

Stocktaking on implementation of the Strategy for Adaptation to Climate Change in the Baltic Sea Region.

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Overview serves as information note for participants of the 8th Round-table meeting of the CBSS Climate Dialogue Platform (06.06.2018 in Tallinn, Estonia) on the status of implementation of the Strategy for Adaptation to Climate Change in the Baltic Sea Region of BALTADAPT Project.

The aim of the Baltadapt project was to formulate an outline of a Strategy on Adaptation to Climate Change in the Baltic Sea Region, as well as an accompanying Action Plan with recommended actions and proposed guidelines for climate change adaptation in the whole region.

Recognizing that national and local adaptation strategies are the key instruments in most issues, a Baltic Sea Region climate change adaptation strategy aimed to be instrumental in mobilizing joint action in areas of work that require or significantly benefit from macro-regional cooperation in the Baltic Sea Region.

Consequently, the overriding aim of the Baltadapt strategy is a connected region with informed actors on all levels responding to climate change in a way that ensures prosperity, competitiveness, as well as clean water, and rich and healthy wildlife. This calls for adaptation integrated with risk handling, and actions that promote resilience of environmental and societal systems.

The Baltadapt Strategy on Adaptation to Climate Change in the Baltic Sea Region and its accompanying Action Plan were officially launched and presented during the Baltadapt Conference "Adaptation to Climate Change in the Baltic Sea Region" in Riga, Latvia, 3-4 September 2013.

Both referred documents and Executive summary of the Baltadapt Strategy and Action Plan, as well as 14 Baltadapt Climate Info bulletins are available for download from the link <http://www.baltadapt.eu/>.

For stocktaking, in order to identify, how much (qualitatively and if nature of recommendation and relevant data were available, also quantitatively) the recommendations from the Strategy and Action plan have been implemented during the 5 years after launch of the strategy, a desktop review of available public documents and public web-based sources was carried out. Color code (red - not started, yellow - implementation ongoing; green – implemented/implementation on track; grey – implementation status not known) has been used to provide easy way to view of on what phase the implementation currently is.

Implementation status of eleven goals of the Strategy for Adaptation to Climate Change in the BSR is presented in the table below. One must note that overview is not complete due to the limited time and available sources for preparing the review and not all activities of different stakeholders in the BSR aiming to achieve the goals and implementation of recommended actions are reflected in current assessment.

Table 1. Implementation status of eleven goals of the Strategy for Adaptation to Climate Change in the BSR.

Macro-regional goal	Vision (to be fulfilled by 2020)	Chapters in the Baltadapt AP	Status of implementation 01.01.2018
1. Raised awareness concerning the need for action at all governance levels	Awareness of CC and its potential impacts on society and the environment, as well as awareness of ways to adapt permeates macro-regional agreements, education and training collaborations, as well as cooperation between authorities, researchers and the business sector.	Building and sharing knowledge about climate change adaptation in the BSR	Several national climate adaptation information portals exist: DK http://www.klimatilpasning.dk/ EE http://www.klab.ee/kohanemine/ DE http://www.deutschesklimaportal.de LT http://www.am.lt/VI/index.php#a/12869 NO http://www.klimatilpasning.no PL http://klimada.mos.gov.pl/ SE http://www.klimatanpassning.se/en EUSBSR HA Climate web page http://www.cbss.org/strategies/horizontal-action-climate/ ClimateADAPT.eu BSR section page http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/baltic-sea-region/adaptation/general Global weADAPT portal of SEI www.weadapt.org
2. Shared macro-regional knowledge bases	A Baltic subsection of the European Climate Adaptation Platform Climate-ADAPT13 includes common CC open source databases on exposure, impacts, vulnerabilities and adaptation measures, including handling of risks and uncertainties,	Building and sharing knowledge about climate change adaptation in the BSR	A Baltic Sea Macro-region subsection of the European Climate Adaptation Platform Climate-ADAPT is operational and regularly updated by CBSS Baltic2030 Unit http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/baltic-sea-region/adaptation/general

	estimates of costs and benefits and communication of “good practices”.		
3. Research cooperation in order to identify and address knowledge gaps	BSR states and stakeholders have influenced Horizon 2020 programming and researchers have initiated and participated in Horizon 2020 research projects and other programmes that have addressed issues of high relevance for climate adaptation in the BSR.	Building and sharing knowledge about climate change adaptation in the BSR	Research on climate impacts to the Baltic Sea Region is coordinated by Baltic Earth http://www.baltic-earth.eu/ hosted by Hemholz Centre for Material and Coastal research, Germany. 2nd Baltic Earth Conference "The Baltic Sea Region in Transition", will be 11-15 June 2018 in Helsingor, Denmark. Two Assessments of Climate Change for the Baltic Sea Basin (prior 2008 and 2009-2014)- BACC have been published Horizon 2020 has priority Climate Action, Environment, Resource Efficiency and Raw Materials under which funds research and innovation with the following specific objectives: to achieve a resource – and water - efficient and climate change resilient economy and society, the protection and sustainable management of natural resources and ecosystems, and a sustainable supply and use of raw materials, in order to meet the needs of a growing global population within the sustainable limits of the planet's natural resources and eco-systems. Report of Baltic Science Network project Scientific excellence joint potentials in the BSR describes that climate issues are prioritized in national RD programs of BSR countries http://www.baltic-science.org/index.php/downloads/public/bsn-publications/207-scientific-excellence-joint-potentials-in-the-baltic-sea-region-an-explorative-study
4. Facilitated science-policy-business dialogues at and between all governance levels through the provision of web-based as well as “real life” meeting places	Authority and business decision makers have access to interactive visualisation- based tools for climate adaptation. These are part of a well-developed and frequently used combination of webbased and real-life meeting places for researchers, authorities and the business sector to be used for horizontal and vertical dialogues	Connecting the BSR for climate change adaptation	CBSS Climate Dialogue Platform Round-table meeting, regularly organized by CBSS since 2013 is serving as macro-regional meeting place for interested stakeholders. Several projects have produced tool for helping adaptation: Baltic Climate https://toolkit.balticclimate.org/ iWater www.integratedstormwater.eu/ Several national climate adaptation information portals exist: DK http://www.klimatilpasning.dk/ EE http://www.klab.ee/kohanemine/ DE http://www.deutschesklimaportal.de LT http://www.am.lt/VI/index.php#a/12869 NO http://www.klimatilpasning.no PL http://klimada.mos.gov.pl/ RU https://www.climatechangepost.com/russia/ SE http://www.klimatanpassning.se/en

	and decision-making.		
5. Cooperation on disaster risk management to cope with increased risks due to CC	Access to operational warning system in the region for climate induced disasters (impacting, e.g., infrastructure, agriculture, health) available through common BSR systems or through cooperation between national warning system services in the region. A network including all BSR states cooperates on risk reduction, awareness raising, disaster response and recovery. Macro-regionally established insurance systems for economic losses during extreme events based on solidarity and risk reduction concepts.	Connecting the BSR for climate change adaptation	A network including all BSR states cooperates on risk reduction, awareness raising, disaster response and recovery has been established under EUSBSR PA Secure. PA Secure promotes a comprehensive and coherent approach to reduce trans-boundary vulnerabilities and to build common capacities for societal security in the Baltic Sea region. PA Secure activities are related to four areas: better risk assessment and crisis management, building up resilience and prevention towards emergencies and threats at the local level, enhancing effective cooperation in protecting human beings against criminal threats and preventing serious crime through developing efficient framework for law enforcement cooperation. PA Secure is coordinated by MSB and CBSS. http://www.bsr-secure.eu Cooperation between BSR countries is focusing on implementation of the SENDAI Framework for Disaster Risk Reduction 2015-2030. National warning systems exists on forest fires and floods in most of BSR countries. No macro-region warning systems nor insurance systems for economic losses established. Insurance market differs country by country.
6. Reviewed and mainstreamed policies in light of CC adaptation concerns	All BSR relevant policies are (based on research outcomes) integrated (mainstreamed) with climate adaptation in a manner that reflects the specific environmental and socio-economic conditions of the BSR within all relevant EUSBSR	Mainstreaming climate change adaptation in the BSR	Revised Action Plan of the EUSBSR (June 2015) considers Climate as Horizontal Action and has separate goals for adapting to climate change. Cooperation between coordinator of HA Climate with sector PA coordinators (PA Safe, PA Energy, PA Transport; PA Ship) have yielded several joint seminars at EUSBSR AF meetings in 2016-2018 where sectors response to emerging climate risks and policies to adapt climate change have been discussed. BALTIC 2030 Action Plan, adopted in 20 June 2017 in Reykjavik by Foreign Ministers of CBSS member states. The Action Plan presents, six focus areas and six activation processes for realizing the vision of a sustainable Baltic Sea Region, including climate action.

	<p>Action Plan Priority Areas (PA). Revision of EU Directives and macro-regional agreements (e.g. HELCOM) for management of nutrients, species habitats and the EU fishery policy has been carried out in a way that makes sense for the BSR, with consideration given to the specific conditions of the Baltic Sea.</p>		<p>HELCOM has published Climate change in the Baltic Sea Area, HELCOM thematic assessment in 2013 (BSEP nr.137) http://www.helcom.fi/Lists/Publications/BSEP137.pdf HELCOM Copenhagen Ministerial Declaration: Taking Further Action to Implement the Baltic Sea Action Plan - Reaching Good Environmental Status for a healthy Baltic Sea (3 October 2013) took decision to better prepare and adapt policies in response to the impacts of climate change on the Baltic Sea ecosystem and its services, taking necessary measures in areas such as agriculture and forestry, informed by modelling practices and assessments of the effects of climate change on the Baltic Sea ecosystem, its catchment and the resulting inputs of nutrients to the sea.;</p>
<p>7. BSR cooperation with non-EU member states where it has been defined to be of mutual benefit</p>	<p>The involvement of non-EU BSR states (Russia, Belarus, Norway) in implementation of the strategy has made it possible to fulfil the goals in the whole BSR.</p>	<p>Connecting the BSR for climate change adaptation</p>	<p>Russia, Norway and Iceland are participating in the CBSS Climate Dialogue Platform round-table meetings and in the work of CBSS Civil Protection Network http://www.cbss.org/safe-secure-region/civil-protection-network/ Russian Climate Doctrine until 2020, from 2009, not legally binding, highlights Russia's plans for improving knowledge-seeking, mitigation and adaptation efforts towards climate change. "Comprehensive Plan of Implementing the Russian Federation's Climate Doctrine for the Period until 2020" (in Russian), was introduced by a government decree of April 25, 2011. The plan suggests that between 2011 and 2020, the Ministry of Economic Development will be introducing changes into Russia's long-term macroeconomic forecasts "taking into account climate risks, mitigation of anthropogenic impacts on the climate, and adaptation to climate change" Belarus has adopted Strategy for Adaptation of Agriculture to Climate Change in the Republic of Belarus in 2017</p>
<p>8. Cooperation between states on the development of</p>	<p>National CC adaptation strategies are available in all BSR states. Exchange of information</p>	<p>Connecting the BSR for climate change adaptation</p>	<p>National CC adaptation strategies are available in all BSR states except Latvia, where preparation of NAS is underway. ClimateADAPT.eu BSR section page http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/baltic-sea-region/adaptation/general is operational and is</p>

national strategies and action plans	on the Baltic sub-section of Climate-ADAPT and other established forms of cooperation are used in the preparation and updating of national climate adaptation strategies and action plans.		regularly updated in cooperation of CBSS and EEA.
9. Macro-regional cooperation within business sectors	BSR cooperation on adaptation to obstacles and implementation of business opportunities (e.g., in the agriculture, tourism, fisheries, energy and infrastructure sectors).	Adapting the four Baltadapt sectors Mainstreaming climate change adaptation in the BSR	Baltic Development Forum has together with CBSS and other partners carried out series of workshops with involvement of national authorities and business on financing climate action. BalticClimate toolkit has special section for businesses https://www.toolkit.balticclimate.org/en/home
10. Macro-regional cooperation in order to ensure solidarity and funding of adaptation measures	Access is available to estimates of costs and benefits related to CC adaptation in different sectors in the Baltic section of Climate-ADAPT. Access is available to financing in the BSR that enables prioritisation of actions on adaptation to the most exposed and vulnerable parts of the region, as well as to the most vulnerable sectors and individuals.	Financing climate change adaptation in the BSR	Cost benefits assessments of climate adaptation in sectors are fragmented. Overview of results on different studies is made available in ClimateADAPT portal http://climate-adapt.eea.europa.eu/knowledge/tools/adaptation-support-tool/step-4-2 From the structural funds of the EU 2014-2020, from ERDF/CF/ETC has been allocated 11.2 billion EUR (4.3 %) for climate adaptation action. From EAFRD there is allocated 50.9 billion EUR (51,6% of total) for climate adaptation related actions. Share of climate adaptation allocation differs from country to country.
11. The BSR as a model region for macro-regional cooperation on CC adaptation	Building on the experiences from implementation of the Baltadapt Strategy, similar strategies are developed for other regions in the EU.	-	CBSS has initiated cooperation between climate action coordinators of other macro-region strategies. EUSDR has Environmental Risks Priority Area (PA5) – coordinated by Hungary and Romania – with 3 major objectives: tackle challenges of water scarcity and droughts; implement Danube wide flood risk management plans, and to update the accidental risk spots

		<p>inventory at the Danube River Basin level. https://www.danubeenvironmentalrisks.eu/ ICPDR has developed climate adaptation strategy for Danube river basin https://www.icpdr.org/main/activities-projects/climate-change-adaptation EUSALP has Action Group 8 To improve risk management and to better manage climate change, including major natural risks prevention under the Thematic policy area / objective 3: Environment & Energy. www.alpine-region.eu EUSAIR has climate change mitigation and adaptation as horizontal principle. http://www.adriatic-ionician.eu/ BENELUX Secretariat has included climate adaptation to its daily activities and has issued overview on climate adaptation 2014-2016 http://www.benelux.int/files/6914/9120/6307/Workshop_KlimaadaptatieRapport_deel_1_NL_def.pdf MEDA Secretariat has initiated a Regional Finance Cooperation Committee for the Climate Action in the Mediterranean region.</p>
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BALTADAPT Action Plan

Baltadapt Action Plan provides guidelines on how to strengthen adaptive capacity in the region through knowledge exchange, mainstreaming and cooperation activities by all actors. Furthermore, it identifies adaptation actions for the four main focus areas of marine biodiversity, coastal infrastructure, tourism and food supply (including fisheries and agriculture), as well for financing climate change adaptation in the BSR. Status on implementation of recommended actions is presented in Table 2

Table 1. Implementation status of sector specific recommended actions of the Baltadapt Action Plan.

Recommended action	Status of implementation 01.01.2018
Biodiversity	
1. Include adaptation in the wording of European instruments like the BSAP, WFD, Habitats Directive and MSFD.	Revised Action Plan of the EUSBSR (June 2015) considers Climate as Horizontal Action and has separate goals for adapting to climate change. EU WFD, Habitats Directive and MSFD have not been revised.
2. Implement agreed strategies to obtain “ecological” and “environmental” targets of the Baltic Sea and its coastal waters as mandated by the WFD, MSFD, BSAP and national action plans.	Implementation of MSFD underway in all EU MS in BSR. Implementation reports available http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports_en.htm WFD reports http://ec.europa.eu/environment/water/water-framework/impl_reports.htm HELCOM (BSAP) Report on measuring progress in same targets http://helcom.fi/Lists/Publications/BSEP150.pdf
3. Reduce the loss of nutrients from point sources and diffuse sources	Implementation of relevant HELCOM recommendations underway. http://helcom.fi/helcom-at-work/recommendations/

<p>such as atmospheric input and farming, e.g. by a) re-establishment of wetlands and meandering rivers to enhance denitrification, b) changes in agricultural practices (winter crops, restricted use of fertilisers and manure), c) highly effective sewage treatment and d) buffer strips and filter systems in drained agricultural areas (re-establishment of macrophytes, mussel beds).</p>	<p>Overview of activities http://helcom.fi/Lists/Publications/BSEP146.pdf</p>
<p>4. Use spatial planning instruments, e.g. for the integration of CC impacts on coastal protection in regional planning and the regulation of buildings, identification of buffer zones/hazard zones, and restrictions for development in protected zones in coastal areas or setback zones.</p>	<p>Spatial planning instruments have been included in majority of NAS of BSR Countries (except LV, RU). Flood risks are mapped in all BSR Countries (RUS ??) and National Flood Risks Assessments, Flood Risks maps and Flood Risks Management Plans adopted See EU Flood Directive progress reports from http://ec.europa.eu/environment/water/flood_risk/overview.htm</p>
<p>Infrastructure</p>	
<p>1. Improved information and knowledge distribution to stakeholders.</p>	<p>Various info on best practices available like Nordregio Adaptive Urban Planning in Response to a Changing Climate – Innovative practices from the Nordic Countries regarding Sea Level Rise and Precipitation http://www.nordregio.se/Global/Publications/Publications%202011/WP2011_10.pdf Spatial Planning and its contribution to climate friendly and sustainable transport solutions http://www.nordregio.se/Global/Publications/Publications%202009/WP2009_4.pdf BSR Macro-region related info available at Climate ADAPT http://climate-adapt.eea.europa.eu/knowledge/adaptation-information/adaptation-measures</p>
<p>2. Development of new concepts for increased coastal resilience: coastal realignment, non-technical options, new techniques, vegetation and stabilisation of dunes and combination of hard and soft measures.</p>	<p>Various institutions develop new concepts for increased coastal resilience, like Stockholm Resilience Centre http://www.stockholmresilience.org/research/research-themes/marine.html ; Stockholm University Baltic sea Centre http://www.su.se/ostersjocentrum/english/beam/about-beam/research-clusters/climate-change ; Assessment of coastal erosion https://link.springer.com/content/pdf/10.1007/978-3-319-16006-1_20.pdf BSR Macro-region related info available at Climate ADAPT http://climate-adapt.eea.europa.eu/knowledge/adaptation-information/adaptation-measures</p>
<p>3. Integration in spatial planning/regional plans (e.g. ICZM): identification of buffer zones, flood plains and hazards.</p>	<p>Various materials available at VASAB http://www.vasab.org/index.php/documents/msp-and-iczm ClimateADAPT http://climate-adapt.eea.europa.eu/countries-regions/transnational-regions/baltic-sea-region/adaptation/adaptation-actions BaltSeaPlan http://www.baltseaplan.eu/ and</p>

European MSP Platform https://ec.europa.eu/maritimeaffairs/policy/maritime_spatial_planning_en	
Tourism	
1. Monitoring programmes (e.g. beach and water quality)	National water quality monitoring programs exist in all BSR countries as required by the WFD. Map of water quality monitoring stations available at EEA http://www.eea.europa.eu/data-and-maps/explore-interactive-maps/overview-of-soe-monitoring-stations Report on Bathing water quality in EU MS in 2016 is available https://www.eea.europa.eu/publications/european-bathing-water-quality-in-2016/at_download/file
2. Adaptation of water policies	Relevant information available in ClimateADAPT http://climate-adapt.eea.europa.eu/eu-adaptation-policy/sector-policies/water-management Main focus has been on tackling flood risks and water scarcity e.g. The European Flood Awareness System (EFAS), operational since 2012, is an early flood warning system complimentary to national and regional systems. It provides the national institutes and the European Commission with information on possible river flooding and flood risk to occur within the next 3 or more days. https://www.efas.eu/ National floods maps and contingency plans available in all MS
3. Information campaigns (public and industry)	Various information campaigns and sources launched by EEA, like Climate change impact and vulnerability in Europe 2016 http://climate-adapt.eea.europa.eu/metadata/publications/climate-change-impacts-and-vulnerabilities-2016-thal17001enn.pdf Nordic Action on Climate Change http://norden.diva-portal.org/smash/get/diva2:768493/FULLTEXT01.pdf CBSS in capacity of coordinator of HA Climate of EUSBSR has organized climate related seminars at EUSBSR Annual Forums 2016-2017. National information campaigns have been arranged when preparing NAS.
Fisheries	
1. Include CC considerations when EU multiannual management plans for Baltic Sea fish stocks are developed or reviewed.	Fisheries management responses to climate change in Baltic Sea https://ec.europa.eu/legislation/documents/2016/03/201603150000001-12-0-522120963150000000-main.pdf?_id=6818712-0762-11e6-8044-000000000000&acdnat=1512326362_e36d8c8b66540501b4609f3eed1164de Multiannual fisheries management Plan for Baltic Sea does not refer any consideration to adapt fish quotas to climate change http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R1138&from=EN
2. Ensure that fisheries aspects are fully integrated in national action plans according to the MSFD and ensure an integrative policy approach for a) the sustainable use of the Baltic Sea, b) the protection and conservation of marine environments and c) the achievement of a “good environmental status” of the sea by 2020.	Fisheries aspects are solid part of National Strategies for Implementation of EMSFD. Strategies and Implementation reports available http://ec.europa.eu/environment/marine/eu-coast-and-marine-policy/implementation/reports_en.htm
3. Implement management approaches to reduce eutrophication (in agriculture).	Agri-environment measures are a key element for the integration of environmental concerns into the Common Agricultural Policy. They are designed to encourage farmers to protect and enhance the environment on their farmland by paying them for the provision of environmental services. Several BSR countries have Strategies for climate adaptation in

	<p>Agriculture sector. EUROSTT keeps record on implementation of indicators of agri-environment measures http://ec.europa.eu/eurostat/web/agri-environmental-indicators/indicators Eutrophication still remain biggest problem for Baltic Sea, HELCOM latest status report http://www.helcom.fi/Lists/Publications/BSEP143.pdf</p>
<p>4. Ensure that the management of Baltic Sea living resources is based on the ecosystem approach (do not evaluate the different sectors of human activities in an isolated manner).</p>	<p>Mapping of ecosystem services is underway https://norden.diva-portal.org/smash/get/diva2_920382/FULLTEXT01.pdf Overview of valuation of ESS in BS has been available from 2016 https://academic.oup.com/icesjms/article/73/4/991/2458767 HELCOM Working Group on the State of the Environment and Nature Conservation recommended in 2015 Integrating the ecosystem service concept in assessing the state and conservation of the marine environment. The regional workshop on the evaluation of marine and coastal ecosystem services in the Baltic Sea was held on 7-8 November 2014 in Stockholm, Sweden Report Environmental Governance of the Baltic Sea https://link.springer.com/content/pdf/10.1007%2F978-3-319-27006-7.pdf states that “Despite several years of substantial efforts by state and non-state actors, it is still highly unlikely that the regionally agreed environmental objectives of reaching “good environmental status” by 2021 in the HELCOM BSAP (Baltic Sea Action Plan) and by 2020 in the EU Marine Strategy Framework Directive (MSFD) will be met.” Main gaps are identified by the project RISKGOV http://www.sh.se/riskgov#1/b3/ext/content.nsf/ager?openagent&key=publications_1320210441981</p>
Agriculture	
<p>1. Strengthen farm advisory services to support farmers with regard to adapted and optimised manure management.</p>	<p>EAFARD 2014-2020 supports agri-environment measures including advisory services on optimized manure handling.</p>
<p>2. Develop climate adapted nutrient management supported by forecasting and calculation models for fertilisation, Nmin-analysis, output procedures of slurry (liquid manure) and rests of fermentation.</p>	<p>BONUS research programme supports various relevant research projects https://www.bonusportal.org/</p>
<p>3. Improve accessibility of data (knowledge about dimension, pace and insecurity of CC with parameters relevant for agriculture).</p>	<p>A Study of Climate Change and Cost Effective Mitigation of the Baltic Sea Eutrophication By Martin Lindkvist, Ing-Marie Gren and Katarina Elofsson indicate that impacts of climate change may facilitate the implementation of BSAP because of lower abatement costs.</p>
<p>4. Reinforce research and development plans to improve knowledge about the relation between climate conditions and performance/fitness of livestock.</p>	<p>n.a.</p>
<p>5. Reinforce research and develop plans to improve knowledge about the biology of new agents/pathogens, vectors and hosts.</p>	<p>IMO convention of Ballast waters includes requirement to Plan measures to prevent introduction of invasive alien species. 5 BSR countries (DK, FI, DE, RU, SE) have ratified. HELCOM issued in 2014 a Guide to Alien Species and Ballast Water Management in the Baltic Sea. BONUS research programme supports various relevant research projects https://www.bonusportal.org/ .</p>
Financing climate change adaptation in the BSR	

<p>INTERREG V BSR</p> <ul style="list-style-type: none"> • Transnational adaptation measures on infrastructure (esp. maritime traffic and ports) as well as tourism might very well be tackled in projects addressing the thematic objective “Promoting sustainable transport and removing bottlenecks in key network infrastructures”. • Transnational adaptation measures in the field of biodiversity might very well be tackled in projects addressing the thematic objective “Protecting the environment and promoting resource efficiency”. The same thematic objective may allow for some adaptive measures regarding fish stocks. 	<p>INTERREG Baltic Sea Program, Central Baltic and South-Baltic programs 2014-2020 do not prioritize climate adaptation, thus only few projects supported by INTERREG contribute to increased resilience to climate change impacts: IWATER; BioBIGG</p>
<p>Horizon 2020</p> <ul style="list-style-type: none"> • Transnational adaptation measures in the field of infrastructure (esp. maritime traffic and ports) might very well be tackled in transnational projects under the headline “Smart, green and integrated transport”. • Transnational adaptation measures in the field of fisheries and biodiversity might be tackled in transnational projects under the headline “Food security, sustainable agriculture, marine and maritime research, and the bio-economy”. • Transnational adaptation measures in the field of coastal tourism might be tackled under various headlines. In the context of tourism it is very important that Horizon 2020 provides (other than the former FP7 projects) the link between research and the market, i.e. so private enterprises can engage as well. 	<p>Horizon 2020 Work Programme 2018-2020 12. Climate action, environment, resource efficiency and raw materials (European Commission Decision C(2017)7124 of 27 October 2017)</p> <p>Has following calls:</p> <p>LC-CLA-03-2018: Climate change impacts in Europe LC-CLA-04-2018: Resilience and sustainable reconstruction of historic areas to cope with climate change and hazard events LC-CLA-05-2019: Human dynamics of climate change LC-CLA-06-2019: Inter-relations between climate change, biodiversity and ecosystem services LC-CLA-08-2018: Addressing knowledge gaps in climate science, in support of IPCC reports</p> <p>http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-climate_en.pdf</p>
<p>BONUS</p> <ul style="list-style-type: none"> • Research gaps in the field of biodiversity and fisheries might very well be tackled in transnational projects under the 	<p>In BONUS research agenda 2011–2017, updated 2014, more emphasis has been put on the spatial aspects of the structure and function of the marine ecosystems, the role of organic matter in biogeochemical processes, and the “new pollutants” as well as on nano and micro</p>

thematic calls of the BONUS Programme.	particles which potentially threaten the marine biota. Research will address impacts of natural and man-induced changes in the catchment land-cover patterns and responses of coastal systems to changes in climate. Projects underway addressing climate risks like BONUS BAMBI; BIO-C3; BALTHEALTH; BALTCOAST; STORMWINDS; INSPIRE; GO4BALTIC; MIRACLE; BALTICAPP; BALTSPEACE; BASMATI. See https://www.bonusportal.org/
EU Cohesion Fund • Provides good opportunities for large scale investments. • Can build, like other Cohesion Policy programmes, on spatial and developmental planning.	According to the DG CLIMA/COWI report (April 2017) MAINSTREAMING OF ADAPTATION INTO ESIF 2014-2020, from ERDF/CF/ETC has been allocated 11.2 billion EUR (4.3 %) for climate adaptation action Share of climate adaptation allocation differs from country to country.
Rural Development Programmes • Particularly interesting for the inclusion of CC adaptation issues in the agricultural sector.	According to the DG CLIMA/COWI report from April 2017 MAINSTREAMING OF ADAPTATION INTO ESIF 2014-2020, from EAFRD there is allocated 50.9 billion EUR (51,6% of total) for climate adaptation related actions. Share of climate adaptation allocation differs from country to country.
LIFE + • Research on adaptation, using synergies of CC and biodiversity as well as research activities on interdisciplinary aspects including coastal zone management.	The LIFE Programme for the Environment and Climate Change 2014-2020 is divided into two sub-programmes: environment and climate action. LIFE Climate Action will support projects in the development of innovative ways to respond to the challenges of climate change in Europe. https://ec.europa.eu/clima/policies/budget/life_en From BSR 21 projects has been funded from 2016 call: LIFE LOCAL ADAPT (DE); EU LIFE IP C2C CC (DK); LIFERADOMKLIMA (PL); LIFE_ADAPTCITY (PL); Stream of Usseørd (DK); DOKLIP (PL); HydroClimateStrategyRiga (LV); CHAMP (FI); Julia 2030 (FI); GreenClimeAdapt (SE); CCCRP (FI); FLOODSCAN (DE); LIFE AGRI ADAPT (DE); LIFE VinEcoS (DE); SOLMACC Life (SE); CATERMASS (FI); LIFE-IP ZENAPA (DE); LIFE+ ForBioSensing (PL); LIFE-TripleLakes (SE); LIFE MONIMET (FI); Climforisk (FI); VACCIA (FI);

Conclusions:

- Even though the Strategy for Adaptation to Climate Change in the Baltic Sea Region and Action Plan are not containing any traditionally required elements ensuring implementation ability of the strategy, like timetable for action, allocation of resources and/or determine bodies responsible for achieving the goals and implementation of actions, nor concrete deadlines, the implementation of actions is surprisingly well taken up by different stakeholders.
- From 11 strategic goals, 6 goals have been implemented or are well on track and implementation of the remaining 5 goals has been started and are under implementation.
- From 25 recommended actions of the BALTADAPT Action Plan, 8 are implemented or well on track, 13 recommended actions have been started and are under implementation and only 3 recommended actions have not been started. On 1 action there is no information available about the implementation.

- Information is missing about how recommended action for Agriculture sector no. 4. Reinforce research and development plans to improve knowledge about the relation between climate conditions and performance/fitness of livestock has been progressing
- Gaps in mainstreaming climate into sector policy is evident in Fisheries sector e.g. Recommended action for Fisheries sector no. 1. Include CC considerations when EU multiannual management plans for Baltic Sea fish stocks are developed or reviewed has not implemented due to strong lobby of fishing industry to national authorities not to cut fishing quotas. 4. Ensure that the management of Baltic Sea living resources is based on the ecosystem approach (do not evaluate the different sectors of human activities in an isolated manner). Also, an action no. 4. Ensure that the management of Baltic Sea living resources is based on the ecosystem approach (do not evaluate the different sectors of human activities in an isolated manner) has not been implemented, because lack of coordination and collaboration in governance, insufficiently developed integration and management of knowledge and uncertainty, lack of a well-developed system for stakeholder input.
- When implementing recommended action Financing climate change adaptation in the BSR, the majority of EU financing instruments available for the Baltic Sea Region are supporting significantly different stakeholders climate adaptation actions the major instrument for supporting trans-national and cross border cooperation, the INTERREG Baltic Sea Program, Central Baltic and South-Baltic programs 2014-2020 do not prioritize climate adaptation, thus only few projects supported by INTERREG contribute to increased resilience to climate change impacts in the BSR.
- The main reasons behind the relative success of implementing the BALTADAPT Strategy and Action Plan, in opinion of the reviewers, are following drivers/aspects:
 - a) existence of the coordinating body for following up the recommended actions – Baltic 2030 Unit of the CBSS, who is also the Leader of Horizontal Action,
 - b) climate adaptation is well anchored into joint EU policies with continuous follow up and strengthening of the policy measures at EU level and by Member States with including climate adaptation also to the latest global climate treaty – the Paris Climate Agreement, and
 - c) evidence of changing climate patterns due to global warming is clear and negative consequences including material damage due to extreme weather events are motivating stakeholders to take individual action and cooperate in taking proper measures to increase resilience to climate change.

Stockholm, February 2018