

Plan for liveability and the unexpected: A socio-economic approach to account for stakeholder priorities and future uncertainty

Skrydstrup*, Hansen*, Dybkjær*, Löwe, Kroghsbo***, Gregersen*, Arnbjerg-Nielsen****

*Ramboll Denmark A/S, Water Infrastructure & Climate Adaptation, Copenhagen, Denmark

**Technical University of Denmark, Department of Environmental Engineering, Kgs. Lyngby, Denmark

***VCS Denmark, Planning & Projects, Odense, Denmark

Singapore International Water Week

20.04.2022



Bright ideas.
Sustainable change.



Planning NBS is complex

Enhance cross-sectoral planning of NBS through a socio-economic approach

Starting point for research



Water utilities



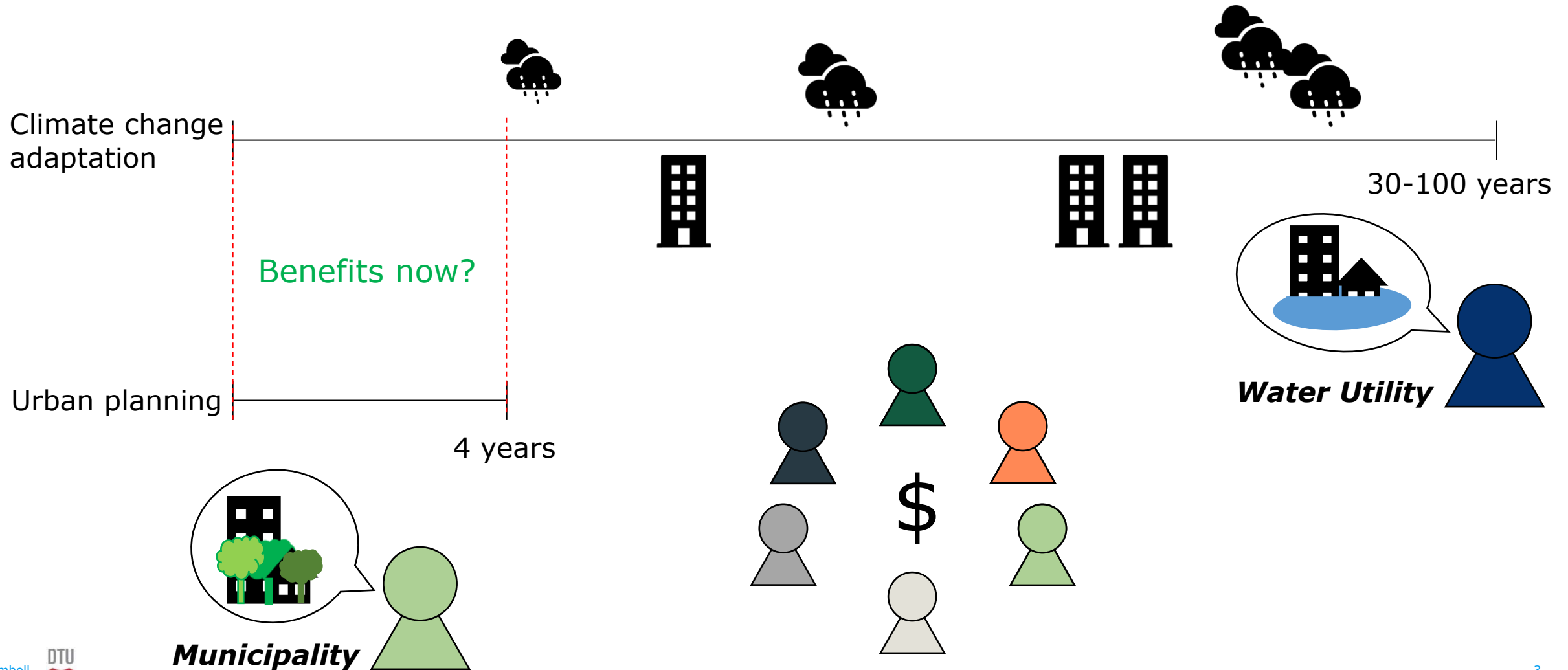
Urban flood risk



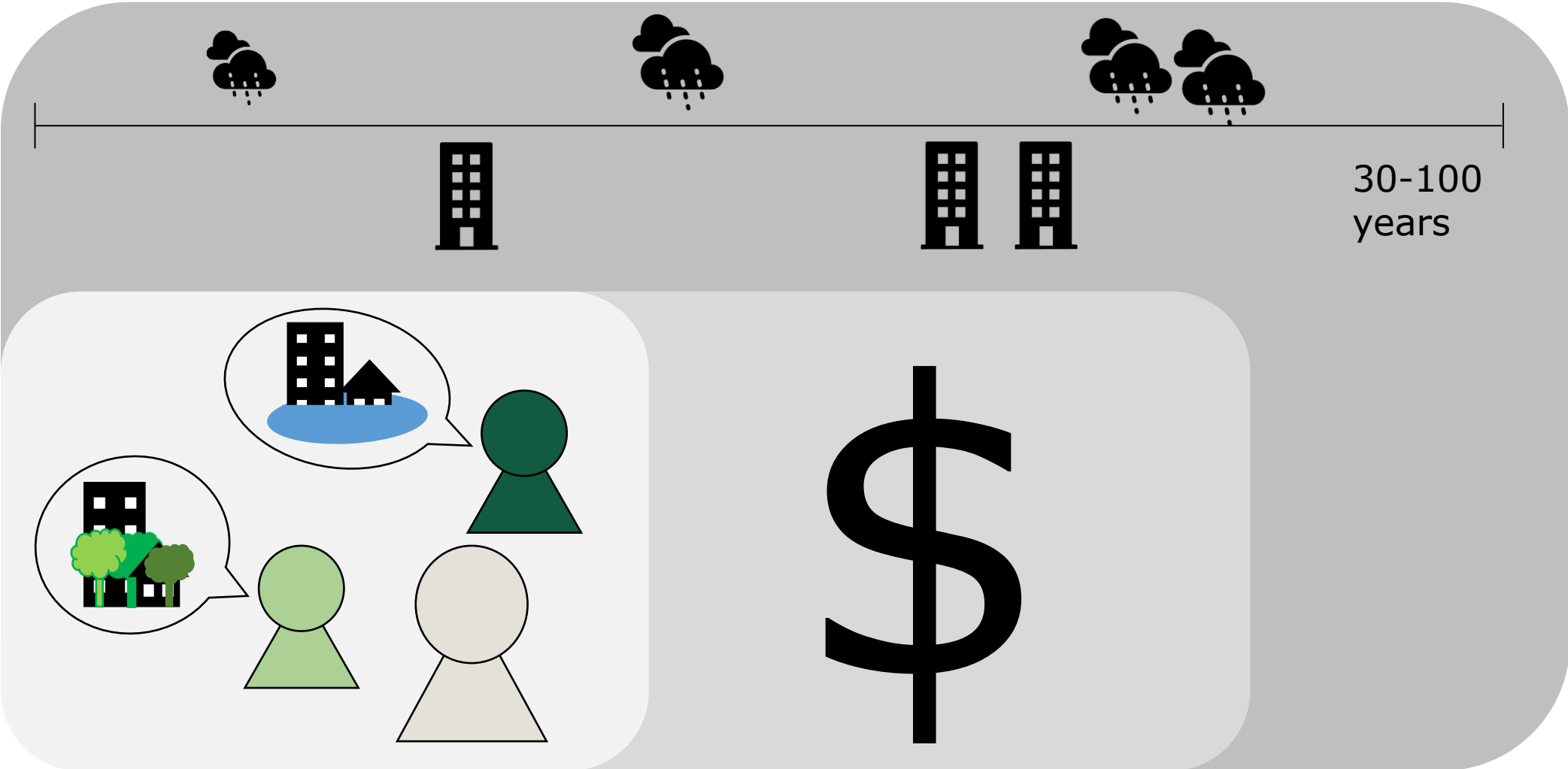
Danish planning context



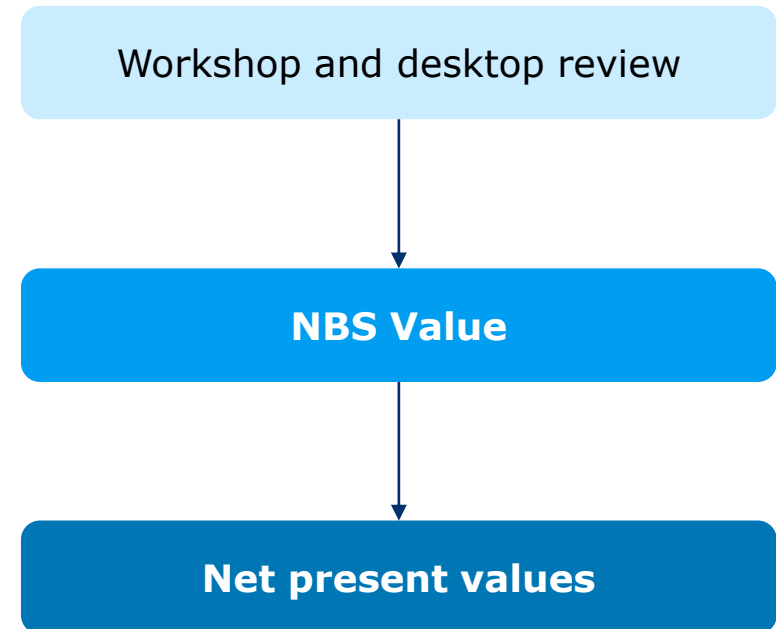
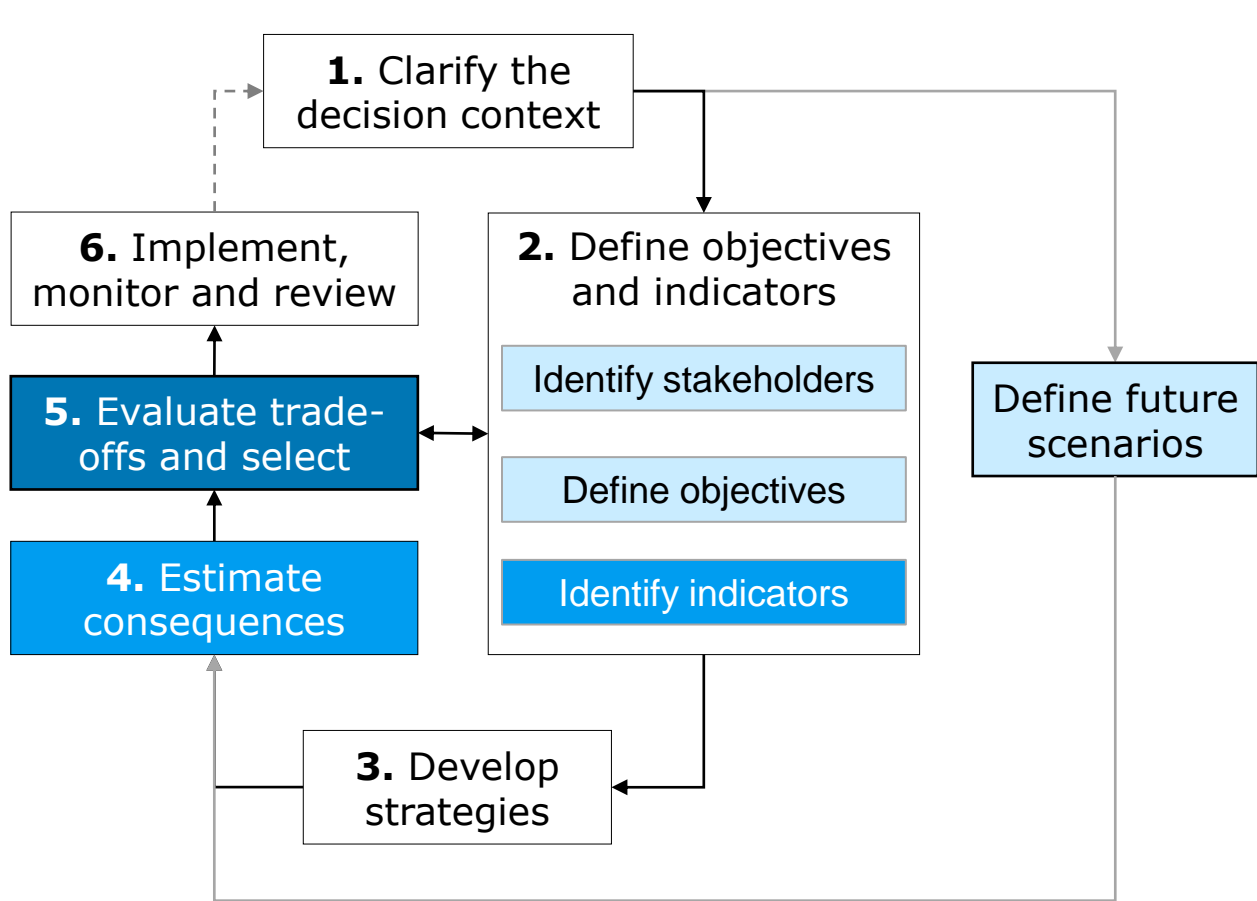
Planning complexity related to NBS



The socio-economic approach

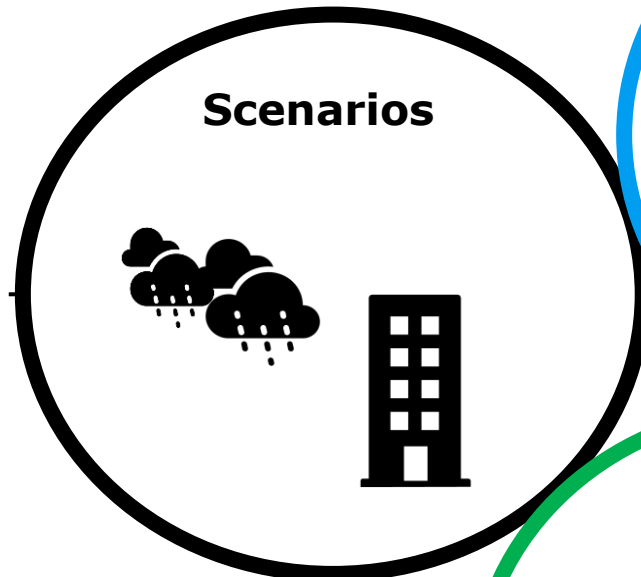


The socio-economic approach

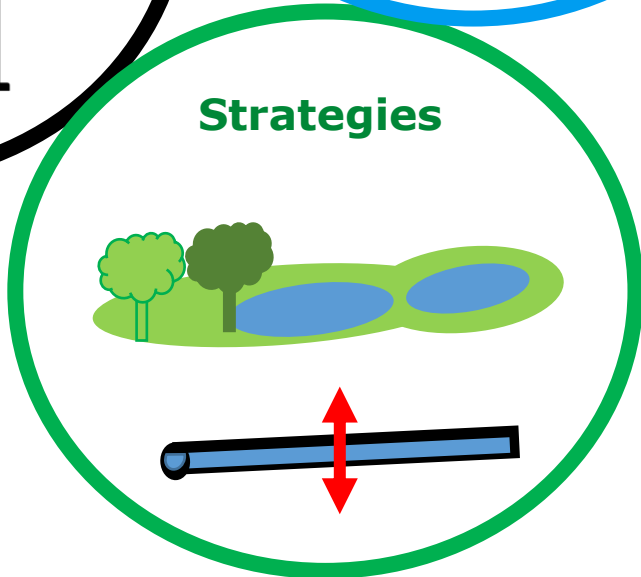


Decision space

Events that **cannot** be controlled

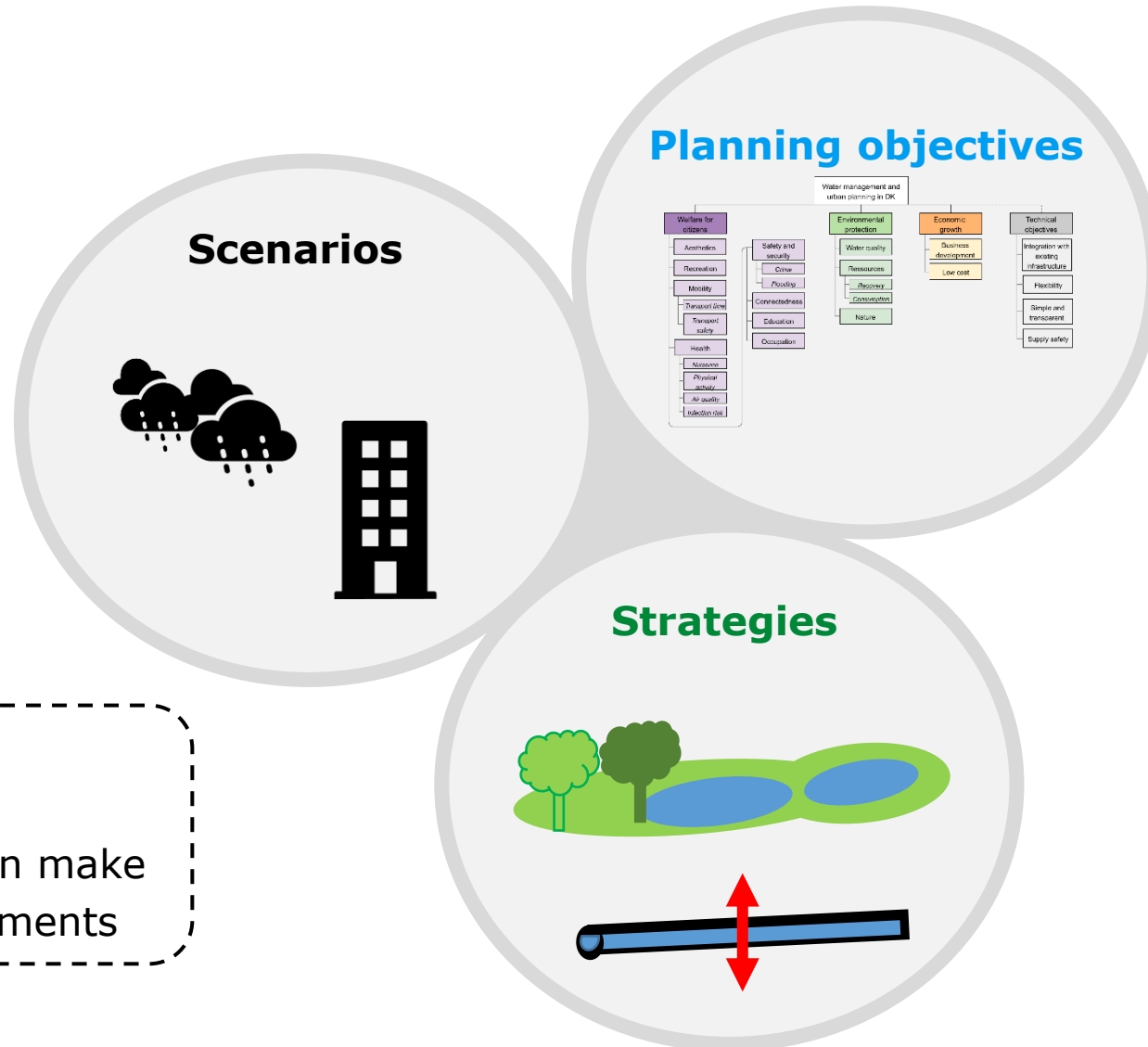
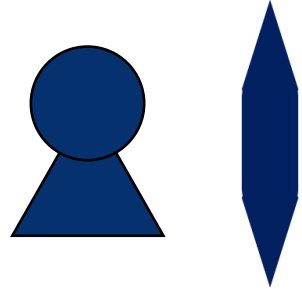


Targets of strategies and connected to stakeholders



Situations that **can** be controlled

Decision lens



Decision lens

- Different agendas
- Different decisions they can make
- Legal and financial requirements

Decision space

Planning objectives

Directly (Workshops):

Water utility



Municipality (Industry, environment, urban planning)

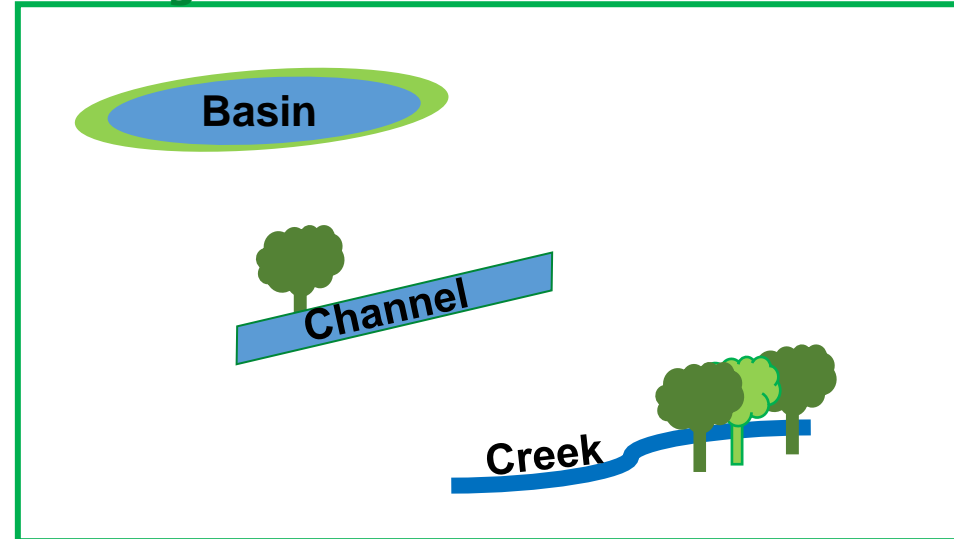


Indirectly (Through literature):

Citizens



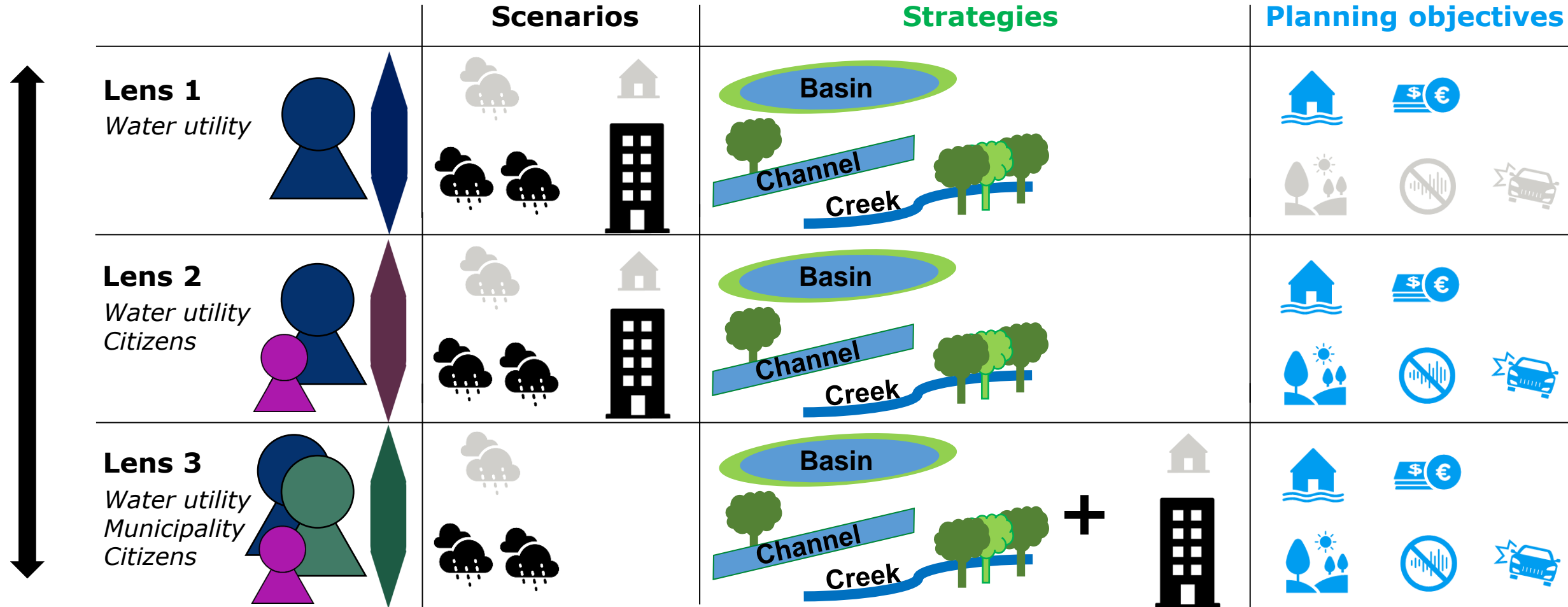
Strategies



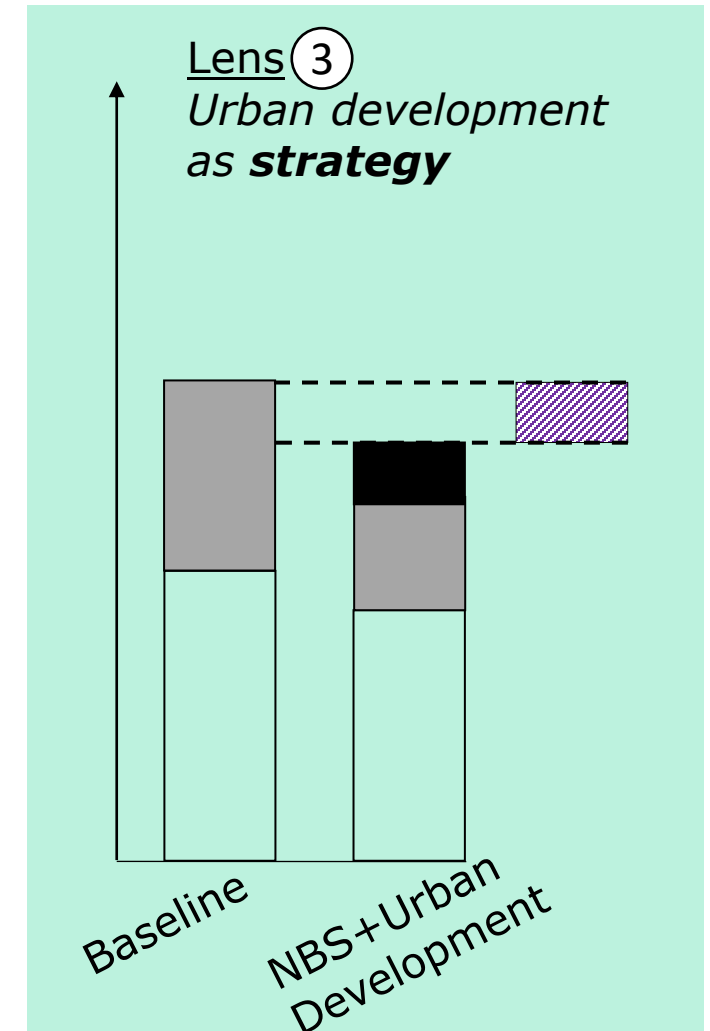
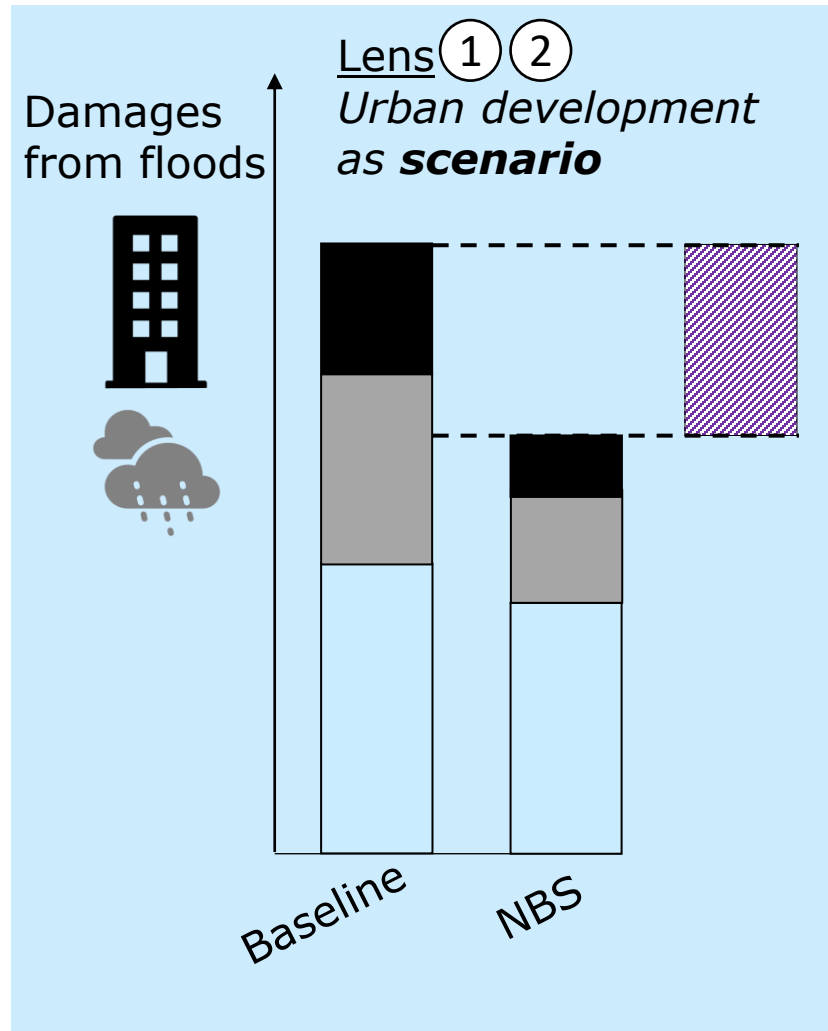
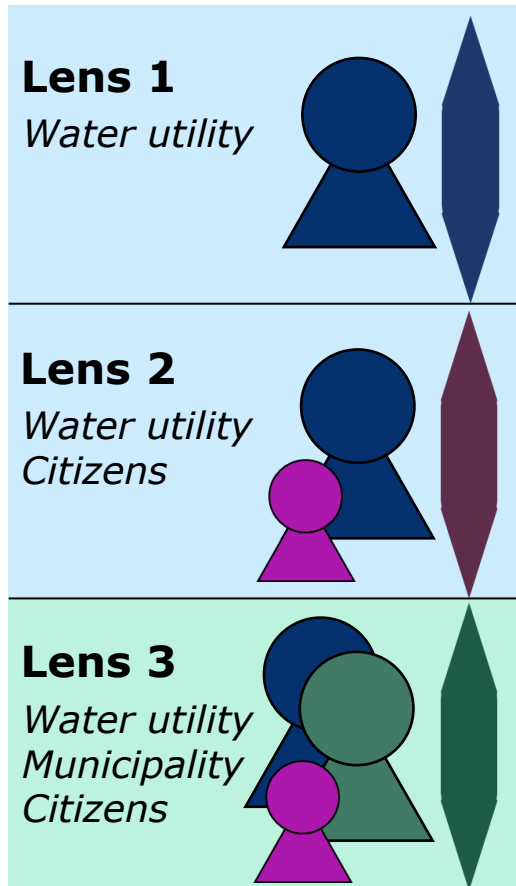
Scenarios



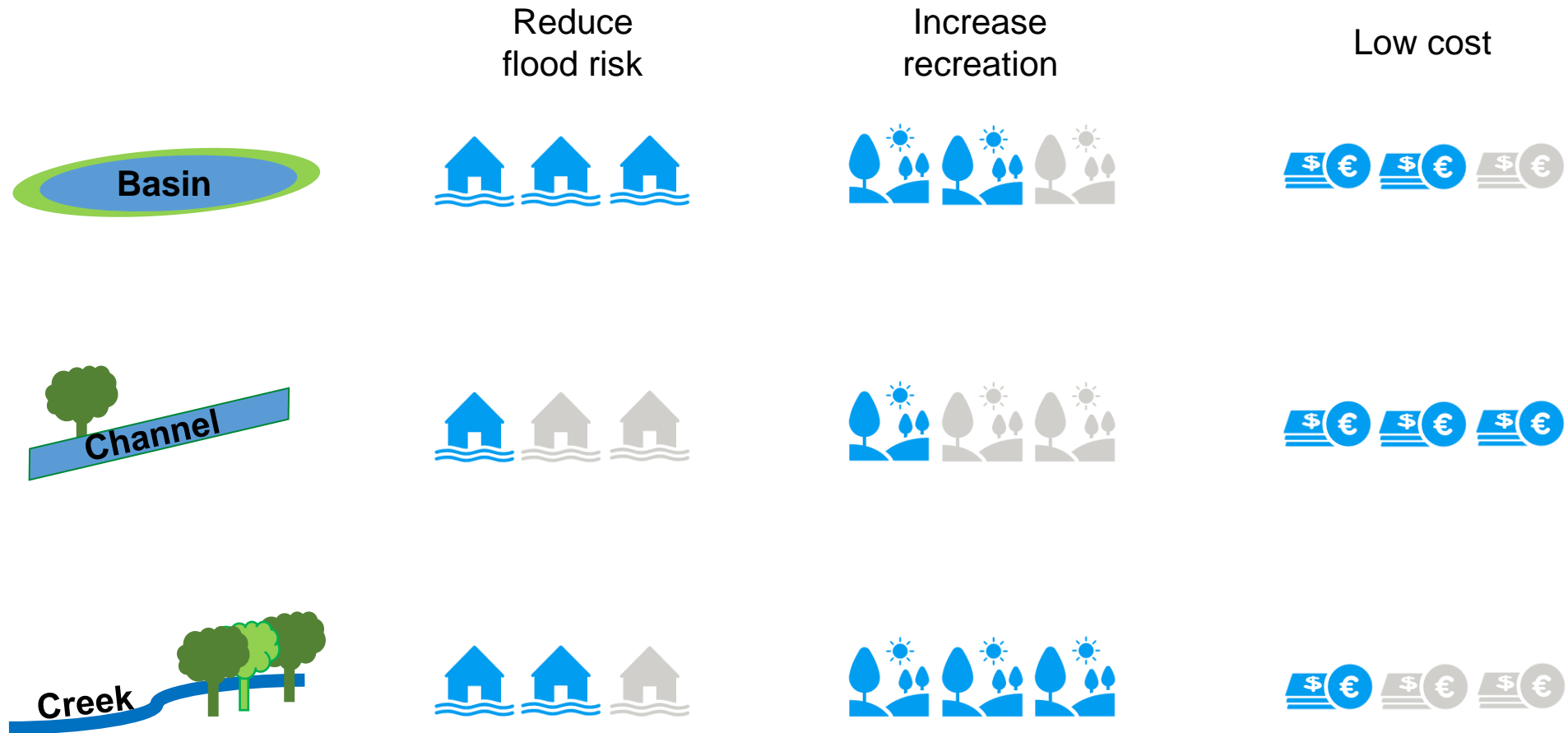
Decision lenses



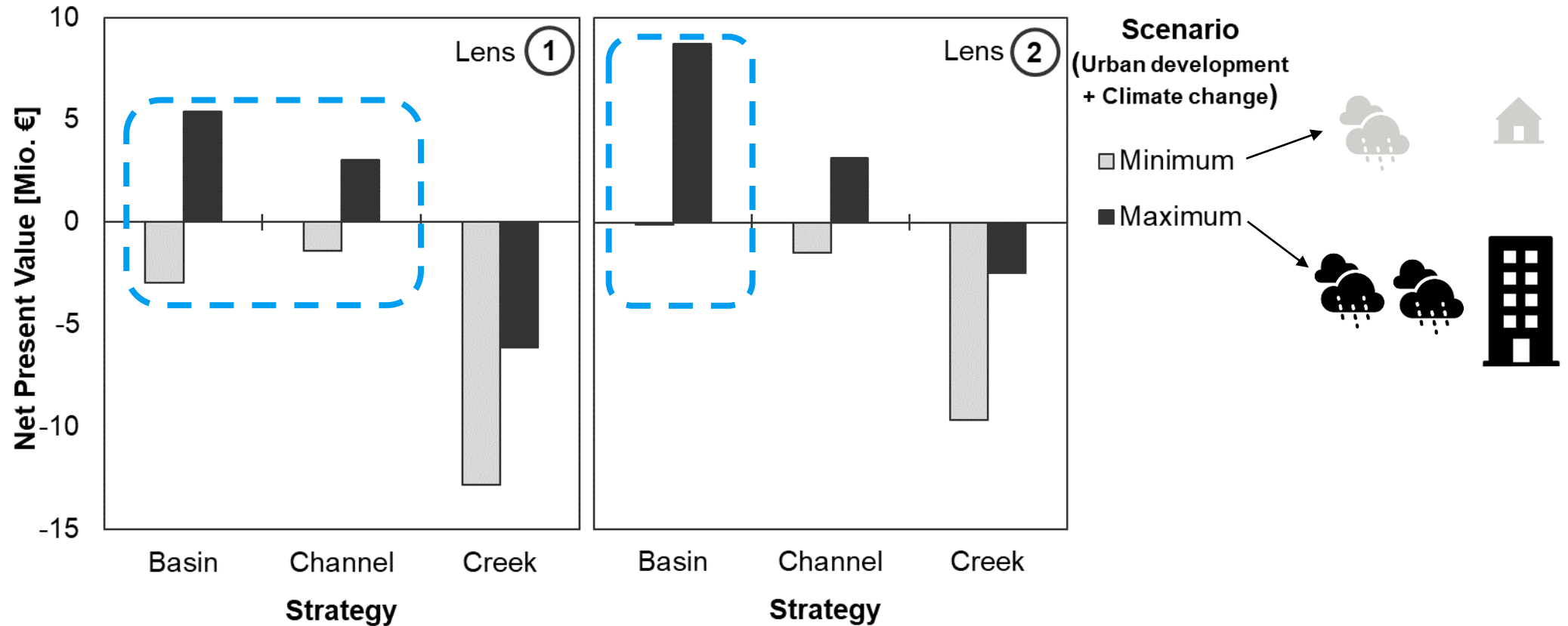
Calculation differences between lenses

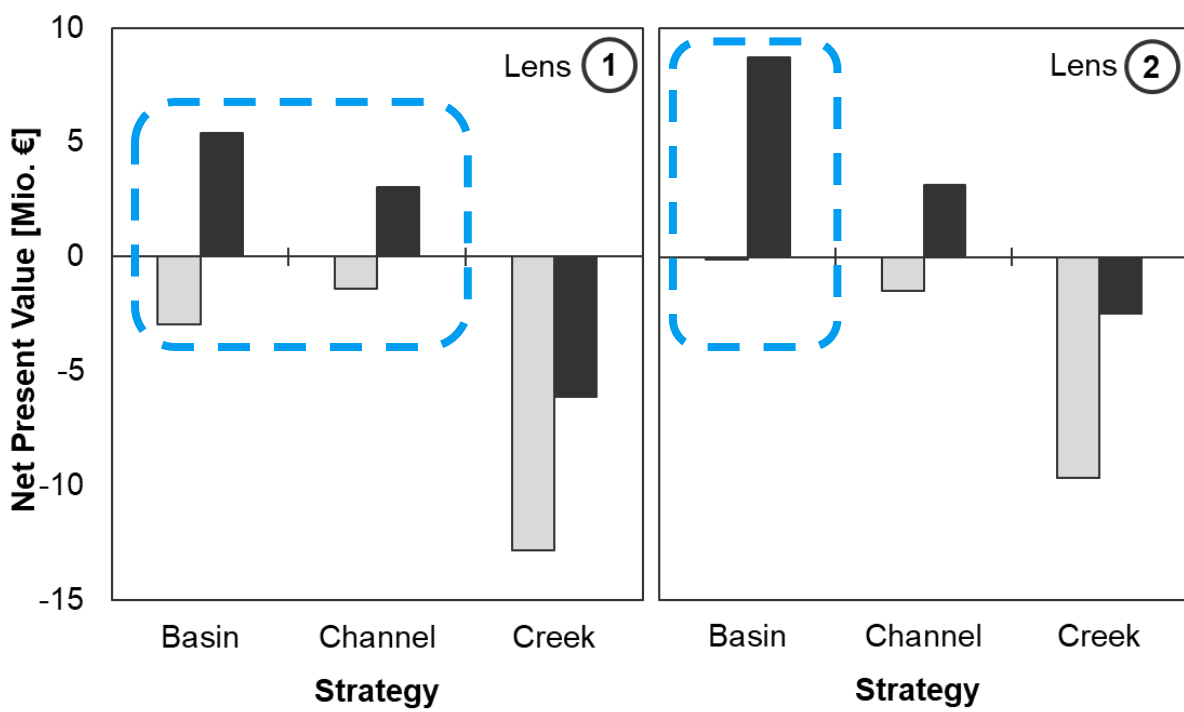


Most influential planning objectives



Results of the socio-economic approach

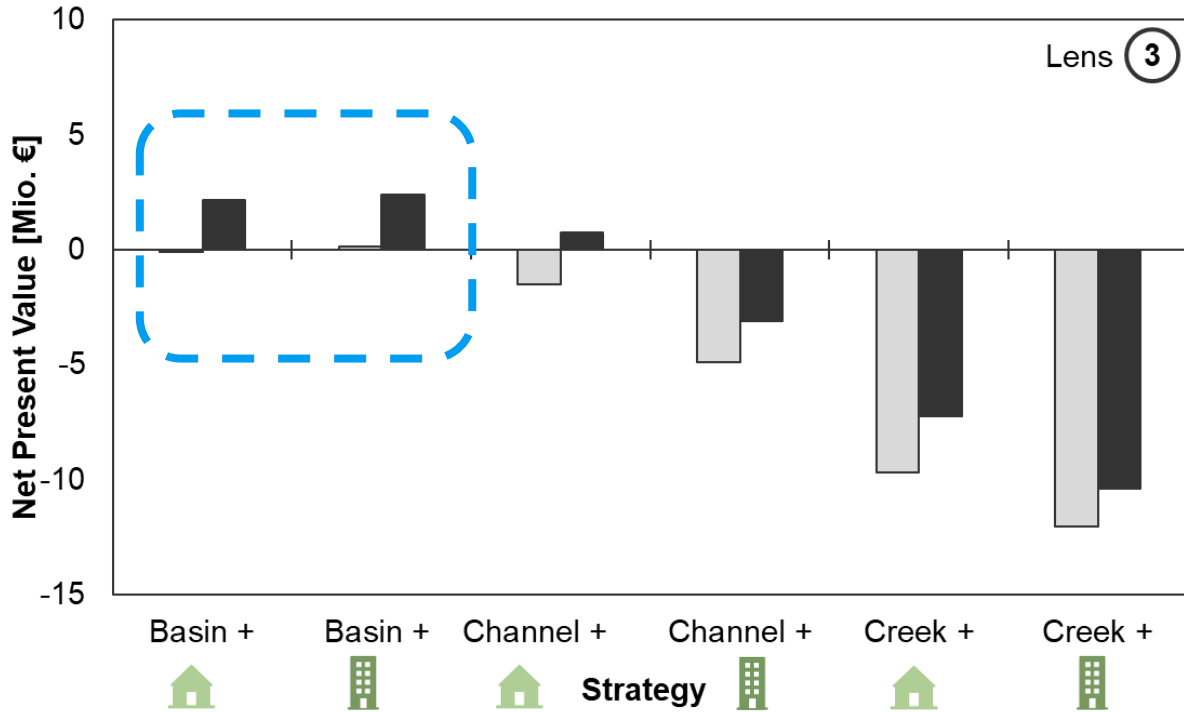
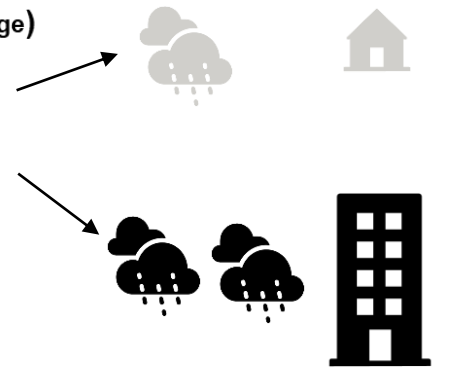




Scenario
(Urban development + Climate change)

□ Minimum

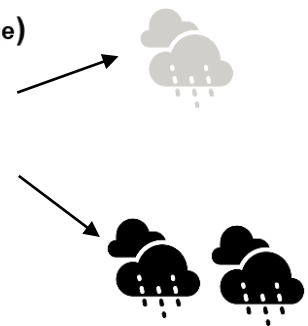
■ Maximum



Scenario
(Climate change)

□ Minimum

■ Maximum



Take-home messages

- The impact from urban development (and climate change) could very well change the decision outcome
- Decision lenses may improve communication between decision-makers by illustrating how different urban agendas can impact each other
- The approach provides deeper insights into the trade-offs in NBS performance, which may avoid overinvestments
- Ongoing work continues to:
 - develop the evidence and knowledge base of NBS
 - ensure a fair comparison with other urban agendas

Thank you!

Julie Skrydstrup

Climate Adaptation and Green Infrastructure

jskr@ramboll.dk

RAMBOLL

Bright ideas.
Sustainable change.