodiversity, water resources, agriculture and forestry and human health in Lithuania.

[11] http://www.meteo.lt/en/web/guest/climate-change?inheritRedirect=true and http://www.meteo.lt/en/web/guest/extreme-phenomena;

[12] Additional information is provided in Table 31 of Lithuania's 6th National Communication and Lithuania's Second Biennial Report under the UNFCCC (2015), http://www.am.lt/VI/files/File/Klimato%20kaita/6_Nacionalinis_pranesimas_2014.pdf and https://unfccc.int/files/national_reports/biennial_reports_and_iar/submitted_biennial_reports/application/pdf/final_2nd_br_lt.pdf

[13] Study can be found on webpage: http://www.am.lt/VI/index.php#a/12840 – bottom of page in Lithuanian: 2007 M. KLIMATO KAITOS POVEIKIO ŠALIES EKOSISTEMOMS, BIOĮVAIROVEI, VANDENS IŠTEKLIAMS, ŽEMĖS IR MIŠKŲ ŪKIUI IR ŽMONIŲ SVEIKATAI ĮVERTINIMO STUDIJA IR PASEKMIŲ ŠVELNINIMO STRATEGINIS PLANAS

The study in 2015 on 'Laying down specific sectors vulnerability to climate change impacts, risk assessment and adaptation to climate change, effective adaptation and evaluation criteria' includes an analysis of Lithuanian climate change trends, projections, etc. based on the latest science, such as the IPCC assessments, the RCP scenarios from AR5. Geographical specifications are taken into account in the scenarios and projections.[14]

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

Yes / In progress / No

A national risk assessment was conducted from autumn 2012 until spring 2013. The Fire and Rescue Department under the Ministry of Interior has co-ordinated the performance of the Lithuanian national risk assessment. This assessment comprises the evaluation of all threats in Lithuania, including also the threats caused by climate change. An updated has been conducted in 2015.[15]

In 2014 risk assessment and vulnerability to climate change was evaluated in the sector of public health, cost-efficient measures and indicators were proposed. The study identifying the climate change threats to human health including the recommendations was conducted in Lithuania.[16]

In 2015 a study identifying the vulnerability to climate change of the individual sectors, risk assessment and opportunities to adapt to climate change, the most efficient adaptation measures and evaluation indicators was accomplished. The study focuses on the following sectors: spatial planning, transport, energy, waste management, industry, agriculture, underground water resources, ecosystems and biodiversity, fisheries, forestry, tourism and others. The reports are available via the websites of the Ministry of Environment.[17] Per sector there is a detailed analysis on the sensitivity, vulnerability and potential risk for the sector due to climate change, the impacts, experience in other European countries, adaptation to climate change, options and criteria for measuring the effectiveness of adaptation in the sector.

Sub-national level vulnerability studies are carried out in most cases as part of EU funded project such as "ASTRA. Developing Policies and Adaptation Strategies to Climate Change in the Baltic Sea" and "BaltCICA. Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region". Other projects address issues according to natural borders (e.g. coastal areas, river banks) rather than administrative borders.

Lithuanian national risk assessment and the study identifying the vulnerability to climate change of the individual sectors were coordinated at a central level and conducted assessing specific features of every sector. The study identifying climate

[14] Document: Klimato kiatos prognozės Vilniaus miestui XXI a., remiantis A1B scenarijumi (2013). (http://www.meteo.lt/documents/20181/103901/klimato_kaita_vilnius_xxi_v2-Vup1Vlbw.pdf/2e285f17-8bfb-4451-a865-f0c5e22ff42c?version=1.0) Document: STUDIJOS, NUSTATANČIOS ATSKIRŲ SEKTORIŲ JAUTRUMĄ KLIMATO KAITOS POVEIKIUI, RIZIKOS VERTINIMĄ IR GALIMYBES PRISITAIKYTI PRIE KLIMATO KAITOS, VEIKSMINGIAUSIAS PRISITAIKYMO PRIE KLIMATO KAITOS PRIEMONES IR VERTINIMO KRITERIJUS, PARENGIMAS http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf

[15] 2015 study - http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf 2013 (and adjusted in 2015) - Lithuanian national risk analysis - http://www.vpgt.lt/go.php/Nacionalin%C4%97%20rizikos%20analiz%C4%97611

[16] 2014 study on climate change threats to human health - http://www.am.lt/VI/files/File/Klimato%20kaita/Galutine%20ataskaita-2014-09-17.pdf

[17] http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf

change threats to human health and independently carried out sub-national level vulnerability studies were sector driven, elaborating to specific threats, measures, territories and recommended assessment criteria.

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

Yes / **In progress** / No

Transboundary risks are not explicitly included in the Strategy of National Climate Change Management Policy. As referred in 2b, these risks are taken into account by some sectors, such as water and flood risk management. However, it is not clear whether transboundary risks are taken into account by the risk and vulnerability assessments for other relevant sectors.

Climate risks/vulnerability assessments take transboundary risks into account, within the framework of the Baltic Sea Region Climate Change Adaptation Strategy, which focuses on such sectors as food supply (including fishery and agriculture), coastal infrastructure and coastal tourism.[18]

4 Knowledge gaps

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

Yes / In progress / **No**

It is not clear if knowledge gaps are being identified, prioritised and addressed through the National Strategy for Climate Change Management Policy. The climate risks/vulnerability assessments do to not mention specific knowledge gaps.

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

Ensuring a systematic gathering and dissemination of climate change information to various interest groups and the public is among the main objectives concerning adaptation defined in the strategy.[19]

A web-portal on adaptation is to be developed in accordance with Action plan for the period of 2013-2020 to National Strategy for Climate Change Management Policy.

[18] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Assessments - Impacts & Vulnerability assessments'

[19] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Summary' and under 'Engaging stakeholders - Adaptation capacity, dissemination, education, training'.
http://www.am.lt/VI/index.php#a/12840 - Study and teaching material
http://www.am.lt/VI/index.php#a/12844 - GHG accounting and forecasting reports, national reports

Climate-related information is available on the website of the Ministry of Environment[20] and websites of other sectorial ministries, e. g. the Ministry of Energy, the Ministry of Agriculture, the Ministry of Transport and Communications[21], etc. The website of the Ministry of Environment provides information on the national strategy, studies and teaching material on primarily mitigation and GHG related issues and some information on adaptation.

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 is some evidence available on capacity building activities, education and training materials on climate change, mostly on material and guidelines related to the transnational projects listed below. [22]

A number of awareness raising materials, studies and guidelines are publically available.[23]

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

Adaptation options are defined based on sectoral risk assessment and good practices. The 2015 study on identifying the vulnerability to climate change of the individual sectors, risk assessment also includes details on the opportunities to adapt to climate change, the most efficient adaptation measures and evaluation indicators. The study focuses on the following sectors: energy, transport, industry, agriculture, landscape, spatial planning, ecosystems and biodiversity, fisheries and

[20] http://www.am.lt/VI/index.php#r/847
[21] http://sumin.lrv.lt/, http://enmin.lrv.lt/, http://ukmin.lrv.lt/
[22] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Adaptation capacity, dissemination, education, training'.
[23] see for more details on http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Adaptation capacity, dissemination, education, training'.: Adaptation to Climate Change in Agricultural Sector: lessons from BalticClimate (2012) – In LithuanianClimate change: impacts, costs and adaptation in the Baltic Sea Region (BaltCICA, 2012) – Karkle beach and Flood defence in Klaipeda city - http://www.baltcica.org/documents/BaltCICA_Final_Report_Version_1_080512.pdf, How to Adapt to the Climate change: Advice for Farmers (European Regional Policy Institute, 2011), Impacts analysis of opportunities to adapt to climate change in Panevėžys Region (2011) – In Lithuanian - http://www.panrs.lt/go.php/lit/KLIMATO-KAITA, Climate change: adaptation to its impacts at the Lithuanian seaside (2007) - http://www.hkk.gf.vu.lt/publikacijos/2007_Klimato_kaita_prisitaikymas_prie_jos_poveikio_Lietuvos_pajuryje.pdf

aquaculture sector, forestry, tourism, groundwater resources, and waste management. The adaptation options address geographical specificities.[24]

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 2015 study 'Laying down specific sectors vulnerability to climate change impacts, risk assessment and adaptation to climate change, effective adaptation and evaluation criteria' provides per sector a list of adaptation options, as well as performance evaluation criteria. It is however not clear if the options have already been ranked based on these evaluation criteria and list in prioritization order.[25]

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**

It is not clear how the NAS/NAP includes DRR measures, and how climate impacts are part of disaster risk reduction planning.

It is however not clear if the DRR and adaptation policies are coordinated through institutional frameworks, which also ensure coherence between the policies.

Adaptation to climate change is nevertheless a consistent part of the National civil protection system. The citizens are warned and informed about natural disasters, emergency situation and possible threats related to climate change through the Public warning and information system.

7 Identifying and making resources available

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

Yes / In progress /No

The implementation of the Strategy is funded from the funds of the state budget of the Republic of Lithuania, municipal budgets, EU and international organisations and other sources. The 2016 Action Plan with measures for 2017-2019 contains goals and objectives as set by the Strategy and establishes measures ensuring the implementation of these goals and objectives. The Action Plan indicates what financial resources are dedicated for the implementation of the measures and defines the implementing institutions. Dedicated budget is indicated for several

[24] 2015 study 'Laying down specific sectors vulnerability to climate change impacts, risk assessment and adaptation to climate change, effective adaptation and evaluation criteria'- http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf

[25] 2015 study 'Laying down specific sectors vulnerability to climate change impacts, risk assessment and adaptation to climate change, effective adaptation and evaluation criteria'- http://www.am.lt/VI/files/File/Klimato%20kaita/Klimato%20kaita_galutine%20ataskaita_2015_08_31.pdf

sectors, including: transport, agriculture, waste, industry, public health, water resources, forestry, ecosystems, biodiversity, landscape.[26]

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 Law on Environmental Impact Assessment (EIA) of the Proposed Economic Activity transposing requirements of EIA Directive 2014/52/EU was adopted by the Parliament on 27 of June 2017.

Draft regulations outlining EIA procedures will be approved by the Minister of Environment and will require that the information about greenhouse gas emissions and impacts relevant to adaptation should be provided in the environmental impact assessment report.

It is not clear if climate change adaptation has been included in the national frameworks for environmental impact assessments and or strategic environmental assessments.

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

Yes / **No**

A National risk assessment was performed in 2012-2013. The Fire and Rescue Department under the Ministry of Interior co-ordinated conducting of the Lithuanian national risk assessment. This assessment comprises the evaluation of all threats in Lithuania, including also the threats caused by climate change. An updated has been conducted in 2015.[27]

It is however not clear how the disaster risk management plans currently incorporate future climate projections. The Ministry of Environment is planning on updating national risk assessment and DRM plans shall be updated in line with the results of climate change projections for Lithuania carried out at Hydrology and Climatology Department of Vilnius University during 2013-2015, where four representative concentration pathways scenarios were chosen and evaluated in climatological models.

[26] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Policy & Legal Framework'

Document Action Plan: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/bfb5d0406b5311e6a421ea2bde782b94

[27] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Sectors & Actions' and under 'Assessments - Impacts and vulnerability assessments'; Documents national risk assessment: http://www.vpgt.lt/go.php/Nacionalin%C4%97%20rizikos%20analiz%C4%97611

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

Yes / No

There is some indication that land use and spatial/urban policies address climate impacts, and encourage adaptation. The Interinstitutional Action Plan (the NAP) for the implementation of the goals and objectives of the Strategy for the National Climate Change Management Policy (latest updated 2016 Action Plan with measures for 2017-2019) - on adaptation to climate change - Ministry of Environment has the task of modernizing surface (rain), wastewater treatment facilities and to ensure the development of urban areas in order to protect the urbanized areas of the excess water of risks and prevention of pollutants released into the environment. The geographical scope of the land use and spatial/urban policies relates mainly to the regional and local level.

In addition, there other initiatives and guidelines being developed for the construction sector and infrastructure, which incorporate sustainable development of urban areas, such as:

- The Guidelines for the expansion and development of the Lithuanian construction sector in 2015-2020 was approved by the Order No D1-817 of the Minister of Environment on 10 November 2015, and

- The Concept for the draft Infrastructure Development Law is coordinated with public and municipal institutions and relevant non-state actors.[28]

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

The Action Plan includes the measures that ensure the implementation of cross-sectoral and short-term climate change adaptation goals and objectives. These measures mainly focus on the reducing the negative climate change impact on the different sectors, on the improving of the sustainability of the sectors and on improving management systems.

The Strategy also sets special indicative medium-term (by 2030 and 2040) and long-term (by 2050) climate change adaptation goals that include continuous monitoring and survey of the most vulnerable economic sectors and ensuring resilience of such sectors. The measures for attaining these goals and objectives will be planned in the course of the development of the Action Plan taking into account the developments at the EU and international policy level.[29]

[28] Document: Interinstitutional Action Plan for the implementation of the goals and objectives of the Strategy for the National Climate Change Management Policy (latest updated 2016 Action Plan with measures for 2017-2019) - https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/bfb5d0406b5311e6a421ea2bde782b94

Found on: http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Sectors & Actions'

[29] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Engaging stakeholders - Governance' and 'Sectors & Actions'

The Strategy for climate change management policy promotes the implementation of economic measures, including tax reliefs, state aid measures and other instruments to achieve short term climate change mitigation and adaptation goals and objectives. As well as preparing a legal framework for the regulations in the transport and energy sector and spatial planning.[30]

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

Yes / **No**

Some evidence is found on plans to mainstream adaptation into insurance or alternative instruments, such as in the Action Plan (2017-2019) on activities related to crop and animal insurance compensation. The Strategy specifically mentions the objective (148.2) to define risk and crisis management instruments developed to respond to economic effects of climate phenomena, taking into account flood risk maps, flood risk management plans and early warning systems, emergency management plan, insurance and compensation mechanism for damage to agriculture caused by natural disasters. There is no evidence on actual availability of insurance schemes that incentivise adaptation.[31]

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

Some adaptation policies and measures are already being implemented (2013 onwards) as defined in action plans or sectoral policy documents. For example:

- upgraded mechanisms of support for agrarian environmental programmes,
- measures for afforestation of unproductive land with a view to increasing forest cover by 3–5 %, [32] and
- measures to promote the planting of buffer strips in agricultural areas with a view to reducing water- and wind-induced erosion and to retain water resources in the soil.

Some autonomous adaptation actions are being undertaken. For instance, there are some adaptation measures developed in the areas of agriculture, forestry, floods and human health, but their efficiency and sustainability has not been analysed.

[30] http://www.am.lt/VI/en/VI/index.php#a/717

[31] Document: Interinstitutional Action Plan for the implementation of the goals and objectives of the Strategy for the National Climate Change Management Policy (latest updated 2016 Action Plan with measures for 2017-2019) - https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/bfb5d0406b5311e6a421ea2bde782b94

Document: National Climate Change Policy Management Strategy - http://www.am.lt/VI/index.php#a/12869

[32] https://www.cbd.int/financial/doc/id226-Lithuania-integration-en.pdf

So far, the majority of activities in climate change adaptation led at the sub-national level have occurred through EU funded transboundary projects such as ASTRA, BaltCICA, BalticClimate and BaltAdapt.

There is evidence that the National Adaptation Policy is being implemented, but not clear evidence of adaptation priorities identified being put into effect across all key sectors.

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

Yes / **No**

Cooperation mechanisms to foster and support adaptation at relevant scales are in place, though it could not be determined to what extent they are operational and effective. The Action Plan states that "7. Ministries must incorporate the objectives and tasks of the adaptation and mitigation measures set out in the Strategy, support implementation and ensure close interinstitutional cooperation."[33]

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**

It is unclear if procedures or guidelines are available to assess the potential impact of climate change on major projects or programmes. The Strategy provides some goals and objectives related to assessing impacts, for example 162.1 Ensuring that the engineering infrastructure is developed taking into account the projected impact of climate change. [34]

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

Yes / **No**

Stakeholders are involved in the preparation of adaptation policies, and Lithuanian non-governmental and academic institutions are also quite active in various regional projects being implemented in the area of adaptation to climate change, which includes analysis and elaboration of adaptation options to be applied at local level. It is however unclear if processes are in place for ensuring stakeholders' involvement in the implementation of adaptation policies and measures.[35]

[33] Document: Interinstitutional Action Plan for the implementation of the goals and objectives of the Strategy for the National Climate Change Management Policy (latest updated 2016 Action Plan with measures for 2017-2019) - https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/bfb5d0406b5311e6a421ea2bde782b94

[34] Document: National Climate Change Policy Management Strategy - http://www.am.lt/VI/index.php#a/12869

[35] Document: Interinstitutional Action Plan for the implementation of the goals and objectives of the Strategy for the National Climate Change Management Policy (latest updated 2016 Action Plan with measures for 2017-2019) - https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/bfb5d0406b5311e6a421ea2bde782b94

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

Every two years, the Government of the Republic of Lithuania prepares a report on the implementation of the Strategy to the Parliament of the Republic of Lithuania. The document "Lithuanian Climate Change Management Policy and its Implementation" reports that the implementation of this strategic goal of Lithuania's climate change adaptation policy will be assessed[36] in relation to the achievement of special climate change adaptation goals in most sensitive domestic economic sectors, such as agriculture, forestry and protection of biodiversity, management of water resources, energy, transport, industry, public health, etc. The assessment criteria directly related to implementation of the climate change adaptation goals and objectives of the Strategy in 2020 are established in the Action Plan. The criteria used to monitor, measure and verify progress are quantitative.

The report on the implementation of the Strategy is published on its website[37]. Details on planned costs and actual use of budgets with a brief explanation on reasons of such differences and quantitative assessment criteria with the status of implementation of measures in specific sectors are specified in separate documents.

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

Yes / No

It is not clear if the monitoring and reporting of the integration of climate change adaptation in sectoral policies is monitored.

The integration of climate change adaptation in sectoral policies is monitored assessing implemented sector-specific measures and evaluated with quantitative criteria.[38]

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

Yes / No

Ministries and other governmental institutions are obliged to integrate the goals and objectives set out in the Strategy, to establish implementation measures and to ensure close inter-institutional cooperation while developing the strategies, their implementation plans and programmes of individual sectors of the economy. State and municipal institutions provide the Ministry of Environment with the information

[36] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Assessments'
[37] http://www.am.lt/VI/index.php#a/18325
[38] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Assessments'

about the progress by submitting annual activity reports. These institutions also report on planned measures that could be included in the Plan.[39]

11 Evaluation

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

Yes / No

The outcomes of the monitoring, reporting and evaluation scheme will feed into further development of the Action Plan and the update of the Strategy. The Action Plan contains measures for three years and has to be updated regularly, for example in 2016 the Action Plan has been updated for measures for 2017-2019.[40]

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

Yes / **No**

It is not clear if mechanises are in place for involving stakeholders in the assessment, evaluation and review of national adaptation policy and/or if they have been involved in the update/review of the NAP.

[39] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Assessments'
[40] http://climate-adapt.eea.europa.eu/countries-regions/countries/lithuania, under 'Assessments'

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 (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	Yes / **No**
8c	Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change	**Yes** / No
8d	National policy instruments promote adaptation at sectoral level, in line with national priorities and in areas where adaptation is mainstreamed in EU policies	Yes / **In progress** / No
8e	Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention	Yes / **No**
9	***Implementing adaptation***	
9a	Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents	Yes / **In progress** / No
9b	Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)	Yes / **No**
9c	Procedures or guidelines are available to assess the potential	Yes / **No**

Adaptation Preparedness Scoreboard		
No.	**Indicator**	**Met?**
	impact of climate change on major projects or programmes, and facilitate the choice of alternative options, e.g. green infrastructure	
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**