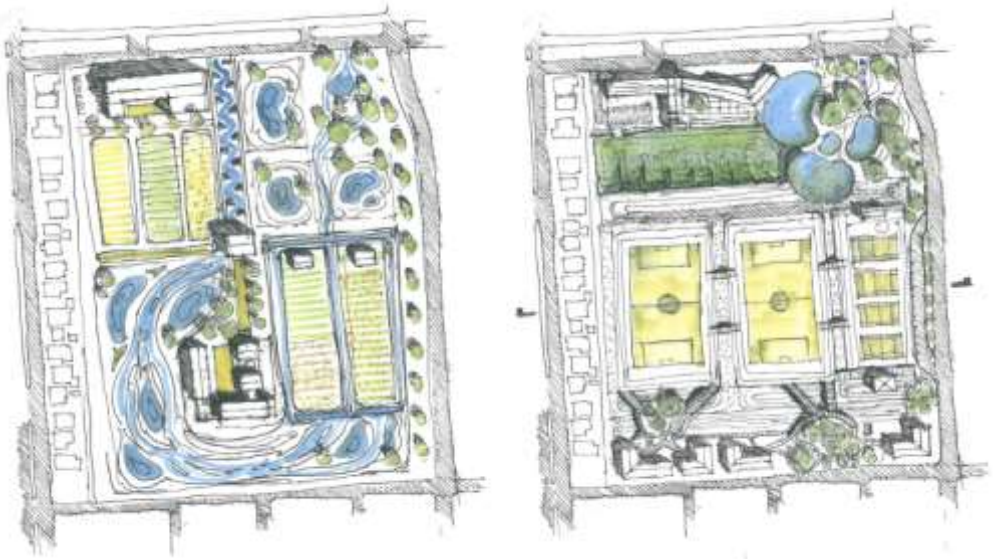

Deltares
Enabling Delta Life

eit Climate-KIC

TU Delft

Blue Green Dream ‘s

Adaptation Support Toolbox

an effective planning support system

Dr ir Frans H M van de Ven

20 November 2015

Objective

1. “Develop a new paradigm for efficient planning and management of new urban developments and retrofitting of existing ones to maximize ecosystem services and increase resilience to climate change.”

2. “Develop an adaptation support tool (AST) to maximize efficiency, effectiveness and attractiveness of blue and green ecosystem services for urban climate adaptation, while dealing with constraints in budget, space and other resources.

ToR

- Support designers, developers, engineers and urban stakeholders in their efforts to make cities climate-proof in a sustainable way.
- Involve stakeholders in the planning process
- Support planning of new urban developments & urban reconstruction/ renewal
- Rank blue, green and grey adaptation measures for their applicability
- Show their effectiveness with a Performance Evaluation System

Blue Green Dream

Co-design

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1.Many, many options:

Blue-green solutions preferred over grey ones

Hard solutions → **Soft solutions**

less space, dike → ***more space, no dike***

less flexible, extra investment → ***flexible and cost-effective***

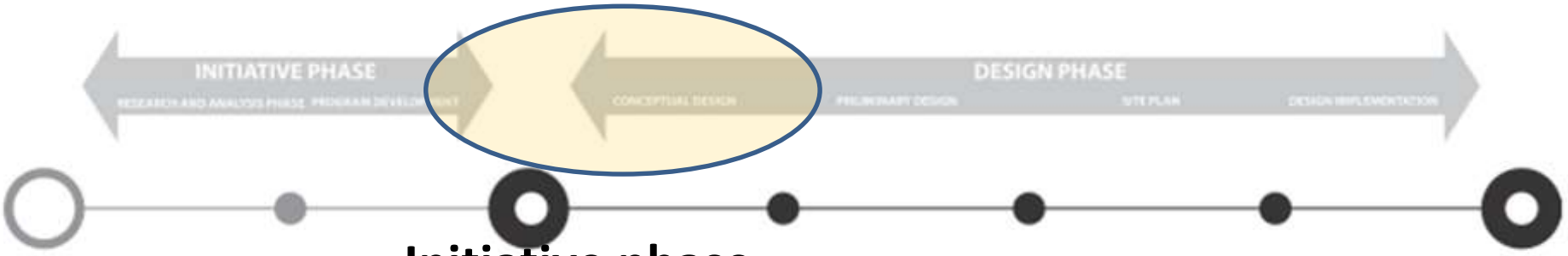







Blue Green Dream

The planning process



Initiative phase

- research and analysis
- programme development

Design phase

- conceptual design
- preliminary design
- site plan
- implementation plan

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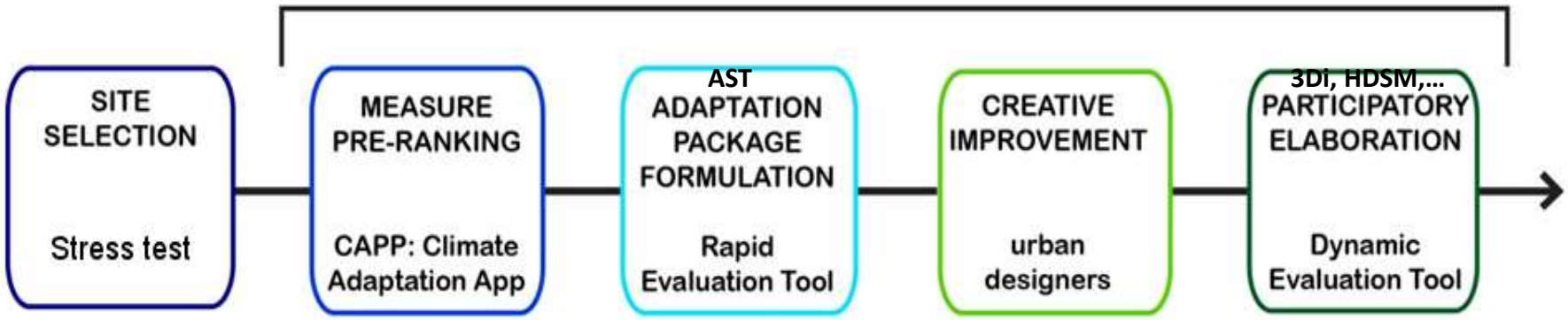
Supported by

Adaptation Support Toolbox



Output:	ranked list of measures	2 - 3 alternative adaptation packages	strengthened design & innovation	design ready for decision making

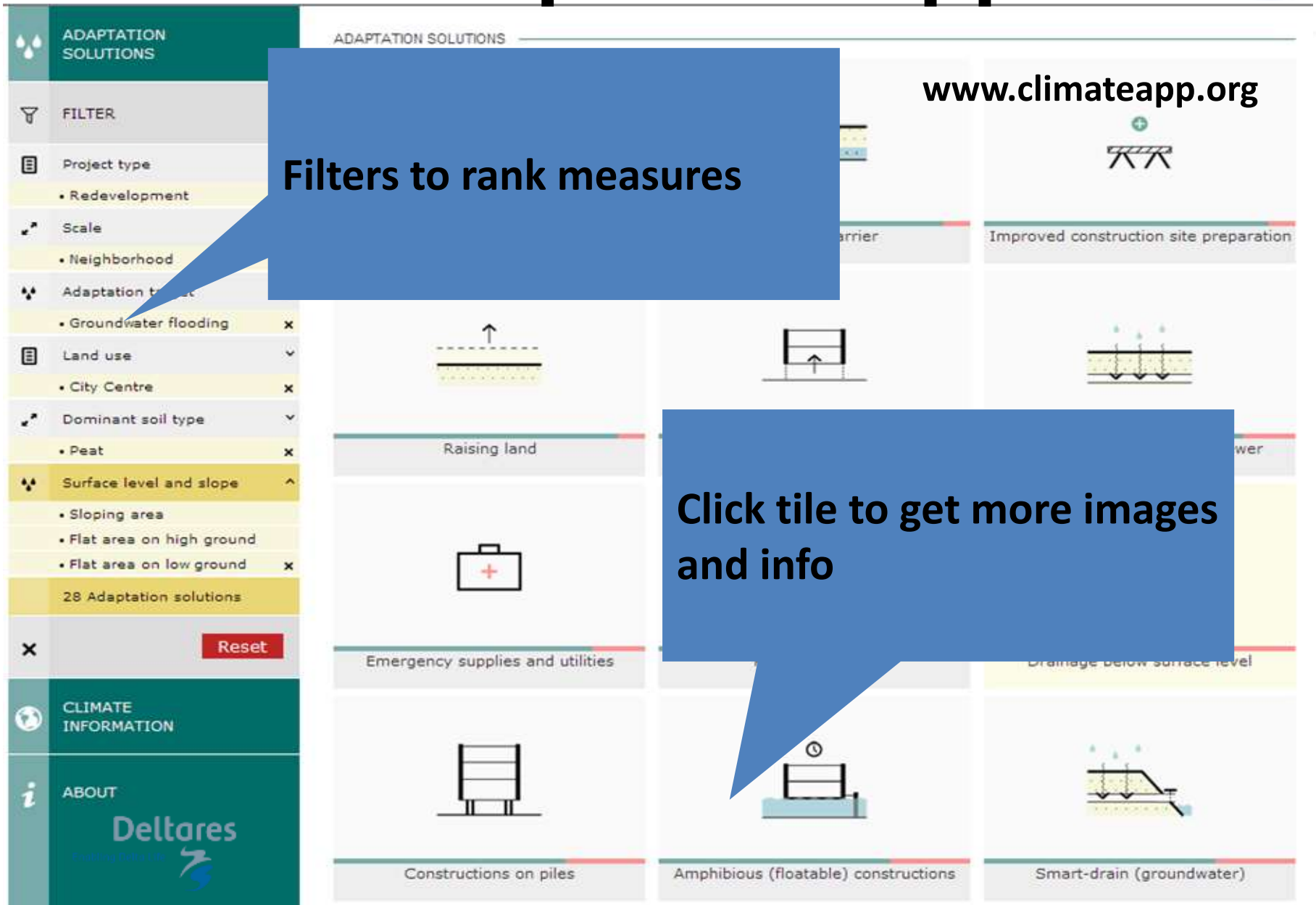
Climate Adaptation App

climate changes spatial planning

www.climateapp.org

Filters to rank measures

Click tile to get more images and info



Blue Green Dream Adaptation Support Tool

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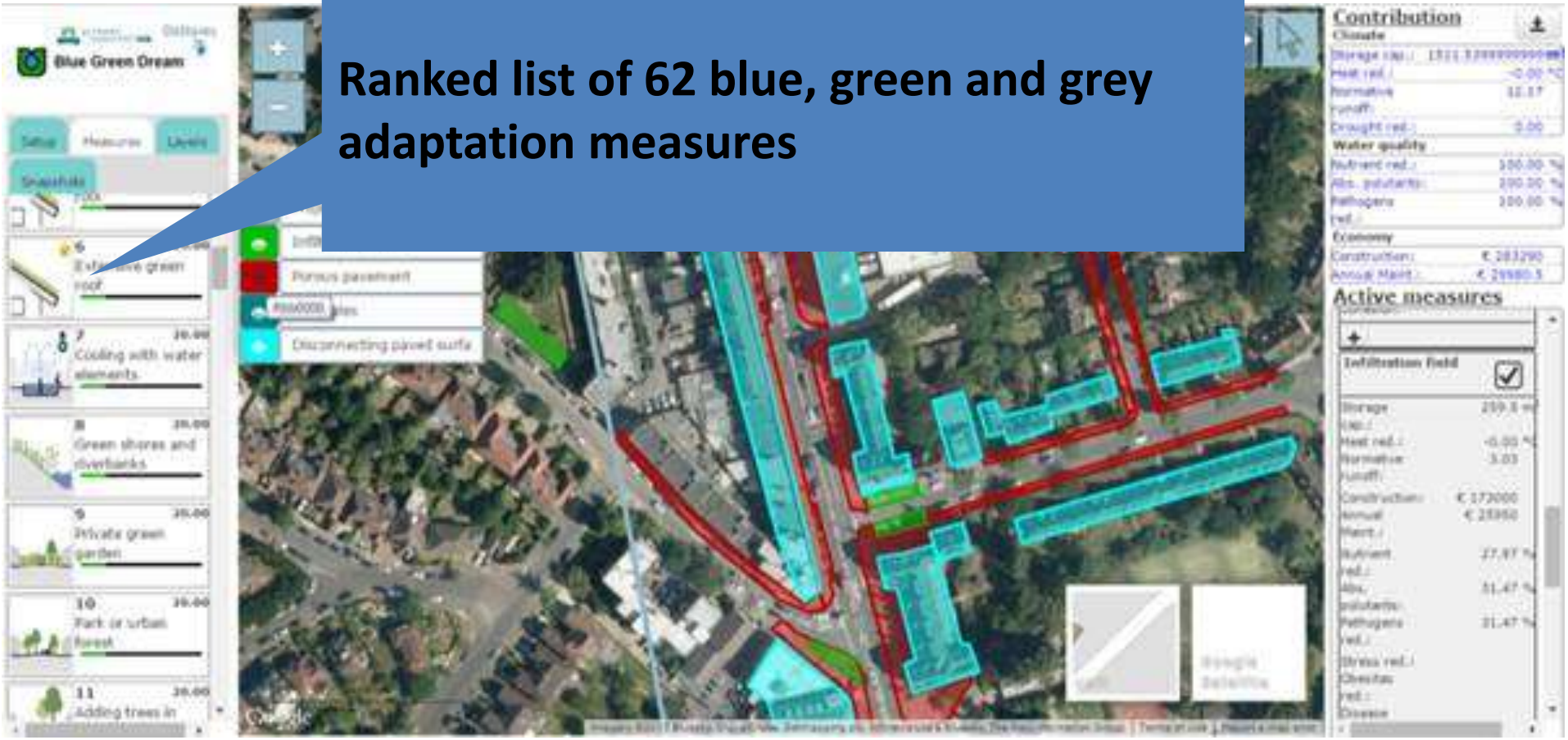
Dashboard



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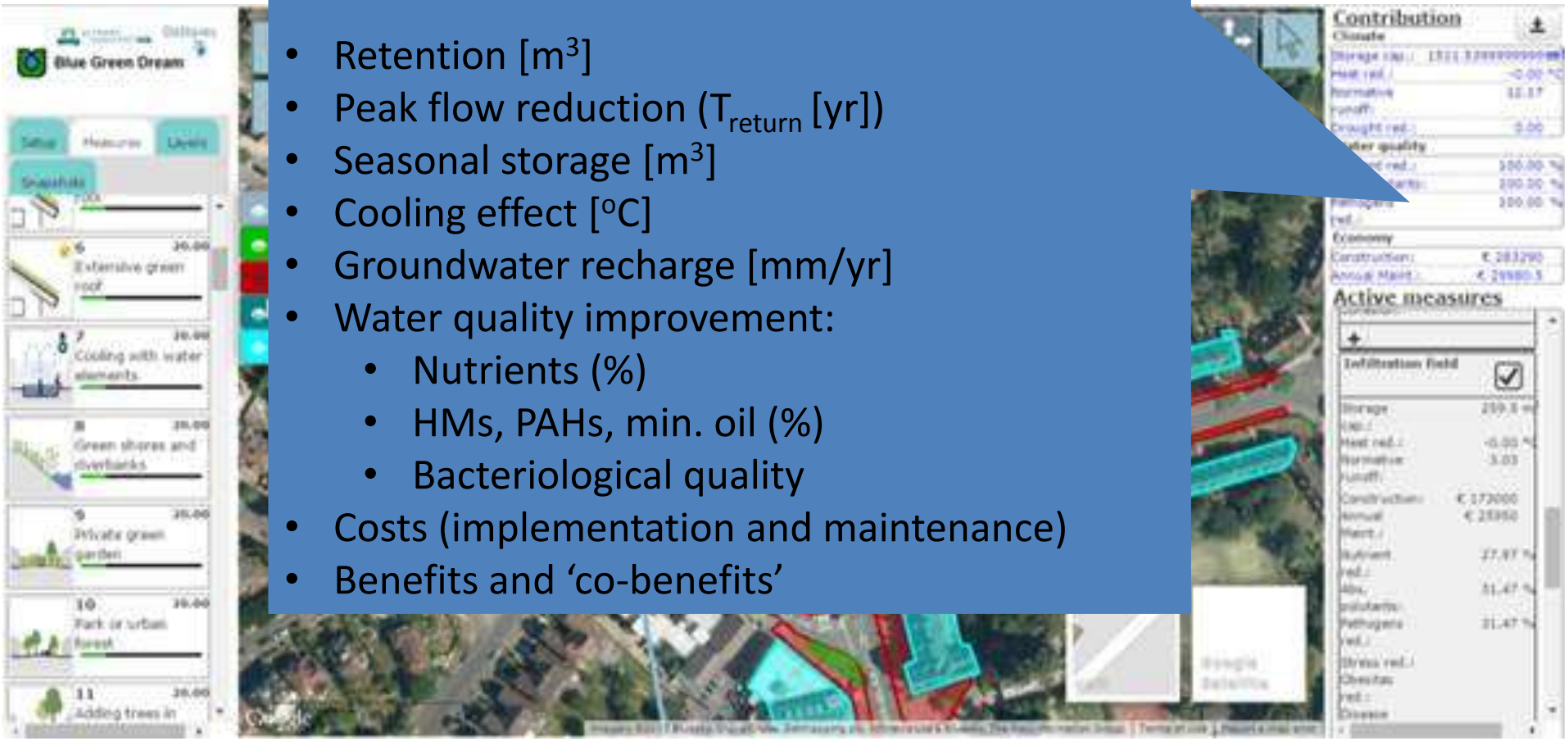
Dashboard

Dashboard with **KPI's**
based on key figures, e.g.:

- Retention [m^3]
- Peak flow reduction (T_{return} [yr])
- Seasonal storage [m^3]
- Cooling effect [^oC]
- Groundwater recharge [mm/yr]
- Water quality improvement:
  - Nutrients (%)
  - HMs, PAHs, min. oil (%)
  - Bacteriological quality
- Costs (implementation and maintenance)
- Benefits and 'co-benefits'



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Pilot applications

First applications of the toolbox:

1. in the Netherlands
   Utrecht, Dordrecht, …
2. abroad
   Beira, London, Oaxaca, …

Closing

Thank you for your attention