

RISKS DUE TO THE CLIMATE CHANGE to the long-term performance of constructions



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Needs to identify the likely consequences of the Climate Change

- The evolution of new kinds of environmental impacts is unavoidable even though all measures to cease the Greenhouse Gas emissions were successful immediately
- Changed patterns of rainfalls - stronger peaks of stronger rains or and winds – long periods of draught and heat – changes of ocean streams - and the raise of the sea levels.
- Hurricanes, heavy winds, floods, landslides, short winters, hot summers
- Human suffering and deaths, immigration, security
- Property losses and insurance paybacks related to natural hazards are increasing
- First studies about the physical consequences to buildings, bridges, roads and railways are made (e.g. Norway, Finland, the UK, Australia)





Proposal for a Common Activity 1(2)

- **Aim:** to create a common risk evaluation sheet for identification and valuing of consequences of the Climate Change to constructions (or different for bridges and buildings)
- **Process:**
 - I Phase:** Work plans in each country - before Dresden - and reports about local scenarios (possibly regional collaboration)
 - II Phase:** Lists of impacts on constructions
(tentative list to be prepared by Heli – based upon studies at VTT and other research organisations and developed during the activity – in Dresden)
 - III Phase:** Communication about a common evaluation sheet
 - IV Phase:** Publication of the work and evaluation of further research needs





Proposal for a Common Activity 2(2)

- The Action Vice-Chair co-ordinates
- A work area will be established to the Action website, including
 - links to the relevant sources (IPCC, EU)
 - scientific papers or links to scientific papers
 - work documents (templates, tentative lists)
 - country reports
 - progress reports (to be presented in MC meetings)
- MC Members of **each country** agree on responsibilities and methods to collect the country information, one person will be nominated as a contact point and informed to the Action Chairs





Outcome: Risk evaluation sheets

- Bridges and buildings
- Country reports about the phenomena that have impacts on codes and/or design and building (loadings, detailing of envelopes, environmental effects on service life, soil leakages in roads and railways...)
- Excel-sheet for preliminary evaluation of new risks of various materials and structures
 - areas for buildings: fundaments, facades, roofing, framing, heating/cooling/ventilation, detailing...
 - areas for bridges – fundaments, decks, suspension cables...

