# European Institute of Technology (EIT) & Climate-KIC

## The Blue Green Dream project is supported by the EIT's Climate Knowledge and Innovation Community (KIC) programme, where it is part of the Sustainable City Systems challenge platform.

Climate-KIC focuses on innovating for low-carbon prosperity and climate resilience. The Blue Green Dream project supports this goal by harnessing the interactions between urban water infrastructure, urban green spaces and other urban ecosystems and functions. It is thereby meeting the strategic challenge of developing sustainable, resilient city systems that move from centralised water, energy and waste utilities to decentralised but integrated systems.

This means tackling three specific challenges:

1. **Urban planning:** developing planning and decision support tools aimed at creating sustainable, climate change resilient cities (both new and retrofitted). This also includes strategic planning and governance.
2. **Integrated services:** supporting the transition to fully integrated services and utilities, specifically, interlinked water assets and green spaces and optimising their interactions with other urban ecosystem services.
3. **Resource recycling efficiency**: harmonising cities with the natural environment to optimise the decentralised use of available resources, preferably at the point of generation, so reducing their footprint.

See www.climate-kic.org for more information.

# Project Partners

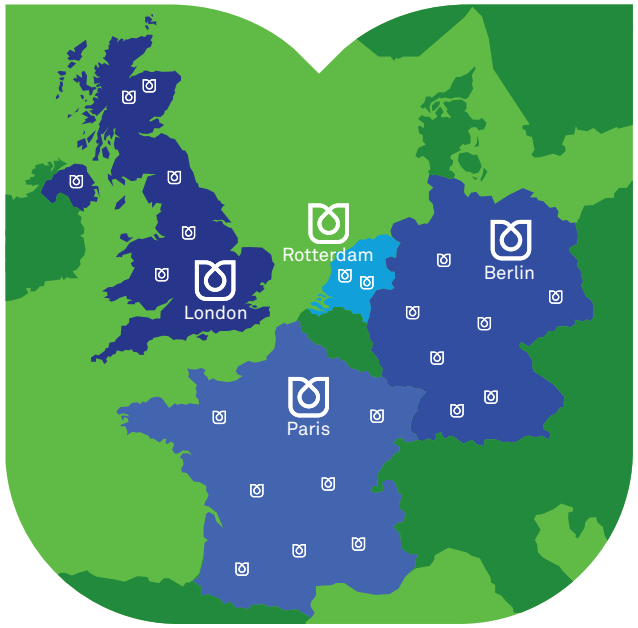
## The Blue Green Dream project is supported by 15 partners and key supporters across the United Kingdom, France, Germany and the Netherlands:

**Partner & pilot project cities**
Berlin, London,Paris, Rotterdam and Utrecht.

**Academic partners**
- École des Ponts et Chaussée (ENPC);
- Imperial College London (ICL);
- TU Berlin;
- TU Delft.

**Business partners & users**
- Arcadis;
- Alterra;
- Bosch-Slabbers;
- Deltares;
- Ingenieurgesellschaft Prof. Dr. Sieker mbH;
- Institute of Sustainability;
- Studio Exter;
- Veolia Environnement.

**KIC supporters**
- AECOM;
- ICCI Ltd.;
- Sainsbury's.




# Blue Green Dream®

## Blue Green Dream offers a new, eco-innovative paradigm for the planning, designing, operating and maintaining of urban water systems (blue assets) and urban vegetated areas (green infrastructure) not as separate systems, as is the case today, but as a synergistic network interlinked with urban ecosystem services.

The Blue Green Dream project is harnessing the interactions between urban blue and green systems to provide effective, multifunctional Blue Green Solutions to support urban adaptation to climate change.

**The project's multiple urban benefits include:**

- Enhanced resilience to droughts & floods
- Reduced water, air and noise pollution
- Mitigation of the urban heat island effect
- Increased amenity, human health & well being
- Reduced operational costs (lower energy & water bills)
- Enhanced biodiversity & urban agriculture
- Enhanced aesthetics, liveability and property values
- Improved governance, reduced socio-economic problems, creation of innovative jobs

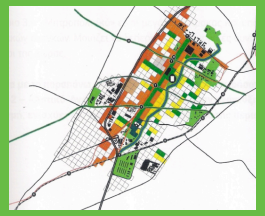
The combined effects of climate change and increased urbanisation call for the integrated planning of new cities, and the retrofitting of existing urban areas. This project offers new ways of developing, testing and rolling out solutions, bridging the gap between R&D and wider business development.

# BGD Tools and Test sites

The BGD project has built a range of demonstration sites for measuring the benefits of BG Solutions and it has developed tools for optimising their implementation.

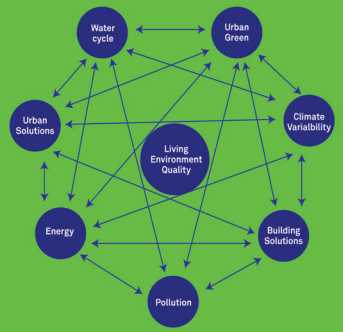
Multipurpose green roof at Imperial College London's South Kensington Campus

Blue Green Wave at the ENPC ParisTech campus



Urban Water Optioneering Tool (UWOT)

Adaptation Support Tool (AST)




Urban Ecosystem Services interactions mapped by the BGD Integrated Modeliling System (IMS)

# Blue Green Research

Work is underway to develop Blue Green Solutions for achieving improvements in the following areas:

- Water Balance for Advanced Urban Flood and Drought Management
- Nutrient and Pollution Migration/Management
- Microclimate and Urban Heat Islands (creation of new enhanced urban spaces)
- Energy Efficiency by Natural Processes and Resources
- Benefits of Plants and Landscaping
- Ecosystem Services' Interactions (Modelling and Quantification)

One of the project's aims is to optimise harvesting and recycling of the storm water flows through blue green infrastructure, plus grey water from households, and to harmonise these resources with the energy, waste and food networks. Using Blue Green Solutions, cities can thus progress from being mere consumers of water, energy and food to localised providers, making efficient use of limited water resources, and hence, increasing resilience of existing urban infrastructure to climate change.

The project is quantifying the benefits of BG Solutions via its monitoring work at the BGD demo sites and developing tools for: 1) optimising planning and implementation; 2) E-learning. The BGD Integrated Modelling System (IMS) is being produced to interlink the modelling tools and hence, enable complex analyses related to final design and quantification of benefits. A Building Information Modelling (BIM) BGD module is being developed for visualising and simulating benefits.

## Contact Details

Project Lead:
**Prof. Čedo Maksimović**
e-mail: c.maksimovic@imperial.ac.uk
office: +44 20 7594 6013

Project Manager:
**Dr Karl M. Smith MEng PhD**
e-mail: k.smith@imperial.ac.uk
office: +44 20 7594 1511

# Get Involved

The project has already formed links across Europe and is in the process of setting up Blue Green Dream regional centres in:

**Athens**
Eastern Med.
& Middle East;

**Belgrade**
Central &
South-Eastern Europe;

**Torino**
Western Med.
& North Africa;

**Wrocław**
North-Eastern Europe;

**Stockholm**
Nordic Region & North Sea.

Blue Green Dream regional centres are also earmarked for outside Europe, with the first one already being established in Singapore.

If you are interested in learning more about what Blue Green Solutions can offer your organisation, or if you are interested in becoming part of the expanding Blue Green Dream network, please contact us.