



Water Cycle Safety Planning and risk management:

Discussion of the future possibilities



- **The use of the WCSP framework**
 - a general outline of the concept
 - introduction of the WCSP in Lisbon and Eindhoven
- **Supporting elements for a WCSP**
 - Hazard identification and risk reduction databases
 - quantitative risk assessments
 - quantification of risk reduction measures
 - use of GIS to manage climate change risks in Genova and Simferopol



- **Changes between Lisbon and Eindhoven: a complete plan, including system plans or not?**
- **How to make sure that wcsp collaboration continues in the future?**
 - **Content: exchange knowledge**
 - **Process: monitoring, update, suitable governance instruments**
- **Risk as a central element, how to deal with uncertainty?**
- **Broader purpose for wcsp, not only climate change**
- **Communication as a condition for success:**
 - **how to organise this (citizens, ...)**



- **How do these ‘supporting elements’ help?**
- **Hazard Identification & risk reduction database**
 - If wcsp is used in a broader concept, what is the impact on the 2 databases?
 - Other planned use besides Lisbon/Eindhoven? Up to utilities to use webbased tools?
 - Risk versus hazard, risk versus uncertainty
 - Compatible approach to risk, room for improvement
 - Database more userfriendly, knowledge (risks), cascade effects
 - What is included, expand?
- **QRA for climate change**
 - Focus on financial loss or also involve other criteria?
 - Focus on other measures, e.g. asset mgt



- **Quantification of risk reduction measures**
 - CBA time horizon versus return period of events?
 - multiple goals for measures (flood reduction and maintenance or water quality improvement)
 - Applicability to other cases?
- **Use of GIS to manage climate change risks**
 - water quality maps and flood hazard mapping: opportunities to connect to each other & to wcsp?
 - Simferopol water supply system: only model that took population growth into account?
 - Use of GIS for communication purposes?



- **Ongoing, should be further developed**
- **Improve & expand risk based aspects**
- **Incorporate previous work**
- **Bigger range of applications (small companies/utilities to large)**
- **Include energy aspects**
- **Include social factors and resilience**
- **Changes in risk implementation**