

# Astra - Towards Climate Change Adaptation Strategies in the Baltic Sea Region

## - Executive Summary -

It is established scientific knowledge that global warming is continuing. An increase in average global surface temperatures can already be observed, and this warming trend can be reduced by abating anthropogenic greenhouse gas emissions. Early adaptation to climate change greatly reduces financial and humanitarian risks potentially involved. Planned adaptation can also greatly increase our everyday quality of living, by sustaining current recreational possibilities and creating new ones. This underlines the need for societal responses.

### The ASTRA-Project: Developing Policies & Adaptation Strategies to Climate Change in the BSR

The issue of adaptation to climate change impacts is assessed in the project "ASTRA - Developing Policies and Adaptation Strategies to Climate Change in the Baltic Sea Region". It has been co-financed by the European Regional Development Fund (ERDF) through the INTERREG IIIB Baltic Sea Programme. The present summary is based on the ASTRA publication "Towards Climate Change Adaptation in the Baltic Sea Region", which comprises the main findings of the ASTRA project and presents information and recommendations on how to develop adequate adaptation strategies to deal with climate change.

### Climate change in the Baltic Sea Region

Scientific studies show a general trend to an average temperature rise and changes in precipitation patterns for the Baltic Sea Region (BSR). The BSR faces different regional and seasonal challenges in the light of a changing climate. Questions raised include what level of coastal protection is needed in the future, and how to cope with severe flooding events or water shortages.

### Adaptation to climate change impacts

The concepts of adaptation and mitigation tackle climate change in two different ways as shown in figure a. Adaptation seeks to moderate negative climate change impacts or exploits beneficial opportunities of climate changes. Mitigation includes measures and strategies to reduce CO<sub>2</sub> and other greenhouse gas emissions.

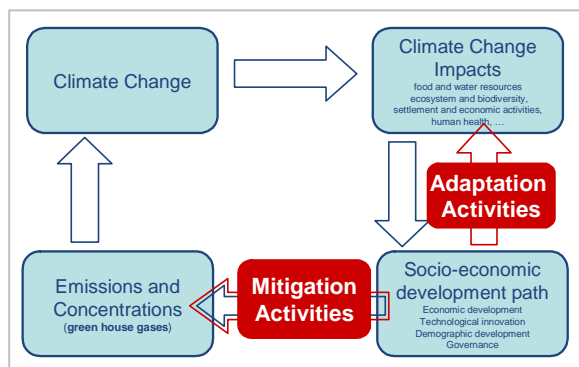


Figure a: Mitigation and adaptation as complementary approaches in climate change policy (adopted from IPCC)

Both approaches should be regarded as complements. The more successfully both strings are followed, the lower the risks for society due to climate change impacts become.

### Current adaptation policies in the BSR

Adaptation to climate change impacts is rather new on the political agenda in the Baltic Sea Region as well as in the European Union. An assessment conducted by ASTRA project partners showed that there are only a few national initiatives (Finland, Germany) or programmes in sectors such as coastal protection, flood protection, or forestry. According to latest expectations on the ongoing change of climate, adaptation should become an integral part of policies, ensuring a sustainable future development.

### Recommendations for policy-makers

Public authorities, responsible for policy-making on behalf of the public welfare, play a key role when addressing climate change issues. Their decisions can benefit sustainability in territorial development. Adaptation to climate change is an issue that affects public as well as private interest.

**1. Adaptation is a cross-cutting issue**, therefore it has to be tackled by the whole society. Public authorities play a key role in addressing the complex issue of adaptation to climate change. In the form of a pull and push strategy they can influence behaviour and demand: information and communication activities raise public awareness and prepare the ground for political and private agency to act. Financial incentives or regulations as push-factors can enhance appropriate activities of private and public actors. Self-organisation and self-responsibility should be fostered so that climate change adaptation can be brought forward by a mix of top-down and bottom-up approaches.

**2. Integrate adaptation needs into policies:** adaptation to climate change impacts should not be regarded as a separate topic. Different fields of

policies should be checked to be "climate proof". Examples are regional development plans that should consider future climate change impacts when preparing land for building or cost-benefit analyses of tourism infrastructure that take changing climate conditions into account when making investment decisions.

**3. Development of adaptation strategies needs a step-wise approach:** figure b provides an overview of the most important steps. Analyses of current and future vulnerabilities and risks as well as of existing policies are the basis for the development of adequate adaptation strategies. Different options should be considered when developing adaptation strategies to identify the most appropriate solutions. Evaluation and monitoring activities should be provided to verify the efficiency of the measures taken and facilitate adjustments.

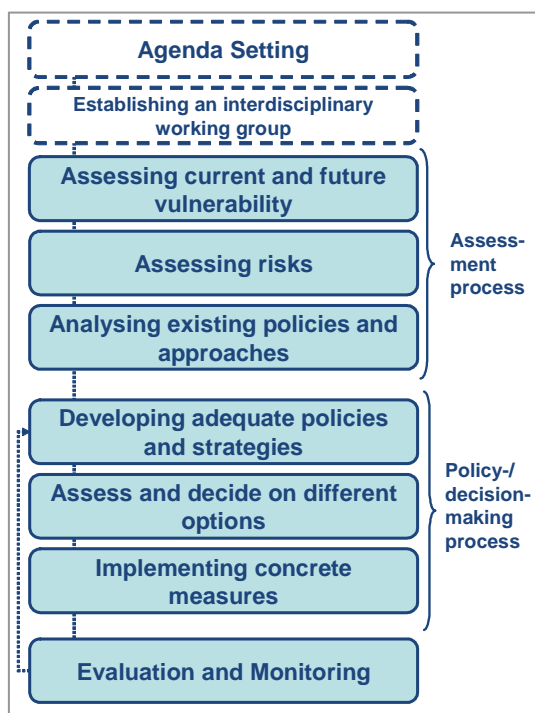


Figure b: General framework for developing adaptation strategies

**4. Adaptation and mitigation go hand in hand:** policy-makers should aim at considering both strings - adaptation and mitigation - in different fields of policies. Only if both concepts are followed can future climate change be moderated and inevitable impacts be tackled.

**5. Public authorities need to be involved:**

- i. **EU:** the European Union plays a key role in climate change adaptation by enhancing the system of structural funding and influencing the climate change policy in European member states.
- ii. **Baltic Sea Region:** the Baltic Sea is a common natural resource, as its member states are connected by joint responsibilities and

challenges. Neighbouring countries should join their forces in tackling climate change impacts. Activities at transnational level could comprise the initiation of a communication platform enhancing the exchange of local, regional and national experiences or best practices. A further field are joint research activities by research institutes and universities in the BSR that establish information or monitoring on climate change impacts and develop innovative adaptation approaches.

- iii. **National level:** climate change adaptation should be recognised as an important topic on the political agenda. At the national level the preconditions for adequate responses are laid in gaining an overview of most vulnerable sectors, regions and groups and setting lasting and powerful information channels, empowering individuals through legal frameworks and maintaining capable structures to enforce policy actions, and regulations (territorial development). It is important is to guide regional development so that the preconditions of sustainability are maintained.
- iv. **Regional and local level:** regional and local actors have to adjust general guidelines to their local needs and implement adaptation strategies, while giving feedback about concrete adaptation demands to higher planning levels. As knowledge on climate change issues and adaptation activities still is not sufficiently at regional and local level, capacity building in form of information campaigns, participatory processes and local assessments on potential climate change impacts are of high relevance. Learning from extreme events felt in different parts of the BSR may help to see the various risks involved and ways to overcome them. Past extreme events are a good starting point in considering local adaptation needs. Anticipating the risks in strategies and during planning stages already is economically viable and will save individual human suffering.

All ASTRA results are available as downloads under [www.astra-project.org](http://www.astra-project.org).



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