

Criteria for Prioritizing the Recommendations for Action

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The Action Plan for the Austrian adaptation strategy includes a number of recommendations in the various areas for action for both public and private actors.

Certain sectors of society and regions are affected by climate change in different ways and to varying degrees. The extent to which the people, the environment, and the economy of a region will be influenced by the consequences of climate change depends on both the natural vulnerability of the region and on its existing adaptive capacity to cope with climate change and extreme weather. This results in differing requirements for action.

In order to determine which recommendations should be assigned priority in a certain area for action or a certain region, a list of criteria is introduced. This list serves to support the actors concerned for setting their priorities in the adaptation process.

In general, however, it must be noted that any measure should be prioritized if it provides benefits independent of climate change ("win-win") or entails no disadvantages in case the actual climate trends do not correspond to projections ("no regret"). Due to the inherent uncertainty in the effects of future climate warming, it is necessary to select and implement flexible measures that can be easily adjusted to changing conditions.

As a basis for prioritization, comprehensive descriptions of the recommendations for action are required. Detailed information concerning the objective of each recommendation, the planning horizon, the actors and stakeholders concerned, the resources needed, possible conflicts with other environmental objectives, etc., can facilitate the selection. The recommendations in the Action Plan of the Austrian adaptation strategy offer this type of detailed description.

As already mentioned with the guiding principles of adaptation, a series of criteria for prioritizing adaptation measures is available. As these criteria can have different meanings depending on the objective and the context, weighting of the criteria is suggested. The selection of the prioritization criteria and their weighting should be undertaken with affected actors.

With a view to a comprehensive macroeconomic analysis, it is generally suggested that the prioritization of recommended actions take into account the "Europe 2020 – A strategy for intelligent, sustainable, and inclusive growth" (EC 2010).

- **Significance/Relevance:** The recommended actions have a large potential to reduce the risk of negative consequences of climate change, to improve the resilience of the sector/system, and to take advantage of the positive effects of climate change. Aspects to be addressed: How significant is the measure in absolute terms? Is only a relatively small portion of the population and society affected, or a very large part? If this measure were not implemented, would the damage to society as a whole be large or rather small?
- **Urgency:** The recommendation requires rapid implementation because the effects are already being felt, long-term planning processes are necessary, or the recommended action only becomes effective with a lag of time (e.g., forestry, technical infrastructure).

Prioritisation Approaches

Markus Leitner, Tirana, 25 November 2014

Prioritize climate change impacts:

- For the prioritization of climate change impacts at the regional level, both
 - past weather events and scenarios of possible future climatic and
 - Socioeconomic changes should be analysed.
- In order to minimize the uncertainty in climate scenarios, several scenarios should always be drawn upon for the estimation of climate trends.

Prioritize adaptation measures:

- To prioritize the implementation of the identified adaptation measures, a set of selection criteria can be applied, such as
 - efficiency, effectiveness,
 - urgency, flexibility,
 - side effects, etc.
- Priority should be assigned to any measure that generates benefits independent of climate change ("win-win") or that entails no disadvantages in case the actual climate change does not correspond to projections ("no regret").

Prioritize Basis:

- Comprehensive descriptions of the recommendations for action are required.
- Detailed information concerning the objective of each recommendation, the planning horizon, the actors and stakeholders concerned, the resources needed, possible conflicts with other environmental objectives, etc., can facilitate the selection.
- The recommendations in the Action Plan of the Austrian adaptation strategy offer this type of detailed description.

Prioritize Basis:

- A series of criteria for prioritizing adaptation measures is available. As these criteria can have different meanings depending on the objective and the context, weighting of the criteria is suggested.
- The selection of the prioritization criteria and their weighting should be undertaken with affected actors.

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

- **Significance/Relevance**
- **Urgency**
- **Robustness**
- **Flexibility and Reversibility**
- **Cost/Benefit Ratio**
- **Positive Side Effects**
- **Simultaneous Mitigation Effects**
- **Interactions with Other Recommended Actions**
- **Political Feasibility**

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ Significance/Relevance

- The recommended actions have a large potential to reduce the risk of negative consequences of climate change, to improve the resilience of the sector/system, and to take advantage of the positive effects of climate change. Aspects to be addressed:
 - How significant is the measure in absolute terms?
 - Is only a relatively small portion of the population and society affected, or a very large part?
 - If this measure were not implemented, would the damage to society as a whole be large or rather small?

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ Urgency

- The recommendation requires rapid implementation because the effects are already being felt, long-term planning processes are necessary, or the recommended action only becomes effective with a lag of time (e.g., forestry, technical infrastructure).

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ Robustness

- Recommendations will be given priority that unfold an advantage independent of climate change (“win-win”) or entail no disadvantage in case actual climate change does not correspond to projections (“no regret”). Under this criterion, those measures will be highly rated that create an environmental, economic, or other benefit for society independent of the extent of climate change.

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ **Flexibility and Reversibility**

- The recommendations take due account of uncertainties regarding future global warming. They are therefore designed to be flexible, so that they can be easily adjusted or reversed based on changing conditions.

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ **Flexibility and Reversibility**

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Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ **Cost/Benefit Ratio**

- This option represents a good cost-benefit-ratio. However, it should be noted that it is not foreseen in the framework of this national adaptation strategy to quantify the costs and benefits of adaptation measures. Therefore it will only be possible to take into account qualitative estimates and values from the literature as available. The issue of potential loss in competitiveness in an international comparison is also to be considered in this context.

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ Positive Side Effects

- The recommended actions have a positive effect on the environment (ecosystems, biodiversity, water resources, soil) and on socio-economic aspects. The measures should also be consistent with the objectives of other environmental policy processes, such as sustainability.

■ Simultaneous Mitigation Effects:

- Specifically, recommendations for adaptation action support the objectives of climate change mitigation and, in the best case, contribute to reductions in greenhouse gas emissions.

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

■ Interactions with Other Recommended Actions:

- Climate change as a cross-cutting issue affects different levels and sectors and will present major challenges in the coming years and decades requiring substantial changes and investments. The question is to what extent proposed adaptation measures in one sector affect and influence measures from other sectors. In addition, there are also other developments, trends, and measures to consider. Priority should be assigned to recommended actions that feature synergies with other measures and developments.

Prioritize of recommended actions:

(based on EC 2010 – Europe 2020)

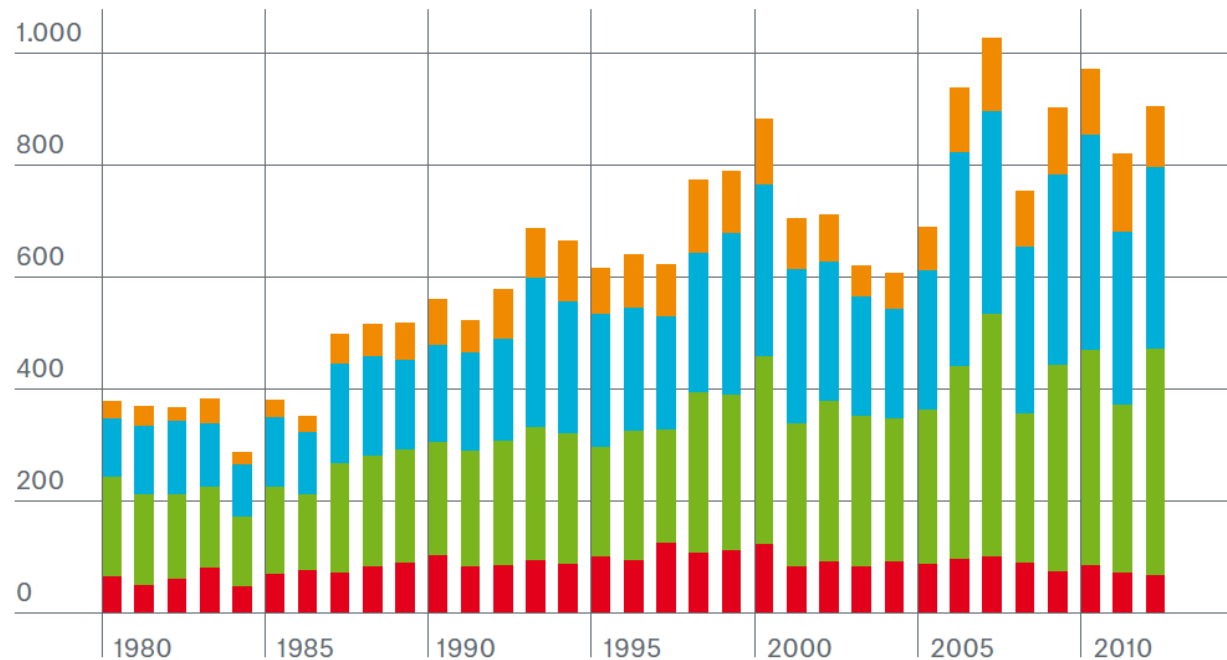
■ **Political Feasibility**

- The prioritization should also take into account an estimation of the political feasibility. Will consensus be achievable and can the implementation probability be rated as high, or will the measure be difficult to realize?

In the prioritization of recommended action, it is also suggested to differentiate assumptions on climate change and its effects on the basis of their evidence (e.g., in a classification of hard/medium/soft assumptions).

Extreme events matter

Anzahl Naturkatastrophen 1980 bis 2012

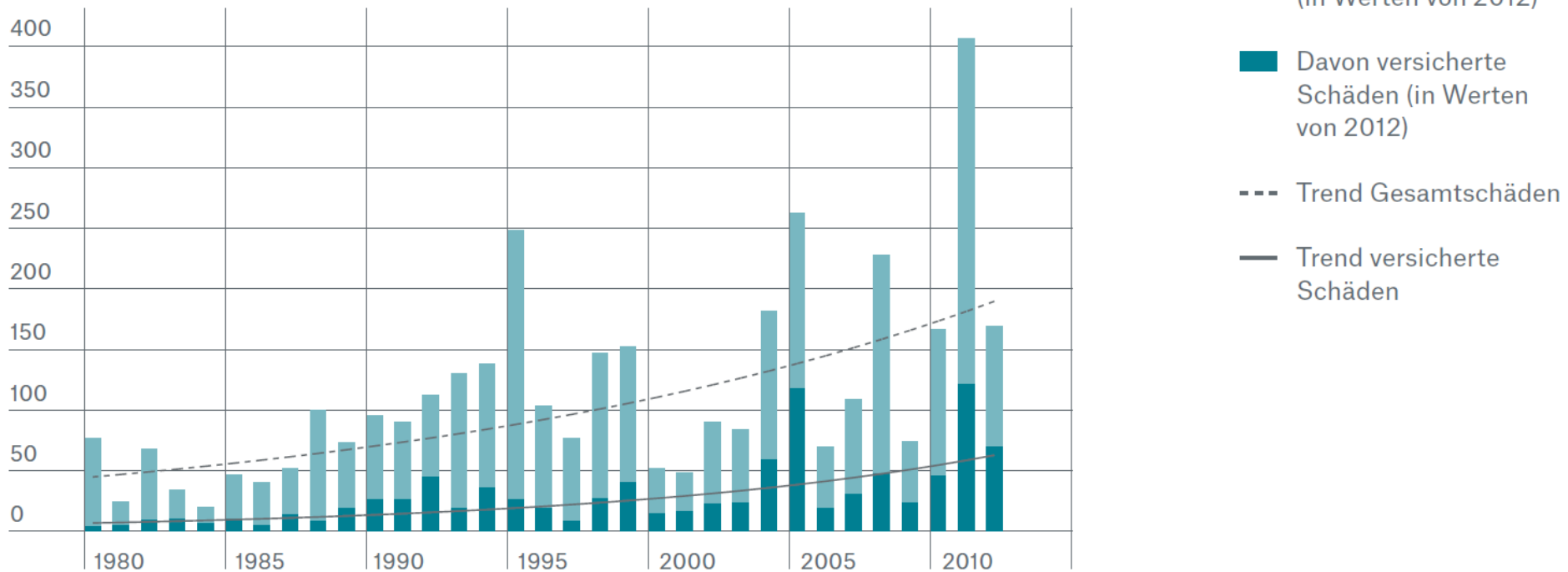


- Geophysikalische Ereignisse:
Erdbeben, Tsunami, Vulkanausbruch
- Meteorologische Ereignisse:
Tropischer Sturm, Wintersturm, Unwetter, Hagel, Tornado, lokaler Sturm
- Hydrologische Ereignisse:
Flussüberschwemmung, Sturzflut, Sturmflut, Massenbewegung (Erdrutsch)
- Klimatologische Ereignisse:
Hitze-, Kältewelle, Waldbrand, Dürre

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...because damage costs are already significant!

Gesamte und versicherte Schäden in Mrd. US\$ 1980 bis 2012



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But note: damages = events x exposure of values

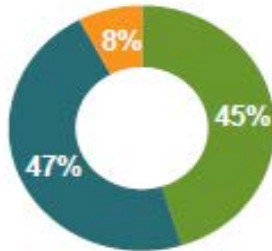
NatCatSERVICE

Weather disasters in Austria 1980 – 2010

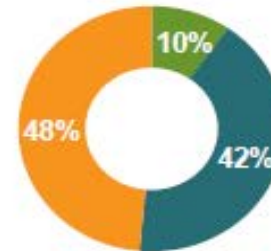
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Munich RE 

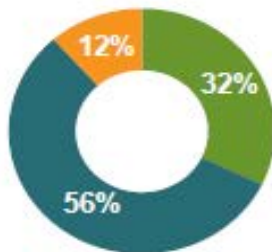
232 damage events



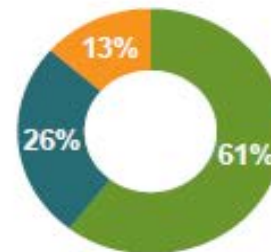
710 fatalities




Total damage 9,67 bln EUR in values of 2010



Insured damage 2,91 bln EUR in values of 2010



 storms

 Floods, mudflows, landslides and avalanches

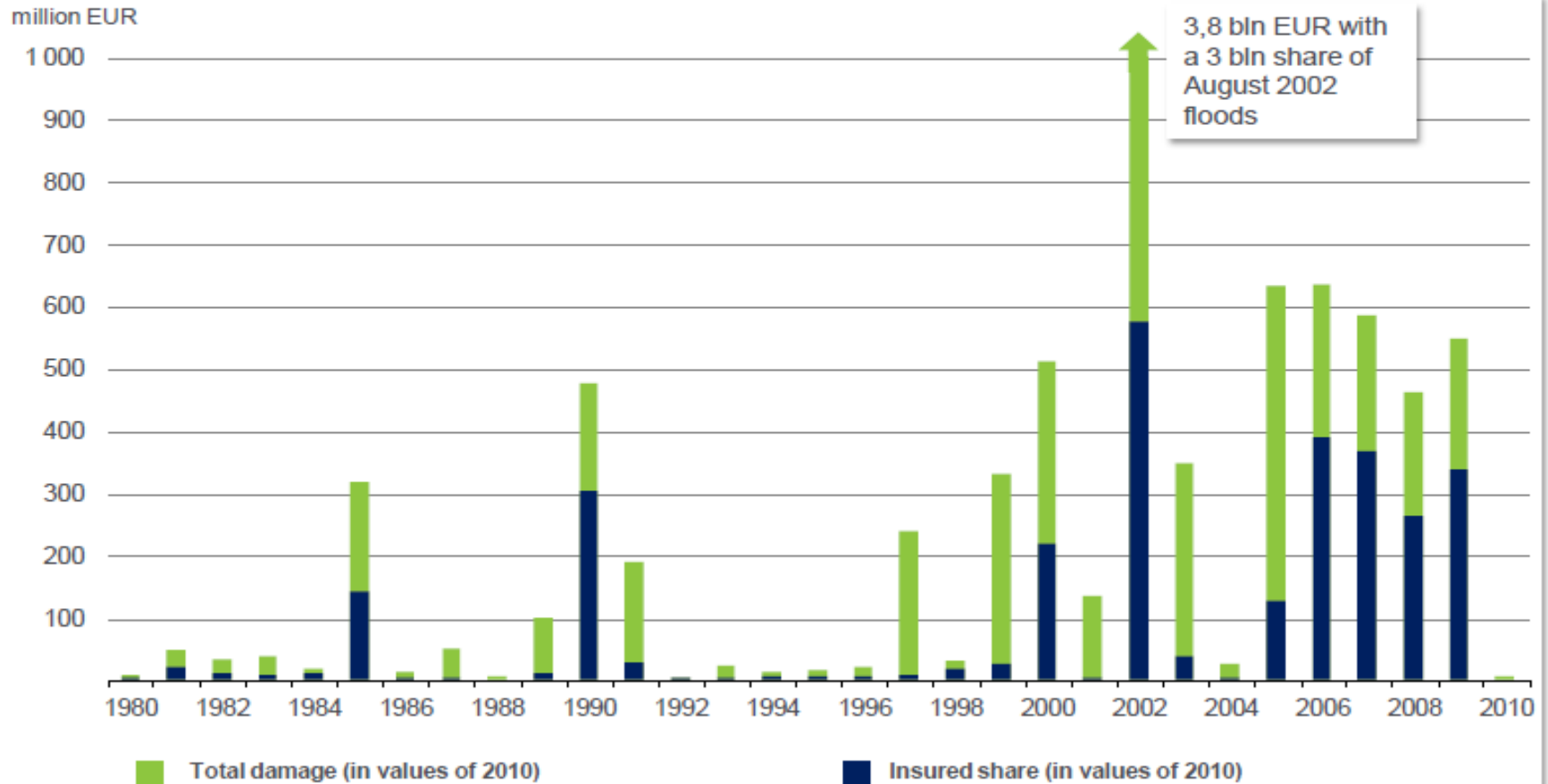
 Temperature extremes, droughts and forest fires

NatCatSERVICE

Weather disasters in Austria 1980 – 2010

Total and insured damage costs

Munich RE 



Intermediate key messages

- Look at gradual (slow onset) trends as well as extreme (sudden onset) events
- If climate models deliver high range of future extreme event frequencies/amplitudes, work with simple 'if, then-scenarios' to depict potential vulnerability in certain sectors/regions
- If you want to assess potential future vulnerability quantitatively, you need to take socio-economic development (i.e. demographic, land-use, technological change and economic growth/values at risk) into account

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