

# Circular Cities: Roles and Challenges for Local Governments.

CIRCuiT Workshop | EIT Raw Material | Brussels, 10. October 2019

Holger Robrecht  
Deputy Regional Director  
ICLEI – Local Governments for Sustainability  
European Secretariat

[holger.robrecht@iclei.org](mailto:holger.robrecht@iclei.org)

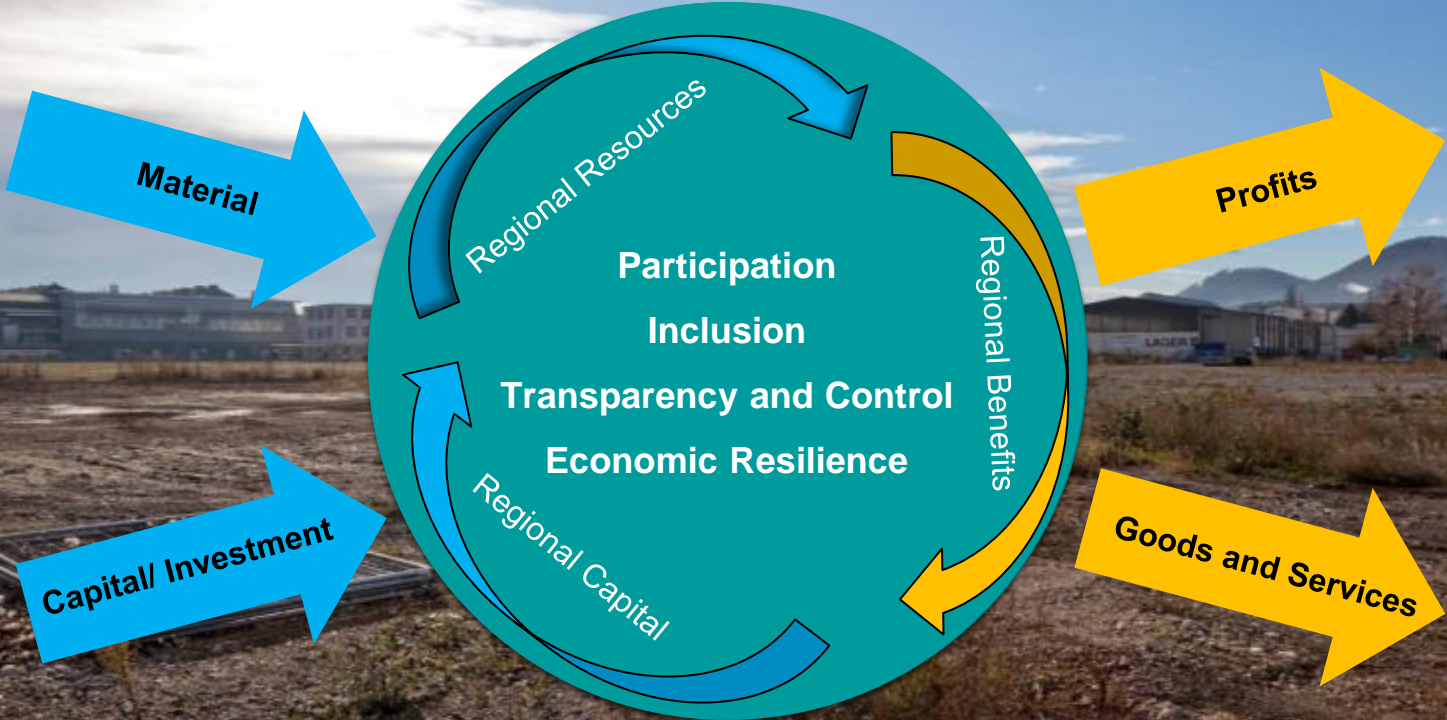


# Circular economy. Why relevant for local governments?

Why are municipal administrations interested in the circular economy?

- Improving quality of life for citizens / making the city an attractive place to live and work:
  - Tackling environmental challenges: Reducing waste flows, mitigating CO<sub>2</sub> emissions, improving air and water quality, reducing congestion
  - Stimulating economic development
  - Increasing social equality and opportunity
  - Increasing efficiency of public services

# Economy - From value chains to value circles



**Urban/regional low-carbon productivity  
for economic resilience**

City as a platform



City as a curator

Demo für eine sozial-gerechte und ökologische Perspektive

Deconstructing Green Capital

**WEM GEHÖRT DIE STADT?**

Contra Verdichtungen. Mieten stoppen. Eine Stadt für alle.



Picture: Holger Robrecht

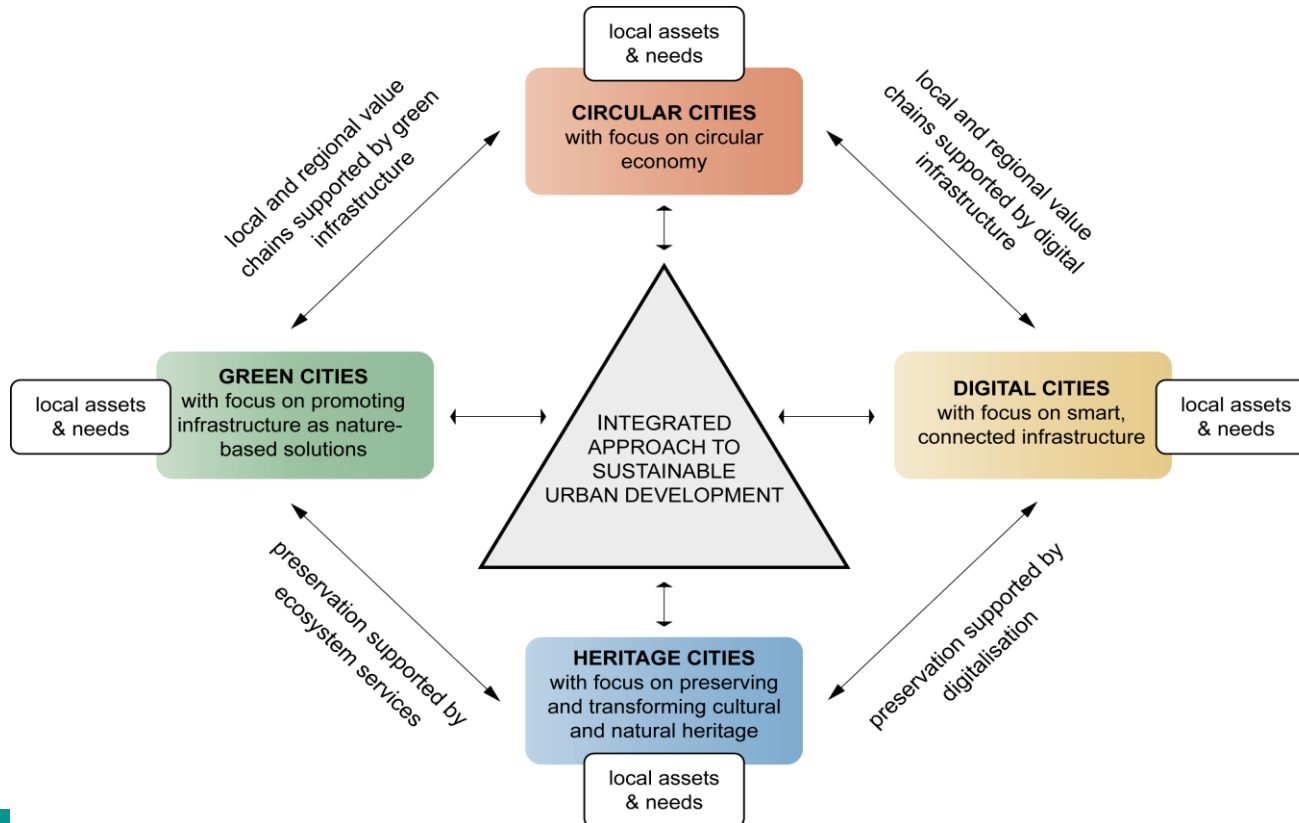
Pablo Pao  
(Eigenes, gekauftes & ge...)  
The nogo... s  
(Emotion)  
Ms. Rube  
(Folklore)  
15. Mai um 21 Uhr  
Eintrittsfrei

City as an investor



# Circular Development.

## More than just a circular economy



# ICLEI's Five Development Pathways



**LOW EMISSION  
DEVELOPMENT**



**NATURE-BASED  
DEVELOPMENT**



**EQUITABLE  
AND PEOPLE-  
CENTERED  
DEVELOPMENT**



**RESILIENT  
DEVELOPMENT**



**CIRCULAR  
DEVELOPMENT**

The **FIVE ICLEI PATHWAYS** towards low emission, nature-based, equitable, resilient and circular development are designed to create **SYSTEMIC CHANGE**. The pathways are a framework for designing **INTEGRATED SOLUTIONS** that balance the patterns of human life and the built and natural environments. They are a basis for sustainable urban development that considers the complexity of urban systems. The pathways encourage **HOLISTIC THINKING** to ensure that ICLEI optimises our impact. For instance, we consider how nature-based development contributes to resilience, or how to bring equity into low emission development.



# THE 5 PATHWAYS: HOW THEY ADVANCE THE SUSTAINABLE DEVELOPMENT GOALS

## LOW EMISSION DEVELOPMENT



## NATURE-BASED DEVELOPMENT



## CIRCULAR DEVELOPMENT



## RESILIENT DEVELOPMENT



## EQUITABLE AND PEOPLE-CENTERED DEVELOPMENT



# ICLEI's Five Development Pathways



We design our work to integrate as many pathways as possible into any given activity such as a **PROJECT**, **PARTNERSHIP** or **INITIATIVE**. When these pathways guide local and regional development, urban systems become **MORE SUSTAINABLE**.



Urban systems are part of a broader **CITY-REGION TERRITORY**. Local and regional governments and their urban systems are **INTERCONNECTED**. We address city-to-city and rural-urban linkages to create a **MULTIPLIER EFFECT**.

**H2020 Innovation action, 28 partners from 8 EU countries,  
10/2019 – 09/2023**

- Circular economy demonstration measures to be implemented in 7 small to medium sized European cities: Apeldoorn, Bodø, Høje-Taastrup, Mikkeli, Porto, Roskilde, Seville
- Focus on construction & demolition waste (CDW)/soil and organic waste (OW), with a series of new tools and procedures to be developed
- All demo actions supported by stakeholder engagement plans and circular procurement measures
- Development of urban circularity assessment methodology, and local government decision support dashboard

**H2020, 27 partners from 7 EU countries, 06/2016-05/2019**

- The UrbanWINS project:
  - Developed and tested methods for designing and implementing eco-innovative strategic plans for waste prevention and management
  - Championed interactive and participatory decision making in urban resource management and prevention:
    - 8 Pilot Cities (Bucharest, Albano Laziale, Pomezia, Manresa, Sabadell, Cremona, Leiria) held 7 'Urban Agoras' (physical gatherings) each, developing and selecting 3 pilot actions per city
    - Pilot actions include: Actions to fight food waste, to manage events sustainably, to increase separate collection, and to promote the circular economy
    - Agoras attended by up to 200 local stakeholders and citizens
  - Piloted the use of the UMAN model to analyse the Urban Metabolism of cities and develop roadmaps for a circular economy based on the results of the UMAN analysis



# Creating new value chains for plastic packaging waste – Example *PlastiCircle*

H2020, 20 partners, € 7.7 Mio, 06/2017-05/2021

1.59 Mt reduction in non-recycled plastic packaging waste,

2.09 Mt reductions in associated CO2

- PlastiCircle aims at designing an **improved, smart waste management system that covers all stages** from collection to recycling and implements this in 3 pilot cities: Alba Iulia, Utrecht and Valencia
- Turning plastic waste into a valuable resource through a holistic approach will support the **achievement of EU targets**, such as the goal to recycle 75% of packaging waste by 2030, and ultimately benefit society.
- Note on Plastics in EU:
  - Over 25.8 Mt of plastic waste in the EU (50kg per citizen), with only 29.7% recycled, while 39.5% is incinerated and **30.8% goes to landfill**
  - **Plastic packaging** represents 63% of the total plastic waste, only 34% of it is recycled -> **huge environmental impact and is a clear waste of resources** (10 bn€ in EU market loss)



This project has received funding from the European Union's Horizon 2020

# CircPack (H2020)

- **H2020, 22 partners from 7 EU countries, € 7.3 Mio, 05/2017-04/ 2020**
- The CIRC-PACK project :
  - Creates, tests and validates alternative **bio-based** and **recyclable plastics** for trays, bottles, coffee capsules, jars, films and pallets
  - Develops **new types of multilayer** and multi-material **packaging**
  - Increases the amount of recycled materials into other industries
  - **Improves recycling rates** and **quality** of recovered materials
  - **Contributes to circular economy** leading to a more sustainable future (improved LCA and LCC results)



This project has received funding from the European Union's Horizon 2020

# Challenges

- How to assess and monitor circularity? - [EIT](#)
- Circular city? Circular region? Circular supply chain?  
What is the boundary of the circular economy? - [EIT](#)
- Need for social as well as technical innovation - [EIT](#)
- Governance, management and planning practices - [EIT](#)
- Legislative barriers – e.g. construction product standards, waste classification – [EIT](#)
- Engineering viable business models - [EIT](#)

1. Exploration and raw materials resource assessment
  - Availability of resources for sustainable urban infrastructures
  - New material to support local sustainability ambitions
2. Mining in challenging environments
  - Transition of mining as well as coal-intensive regions
3. Increased resource efficiency in mineral and metallurgical processes
  - Relevance to cities?
4. Substitution of critical and toxic materials in products for optimised performance
  - Support to eg. 'Energiewende' and local energy transition
5. Recycling and material chain optimisation of end-of-life products
  - Alignment with local waste management and circularity ambitions
6. Design of products and services for the circular economy
  - Supporting sustainability ambitions



- Sustainable Discovery and Supply Lighthouse
  - Supporting cities environmental and sustainability ambitions and intelligent city strategies
  - Availability of skills and capacity
- Sustainable Materials for Future Mobility Lighthouse
  - Support to cities' climate and environmental ambitions in the context of the 'Verkehrswende'
- Raw Materials and Circular Societies Lighthouse objectives
  - Support to local SDG's, climate ambitions and intelligent city strategies
  - Interact with society

# There is a reason...

- EIT ambition:

"Initiate contacts with city associations as for example [ICLEI](#) to define ways of collaboration; facilitate synergy workshop series."

# ICLEI - Local Governments for Sustainability



**Thank you!**





# UrbanByNature

