



Adaptation preparedness scoreboard:

Draft country fiche for Latvia

Disclaimer

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

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

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POLICY FRAMEWORK

A. Adaptation strategies

A1. National adaptation strategy

Latvia has not yet adopted its National strategy on climate change. The National Environment Policy Guidelines 2014-2020¹, adopted by Government on 18 March 2014, cover adaptation to some extent. There is a dedicated chapter on climate change covering mitigation and adaptation policy objectives.

¹ The National Environment Policy Guidelines 2014-2020 (in LV),
<http://www.varam.gov.lv/lat/pol/ppd/vide/?doc=17913>

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A systemic approach in the area of adaptation to climate change was started in 2008 by the approval of the Government Report on Adaptation to Climate Change. Significant progress was achieved in 2015, when climate change risk and vulnerability assessment, and cost-benefit and cost-effectiveness assessments for adaptation measures in the most vulnerable sectors were prepared with scientific expertise and methods. The most vulnerable sectors are: 1) agriculture and forestry, 2) biodiversity and ecosystem services, 3) tourism and landscape planning, 4) human health and wellbeing, 5) construction and infrastructure planning, 6) civil protection and emergency planning.

The project "Development of Proposal for National Adaptation Strategy, including identification of scientific data, and measures for adapting to changing climate, impact and cost evaluation", ended in March 2017. The National Adaptation Strategy up to 2030 together with the Action Plan is in the process of intergovernmental consultation. Two working groups – intergovernmental and experts' – were established in September 2017. Strategy is planned to be approved by the Cabinet of Ministers by end 2017.

A2. Adaptation strategies adopted at subnational levels

There is evidence that adaptation strategies are being developed at subnational (regional or local) levels. Three Latvian municipalities have, however, signed up to the Covenant of Mayors for Climate and Energy initiative committing to develop local adaptation strategies or plans.

The first regional adaptation strategy in the Salacgriva region² was developed and adopted in August 2011. Possible adaptation options have been developed and appraised, and their implementation will be initiated with particular focus on coastal erosion, flooding, agriculture, forestry, infrastructure, public health.

There is sectoral work on climate adaptation ongoing. The climate risk and vulnerability assessments conducted for six main sectors identify, describe and analyse relevant adaptation measures. The implementation of adaptation actions has started in a coordinated way. Many adaptation actions in sectors (agriculture, forestry, public health, civil protection, water management, etc.) are being undertaken, such as in the framework of the international project "Baltic Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region"³.

B. Adaptation action plans

B1. National adaptation plan

The Adaptation Action Plan together with Adaptation Strategy is currently under consultation process.

The Action Plan, in line with the strategic goals and directions of actions, contains 89 measures, identifies institutions which are responsible and involved, and the necessary financing and time frame for the measures. The Action Plan, together with the Strategy, are foreseen to be approved by the Cabinet of Ministers by the end 2017.

² Municipality with 9581 inhabitants or 0.47% of the total Latvian population

³ See: <http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/baltic-sea-region>

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B2. Adaptation plans adopted at sub-national level

At the moment, there are no sub-national or regional adaptation strategies and plans. There are, however, adaptation actions taking place at local level. Traditionally, the regional level has not been very relevant in Latvia. Regions have no defined role in climate change adaptation.

Local authorities (municipalities) have an important role to play, particularly regarding implementation of adaptation action. For example, three Latvian municipalities have signed up to the Covenant of Mayors for Climate and Energy where they commit to developing and implementing adaptation actions. Some municipalities, such as Riga and Ventspils have drawn up their local action plans for minimising the greatest risks (e.g. flood boundaries, flood construction level) and these actions are included in flood risk management plans.

B3. Sectoral adaptation plans

No specific sectoral adaptation plans have been adopted.

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 Latvian Ministry of Environmental Protection and Regional Development (MEPRD) is responsible for climate adaptation, more specifically it is the Climate Change and Adaptation Policy Division of the Climate Change Department.⁴

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

Yes / In progress / No

Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system on adaptation. Climate change primary and secondary impacts, risk and vulnerability assessment, cost – benefit analysis for adaptation measures, indicators and monitoring system`s draft are developed for the six main sectors in Latvia: 1) biodiversity and ecosystem services; 2) forestry and agriculture; 3) tourism and landscape planning; 4) health and welfare; 5) building and infrastructure planning; 6) civil protection and emergency planning.

Per sector different ministries are involved, always including the Ministry of Environmental Protection and Regional Development (MEPRD), who is responsible for climate adaptation. Within the MEPRD Climate Change Department and its Climate Change and Adaptation Policy Division experts on adaptation issue are

⁴ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Contact'

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working and coordinating the whole process. A similar arrangement for aligning opinions has been established within the MEPRD among other departments regarding CC impacts and adaptation, e.g. floods and water management (Environmental Protection Department), biodiversity and ecosystems services (Department of Nature Protection), calculations on damage costs of climate change impacts in municipalities (Department of Regional Policy), coastal zone development, land-use management (Spatial Planning department). There are thus horizontal coordination activities taking place between bodies responsible for relevant sectors. Systematic coordination is established through the involvement of MEPRD per sector.⁵ The following sectoral ministries are involved: Ministry of Health, Ministry of the Interior, Ministry of Economics, Ministry of Transport, Ministry of Agriculture, Ministry of Culture. The ministries have been involved in exchange seminars to elaborate on the National Adaptation Strategy and to ensure cross-sectoral and interinstitutional cooperation, such as on climate change scenarios for Latvia, development of monitoring system for adaptation, risk and vulnerability assessments and identification and cost-benefit analysis of adaptation measures.⁶

Two working groups – intergovernmental and experts’ - were established on 13th September 2017 by the minister for environmental protection and regional development. The main tasks for these working groups include information (legal, scientific, data based, etc.) exchange on the draft adaptation strategy and its implementation, as well as the MRE after adoption in the Cabinet of Ministers.

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

Different levels of administration are involved per sector, such as municipalities and planning regions. This relates to the sectors: Civil Protection and Emergency Planning, Building and Infrastructure, Biodiversity and Ecosystem Services and Agriculture, Fishery and Forestry sector. There is however no evidence on the presence of systematic coordination mechanisms across the levels of administration that enable lower levels of administration to influence adaptation policy making.⁷

MEPRD Climate Change Department undertakes national level coordination in the framework of the Covenant of Mayors. The department works closely with the Latvian Association of Municipalities.

Flood Risk Management Plans take into account climate change impacts and risks.

⁵http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/?doc=18233

⁶ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Sectors & actions'

Source: Document: Latvia's updated report on the first reporting period on national adaptation actions under article 15 of the MMR (October 2016) – received from Ieva Bruneniece (Senior Expert, Ministry of Environmental Protection and Regional Development of Latvia, Climate Change Department, Climate Change and Adaptation Policy Division) - personal communication (3 May 2017)

⁷ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Sectors & actions'

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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

Governance: As the Ministry of Environmental Protection and Regional Development of Latvia (MEPRD) is the responsible authority for the climate change policy design, elaboration and implementation, all other relevant sectorial policies (legislative acts, policy planning documents) and appropriate measures (often carried out as projects with financial support of national level or EU financial institutions) are harmonized with the MEPRD.

Since 2015 experts from agencies, scientific institutions, ministries, municipalities, business structures and NGOs have participated in several workshops and conferences regarding climate change scenarios, risk and vulnerability assessment, discussions on indicators and adaptation monitoring system, flood risk warning system, spatial and coastal zone planning. For example, 4 experience exchange seminars were carried out in Riga throughout 2016.⁸ In addition there exists a MEPRD-made adaptation working group, with members representing a wide range of public institutions as well as other social partners.

More recently, two working groups were established to finalise the work on NAS and AP and to follow up the implementation, monitoring, reporting and evaluation after the adoption of the framework.

There is thus evidence that a systematic involvement of different stakeholders has been established, although at a late stage of the strategy development.

In addition, stakeholder involvement is achieved by other means as well, such as different social media channels⁹, workshops, conferences, publications, and the recently launched climate change portal¹⁰ and the, Climate change analysis tool.

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

Yes / No

There is evidence of transboundary cooperation to address common challenges with relevant countries. Latvia takes active part in the implementation of the EU Strategy for the Baltic Sea Region (EUSBSR, 2009)¹¹ and is a member of the Baltic Sea Region Climate Dialogue Platform¹². Several projects on adaptation to climate change in the Baltic Sea region have been implemented, such as BaltAdapt (The Baltic Sea Region Climate Change Adaptation Strategy), BaltClim (Supporting Strategies on Climate Change Adaptation in the Baltic States), BaltCICA (Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region), BalticClimate (Baltic Challenges and Chances for Local and Regional Development Generated by Climate Change), ASTRA (Developing Policies and Adaptation Strategies to Climate

⁸http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme__national_climate_policy/?doc=18233

⁹ Twitter account on climate change: <https://twitter.com/klimatam>

¹⁰ www.klimatam.lv

¹¹ <http://www.balticsea-region-strategy.eu/>

¹² <http://www.cbss.org/strategies/horizontal-action-climate/>

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Change in the Baltic Sea Region) and iWater¹³ on integrated Storm Water management. This included cooperation on sectors such as, Marine biodiversity and habitats, Food supply – fishery and agriculture, Coastal infrastructure, Coastal tourism (BaltAdapt). In addition, regarding all type of adaptation knowledge exchange and capacity building Latvian experts have met with Estonian, Norwegian, Hungarian, Finnish, British colleagues in many workshops and discussions.¹⁴

Latvia has formal agreements with Estonia and Lithuania on cooperation on river basin management. The cooperation entails regular exchanges of information (for example, during the annual meetings of senior officials).

Latvia has agreements on environmental co-operation with Belarus and Russia. The LEGMC exchanges information with the respective services of these countries.

The State Fire and Rescue Service of Latvia has various cooperation projects with neighbouring countries on flood risk issues. However, there is no special intergovernmental committee or working group established, especially on flood issue.

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 Latvian Environment, Geology and Meteorology Centre (LEGMC)¹⁵ has performed a detailed analysis of long term (1961-2010) historical climate data (average and extreme values of air temperature, precipitation, wind direction and speed – average and extreme values) and developed climate change future scenarios for Latvia (regarding IPCC scenarios RCP4.5 and RCP8.5) for the periods 2011-2040, 2041-2070, 2071-2100¹⁶. For wider public visualization a tool for climate change scenarios is also developed and is available online.¹⁷ LEGMC has prepared report "Climate Change Scenarios for Latvia"¹⁸ (historical climate change data analysis and scenarios for the future), and a report summary in English is also available¹⁹.

LEGMC is responsible for continuous CC data collection, as well as monitoring extreme events, data storage and analyses on long-term observation results. The Centre prepares reports and provides information to the public, to the state and local governments, and to international organizations. It also provides services for customers, including national aviation, Latvian National Armed Forces, civil protection authorities and energy companies. One of the newest LEGMC products are flood risk management plans and early flood warning systems for the biggest river catchments. LEGMC acts internationally (as a member, or presents

¹³ <https://www.integratedstormwater.eu/content/integrated-storm-water-management>

¹⁴ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Engaging stakeholders'

¹⁵ Latvijas Vides, Ģeoloģijas un Meteoroloģijas Centrs - LVGMC

¹⁶ <http://www2.meteo.lv/klimatariks/zinojums.pdf>

¹⁷ <http://www2.meteo.lv/klimatariks/>

¹⁸ <http://www2.meteo.lv/klimatariks/zinojums.pdf>

¹⁹ <http://www2.meteo.lv/klimatariks/summary.pdf>

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Latvia) in different international organisations, such as through EUMETSAT, a climate atlas tool to help visualise climate datasets for Europe and Latvia.²⁰

State Fire and Rescue Service of Latvia (SFRS) provide monitoring regarding CC risks on fire safety and firefighting. Forest fires are identified as Latvia`s priority risks due to the importance of forest ecosystems` biodiversity, forest seedlings and the timber industry, significance of forest sector to Latvia`s national economy and amount of forested lands. National Forest Inventory (monitoring) is collecting and analysing data about climatic impacts, growth and yield, species composition, forest types, damage levels.²¹

LEGMC is monitoring weather extremes also as well as average, min, max climatic parameters, and regularly sends reports to WMO. 38 climate change parameters and indices, including extreme events (TNm, TR, WSDI, R20, CDD, FG6Bft, CSDI, etc.²²) are included in NAS and in the newly developed climate change and adaptation monitoring system and the data base together with 38 adaptation indicators. Besides, a data base on the annual loss coverage during weather extremes for municipalities is maintained by the Department of Municipalities in the Ministry of Environmental Protection and Regional Development (MEPRD).

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

Scenarios and projections are used for impact and vulnerability and adaptation assessments, using the RCP climate change scenarios from IPCC AR5 report. This is done for specific sectors²³, namely 1. biodiversity and ecosystem services; 2. forestry and agriculture; 3. tourism and landscape planning; 4. health and welfare; 5. building and infrastructure planning; 6. civil protection and emergency planning.

Please see information in 3a. Additionally – in all climate change risk and vulnerability assessment sectoral reports the following methodologically steps were used:

- 1) Context analysis (scientific observations, analysis of existing policies, reports, articles), socio economic data analysis in sectors: biodiversity and ecosystem services; forestry and agriculture; tourisms and landscape planning; health and welfare; building and infrastructure planning; civil protection and emergency planning;
- 2) Identification of cause – effect relationships (presented as flow-charts), caused by climate change direct and indirect impacts and resulting in concrete socio-economic consequences, social groups or biodiversity / ecosystems services as losses or gains;

²⁰ http://www.eumetsat.int/website/home/Images/ImageLibrary/DAT_2266050.html

²¹ Document: Latvia`s updated report on the first reporting period on national adaptation actions under article 15 of the MMR (October 2016) – received from Ieva Bruneniece (Senior Expert, Ministry of Environmental Protection and Regional Development of Latvia, Climate Change Department, Climate Change and Adaptation Policy Division) - personal communication (3 May 2017)

²² http://etccdi.pacificclimate.org/list_27_indices.shtml

²³ http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668

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- 3) Main risk assessment, primarily methodologically based on COM paper "Risk Assessment and Mapping Guidelines for Disaster Management" (SEC(2010) 1626 final) and IEC 31010:2009 (Risk management) standard, qualitative methods (risk matrices), also quantitative methods (regression analysis and partial correlation), risk mapping (for flood risk zones, sea coastal zones, vulnerable territories regarding tourism and landscape planning, etc.), socio-economic assessment of risks;
- 4) Vulnerability assessment – based on risk levels, categories and target groups affected, adaptation capacity, level of estimated economic losses or gains, vulnerability level;
- 5) Identification, description and analysis of relevant adaptation measures;
- 6) Cost-benefit and cost-effectiveness assessment for adaptation measures for 50- year period.

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

Yes / In progress / No

The first time when climate and risk identification in the context of policies was performed at the national level was in the "Report on adaptation to climate change", approved by the Cabinet of Ministers in the August 2008.

The most comprehensive regional level study (for the Baltic Sea Region) which covered also Latvia, was assessment of CC risks and vulnerability performed within BSR Programme 2007-2013 and ERDF common project BALTADAPT.

In 2012, risk and vulnerability assessment in the main sectors was prepared, and proposals for development or improvement of adaptation policies and measures were set out. Besides that the main risks²⁴ in the country were recognized and described within intergovernmental expert group, using risk assessment matrix.

Significant progress has been achieved starting from 2015, when detailed climate change risk and vulnerability assessment, and cost-benefit and cost-effectiveness assessments for adaptation measures in the most vulnerable sectors were prepared with scientific expertise and methods.

The reports of the risk and vulnerability assessments for the sectors Biodiversity and ecosystem services, Forestry and agriculture, Tourism and landscape planning, Building and infrastructure planning, Civil protection and emergency planning, and Health and welfare have been completed and are available on the website of the Ministry of Environment Protection and Regional Development.²⁵

²⁴ Storms, floods, damages to power supply systems and interruptions in electricity supply, forest fires, pollution in rivers and Baltic Sea, pandemic influenza, significant accident on the railways, in aviation and in sea transport, significant IT accident, accident in SEVESO facilities, upstream pipeline damage (Latvia's updated report on the first reporting period on national adaptation actions under article 15 of MMR – Oct. 2016)

²⁵ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Summary', link to webpages of LEGMC, with different reports in Latvian (http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668), published in 2016 Document: Latvia's updated report on the first reporting period on national adaptation actions under article 15 of the MMR (October 2016) – received from Ieva Bruneniece (Senior Expert, Ministry of Environmental Protection and Regional Development of Latvia, Climate Change Department, Climate Change and Adaptation Policy Division) - personal communication (3 May 2017)

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

Yes / **In progress** / No

Transboundary risks are not explicitly included in the draft National Adaptation Strategy. 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 Strategy²⁶, which focuses on such sectors as food supply (including fishery and agriculture), coastal infrastructure and coastal tourism.

4. Knowledge gaps

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

Yes / **In progress** / No

During the development of the NAS, knowledge gaps were identified and prioritised for sectors regarding data collection, monitoring, research. Information exchange between national and international institutions etc. are also carried out and included in the NAS and NAP. These knowledge gaps regarding climate change impacts, risks and adaptation, including adaptation MRE, are included also in sectoral policy planning documents, legal acts.

Experience exchange seminars have been organised additionally in 2016 with an emphasis on exchange of knowledge and experiences related to climate change scenarios data preparation and modelling, analysis and interpretation, development and management of monitoring system for adaptation, approaches to risk and vulnerability assessment for adaptation, and identification and cost-benefit analysis of adaptation measures, but no evidence if knowledge gaps have been discussed at all.²⁷

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

There is a dedicated website (in English) available via the main website of the Ministry of Environment Protection and Regional Development²⁸, which provides

²⁶ <http://baltadapt.eu/>

²⁷ http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/?doc=18233, under details on the project 'Development of proposal for National Adaptation Strategy, Including Identification of Scientific Data, and Measures for Adapting to Changing Climate, Impact and Cost Evaluation'

²⁸ http://www.varam.gov.lv/eng/par_ministriju

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information on the project 'Development of proposal for National Adaptation Strategy, Including Identification of Scientific Data, and Measures for Adapting to Changing Climate, Impact and Cost Evaluation' in the framework of 2009-2014 European Economic Area grants National Climate Policy programme. It is updated until 2016 and the National Adaptation Strategy, which is expected to be approved by mid-2017, will be available via this website. The Latvian website includes more information, such as the sectoral risk and vulnerability and adaptation assessments²⁹.

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 on capacity building, training and education materials on climate change adaptation available. The activities are not driven and or coordinated by the formal NAS, as this is still under preparation (expected approval mid-2017). Examples are: the project 'Climate education for all'³⁰ and 'Climate Change in Latvia- challenge or opportunity'³¹

The Climate Change Department is currently working on a climate change communication strategy to provide more precise information on climate change impacts on sectors, efforts for changing consumption patterns moving to low-carbon development and raising awareness and better understanding on climate policies among societal groups and people.

Different universities, such as the University of Latvia, Riga Technical University, and Latvia University of Agriculture, provide academic studies, address and develop knowledge on climate change mitigation, climate change risks and adaptation. Examples: course on Climate and Sustainable Development^{32,33}.

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

²⁹http://www.varam.gov.lv/lat/fondi/grants/EEZ_2009_2014/nacionala_klimata_politika/?doc=18209 (Latvian) / http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/?doc=18233 (in English)

³⁰ <http://www.zalabriviba.lv/klimata-parmainu-izglitiba-visiem/>

³¹ <http://www.homococ.lv/lat/projekti/klimata-parmainas-latvija-izaicinajums-iespeja>

³² Document: Latvia's updated report on the first reporting period on national adaptation actions under article 15 of the MMR (October 2016) – received from Ieva Bruneniece (Senior Expert, Ministry of Environmental Protection and Regional Development of Latvia, Climate Change Department, Climate Change and Adaptation Policy Division) - personal communication (3 May 2017); <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Summary'

³³ https://www.lu.lv/fileadmin/user_upload/lu_portal/par/starptautiska-sadarbiba/ERASMUS_PLUS/K_GZZF_VidZ1033_Climate-Sustainable-Development.pdf

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Comprehensive analysis of possible adaptation options are conducted for the most vulnerable sectors. This is part of the climate change risk and vulnerability assessment and cost-benefit and cost-effectiveness assessments for adaptation measures, that are prepared with scientific expertise and methods for the different sectors, and included in national adaptation strategy and action plan.³⁴

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

There is prioritisation of adaptation options as well as a systematic analysis of the various options at the sectoral level. A cost-benefit analysis has been done for adaptation measures in the most vulnerable sectors.³⁵ Adaptation options have been chosen based on semi-quantitative analysis methods according to concrete risk and vulnerability level and adaptive capacity.

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

Yes / **In progress** / No

There is no evidence provided on how the NAS/NAP will provide for disaster risk reduction measures.

There is a mechanism in place for coordinating disaster risk management and climate change adaptation and ensure coherence. The civil protection system, which includes risk assessment and prevention, disaster management of all natural extremes in all sectors and governmental levels (all responsibilities among state and municipal institutions are clearly defined) is prescribed in the recently adopted Civil Protection and Catastrophe Management Law (2016). The main added value is that much more and serious attention now is paid to risk assessment and prevention. This improvement links climate change risk assessment, prevention and adaptation and civil protection much more tightly³⁶.

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

Different funding resources per sector are specified for adaptation to climate change, such as the general state budget, municipal budget, insurance, EU funds, business, Latvian Environmental Protection Fund, Latvian Environmental Investment Fund, Climate Change Financial Instrument, etc. For example, for the

³⁴ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Assessments'

³⁵ http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668

³⁶ Document: Latvia's updated report on the first reporting period on national adaptation actions under article 15 of the MMR (October 2016) – received from Ieva Bruneniece (Senior Expert, Ministry of Environmental Protection and Regional Development of Latvia, Climate Change Department, Climate Change and Adaptation Policy Division) - personal communication (3 May 2017)

<http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Policy & Legal Framework'

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building and infrastructure planning sector, funding sources come from the general state budget, municipal budget, business, EU funds, insurance, "Latvenegro" energy utility, climate change financial instrument, Latvian Environmental Protection Fund.³⁷

Regarding finance instruments or funding available for adaptation purposes, Latvia uses a broad range of financial possibilities: state and municipality funding (funding for adaptation, especially in local regions and municipalities, is earmarked financing named New Policy Initiatives), EU funding (ERDF, ESF, CF, EAFRD, EMFF, Life, Horizon 2020 programme), the European Economic Area (EEA) and the Norwegian Financial mechanism (also for the period 2014-2021), state budget financing through certain funds, e.g. Latvian Environmental Protection Fund (LEPF), Latvian Environmental Investment Fund (LEIF) and Rural Support Service.

Funding resources are indicated for the main priority sectors, however it is not clear if there are dedicated budgets for the different sectors.

Step D: Implementing adaptation action

8. Mainstreaming adaptation in planning processes

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

Yes / **No**

The national law on environment impact assessment (latest amendment took place at the beginning of 2017) does not include climate change considerations.³⁸

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

Yes / **No**

Several rules of Cabinet of Ministers are under development now according to the new Law on Civil Protection and Catastrophe Management Law (2016). Climate change impacts and extremes are taken into account until now in State Civil Protection Plan (2014). It is however not clear how future climate extremes are or will be factored in disaster risk management plans.

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

Yes / No

Climate change impacts, risks and adaptation measures are addressed in several documents: Coastal Spatial Development Programme 2011-2017, State Long-term Thematic Planning for Baltic Sea Coast public Infrastructure up to 2030, National Development Plan 2014-2020, Rural Development Programme of Latvia 2014-

³⁷ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Sectors & actions'

³⁸ Document: National Law on environmental impact assessment: <http://likumi.lv/doc.php?id=51522>

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2020, Regional Policy Programme 2013-2019 (2013), Environmental Policy Programme 2014-2020 (2014), etc.

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

National policy instruments in place to promote sector level adaptation are foreseen in the NAS and its AP. Adaptation action plan includes 18 main action directions according to strategic goals and adaptation subjects: people, economy, infrastructure and construction, nature, and horizontal subject – information and knowledge. In total 89 actions / measures, related to concrete climate change risk and vulnerability assessment and level, are included in action plan. For each action the responsible institution, other involved institutions, duration, necessary financing, finance sources, the level of priority, and other information is included in action plan.

The National Environment Policy Guidelines 2014-2020 (preceding the national adaptation strategy) covers adaptation to some extent. Environmental Policy Strategy of Latvia 2014-2020 aimed to maintaining the quality of the environment and biological diversity, ensuring the sustainable use of natural resources, increasing the research potential for the environmental protection, as well as promotes environmental science, sustainable environmental education, public participation in the decision-making process and awareness of the environmental issues, predicts establishment of the National Institute of Ecology³⁹.

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

Yes / **No**

There is evidence that adaptation is mainstreamed in insurance schemes. The insurance system is regarded as an important adaptation tool related to weather extremes or disasters is being developed under supervision of the Financial and Capital Market Commission (FCMC). Three insurance schemes regarding natural disasters exist. One covers private sector and applies to humans as individuals, including health, life, private property; the second scheme is developing in agriculture and forestry sectors - insurance of risks, based on PPP principle (privative and State financing), and the third covers business (commerce, trade, traffic, etc.).⁴⁰

The draft NAS defines a specific action on insurance under the second strategic priority on adapting the national economy and reaping the benefits. The specific action foresees strengthen the insurance market through effective schemes and instruments to in order to cover and compensate the losses from climate and nature catastrophies and reduce the burden of risk on state budget.

³⁹ <http://www.varam.gov.lv/lat/pol/ppd/vide/?doc=17913>

⁴⁰ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Policy & Legal framework'
Document: Latvia's updated report on the first reporting period on national adaptation actions under article 15 of the MMR (October 2016) – received from Ieva Bruneniece (Senior Expert, Ministry of Environmental Protection and Regional Development of Latvia, Climate Change Department, Climate Change and Adaptation Policy Division) - personal communication (3 May 2017)

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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**

In the absence of the adopted NAS, autonomous adaptation actions in sectors (agriculture, civil protection, forestry, public health, building and construction, water management, etc. are being undertaken. Some analysis of efficiency and sustainability on adaptation measures done previously was made in six sectoral researches on climate change impacts, vulnerability and adaptation measures, including cost-benefit analysis of adaptation measures.

Also concrete adaptation options and activities have occurred with regards to coastal and river basin management, where floods, storm surges, coastal erosion and extreme temperatures have been identified as the main risks. Coastal vulnerabilities have been mapped and adaptation activities have been developed mainly through EU funded trans-boundary projects, such as ASTRA, BaltCICA, BaltClim, BalticClimate and BaltAdapt.

Some activities related to climate adaptation have taken place in several municipalities but not as part of a systematic process. Some municipalities, such as Riga and Salacgriva, which have been influenced by extreme weather conditions (storm surges, floods) have been most active in implementing adaptation measures. For example, Riga City has included anti-flood measures (such as rising the level of existing paved roads and embankments, construction of new embankments, reconstruction or installation of new canal locks and culverts) in the Integrated Strategy for Riga City.

Another example is construction of coastal defence structures at dense settlement sites in the basin of river Salaca as well as introduction of control or prohibition of the expansion of settlement sites in vulnerable coastal areas along Salaca river (ASTRA project).

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 foreseen in the national adaptation to climate change long-term strategy and action plan, which is in the intergovernmental consultation process (public consultation already finished),

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**

Apart from the drafted Maritime Spatial Plan and various guidelines issued by the European Commission, no specific procedures or guidelines are issued or used to assess the potential impact of climate change on major projects or programmes.

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

Yes / **No**

As the coordinated implementation of the adaptation measures has not yet started, the specific mechanisms for ensuring the involvement of stakeholders in the implementation of adaptation policies and measures are yet to be put in place.

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**

At the moment no monitoring or reporting on NAS/NAP implementation is in place. Adaptation indicators as part of the adaptation monitoring system are under development/consultation process and were planned to be due at the end of 2017. For each indicator a detailed metadata sheet is fulfilled (including, description of indicator, the period covered, measurement, spatial coverage, data source, indicator relevance, current trends, trends in the future, vulnerability characteristics). Climate change and adaptation monitoring's system concept is under consultation process. Both will be published in LEGMC and MEPRD web links. Another task is to set the certain legal frame of the monitoring system and institutions responsible for data delivery in each sector. It is included in the national adaptation strategy.⁴¹

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

Yes / **No**

At the moment no monitoring or reporting on the integration of climate change adaptation in sectoral policies is in place.

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

Yes / **No**

At the moment no monitoring or reporting on regional, sub-national or local action is in place.

⁴¹ <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Summary'

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11. Evaluation

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

Yes / **No**

In the absence of a formal NAS, no evidence is available on a periodic review after adoption of a formal NAS.

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

Yes / **No**

No evidence seems to be available on stakeholders' involvement in monitoring, evaluation or reviewing NAS/NAP.

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SUMMARY TABLE

Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
Step A: Preparing the ground for adaptation		
1 <i>Coordination structure</i>		
1a	A central administration body officially in charge of adaptation policy making	Yes / No
1b	Horizontal (i.e. sectoral) coordination mechanisms exist within the governance system, with division of responsibilities	Yes / In progress / No
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 <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 / 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 <i>Current and projected climate change</i>		
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 <i>Knowledge gaps</i>		
4	Work is being carried out to identify, prioritise and address the knowledge gaps	Yes / In progress / No

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
5 Knowledge transfer		
5a	Adaptation relevant data and information is available to all stakeholders, including policy makers (e.g. through a dedicated website or other comparable means).	Yes / In progress / No
5b	Capacity building activities take place; education and training materials on climate change adaptation concepts and practices are available and disseminated	Yes / In progress / No
Step C: Identifying adaptation options		
6 Identification of adaptation options		
6a	Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts	Yes / No
6b	The selection of priority adaptation options is based on robust methods (e.g. multi-criteria analyses, stakeholders' consultation, etc.) and consistent with existing decision-making frameworks	Yes / No
6c	Mechanisms are in place to coordinate disaster risk 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		

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Adaptation Preparedness Scoreboard		
No.	Indicator	Met?
9a	Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents	Yes / In progress / No
9b	Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)	Yes / No
9c	Procedures or guidelines are available to assess the potential impact of climate change on major projects or programmes, and facilitate the choice of alternative options, e.g. green infrastructure	Yes / No
9d	There are processes for stakeholders' involvement in the implementation of adaptation policies and measures.	Yes / No
Step E: Monitoring and evaluation of adaptation activities		
10 <i>Monitoring and reporting</i>		
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 <i>Evaluation</i>		
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