



### Living Lab Dortmund, Germany

#### NBS Community managed aquaponics

Aquaponics is a sustainable food production system that combines fish and plant production using aquaculture and hydroponic systems. Fish wastewater provides nutrients for plants. The aquaponics system was envisioned by proGReg for its potential to produce food on polluted post-industrial land with poor soil quality. Scaling effects drive economic performance of aquaponics facilities, thus sustainable business models apply to small to medium facilities, which at best allow interim use of already planned brownfield sites for several years. This led to constructing two identical 200 m<sup>2</sup> greenhouses on the former Hansa Coking Plant in Dortmund Huckarde. The aquaponic facility is operated and supervised by die Urbanisten and South Westphalia University of Applied Sciences (SWUAS) within the timeframe of proGReg (2019-2023).

#### Aim & goals

NBS 4 aims at creating a community managed aquaponics system by applying social and technological innovation solutions to achieve:

- Energy and water savings
- Use of natural fertilizers from fish waste
- Higher productivity per square meter than conventional farming
- Technological innovation of coupling two systems (aquaculture and hydroponics (soilless cultivation of crops))
- Use as an education facility and scientific experiments

#### Target groups (beneficiaries)

- Huckarde residents who can rent hydroponic beds in the aquaponic facility (rent-a-raft concept)
- Students and citizens for educational purposes

#### Main responsible partner

Die Urbanisten e.V. is the key partner responsible for implementation and citizen participation until May 2023.

#### Contact

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 🌐 [dieurbanisten.de](http://dieurbanisten.de)



#### Area of implementation

1,200 m<sup>2</sup> on the former Hansa Coking plant – an industrial heritage area, touristic highlight of the Ruhr Valley and main venue during International Garden Exhibition in 2027.

GPS coordinates: 51.541558, 7.410900

#### ProGReg partners involved

- South Westphalia University of Applied Science - responsible for planning, economic viability, technical and optimization of the facility.
- Aquaponik Manufaktur GmbH developing sizing, technical planning and filters in collaboration with SWUAS.
- Citybotanicals (HEI-TRO GMBH) - supported concept development in the early stages
- Department of Urban Renewal, City of Dortmund - proposing the site at Hansa Coking Plant, supported in obtaining building permit and facilitated communication

#### Other stakeholders involved

- Foundation for Preservation of Industrial Monuments and History Culture (Stiftung Industriedenkmalpflege und Geschichtskultur) (land owner)
- Department of Urban Planning and Building Regulation, City of Dortmund

#### Implementation budget

Total implementation budget: ca 243.500 €  
 proGReg funding: 199.500 €

#### Timeframe

Start  
 Autumn 2020



Completion  
 December 2022