

CITYFOOD

Feeding rapidly growing urban populations is a global challenge, which strains the Food-Water-Energy Nexus through increasing water and energy demands and environmental pollution. CITYFOOD provides innovative solutions to this daunting environmental challenge by integrating aqua-agriculture (IAAC) systems into urban areas. IAAC multitrophic food production systems optimise flows of food, water, energy, and waste while minimising resource needs. Computer models will help to maximise the environmental, economic, and social benefits of the IAAC technology. Real-world experiments in Living Labs will synthesise all three FWE sectors and illustrate the integrated system for multiple stakeholders. Urban planning approaches and sample case studies will help to develop comprehensive implementation strategies in a variety of urban contexts.



Aim/objective

CITYFOOD will develop general concepts and urban planning strategies to implement improved IAAC systems at a much broader scale into cities.

The complexity of the FWE Nexus will be addressed by intertwining two threads – theoretical scientific research and applied research of IAAC implementations in cities.

Approaches/methods

- Optimising water, energy and nutrient use in IAAC systems
- Concept for the IAAC Knowledge Base
- IAAC performance modelling
- Identifying the IAAC key indicators and parameters
- Assessing resources for the integration of aqua-agriculture in urban environments

Expected results and impacts

- Knowledge Base of IAAC technology for different stakeholders
- Urban concepts and policies
- Model based strategies to adapt and implement IAAC systems into the urban environment
- Living Labs with evaluation of user experiences
- Urban FWE impact assessment
- Dissemination/ exploitation

CITYFOOD – Smart integrated multitrophic city food production systems

– a water and energy saving approach for global urbanisation

Duration: 2018–2021

Internet: jpi-urbaneurope.eu/project/cityfood/

Contact: Prof. Werner Kloas, Dr. Daniela Baganz, Leibniz-Institute of Freshwater Ecology and Inland Fisheries

E-mail: werner.kloas@igb-berlin.de, baganz@igb-berlin.de

Budget: 1.876.956 €

Partners: Forschungsverbund Berlin e.V. – Leibniz Institute of Freshwater Ecology and Inland Fisheries, Norwegian Institute of Bioeconomy Research Division for Food Production and Society, Universidade Estadual Paulista Júlio de Mesquita Filho, University of Gothenburg, Wageningen University & Research, University of Washington

Involved cities

São Paulo (Brazil)
Berlin (Germany)
Grimstad (Norway)
Arendal (Norway)

Sustainable Urbanisation Global Initiative (SUGI)/Food-Water-Energy Nexus

The Sustainable Urbanisation Global Initiative (SUGI)/Food-Water-Energy Nexus is a call jointly established by the Belmont Forum and the Joint Programming Initiative Urban Europe. The cooperation was established in order to bring together research and expertise across the globe to find innovative new solutions to the Food-Water-Energy Nexus challenge.



jpi-urbaneurope.eu

www.belmontforum.org



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730254.