

# Adaptation preparedness scoreboard:

## Country fiche for Latvia

### NOTE TO THE READER

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

- Institutional structure
- Quality of national vulnerability assessments
- Knowledge creation (national observation systems in relevant sectors<sup>2</sup> and climate modelling), transfer and use
- Action plans:
  - Quality (incl. the basis used for assessment of adaptation options)
  - Actual implementation mechanisms
- Funding mechanisms
- Mainstreaming into sectoral policies, in particular:
  - Disaster risk reduction
  - Spatial planning
  - Environmental impact assessment (EIA) (how the Directive is transposed)
  - Insurance policy
- Transboundary cooperation
- Monitoring mechanisms in different sectors and governance levels

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 The first versions of the fiches, prepared in consultation with the Member States in 2014-15, were unpublished and used to fine-tune the scoreboard.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

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

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

The assessments in the country fiches (yes/no/in progress) need to be read in conjunction with the narrative that accompanies them. They assess the state of play within each EU Member State. While all effort has been made to ensure the coherence across fiches in the assessment of the same indicator, it should not be directly compared across the Member States. Two countries with a "yes" on the same indicator could have a different national situation leading to that assessment. Not all indicators have the "in progress" status, some can only be "yes" or "no".

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## List of abbreviations

ASTRA	Developing Policies and Adaptation Strategies to Climate Change in the Baltic Sea Region
BaltAdapt	The Baltic Sea Region Climate Change Adaptation Strategy,
BaltCICA	Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region
BaltClim	Supporting Strategies on Climate Change Adaptation in the Baltic States
BalticClimate	Baltic Challenges and Chances for Local and Regional Development Generated by Climate Change
ERDF	European Regional Development Fund
EU	European Union
EUR	European Union Euro
EUSBSR	EU Strategy for the Baltic Sea Region
FCMC	Financial and Capital Market Commission
GHG	Greenhouse gases
IPPC	Intergovernmental Panel on Climate Change
LEGMC	The Latvian Environment, Geology and Meteorology Centre
NAP	National Adaptation Plan
NAS	National Adaptation Strategy
NGOs	Non-governmental organisations
MMR	Greenhouse Gas Monitoring Mechanism Regulation
MoEPRD	Ministry of Environmental Protection and Regional Development
PPP	Public-private partnership
RCP	Representative Concentration Pathways

## **POLICY FRAMEWORK**

### **A. Adaptation strategies**

#### **A1. National adaptation strategy**

Latvia has not yet adopted its national strategy on climate change (NAS). The National Environment Policy Guidelines 2014-2020<sup>3</sup>, 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.

A systemic approach to climate adaptation was initiated in 2008 by approval of the Government Report on Adaptation to Climate Change.

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 NAS to 2030 together with the National Adaptation Plan (NAP) is in the process of intragovernmental consultation<sup>4</sup>. Two working groups on adaptation (an intragovernmental group and an experts group) were established in September 2017. A working version of the NAS is currently being considered by these two groups. Once they have provided their comments and inputs, the NAS will be updated and prepared for submission to the State Secretaries’ meeting. It is planned that the NAS will be adopted during 2018<sup>5</sup>.

#### **A2. Adaptation strategies adopted at subnational levels**

There is evidence that adaptation strategies are being developed at subnational (regional or local) levels, at the initiative of individual municipalities. The Environment Ministry is encouraging their development through provision of information on the importance of climate adaptation planning at regional level, as well as through organising exchanges of experience between Latvia’s municipalities and those of other countries.

Three Latvian municipalities, Valka, Daugavpils and Smiltene, have 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 region<sup>6</sup> was developed and adopted in August 2011<sup>7</sup>. Possible adaptation options have been developed and appraised, and their implementation will be initiated with a particular focus on coastal erosion, flooding, agriculture, forestry, infrastructure, public health.

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<sup>3</sup> The National Environment Policy Guidelines 2014-2020 (in LV), <http://www.varam.gov.lv/lat/pol/ppd/vide/?doc=17913>

<sup>4</sup> Personal communication with MS contact.

<sup>5</sup> Personal communication with MS contact.

<sup>6</sup> Municipality with 9581 inhabitants or 0.47% of the total Latvian population

<sup>7</sup> [http://www.salacgriva.lv/lat/salacgrivas\\_novads/zalais\\_novads/?text\\_id=6401](http://www.salacgriva.lv/lat/salacgrivas_novads/zalais_novads/?text_id=6401)

## **B. Adaptation action plans**

### **B1. National adaptation plan**

The NAP together with NAS is currently subject to consultation. A draft version of the NAP has been sent together with the NAS to an expert group and an inter-ministerial working group on adaptation for their comments and inputs, as mentioned above. The NAP is expected to be published with the NAS during 2018.

The draft NAP, in line with the NAS goals and directions for actions, contains 89 measures, identifies institutions that are responsible and involved, and the necessary finance and timeframes for the measures.

### **B2. Adaptation plans adopted at sub-national level**

At the moment, there are no sub-national or regional adaptation strategies and plans. Traditionally, the regional level has not been very relevant in Latvia. Regions have no defined role in climate 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 and have committed to developing and implementing adaptation actions. Some municipalities, such as Riga and Ventspils, have drawn up their local action plans to minimise 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. Sectoral work on climate adaptation is 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 specific sectors (agriculture, forestry, public health, civil protection, water management, etc.) are being undertaken, for example, in the framework of the international project “Baltic Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region”<sup>8</sup>.

## **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

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<sup>8</sup> See: <http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/baltic-sea-region>

In Latvia, the Ministry of Environmental Protection and Regional Development (MoEPRD), in particular, the Climate Change and Adaptation Policy Division of the Climate Change Department<sup>9</sup>, is responsible for preparing the NAS and for coordinating its implementation. Responsibility for the implementation of particular measures identified in the NAS will be shared among the many institutions that are involved.

### **1b. Horizontal (i.e. sectoral) coordination mechanisms within the governance system**

**Yes** / In progress / No

The MoEPRD has established two working groups: an intragovernmental group and an expert working group. The main tasks of both groups are (i) information exchange on climate adaptation, including on policy planning documents, legislation, scientific research, events, (ii) fostering implementation of adaptation policies, and (iii) integrating adaptation issues into different legislative proposals. Members of both groups can submit proposals for different policies that are connected to climate adaptation. Both groups have received the draft NAS for their comments and inputs.

The intragovernmental working group involves members from the MoEPRD, the Ministry of Health, the Ministry of Finance, the Ministry of Agriculture, the Ministry of Transport, the Ministry of Economics, the Ministry of Welfare, the State Fire and Rescue Service (SFRS), the Cross-sectoral Coordination Centre, and the State Centre for Defence Military Sites and Procurement.

The expert group involves members from the MoEPRD, the Rural Support Service, the AS "Sadales tīkli", i.e. the State Regional Development Agency, the JSC "Latvian State Roads", the JSC "Latvia's State Forests", the Riga Technical University, the University of Latvia, the Nature Conservation Agency, the Health Inspectorate, the AS "Latvenergo", Employers' Confederation of Latvia, the Latvian Building Material Manufacturers Association, the Latvia University of Agriculture, the Food and Veterinary Service, the Centre for Disease Prevention and Control, the Central Statistical Bureau, the State Forest Service, the Latvian Insurers Association, the State limited Liability Company "Latvian Environment, the Geology and Meteorology Centre" and the Institute of Agricultural Resources and Economics.

### **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, such as municipalities and planning regions are involved in the development of climate adaptation policy in relation to the following sectors: civil protection and emergency planning, building and infrastructure, biodiversity and ecosystem services, and agriculture, fisheries and forestry.

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<sup>9</sup> <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Contact'

The MoEPRD 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. The NAS is still being prepared, but the MoEPRD foresees a role for the municipalities in its implementation<sup>10</sup>. In 2011 the parish of Salacgrīva produced a climate adaptation strategy; and the parish of Salapils is currently preparing one<sup>11</sup>.

## **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

Since 2015, experts from agencies, scientific institutions, ministries, municipalities, business structures and NGOs have participated in several workshops and conferences regarding: climate scenarios, risk and vulnerability assessments, discussions on indicators and adaptation monitoring systems, flood risk warning systems, spatial and coastal zone planning. For example, four experience-exchange seminars were carried out in Riga throughout 2016.<sup>12</sup> In addition, an adaptation working group has been established by MoEPRD, with members representing a wide range of public institutions, as well as other social partners. As described in relation to Indicator 1b, two working groups were established to finalise the work on the NAS and NAP and to follow up implementation, monitoring, reporting and evaluation after the adoption of the framework. These working groups include the following stakeholders: ministries, governmental authorities and research institutes.

### **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)<sup>13</sup> and is a member of the Baltic Sea Region Climate Dialogue Platform<sup>14</sup>. The Baltic Sea Region Climate Change Adaptation Strategy and the action plan covers the issue of ever stronger rainfall and urban planning, as well as practical solutions. Special importance is given to visual aid materials, which help to explain the risks of future climate change and its impacts.

Furthermore, 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

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<sup>10</sup> Personal communication with MS contact.

<sup>11</sup> Personal communication with MS contact.

<sup>13</sup> <http://www.balticsea-region-strategy.eu/>

<sup>13</sup> <http://www.balticsea-region-strategy.eu/>

<sup>14</sup> <http://www.cbss.org/strategies/horizontal-action-climate/>



Region), BalticClimate (Baltic Challenges and Chances for Local and Regional Development Generated by Climate Change), ASTRA (Developing Policies and Adaptation Strategies to Climate Change in the Baltic Sea Region) and iWater<sup>15</sup> on integrated storm water management. These projects have included cooperation on sectors/themes such as: marine biodiversity and habitats, food supply – fisheries and agriculture, coastal infrastructure and 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.<sup>16</sup>

Latvia also has formal agreements with Estonia and Lithuania to cooperate on river basin management. The cooperation entails regular information exchange (for example, during the annual meetings of senior officials). Latvia has agreements on environmental co-operation with Belarus and Russia and the LEGMC exchanges information with the respective services of these countries.

Finally, the SFRRS cooperates with neighbouring countries on flood risks in various projects. However, there is no special intergovernmental committee or working group established, especially on flood issues.

No actions are included in the NAS on transboundary cooperation (the NAS is mainly focused on national-level targets), but cooperation is envisaged in the fields of research on climate impacts, and risk and vulnerability assessments. Cooperation and projects to exchange experience, for example, for strengthening Baltic Sea coast, are envisaged<sup>17</sup>.

## **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)<sup>18</sup> 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 future climate scenarios for Latvia using the Intergovernmental Panel on Climate Change (IPCC) Representative Concentration Pathway (RCP) scenarios, RCP4.5 and RCP8.5 for the periods 2011-2040, 2041-2070, 2071-2100<sup>19</sup>.

LEGMC is responsible for continuous climate change data collection, as well as monitoring extreme events, data storage and analyses on long-term observation results. LEGMC acts

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<sup>15</sup> <https://www.integratedstormwater.eu/content/integrated-storm-water-management>

<sup>16</sup> <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Engaging stakeholders'

<sup>17</sup> Personal communication with MS contact.

<sup>18</sup> Latvijas Vides, Ģeoloģijas un Meteoroloģijas Centrs - LVGMC

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

internationally (as a member, or presents Latvia) in different international organisations, such as through EUMETSAT, a climate atlas tool to help visualise climate datasets for Europe and Latvia.<sup>20</sup>

The SFRS provides monitoring regarding climate change risks for fire safety and firefighting. Forest fires are identified as Latvia's priority risk due to the importance of forest ecosystems, biodiversity, forest seedlings, the timber industry, the significance of the forest sector to Latvia's national economy and the amount of forested lands. National Forest Inventory (monitoring) is collecting and analysing data about climatic impacts, growth and yield, species composition, forest types, and damage levels.<sup>21</sup>

LEGMC monitors weather extremes as well as average, minimum, and maximum climatic parameters, and regularly sends reports to the World Meteorological Office. There is a newly developed climate change and adaptation monitoring system and database, which includes 38 adaptation indicators. A total of 38 climate change parameters and indices<sup>22</sup>, including extreme events, are included in the NAS.

A database 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 (MoEPRD).

### **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 developed for impact, vulnerability and adaptation assessments, using the RCP scenarios from the IPCC 5<sup>th</sup> Assessment Report. These have been produced for specific sectors<sup>23</sup>: biodiversity and ecosystem services; forestry and agriculture; tourism and landscape planning; health and welfare; building and infrastructure planning; civil protection and emergency planning. LEGMC has prepared the report "Climate Change Scenarios for Latvia"<sup>24</sup> (historical climate change data analysis and scenarios for the future); a summary in English is also available<sup>25</sup>.

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

**Yes** / In progress / No

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<sup>20</sup> [http://www.eumetsat.int/website/home/Images/ImageLibrary/DAT\\_2266050.html](http://www.eumetsat.int/website/home/Images/ImageLibrary/DAT_2266050.html)

<sup>21</sup> 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)

<sup>22</sup> [http://etccli.pacificclimate.org/list\\_27\\_indices.shtml](http://etccli.pacificclimate.org/list_27_indices.shtml)

<sup>23</sup> [http://www.varam.gov.lv/lat/publ/petijumi/petijumi\\_klimata\\_parmainu\\_joma/?doc=23668](http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668)

<sup>24</sup> <http://www2.meteo.lv/klimatariks/zinojums.pdf>

<sup>25</sup> <http://www2.meteo.lv/klimatariks/summary.pdf>

Climate risks in the context of policies were first identified at the national level in the “Report on adaptation to climate change”, approved by the Cabinet of Ministers in August 2008.

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

In cooperation with SIA “Baltkonsults”, SIA “Estonian, Latvian & Lithuanian Environment”, SIA “Procesu analīzes un izpētes centrs”, LVMI “Silava” and “Zaļā Brīvība”, MoEPRD has prepared research papers on risk and vulnerability assessment and identification of measures for climate adaptation covering six thematic areas. Research was done in the framework of the European Economic Zone Financial Instrument 2009-2014 Programme “National Climate Policy”. The research is available at the website of the MoEPRD<sup>26</sup>.

In 2012, risk and vulnerability assessments in the main sectors were prepared, and proposals for development or improvement of adaptation policies and measures were set out. In addition, the main risks<sup>27</sup> in the country were recognised and described within an intragovernmental expert group, using a risk assessment matrix.

Significant progress has been achieved, starting from 2015, when detailed climate change risk and vulnerability assessments, 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 MoEPRD website.<sup>28</sup> Additionally, all sectoral climate risk and vulnerability assessment reports have included the following steps:

- Context analysis (scientific observations, analysis of existing policies, reports, articles) and socio-economic data analysis has been undertaken in the following sectors: biodiversity and ecosystem services; forestry and agriculture; tourism and landscape planning; health and welfare; building and infrastructure planning; civil protection and emergency planning.

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<sup>26</sup> MoEPRD website with climate research results  
[http://www.varam.gov.lv/lat/publ/petijumi/petijumi\\_klimata\\_parmainu\\_joma/?doc=23668](http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668)

<sup>27</sup> 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)

<sup>28</sup> <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](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)

- Use of flowcharts to identify cause–effect relationships between the direct and indirect impacts of climate change on socio-economic considerations and on biodiversity and ecosystems services.
- Use of the European Commission’s “Risk Assessment and Mapping Guidelines for Disaster Management”<sup>29</sup> and the IEC 31010:2009 (Risk management) standard<sup>30</sup>.
- Use of qualitative methods (risk matrices), quantitative methods (regression analysis and partial correlation), risk mapping (for flood risk zones, sea coastal zones, vulnerable territories for tourism and landscape planning, etc.), and socio-economic assessments.
- Vulnerability assessment – based on risk levels, categories and target groups affected, adaptive capacity, level of estimated economic losses or gains, and ranking of vulnerabilities
- Identification, description and analysis of relevant adaptation measures
- Cost-benefit and cost-effectiveness assessment of adaptation measures for a 50-year period.

### **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 NAS. As noted in relation to Indicator 2b, these risks are considered by some sectors, such as water and flood risk management. Risk assessments performed have not identified any significant transboundary risks. Among others, climate-driven migration was considered.

Climate risk and vulnerability assessments take transboundary risks into account within the framework of the Baltic Sea Region Climate Change Adaptation Strategy<sup>31</sup>, which focuses on such sectors as food supply (including fisheries and agriculture), coastal infrastructure and coastal tourism.

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<sup>29</sup> Commission Staff Working Document. 2010. Risk Assessment and Mapping Guidelines for Disaster Management (SEC 2010) 1626 Final.  
[https://ec.europa.eu/echo/files/about/COMM\\_PDF\\_SEC\\_2010\\_1626\\_F\\_staff\\_working\\_document\\_en.pdf](https://ec.europa.eu/echo/files/about/COMM_PDF_SEC_2010_1626_F_staff_working_document_en.pdf)

<sup>30</sup> IEC 31010:2009 (Risk management) standard. <https://www.iso.org/standard/51073.html>

<sup>31</sup> <http://baltadapt.eu/>

## 4. Knowledge gaps

### 4a. 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, and research. Information exchange between national and international institutions was carried out and included in the NAS and NAP. The knowledge gaps regarding climate change impacts, risks and adaptation, including adaptation monitoring and evaluation, are included in sectoral policy planning documents and legal acts.

Additionally, experience-exchange seminars have been organised in 2016 with an emphasis on exchange of knowledge and experience related to climate scenarios, data preparation and modelling, analysis and interpretation, development and management of a monitoring system for adaptation, approaches to risk and vulnerability assessment for adaptation, and identification and cost-benefit analysis of adaptation measures. There was no evidence of specific knowledge gaps identified during these seminars. However, there is a strong need for general awareness raising on climate change and improvement of knowledge regarding climate resilience. In order to help to address this gap MoEPRD will organise a visit of the IPCC<sup>32</sup> at the end of May 2018 to Latvia.

## 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

A dedicated website (in English), available via the main website of the Ministry of Environment Protection and Regional Development<sup>33</sup>, provides information on the 'Development of a proposal for the National Adaptation Strategy, Including Identification of Scientific Data, and Measures for Adapting to Changing Climate, Impact and Cost Evaluation'.

The Ministry's website in Latvian includes more information, such as sectoral risk and vulnerability and adaptation assessments<sup>34</sup>. MoEPRD is responsible for the content of its website. Information in the official website of the MoEPRD is regularly updated.

The LEGMC prepares reports and provides information to the public, to the state and local governments, and to international organisations. It also provides services for customers, including national aviation, Latvian National Armed Forces, civil protection authorities and

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<sup>32</sup>Personal communication with MS contact.

<sup>33</sup>[http://www.varam.gov.lv/eng/par\\_ministriju](http://www.varam.gov.lv/eng/par_ministriju)

<sup>34</sup>[http://www.varam.gov.lv/lat/fondi/grants/EEZ\\_2009\\_2014/nacionala\\_klimata\\_politika/?doc=18209](http://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](http://www.varam.gov.lv/eng/fondi/EEA_Norv/european_economic_area_financial_mechanism_programme_national_climate_policy/?doc=18233) (in English)

energy companies. One of the newest LEGMC products are flood risk management plans and early flood warning systems for the biggest river catchments.

A public tool for visualisation of climate scenarios has been developed, which is available online.<sup>35</sup>

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

Yes / **In progress** / No

There are some capacity building, training and education materials on climate adaptation available. The activities are not driven or coordinated by the NAS, as it has been in development. Examples are: the project 'Climate education for all'<sup>36</sup> and 'Climate Change in Latvia- challenge or opportunity'.<sup>37</sup>

The Climate Change Department is currently working on a climate change communication strategy to provide more precise information on climate impacts on sectors, to raise awareness and promote 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 risks and adaptation. Examples include a course on Climate and Sustainable Development<sup>38,39</sup>.

### **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

Comprehensive analyses 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

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<sup>35</sup> <http://www2.meteo.lv/klimatariks/>.

<sup>36</sup> <http://www.zalabriviba.lv/klimata-parmainu-izglitiba-visiem/>

<sup>37</sup> <http://www.homoecos.lv/lat/projekti/klimata-parmainas-latvija-izaicinajums-iespeja>

<sup>38</sup> 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'

<sup>39</sup> [https://www.lu.lv/fileadmin/user\\_upload/lu\\_portal/par/starptautiska-sadarbiba/ERASMUS\\_PLUS/K\\_GZZF\\_VidZ1033\\_Climate-Sustainable-Development.pdf](https://www.lu.lv/fileadmin/user_upload/lu_portal/par/starptautiska-sadarbiba/ERASMUS_PLUS/K_GZZF_VidZ1033_Climate-Sustainable-Development.pdf)

and cost-effectiveness assessments for adaptation measures, that are prepared with scientific expertise and methods for the different sectors, and included in the NAS and NAP.<sup>40</sup>

In accordance with the assessment of the impacts and risks of climate change, the NAS identifies the overarching target and strategic objectives for climate adaptation, and the directions of action and measures to be implemented in six key sectors: construction and infrastructure planning, civil protection and emergency planning, health and well-being, biodiversity and ecosystem services, agriculture and forestry, tourism and landscape planning.

**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

Adaptation options are prioritised and there is a systematic analysis of the various options at the sectoral level. A cost-benefit analysis has been produced for adaptation measures in the most vulnerable sectors.<sup>41</sup> Adaptation options have been chosen based on semi-quantitative analysis methods according to levels of risk, vulnerability 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 and NAP will contribute to disaster risk reduction. There is a mechanism in place for coordinating disaster risk management and climate adaptation and ensuring coherence. The Civil Protection and Catastrophe Management Law (2016) prescribes the civil protection system, which includes risk assessment and prevention, and disaster management of natural extremes across all sectors and governmental levels (including clear definition of all responsibilities among state and municipal institutions). The main added value of the system is the serious attention paid to risk assessment and prevention. In doing so, it tightly links climate change risk assessment, prevention and adaptation with civil protection<sup>42</sup>.

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<sup>40</sup> <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Assessments'

<sup>41</sup> [http://www.varam.gov.lv/lat/publ/petijumi/petijumi\\_klimata\\_parmainu\\_joma/?doc=23668](http://www.varam.gov.lv/lat/publ/petijumi/petijumi_klimata_parmainu_joma/?doc=23668)

<sup>42</sup> 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'



## **7. Funding resources identified and allocated**

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

Yes / **In Progress** / No

Different funding resources per sector are specified for climate adaptation, such as the general state budget, municipal budget, insurance, EU funds, business, Latvian Environmental Protection Fund, Latvian Environmental Investment Fund and the Climate Change Financial Instrument. In order to realise the measures and tasks specified in the NAS, use of state and municipal budget resources is planned and EU and private funding will be sought (dependent on the particular measure)<sup>43</sup>.

Within the European Structural and Investment Funds for 2014-2020, appropriated funding for measures related to the shift towards a low-carbon economy is more than EUR 480 million, and more than EUR 63 million for climate adaptation. Under the Climate Change Financial Instrument specific activities for adaptation have not been undertaken. However, some of the activities financed by the Emission Allowances Auctioning Instrument promote climate adaptation as a co-benefit.

Resources from the general state budget are used to cover climate-related damages, as and when required.

## **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 EIA (amended 2017) does not include climate change considerations. Amendments to this law are in preparation, however, no information is available as to whether and how adaptation will be addressed.<sup>44</sup>

#### **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 currently being developed in accordance with the Law on Civil Protection and Catastrophe Management (2016). Climate impacts and extremes are considered in the State Civil Protection Plan (2014). The Latvian Environment, Geology

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<sup>43</sup> Personal communication with MS contact.

<sup>44</sup> Document: National Law on environmental impact assessment: <http://likumi.lv/doc.php?id=51522>



and Meteorology Centre is working on an initial flood risk assessment report, which will be used for the preparation of 2021-2027 flood risk governance plans. Public consultations are ongoing until 30 June 2018.

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

Yes / No

Climate impacts, risks and adaptation measures are addressed in several documents, including: 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 2014-2020, Regional Policy Programme 2013-2019 (2013), Environmental Policy Programme 2014-2020 (2014).

At the regional level, within the framework of the Estonian-Latvian program "Coastal and Marine Planning in the Pärnu Bay in Estonia and the Coastal Municipalities of Latvia" 2013-2015, guidelines for "Reducing the Impact of Coastal Erosion" have been prepared.

At the local level, activities are carried out in accordance with national and regional level documents and regulations defined in the regulatory acts. For example, local government territorial development planning documents identify territories with flood risks, and coastal areas with increased risk of erosion. These risks need to be taken into account in building regulations, as well as planned activities and investments.

**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 to promote sector-level adaptation are foreseen in the NAS and the NAP. The overarching goal is to minimise the vulnerability of people, economy, infrastructure, buildings and nature to climate impacts, and to promote opportunities created by climate change. The NAS will also include more specific strategic targets and an action plan that will identify specific measures and the institutions responsible for their implementation. The NAP focuses on people, economy, infrastructure and construction, nature, and information and knowledge, and includes 18 main actions. In total 89 actions/measures relate to climate risk and vulnerability assessment. For each action, the NAP details the responsible institution, other involved institutions, duration, necessary financing, finance sources, priority, and other information.

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

Yes / No

The insurance system is regarded as an important adaptation tool in relation to extreme weather events or disasters. Particular instruments have been developed under the supervision of the Financial and Capital Market Commission (FCMC). There are three existing insurance

schemes relevant to natural disasters. One provides individual cover in the private sector, including for health, life, and property. The second scheme addresses the agricultural and forestry sectors, covering insurance risks through private and State financing. The third covers businesses (commerce, and trade).<sup>45</sup>

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 strengthening the insurance market through effective schemes and instruments in order to cover and compensate for losses from climate and natural catastrophes and reduce the burden of risk on the state budget.

## **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

Despite the NAS not yet being adopted, autonomous adaptation actions in some sectors (agriculture, civil protection, forestry, public health, building and construction, water management, etc.) are already underway. The efficiency and sustainability of adaptation measures was analysed in six sectoral studies on climate impacts, vulnerability and adaptation measures, including their cost-benefit.

Practical adaptation options and activities have been implemented 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 raising 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 Salaca River Basin, as well as introduction of control or prohibition of the expansion of settlement sites in vulnerable coastal areas along the Salaca river (ASTRA project).

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<sup>45</sup> <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)

In order to reduce climate impacts, a number of Latvian municipalities (in particular, Liepaja, Riga, Vilani, Daugavpils, Cesis, Livani, Sigulda, Salaspils and Ikskile), as well as Zemgale planning region, have elaborated sustainable energy action plans (Zemgale planning region starting from 2012, the municipalities in subsequent years).<sup>46</sup>

**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 NAS and NAP.

**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 potential climate impacts on major projects or programmes.

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

Yes / **No**

As 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 not yet 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**

Currently, no monitoring or reporting on implementation of the NAS and NAP is in place.

Climate change and adaptation monitoring system is under development. It is planned that it will be finalised by the end of 2018. For each indicator a detailed metadata sheet is proposed (including, description of indicator, the period covered, measurement, spatial coverage, data source, indicator relevance, current trends, trends in the future, vulnerability characteristics).

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<sup>46</sup> Personal communication with MS contact.

The methodology is under consultation. Both the indicators and the methodology will be published on the LEGMC and MEPRD web links. The NAS includes a task to establish the legal frame for the monitoring system and determine the institutions responsible for data delivery in each sector.<sup>47</sup>

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

Yes / **No**

Currently, no monitoring or reporting on the integration of climate 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**

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

**11. Evaluation**

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

Yes / **No**

As the NAS is not yet adopted, no interval has yet been set for its periodic review.

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

Yes / **No**

As no assessment, evaluation or review is taking place there is no stakeholder involvement.

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<sup>47</sup> <http://climate-adapt.eea.europa.eu/countries-regions/countries/latvia>, under 'Summary' 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)

**SUMMARY TABLE**

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

<b>Adaptation Preparedness Scoreboard</b>		
<b>No.</b>	<b>Indicator</b>	<b>Met?</b>
<b>4</b>	<b><i>Knowledge gaps</i></b>	
4a	Work is being carried out to identify, prioritise and address the knowledge gaps	Yes / <b><u>In progress</u></b> / No
<b>5</b>	<b><i>Knowledge transfer</i></b>	
5a	Adaptation relevant data and information is available to all stakeholders, including policy makers (e.g. through a dedicated website or other comparable means).	<b><u>Yes</u></b> / 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 / <b><u>In progress</u></b> / No
<b>Step C: Identifying adaptation options</b>		
<b>6</b>	<b><i>Identification of adaptation options</i></b>	
6a	Adaptation options address the sectoral risks identified in 3c, the geographical specificities identified in 3b and follow best practices in similar contexts	<b><u>Yes</u></b> / 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	<b><u>Yes</u></b> / No
6c	Mechanisms are in place to coordinate disaster risk management and climate change adaptation and to ensure coherence between the two policies	Yes / <b><u>In progress</u></b> / No
<b>7</b>	<b><i>Funding resources identified and allocated</i></b>	
7a	Funding is available to increase climate resilience in vulnerable sectors and for cross-cutting adaptation action	Yes / <b><u>In Progress</u></b> / No
<b>Step D: Implementing adaptation action</b>		
<b>8</b>	<b><i>Mainstreaming adaptation in planning processes</i></b>	
8a	Consideration of climate change adaptation has been included in the national frameworks for environmental impact assessments	Yes / <b><u>No</u></b>

<b>Adaptation Preparedness Scoreboard</b>		
<b>No.</b>	<b>Indicator</b>	<b>Met?</b>
8b	Prevention/preparedness strategies in place under national disaster risk management plans take into account climate change impacts and projections	<u>Yes</u> / No
8c	Key land use, spatial planning, urban planning and maritime spatial planning policies take into account the impacts of climate change	<u>Yes</u> / 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 / <b>No</b>
8e	Adaptation is mainstreamed in insurance or alternative policy instruments, where relevant, to provide incentives for investments in risk prevention	Yes / <u>No</u>
<b>9      <i>Implementing adaptation</i></b>		
9a	Adaptation policies and measures are implemented, e.g. as defined in action plans or sectoral policy documents	Yes / <u>In progress</u> / No
9b	Cooperation mechanisms in place to foster and support adaptation at relevant scales (e.g. local, subnational)	Yes / <u>No</u>
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 / <u>No</u>
9d	There are processes for stakeholders' involvement in the implementation of adaptation policies and measures.	Yes / <u>No</u>
<b>Step E: Monitoring and evaluation of adaptation activities</b>		
<b>10      <i>Monitoring and reporting</i></b>		
10a	NAS/NAP implementation is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
10b	The integration of climate change adaptation in sectoral policies is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
10c	Regional-, sub-national or local action is monitored and the results of the monitoring are disseminated	Yes / <u>No</u>
<b>11      <i>Evaluation</i></b>		

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



