

Knowledge Status on Local Climate Change Adaptation

Sibiu, Romania 26-27 February 2015



Autumn 2016: New international master programme in
climate change adaptation
(the first in Norway and one out of 8 similar master programmes in Europe)

Western Norway Research Institute: WNRI

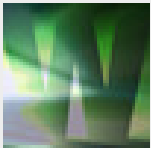
Home page

RESEARCH AREAS PROJECTS PUBLICATIONS EVENTS EMPLOYEES ABOUT VESTLANDSFORSKING



Environment

Industrial ecology | Local Environmental and Climate Policy | Sustainable Mobility |
Alternative Fuels | Sustainable Agriculture



Innovation

eGovernment and public sector organisation | Regional development | Infrastructure and
networking | e-Commerce in small and medium-sized businesses



Research Centre for Tourism

Leisure-time Consumption | Sustainable Tourism | IT and tourism



Usability

Requirements specifications | Semantic web | Human Computer Interface |
Information architecture

www.vestforsk.no

30 researchers – 8 of which work on climate change related research

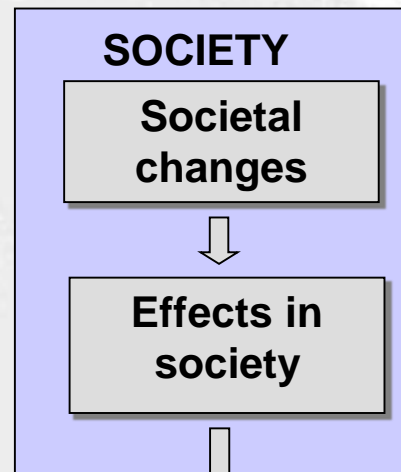
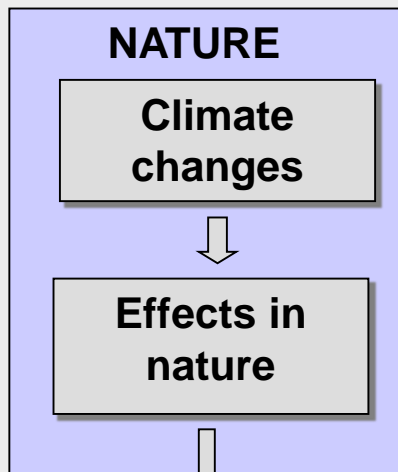
Some early lessons from local climate change adaptation

- The one- versus two-folded perspective
- Adapting to current versus future climate
- Climate uncertainties
- From adaptation to transformation
- Critical factors governing the rate of success in local climate change adaptation
- Adaptive management – iterative process

The one- versus two-folded perspective

The perspective WNRI applies

The most frequently applied perspective



Climate change vulnerability

Climate change adaptation

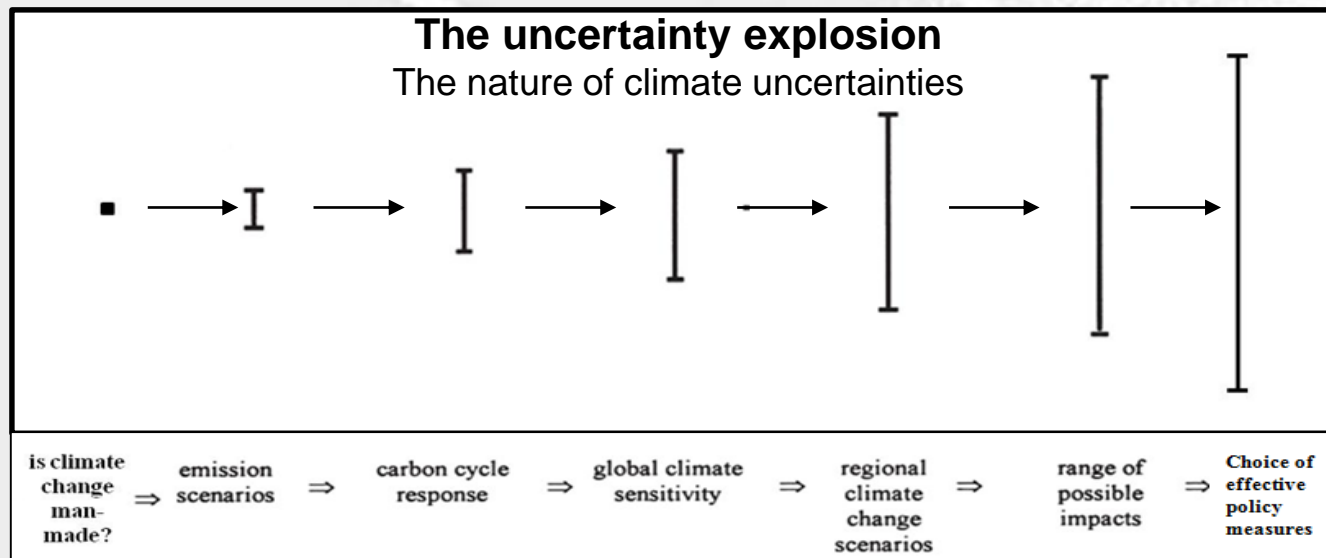
Forgetting that societal change contributes in creating climate change vulnerabilities may lead to such vulnerabilities being....

underestimated!

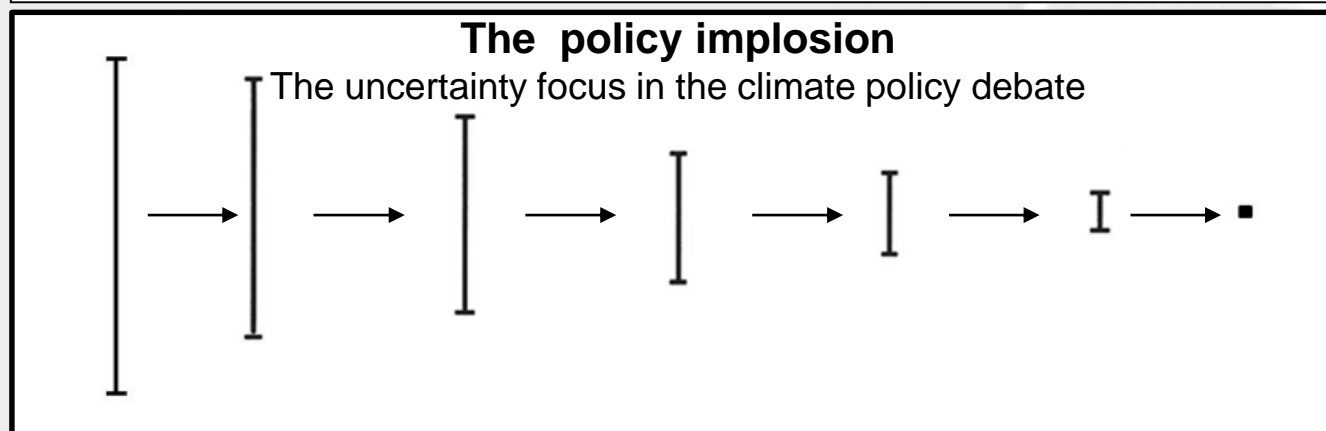
Adapting to current versus future climate

- **Adapting to current climate conditions Helps!**
In many cases it will prepare society for a changing climate in the short to medium turn
 - e.g. addressing the current climate-related maintenance deficit for local and regional roads stipulated to 4 billion Euro in the case of Norway
- **But adapting only to current climate conditions will not make society prepared for the unknowns**
 - e.g. the introduction of new “pest-species” and natural hazards occurring at new locations

Which climate uncertainties to focus on?



This is how science actually describes climate uncertainties



This is how climate uncertainties often is perceived in public debates

How to handle climate uncertainties

The most frequently applied perspective in the climate debate

- **Predict-then-act**

- Focus on the extent of uncertainties and limit the focus to ecological uncertainties
- Demand for more and more detailed downscaled scenarios
- Postpone costly adaptation measures until climate uncertainties are reduced

- **Reflect-then-act**

- Allow for a deeper reflection on the nature and location of climate uncertainties
- Act even when climate uncertainties are «large»

This is how other uncertainties are often handled in policymaking -
but typically not climate change

Adjustments versus transformation

Adaptation:

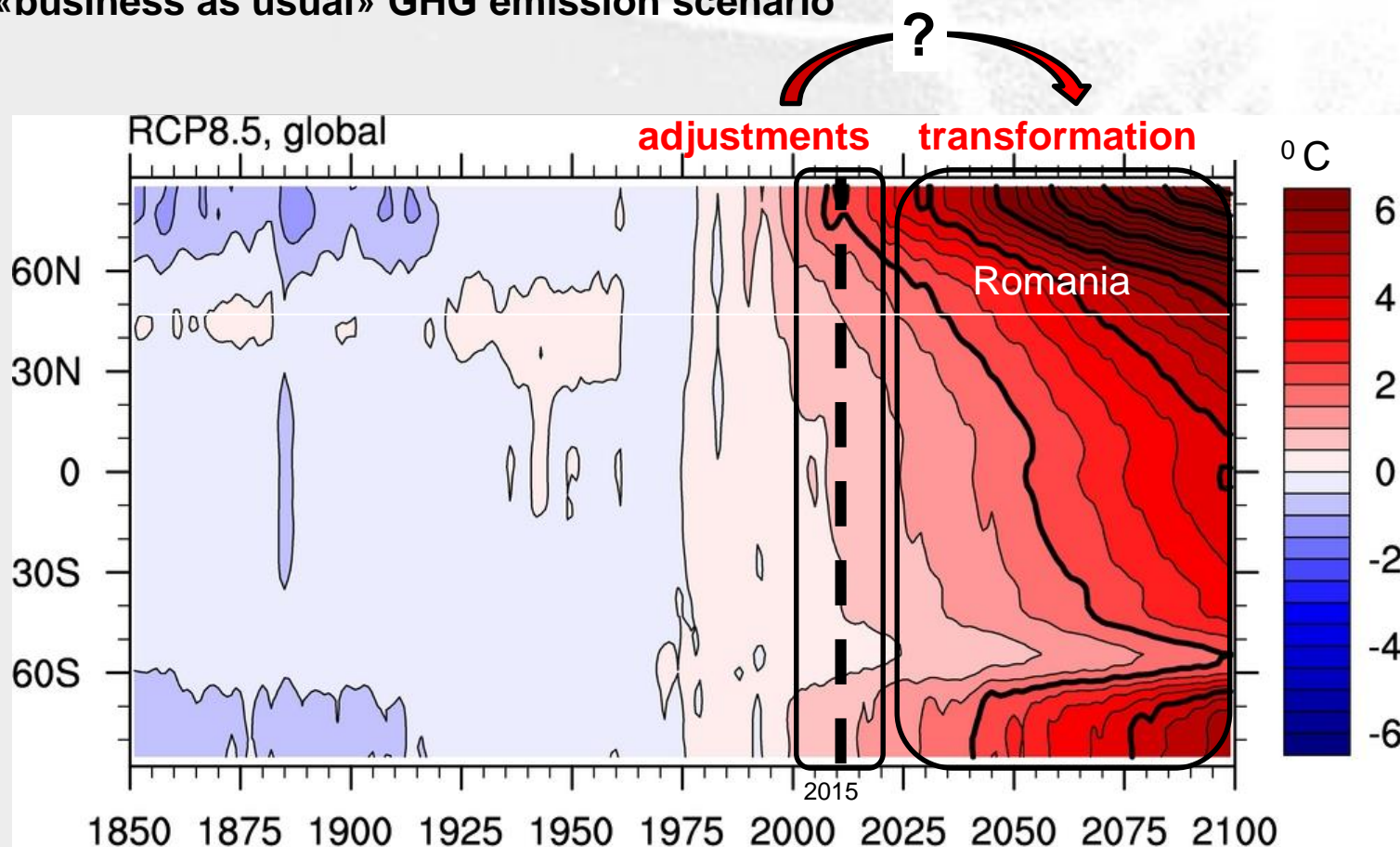
- «The process of adjustment to actual or expected climate and its effects, in order to moderate harm or exploit beneficial opportunities”

Transformation:

«The altering of fundamental attributes of a system (including value systems; regulatory, legislative, or bureaucratic regimes; financial institutions; and technological or biological systems)”

From adjustments to transformation?

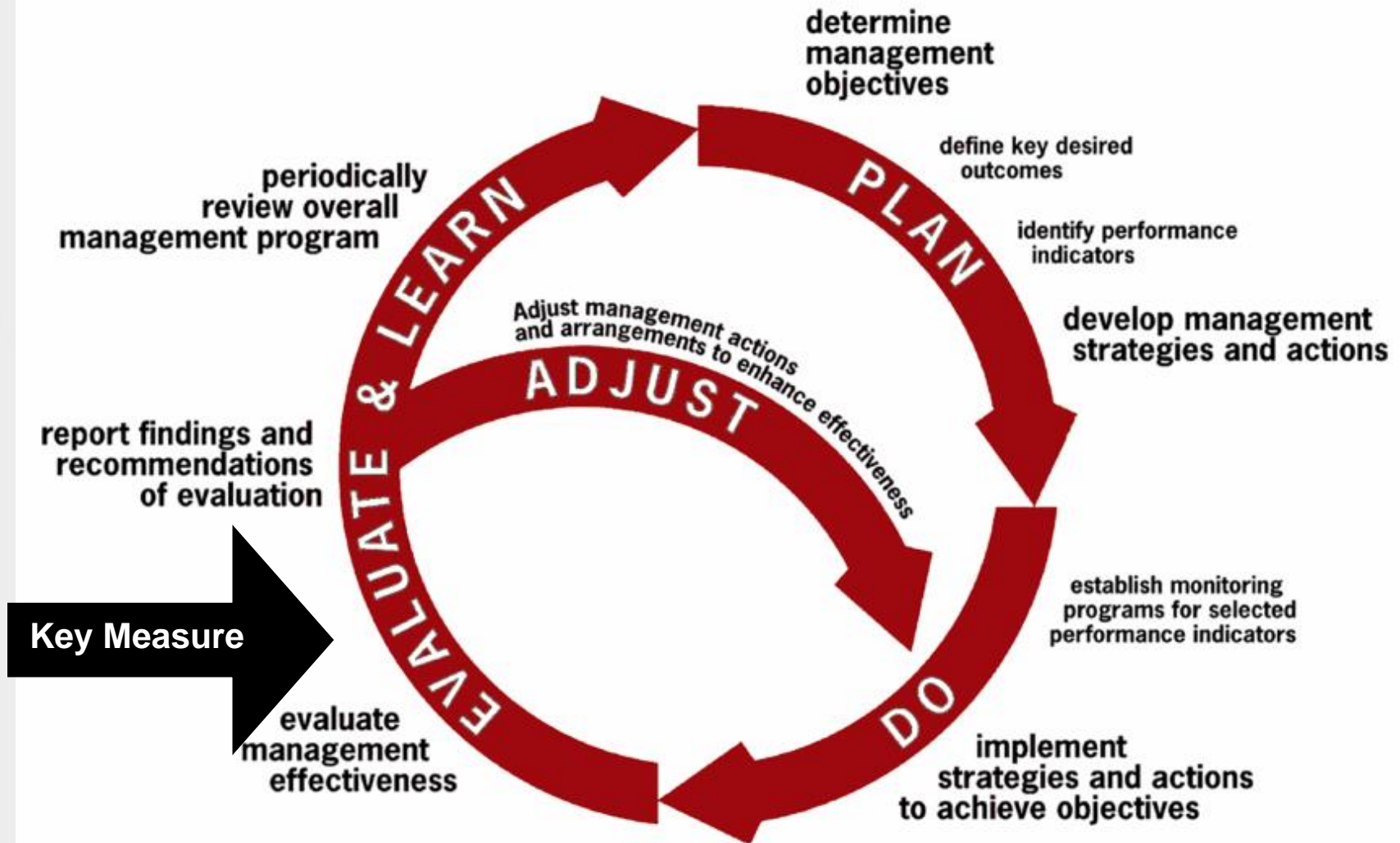
Expected changes in global mean temperature relative to 1961-1990 with a «business as usual» GHG emission scenario



Critical factors governing the rate of success in local climate change adaptation

- **Local government is a key-actor in climate change adaptation**
 - **Be aware:** very limited room of actions for local authorities without sufficient support from national government
- **The need for better cooperation and understanding between researchers and decision-makers**
 - **Be aware:** Do decision-makers evade their responsibility to act by simply pointing to incomplete research?
- **The levels of climate concerns are still low in many countries and local exposure to natural hazards is therefore often the main trigger for local climate change adaptation**
 - **Be aware:** scientifically produced knowledge on climate-change risks is sometimes seen as less valid than local knowledge.

Adaptive management - an iterative process



Thank you for your attention!

Professor Carlo Aall, caa@vestforsk.no, www.vestforsk.no, + 47 991 27 222

