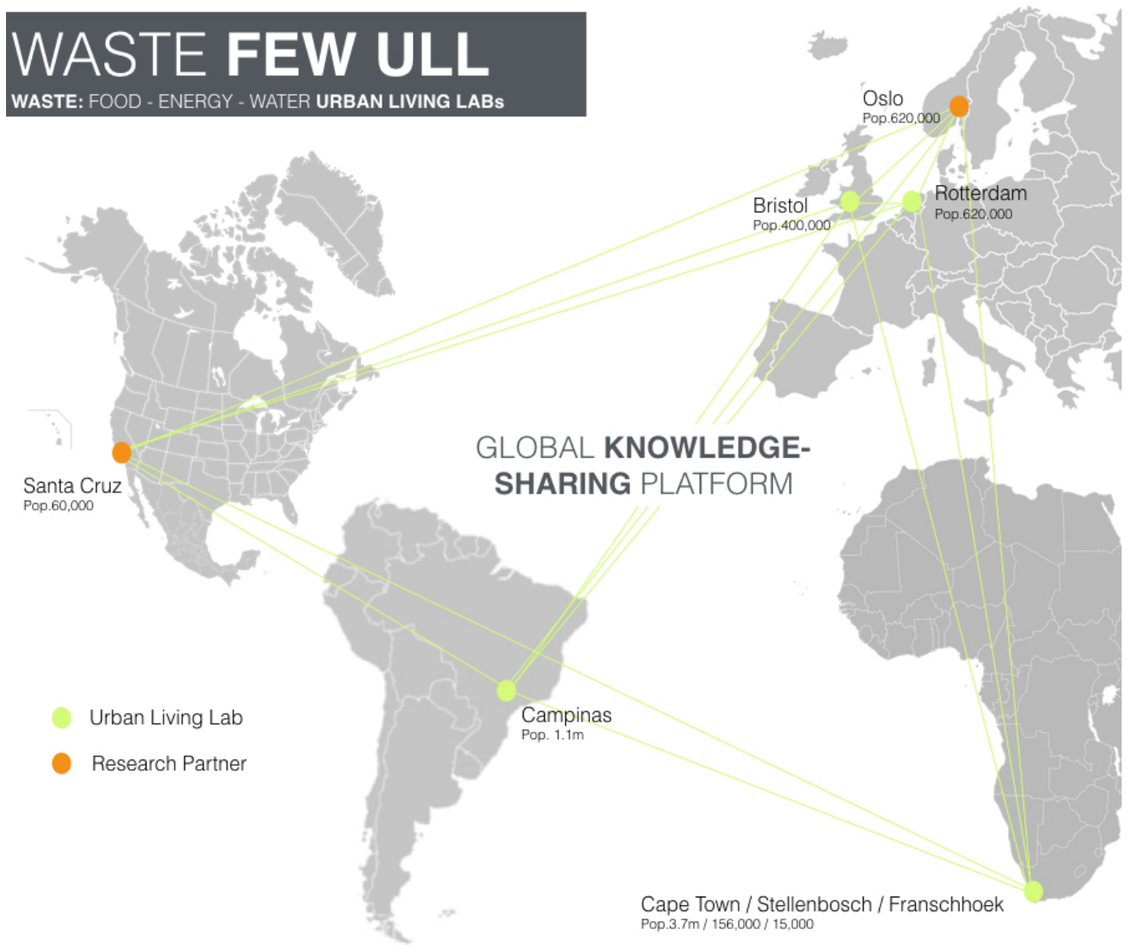
WASTE FEW ULL

The project's aim is to substantially reduce resource inefficiencies in the urban food-energy-water nexus. We will establish four Urban Living Labs (ULL) in three continents: Europe, Africa and South America. Key activities include: mapping resource flows and identifying critical dysfunctions; agreeing the most effective locally appropriate response (e.g. policy intervention, technology diffusion); modelling the market and non-market economic value of each intervention; engaging with decision-makers to close each loop; comparing and contrasting approaches in order to develop replicable models for use in cities around the world. Each ULL will be made up of academic, industry, third sector agents and community representatives grouped around a context-specific focus area.



• Phosphorus is vital in food growing, yet it is limited – we mine 20 million metric tonnes a year - and the vast majority lost via waterways to the oceans. The majority of phosphate deposits are located in North Africa (64%), USA (15%) and China (6%).

• Cape Town may be the first major global city to run out of water.

• In Sao Paolo, new regulations banning the burning of sugar-cane pre-harvest and the development of combine harvesters made harvesting easier and cheaper.

Aim/objective

1. Launch ULLs
2. Identify inefficiencies
3. Plan/monitor pathways to impact
4. Quantify economic impact
5. Close (or start to close) resource loops
6. Establish knowledge exchange
7. Produce/disseminate replicable models
8. Establish legacy network

Approaches/methods

Our methods include: systems/design thinking and mapping analysis; resource flow dynamics; technology road-mapping; acceleration potential mapping; economic valuation; scenario building; back-casting; and corporate risk management.

Expected results and impacts

Impacts will be diverse given the four different contexts, foci and methods. External impact will be maximized through co-creation with end users, economic valuation and impact pathway monitoring to ensure viable and feasible real world application.

WASTE FEW ULL – Waste Food-Energy-Water Urban Living Labs – Mapping and Reducing Waste in the Food-Energy-Water Nexus
Duration: 2018–2021
Internet: jpi-urbaneurope.eu/project/waste-few-ull/
Contact: Prof. Susanne Charlesworth, Coventry University and Daniel Black, db+a
E-mail: s.charlesworth@coventry.ac.uk and 0BlackDan@gmail.com
Budget: 1.153.558 €
Partners: Coventry University, University of California, CICERO Senter for klimaforskning, University of Bath, University of Reading, Wessex Water Services Ltd, Bristol Food Network, GENeco, The Schumacher Institute, University of Campinas, University of Cape Town, Erasmus University Rotterdam, ERWAT, Isidima Design & Development, BlueCity

Involved cities/project examples

Cape Town (South Africa)
Scaling small-scale solutions at The Water Hub

Rotterdam (The Netherlands)
Scaling start-up innovation at the BlueCityLab

Campinas (Brazil)
New tech, transition management and policy

Bristol (United Kingdom)
Testing viable phosphate recapture from sewage

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.