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Europe case: Impacts, costs and adaptation in a changing climate

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Outline

The need for adaptation

Governing adaptation

Adaptation in Europe

Adaptation at the sub-national level

Scenario workshops as method of faciliating adaptation

Inertia of the climate system

Irrespective of the scale of mitigation measures, adaptation measures will be required anyway, due to the inertia in the climate system

Over the next 20 years or so, even the most aggressive climate policy can do little to avoid warming already 'loaded' into the climate system (IPCC 2007)

'Planned adaptation to climate change denotes actions undertaken to reduce risks and capitalise on the opportunities associated with global climate change' (Füssell 2007).

Adaptation as a multilevel governance issue

Planned adaptation is taking place on several scales of governance in Europe. It can be interpreted as a policy problem spanning the global to local scale.

The governance process can be termed as a system of continuous negotiation between nested levels of decision-making on several different territorial tiers (Hooghe, Marks 2003).

Governance of adaptation

Who participates in governance of adaptation?

How does participation of adaptation governance takes place?

Top-down or bottom up or both?

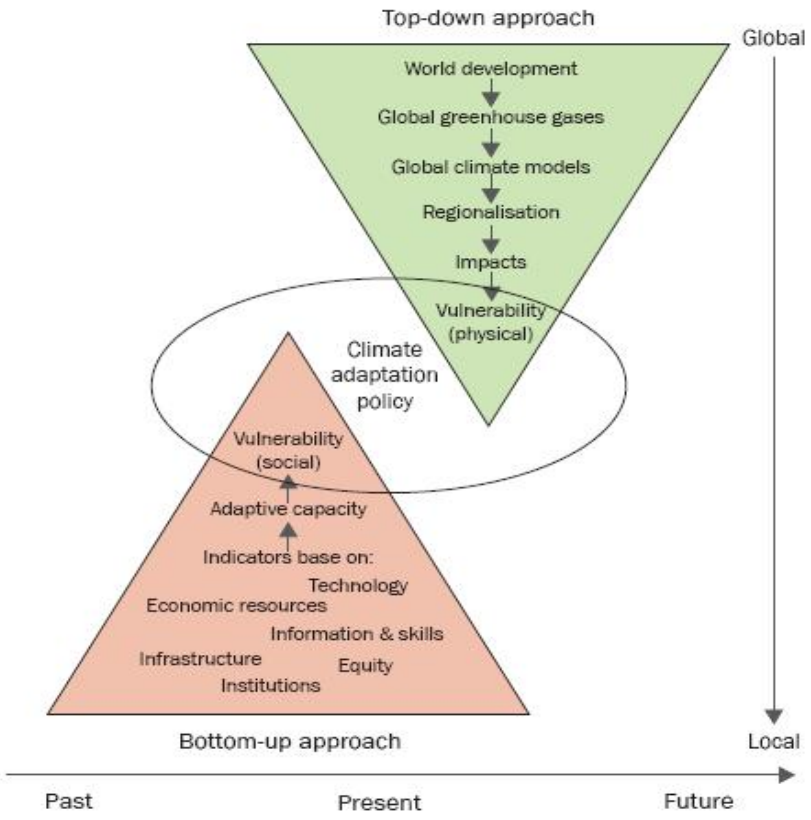


Figure 1.2 "Top-down" and "bottom-up" approaches used to inform climate adaptation policy (Dessai and Hulme, 2003).

Agenda-setting on adaptation

Opening of a policy window as a result of the problem stream, policy stream and political stream coming together (Kingdon 1984)

Domestic and international weather impacts and other events raised the profile of adaptation, e.g. heat wave in Paris in 2003, Gudrum storm in the Baltic 2005

Supporting research reports and policies strengthened the agenda, i.e. the Stern review, Nobel prize to IPCC in 2007

Wider political support, policy entrepreneurs and economic situation

(Keskitalo, Westerhoff, Juhola. 2012)

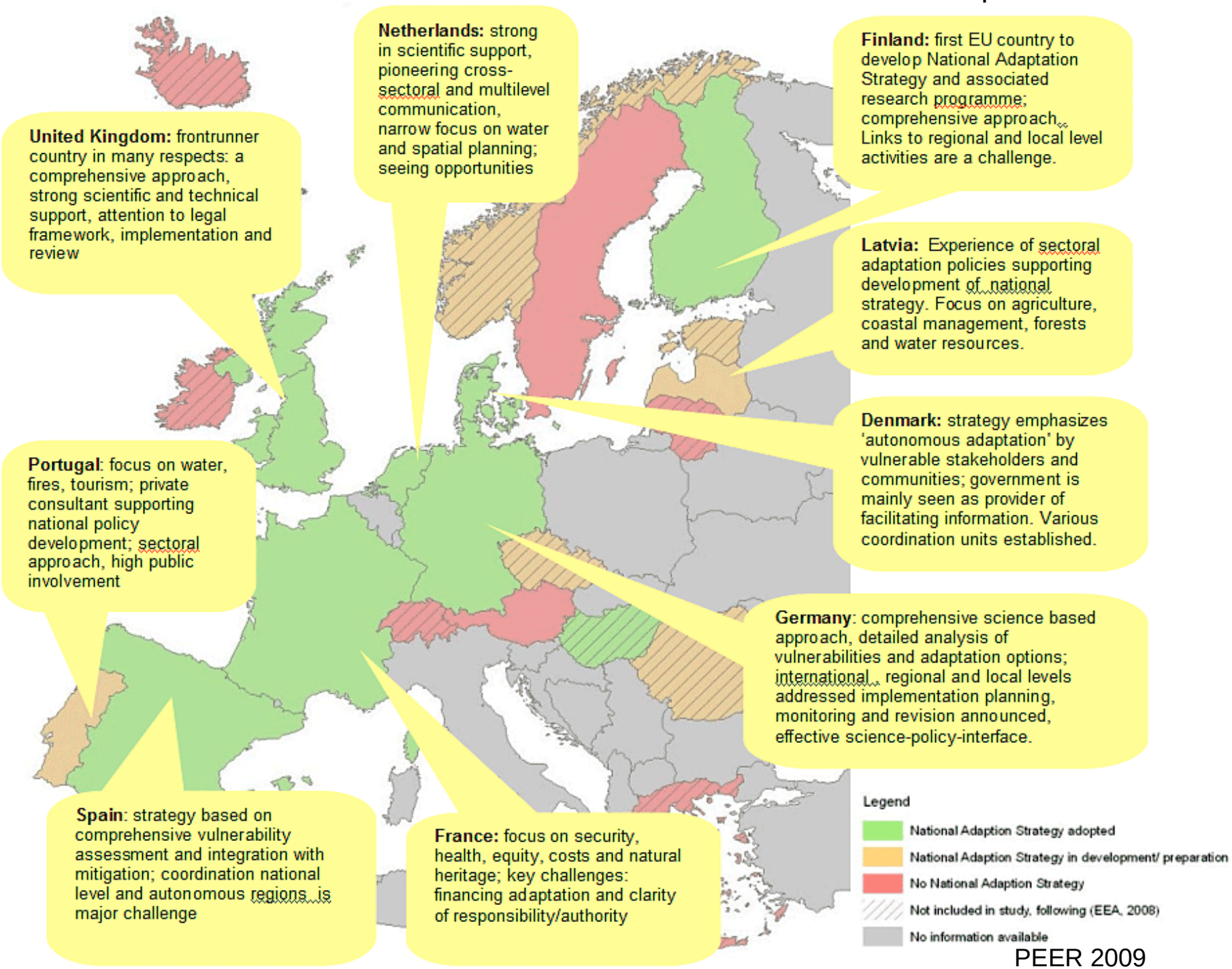
EU level

The EU White Paper on adaptation outlines a three phase approach to adaptation (EU 2008)

The EU outlines no measures as of yet, the aim is to support national efforts as much as possible

1st Phase: 2009-2012:

1. Knowledge and information
2. Intergration into existing policies
3. Combination of policies
4. International co-operation


United Kingdom: frontrunner country in many respects: a comprehensive approach, strong scientific and technical support, attention to legal framework, implementation and review
Netherlands: strong in scientific support, pioneering cross-sectoral and multilevel communication, narrow focus on water and spatial planning; seeing opportunities
Finland: first EU country to develop National Adaptation Strategy and associated research programme; comprehensive approach. Links to regional and local level activities are a challenge.
Latvia: Experience of sectoral adaptation policies supporting development of national strategy. Focus on agriculture, coastal management, forests and water resources.
Denmark: strategy emphasizes 'autonomous adaptation' by vulnerable stakeholders and communities; government is mainly seen as provider of facilitating information. Various coordination units established.
Portugal: focus on water, fires, tourism; private consultant supporting national policy development; sectoral approach, high public involvement
Germany: comprehensive science based approach, detailed analysis of vulnerabilities and adaptation options; international, regional and local levels addressed implementation planning, monitoring and revision announced, effective science-policy-interface.
Spain: strategy based on comprehensive vulnerability assessment and integration with mitigation; coordination national level and autonomous regions is major challenge
France: focus on security, health, equity, costs and natural heritage; key challenges: financing adaptation and clarity of responsibility/authority
Legend
National Adaption Strategy adopted
National Adaption Strategy in development/ preparation
No National Adaption Strategy
Not included in study, following (EEA, 2008)
No information available

PEER 2009

Leaders and laggards in adaptation (Massey & Bergsma 2009)

Concerns	Recommendations	Measures
Belarus	Bulgaria	Belgium
Denmark	Czech Republic	Germany
Portugal	Finland	Italy
Norway	France	Netherlands
Sweden	Germany	Switzerland
Switzerland	Slovakia	United Kingdom

Leaders

Laggards

Concerns	Recommendations	Measures
Bulgaria	Estonia	Croatia
Finland	Hungary	Finland
France	Ireland	Hunagry
Italy	Italy	Poland
Latvia	Norway	Romania
Poland	Portugal	Slovakia
Romania		Slovenia
United Kingdom		Spain
		Turkey

Objectives of adaptation

Majority of EU countries have focused on risk and sensitivity reduction

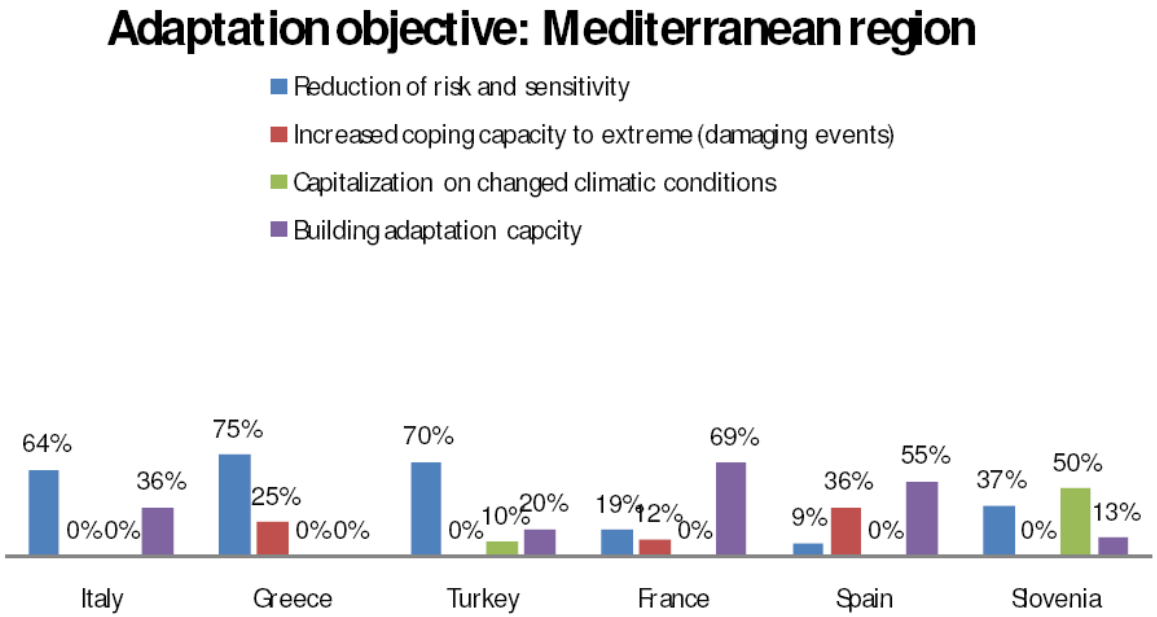
Coping capacity is important for most countries

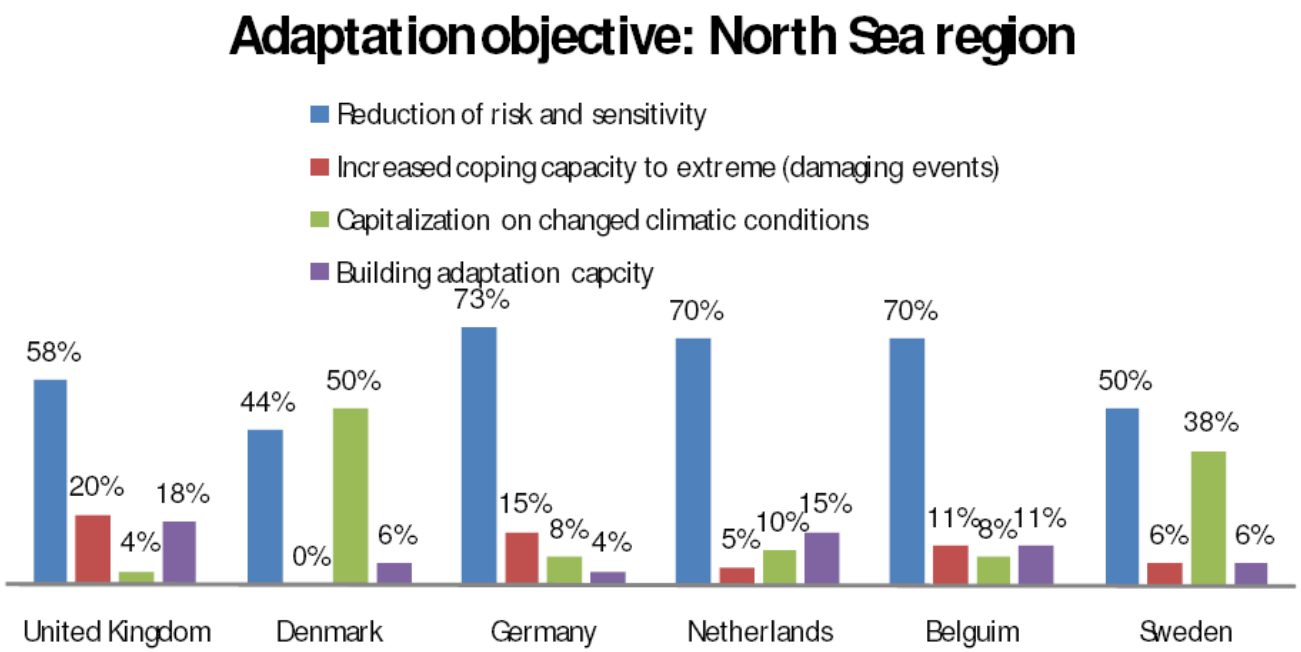
Capitalising on climate change receives the least amount of attention

Objectives:

1. Risk and sensitivity reduction
2. Build adaptive capacity
3. Increasing coping capacity for extreme events
4. Capitalise on adaptation

Massey & Bergsma (2008)





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Framing of adaptation

There are many ways to frame adaptation, and given it is a new policy area, and framings can be in terms of current risk management or economics, for example

‘We lack the perception of the notion of adaptation and it is common that adaptation in Italy often is confused with emergency, because in Italy, one acts after there is a landslide or a flood’

‘At the launch of 2002 UK Climate Impact Scenarios, I remember there was a businessman whose talk was called ‘There are no fitted carpets in Barcelona’, and I thought what is this man talking about. Basically [he was] saying in the Mediterranean you need stone floors. So if you are a carpet manufacturer and you are expecting to maintain your market in south-east England in thirty years time, forget it because no one is going buy your carpet.’

Juhola et al. 2010

Aims of adaptation

Majority of EU countries have focused on landscape and water management as priority sectors

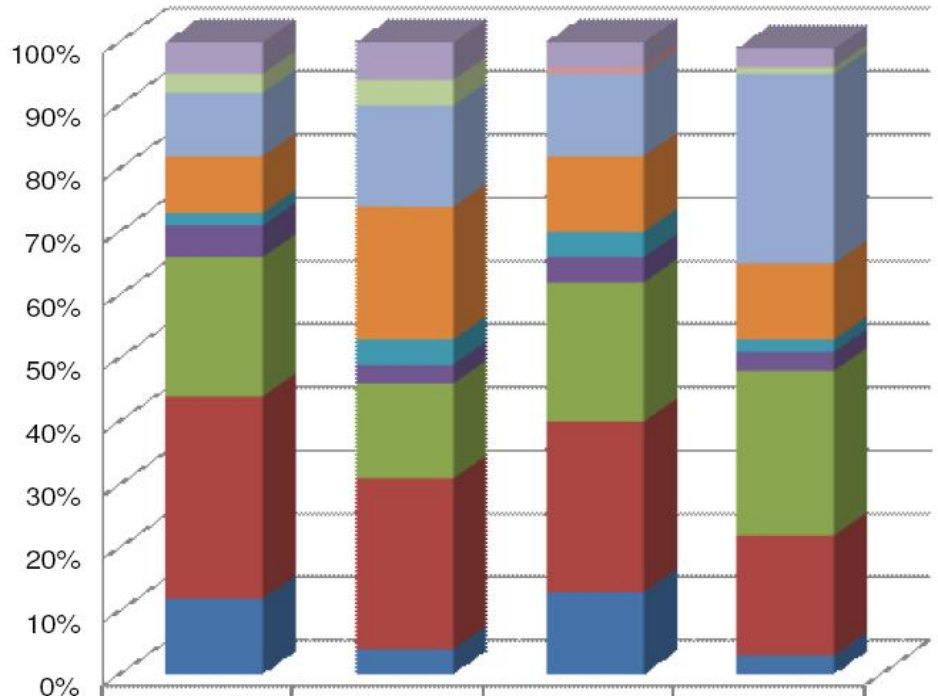
Food security and agriculture feature heavily in the Central European strategies

Biodiversity management receives attention in Northern Europe

Coastal zone management, landscape management, water management, extreme temperature, energy, biodiversity management, financial management, health and disease management, agriculture and food security, and development co-operation

Massey & Bergsma (2008)

Adaptation aims by region

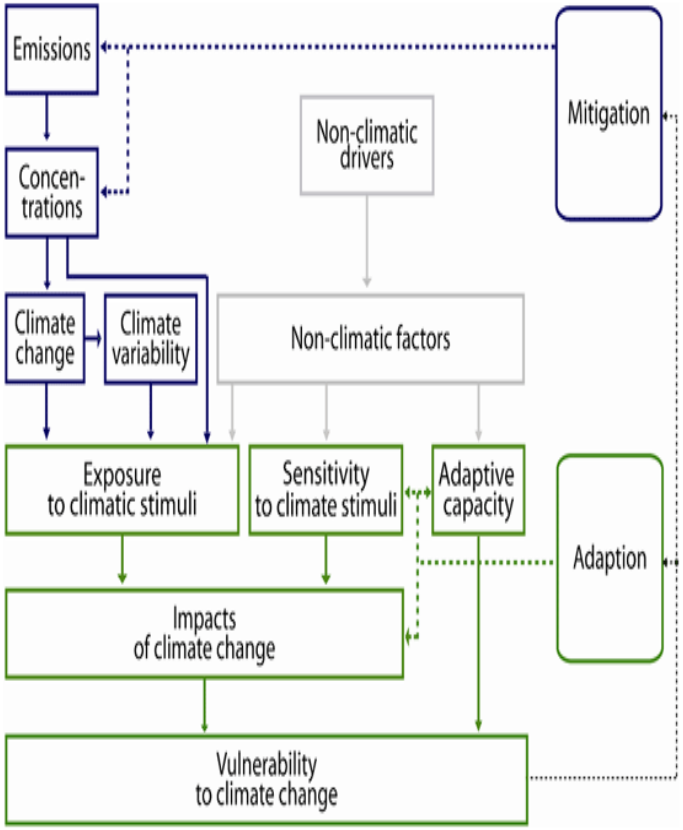


	W. Europe	N. Europe	S. Europe	C. Europe
Disease management	5%	6%	4%	3%
Financial mgmt.	3%	4%	0%	1%
Development co-op	0%	0%	1%	0%
Food production & security	10%	16%	13%	30%
Biodiversity mgmt.	9%	21%	12%	12%
Energy/ UPS	2%	4%	4%	2%
Extreme temps (heat waves & freezes)	5%	3%	4%	3%
Water management (quantity & quality)	22%	15%	22%	26%
Landscape management (incl. soil erosion, floods, fires)	32%	27%	27%	19%
Coastal zone management	12%	4%	13%	3%

Adaptation at the regional level

Regional adaptation becoming increasingly important

Regions play an important role in terms of regulating issues related to built environment, building and maintenance of infrastructure in terms of drainage and piped water, and provision of services, such as fire protection, public transportation and disaster response



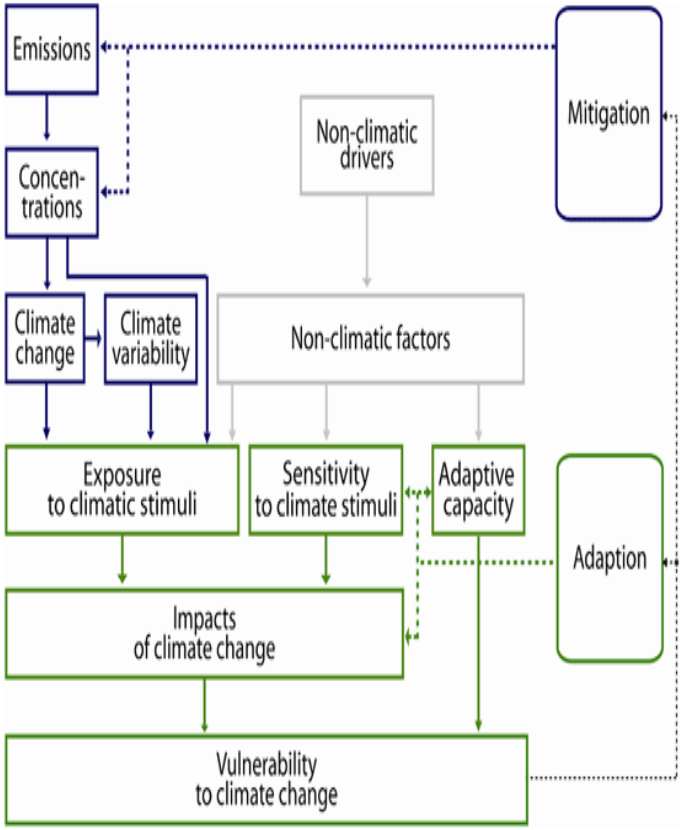
Regional adaptation (2)

RAS emerge in interactive fashion between national and the regional government

RAS often comprise and are developed on the basis of patchwork of climate information, resulting in strategies that vary in the quality of information on which adaptation options are based on

Strategies often do not include actual measures that are to be implemented

Landscape management and health effects are dominating sectoral focuses

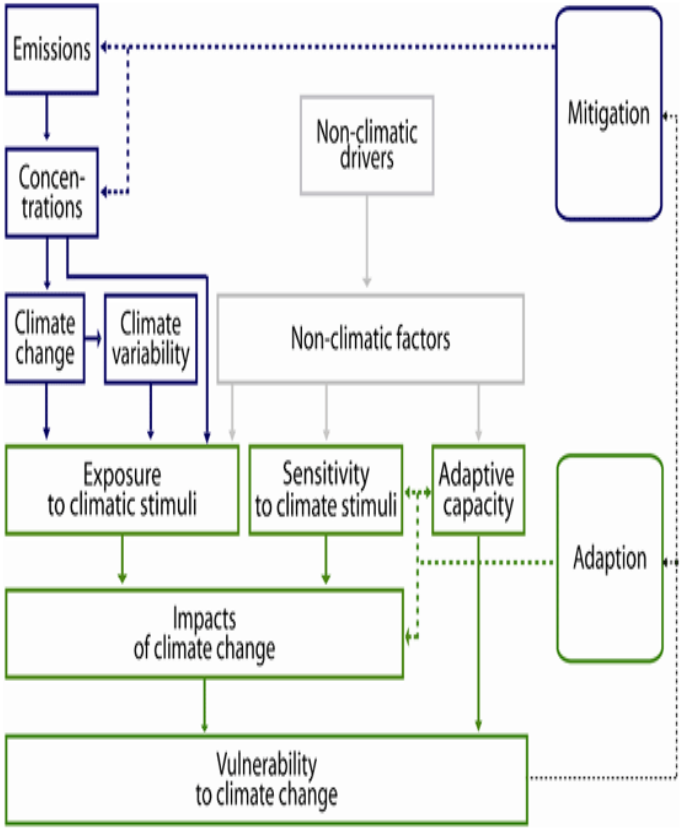


Adaptation at the local level

Municipalities often lack resources to engage with adaptation

How do you identify particular local vulnerabilities to climate change?

How important are concerns related to climate change in comparison to other issues?

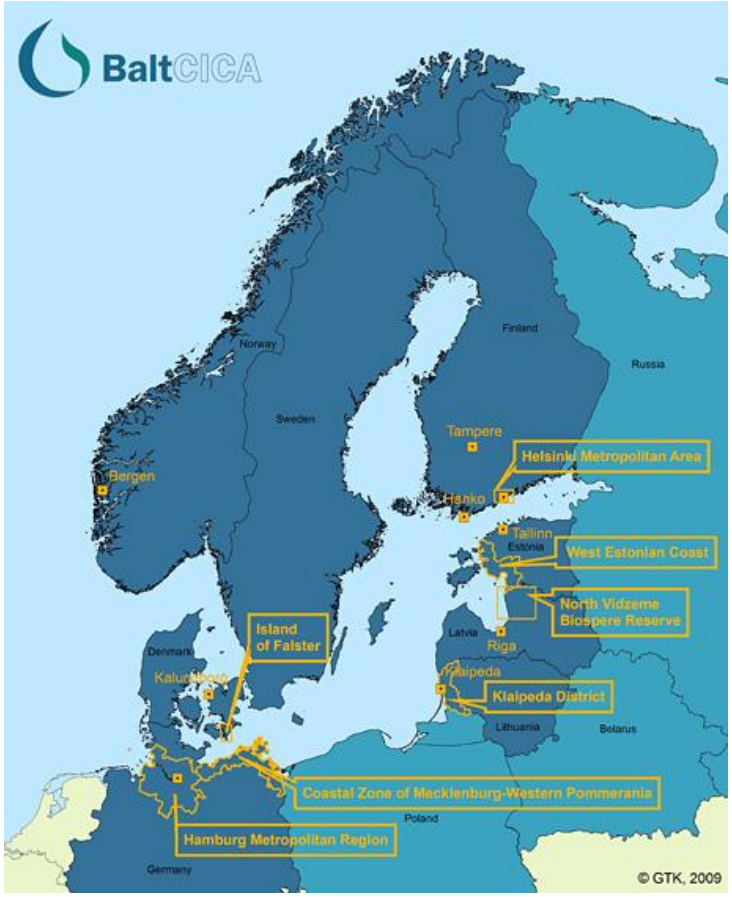


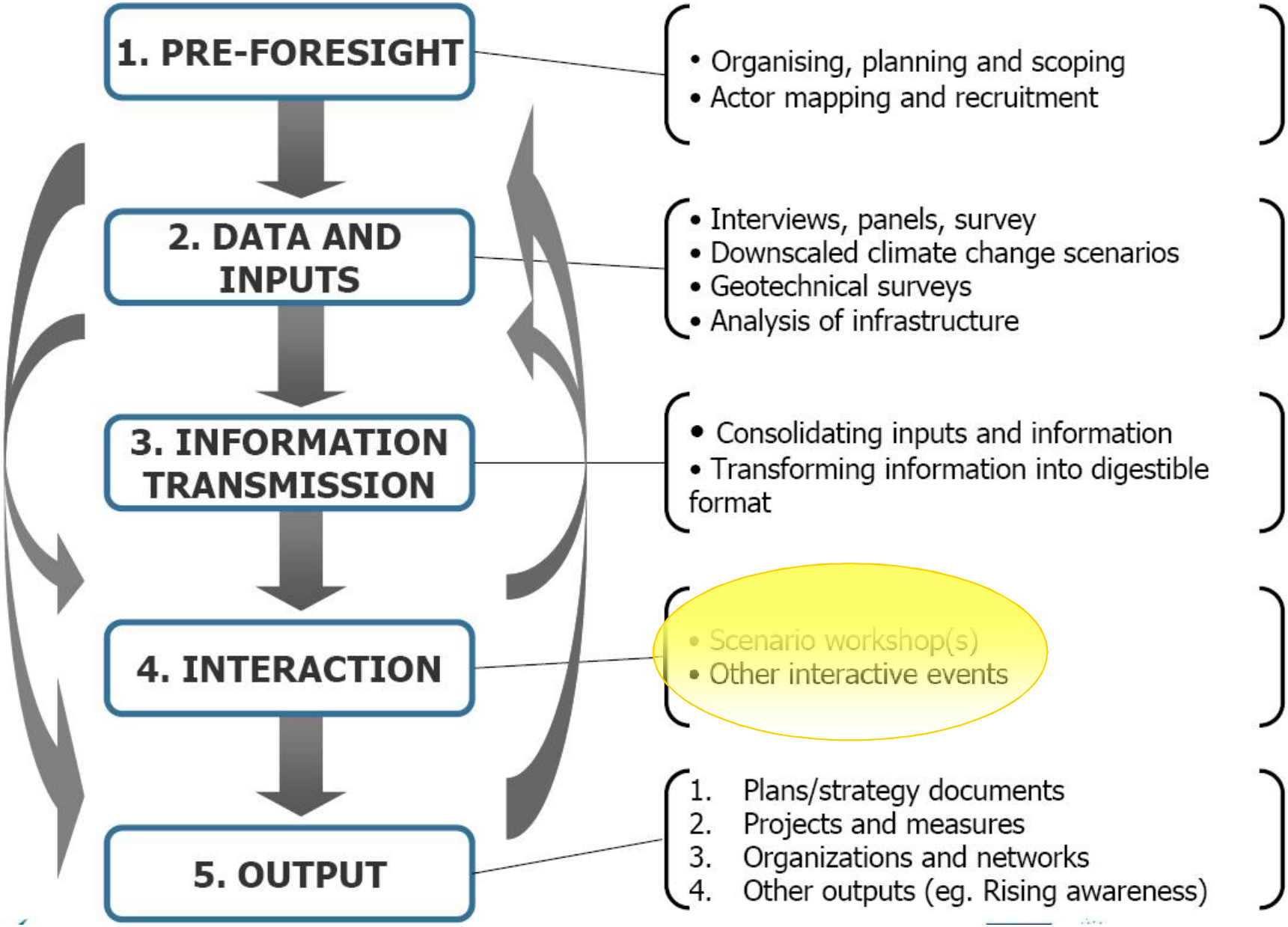
Climate Change: Impacts, Costs and Adaptation in the Baltic Sea Region (BaltCICA)

Project is designed to focus on the most imminent problems that climate change is likely to cause in the Baltic Sea Region

The concentration of large parts of the population and many larger cities in coastal areas make the region especially sensitive to climate change

Assessment of costs and benefits of adaptation in case studies and on a pan-Baltic level




1. PRE-FORESIGHT
• Organising, planning and scoping
• Actor mapping and recruitment
2. DATA AND INPUTS
• Interviews, panels, survey
• Downscaled climate change scenarios
• Geotechnical surveys
• Analysis of infrastructure
3. INFORMATION TRANSMISSION
• Consolidating inputs and information
• Transforming information into digestible format
4. INTERACTION
• Scenario workshop(s)
• Other interactive events
5. OUTPUT
1. Plans/strategy documents
2. Projects and measures
3. Organizations and networks
4. Other outputs (eg. Rising awareness)

Scenario workshops

Scenario workshops can be used for facilitating the strategic planning of adaptation startegies at the local level

These involve various stakeholders from the local area

Scenarios are produced that discuss the possible futures of the area

Benefits and weakness of the method:

More voices
Self- confidence
More comprehensive decision-making

Impact on decision-making not always clear
Recruitment of the panel

Andersen & Jæger (1999)

Further reading

Andersen, Ida-Elisabeth; Jaeger, Birgit, 1999. Scenario workshops and consensus conferences: towards more democratic decision-making*. Science and Public Policy*. 26(5)1, pp. 331-340

Tompkins, E; Brown, K; Few, R (2008) Scenario-based stakeholder engagement: a framework for incorporating climate change into coastal decision making, *Journal of Environmental Management*, 88(4), pp1580-1592.