

Finland's National Strategy for Adaptation to Climate Change

Workshop on strategies to adaptation to climate change
in Norway

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Objectives

- Background
- Process
- Adaptation strategy
- Adaptation as part of national climate and energy strategy
- Lessons learned



Background

- National Climate Strategy (2001) focused on mitigation
- Parliament emphasized the need for adaptation strategy
- National climate policy needs to focus on both mitigation and adaptation
- Process (from 11/2003 to 1/2005):
 - Inter-ministerial task force (6 ministries), Finnish Meteorological Institute and Finnish Environment Institute
 - Cooperation with experts and research community as well as with representatives of major stakeholders
 - Public hearing/comments to a proposal
 - Progress reports to and feedback from Ministerial group
 - Preparation coordinated by the Ministry of Agriculture and Forestry (MAF)



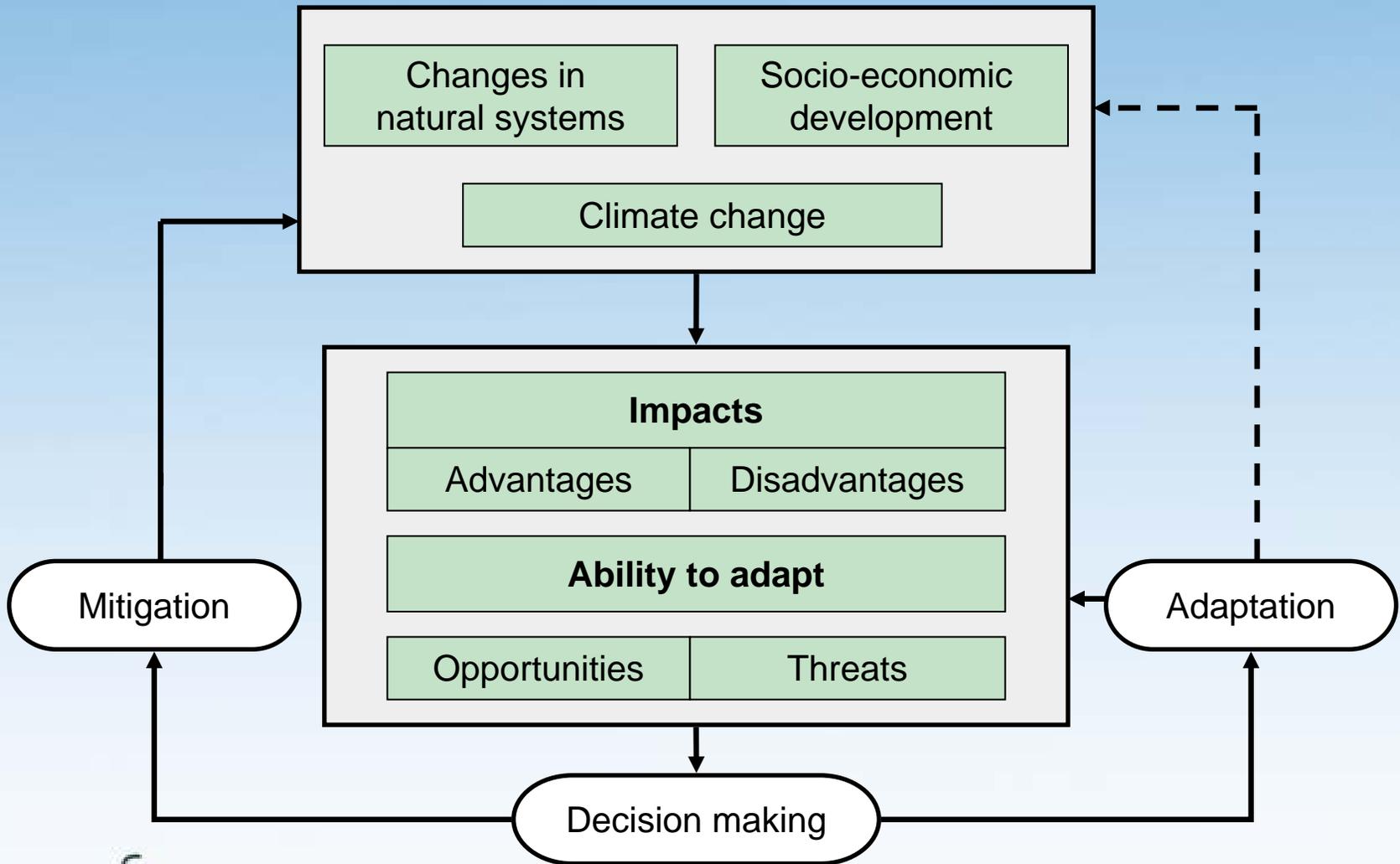


Adaptation strategy part of climate and energy strategy

- Adaptation strategy:
 - 276 pages,
 - time perspective 75 years
 - identification of adaptation measures
- Climate and energy strategy (main report)
 - ½ page
 - strategic priorities
- Climate and energy strategy (annex)
 - 15 pages
 - adaptation measures by sectors for 2005 - 2015



Framework

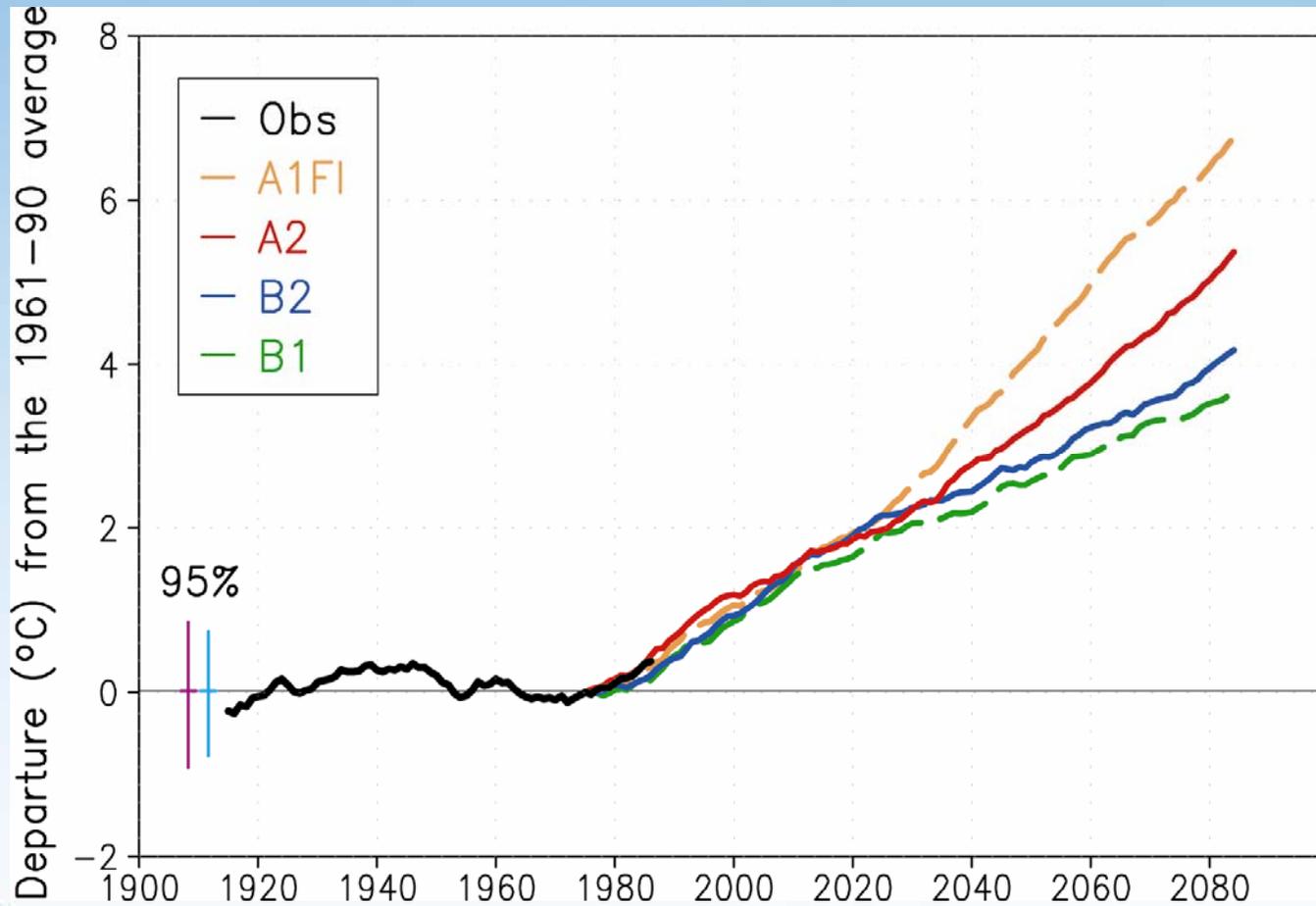


Background scenarios

- Climate change data and information: FMI
- Changes in natural conditions (soil, water, air, plants and animals): FEI
- Socio-economic scenarios (Government Institute for Economic Research):
 - Three scenarios: comparable to IPCC scenarios (A1, A2 and B1), but modified to suit Finnish conditions (e.g. structural development, population, employment, productivity, welfare)
 - Use of national models and parameters
 - Effects to macro-economic variables

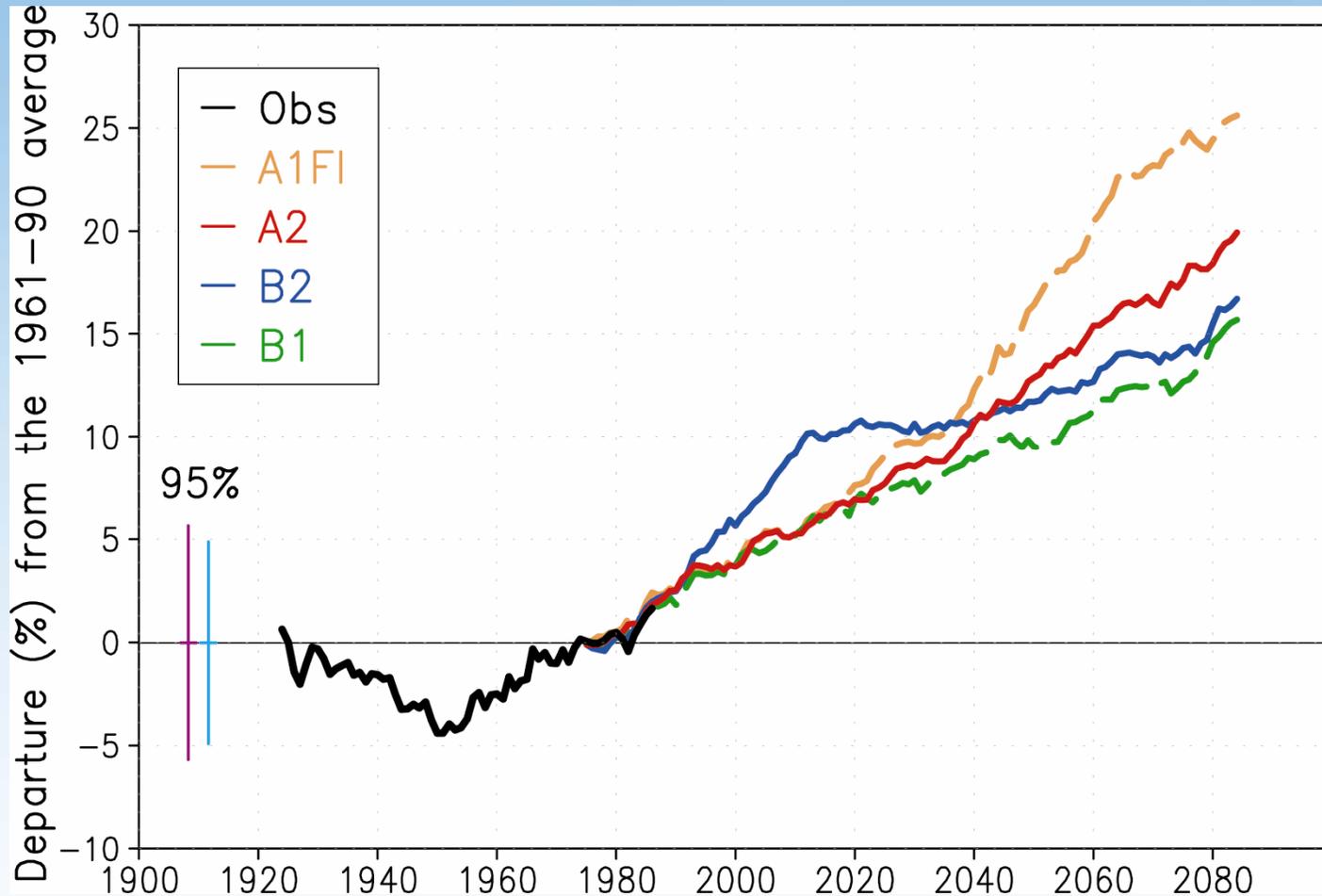


Mean annual temperature change in Finland (relative to 1961-1990) (Source: Finnish Meteorological Institute)



Mean annual precipitation change (relative to 1961-1990)

(Source: Finnish Meteorological Institute)



Sectors

- Natural resources:
agriculture and food production, forestry, fisheries, game husbandry, reindeer husbandry, water resources
- Biodiversity
- Industry, energy
- Traffic
- Land use, building
- Health
- Tourism, recreation
- Insurance



Effects of climate change on natural resources

Disadvantages	Direction of the impact unclear or simultaneous disadvantage and advantage	Advantages
<ul style="list-style-type: none"> - Over wintering of plants may become more difficult and the need for irrigation may increase. - Increased risk of nutrients leaching and wind damage in forests. - Large-scale floods increase and impair water quality. - Pastures will weaken 	<ul style="list-style-type: none"> ▪ The timber line will move farther north and the growth of forests in Northern Finland will increase. ▪ Forest damage caused by elks can increase or decrease, depending on the level of snow. 	<ul style="list-style-type: none"> + Plant cultivation boundaries move farther north. + Increased CO₂, temperature and precipitation increase productivity of the boreal belt. + Growth and catches of fish increase. + The amount of energy produced by hydroelectric power increase. + The living conditions of game species improve.



Adaptation

- Assessment and identification of strategies, actions and measures by sectors
- Changes occurring outside Finland (transboundary)
- Cross-cutting adaptation:
 - Public sectors' capabilities; e.g. risk assessments, EIA, environmental management systems
 - Observation and warning systems
 - Research and development
 - Communication, information sharing



Strategies, actions and measures by sectors

Means	Proactive	Reactive
Public: <ul style="list-style-type: none">▪Regulatory framework▪Normative▪Economic▪Information		
Private		

Timeframes: Immediate 2005 – 2010; Short-term 2010 – 2030; Medium and long-term 2030 - 2080



Priorities for implementation

- Integration into sectoral planning, implementation and evaluation
- Extreme weather events
- Long-term investments
- Observation systems
- Research programme
- International linkages, development cooperation

- => improved capacities



Conclusions /lessons learned (1)

- Comprehensive report based on best available international **research** information and **expert assessments** and judgements:
 - relatively long research tradition in Finland
 - broad spectrum (all sectors involved): a good learning process
 - increased understanding: from scientific data and information towards practitioners' knowledge
 - set a common framework
- **Broad participation and transparency** during the whole process was essential to achieve **widely accepted** objectives and measures
 - wide sectoral and political commitment
 - extreme weather events (heavy rains) => attention
- **Key elements** included in revised National Climate and Energy Strategy 2005
 - implementation through specific sectors
 - integration of mitigation and adaptation



Conclusions and lessons learned (2)

- Impacts are still uncertain and measures still preliminary, but some **implementation** can be started
 - Long-term perspective but early start of some activities (win-win)
- Need for **research and development**
 - research programme planned
- **Sectors** are different
 - adaptation, implementation, and monitoring/evaluation is integrated as part of sectoral planning
 - implementation will be a challenge
- **Monitoring** through follow-up measures of sectoral strategies and programmes
- **Review** of adaptation strategy within 6-8 years



Further information

- <http://www.mmm.fi/sopeutumisstrategia/>

Thank you!

