



# Renewable Energy Technologies at :metablon

From laboratory to pilot-scale plants

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Seite 1

**Technology**  
**Arts Sciences**  
**TH Köln**

# Renewable Energy Technologies at :metabolon

## Our technology offer:

- Hydrothermal Carbonisation
- Gasification
- Pyrolysis
- Energy saving in water networks
- Free space for experimental technical plants



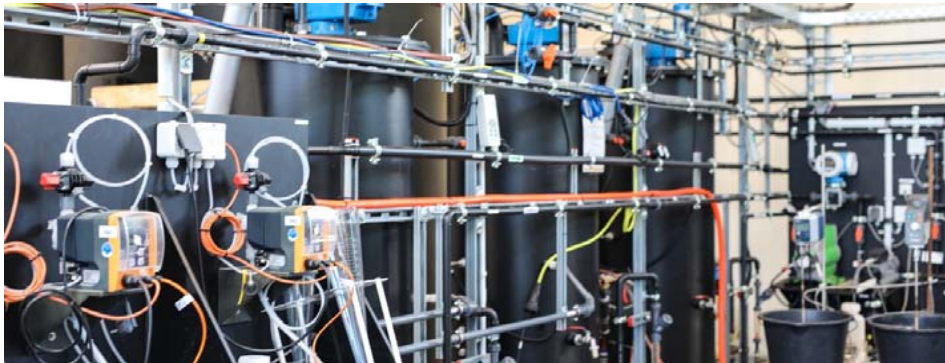
Gasification plant: 20 kg/h

:metabolon is situated on a landfill site.

# Research Group “GECO►C”

## Fields of Application / Focus areas

- + Software development for complex industrial automation systems
- + Data analysis (Machine Learning and AI)
- + Industry 4.0, measurement and sensor as well as communication systems
- + Process optimization for environmental processes



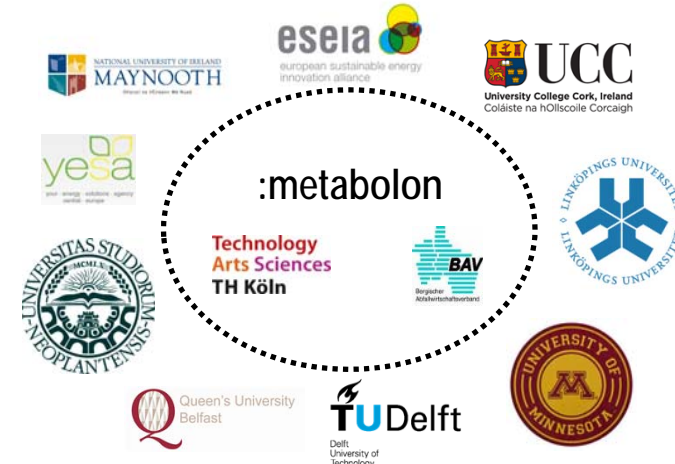
## Project examples:

- + **Drinking water networks**
  - + Intelligent, adaptive flushing
  - + Network management, leakage detection
- + **Wastewater systems**
  - + Energy efficiency of wastewater treatment systems
  - + Greenhouse gas emission reduction
  - + Digital platforms for the water industry
- + **Biogas**
  - + Monitoring and control of biogas plants
  - + Organic acid measurement
- + **Custom-designed automation solutions for environmental systems**
  - + i.e. leachate treatment, hydrothermal carbonization, pyrolysis, algae farming, etc.

# Renewable Energy Technologies at :metabolon

## Our experience:

- Submission of RIA (Research & Innovation Action) Calls as participant and as consortium leader
- Participation in Horizon 2020 projects
- Consortium leader of EU projects
- Network of European Research partners



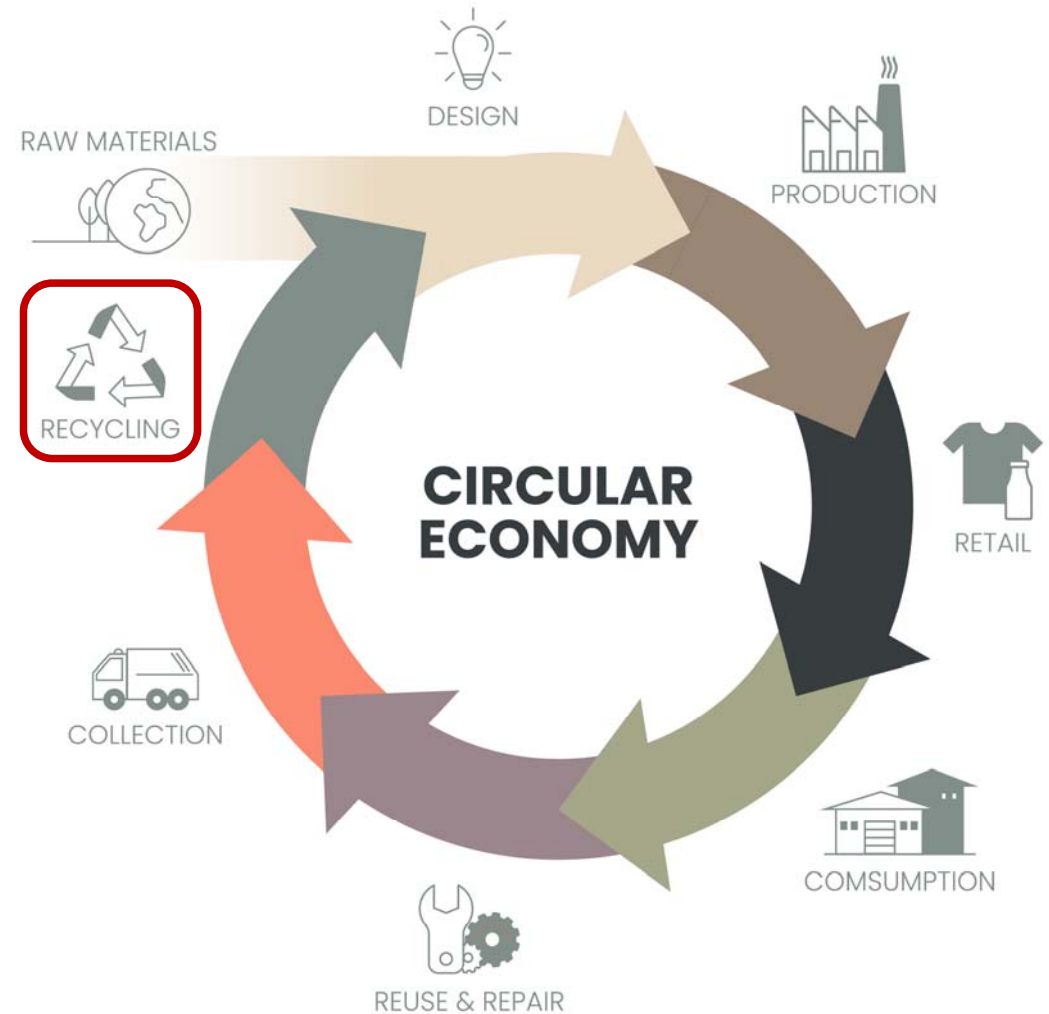
## Partners requested:

### Industry and University partners for topics of Circular Economy:

- Green hydrogen production
- Circular economy technologies for waste reuse
- Technologies for water networks and energy saving

### Calls:

- EU RIA Calls
- Interreg Europe
- CET-Partnership



# :metabolon

Our kids are our future!



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