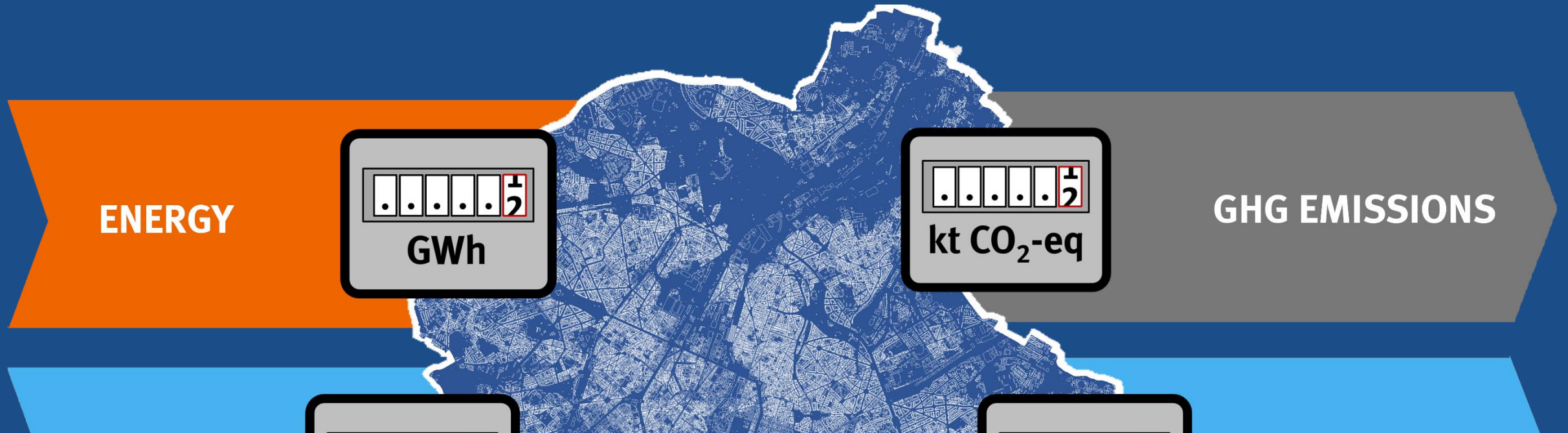
Urban metabolism, circular economy and SDG11. What are the links?

Aristide Athanassiadis – SociSDG – 15th February 2018

ULB ECOLE POLYTECHNIQUE DE BRUXELLES BATir MetabolismOfCities.org



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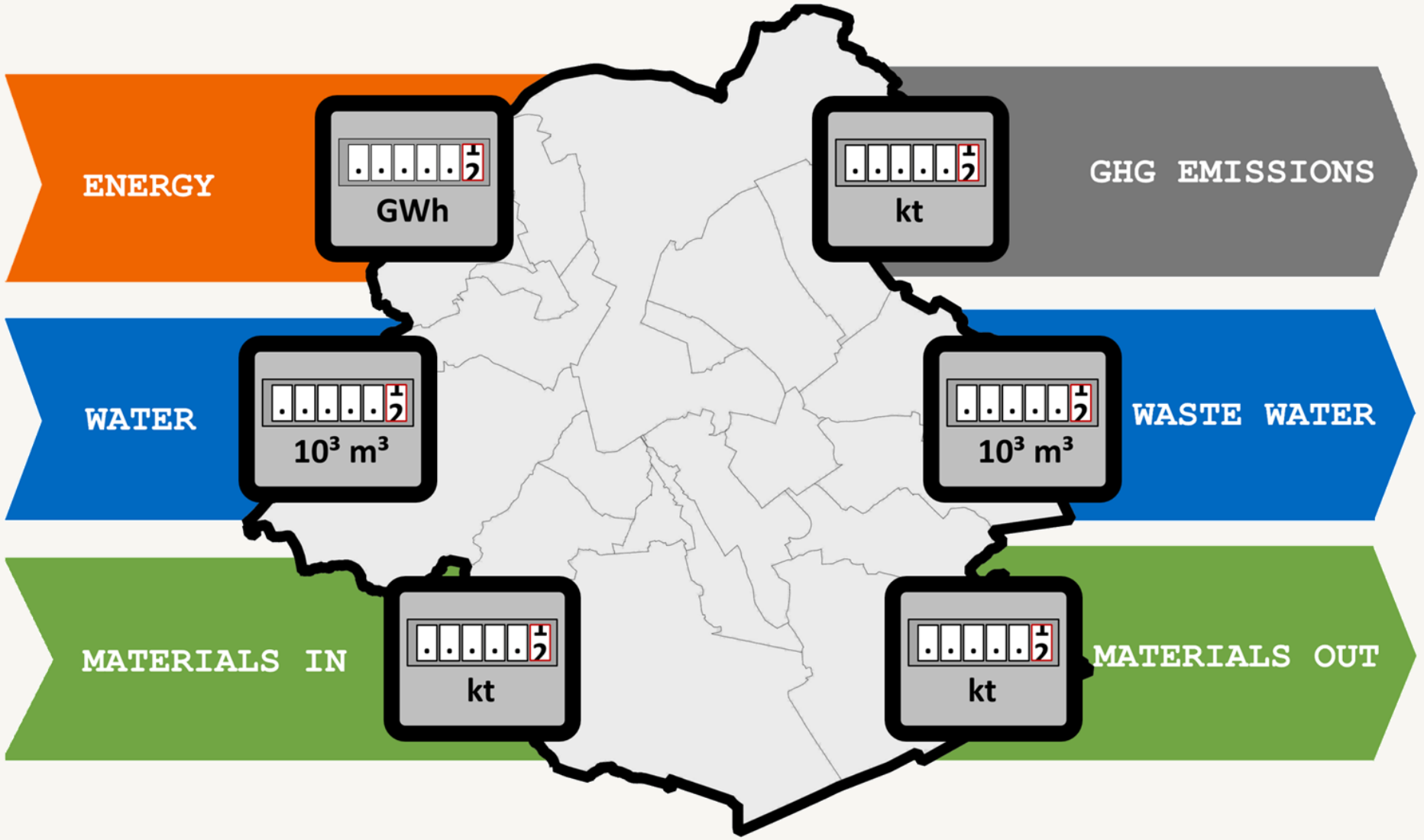
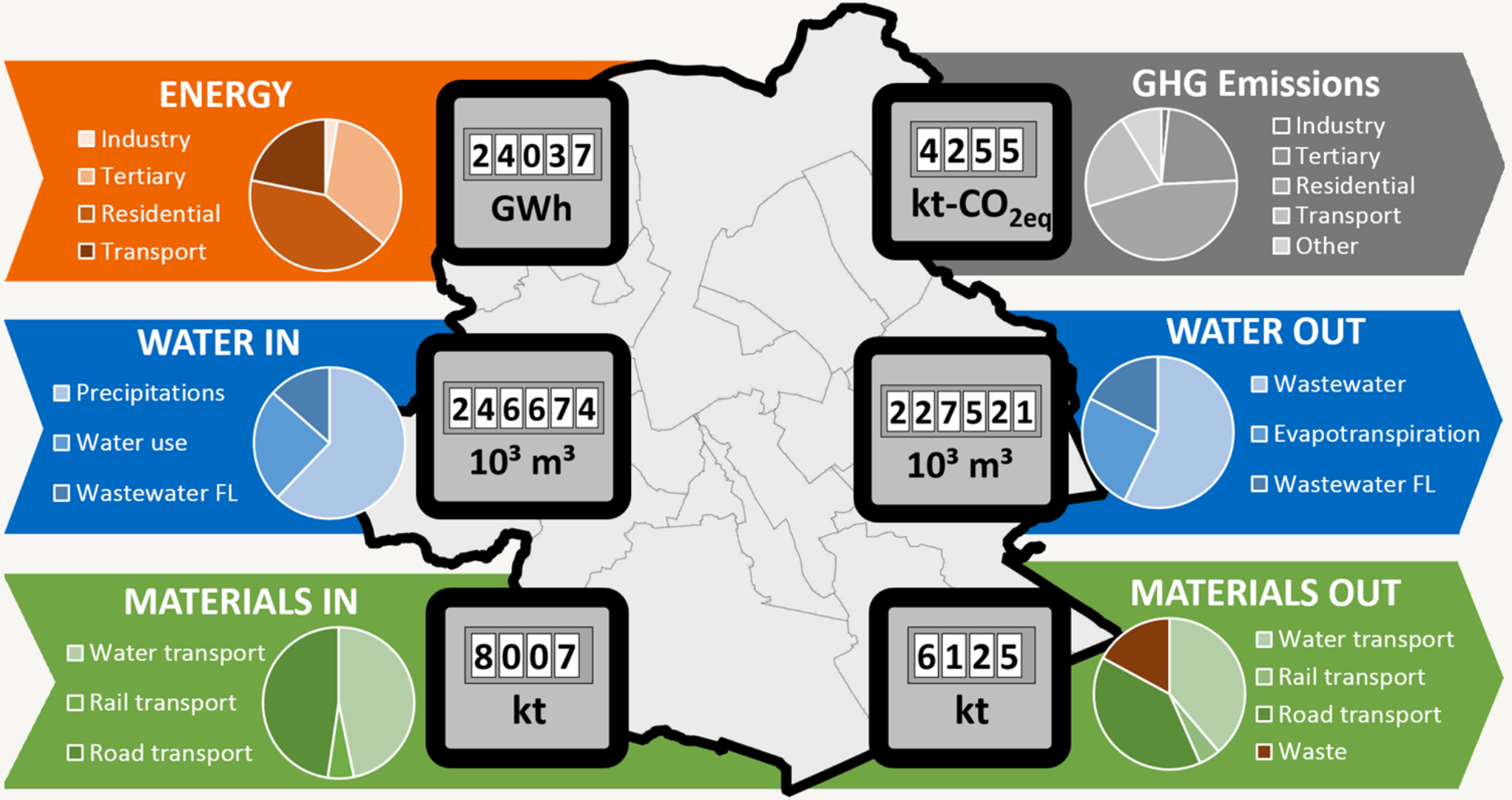
Urban Metabolism

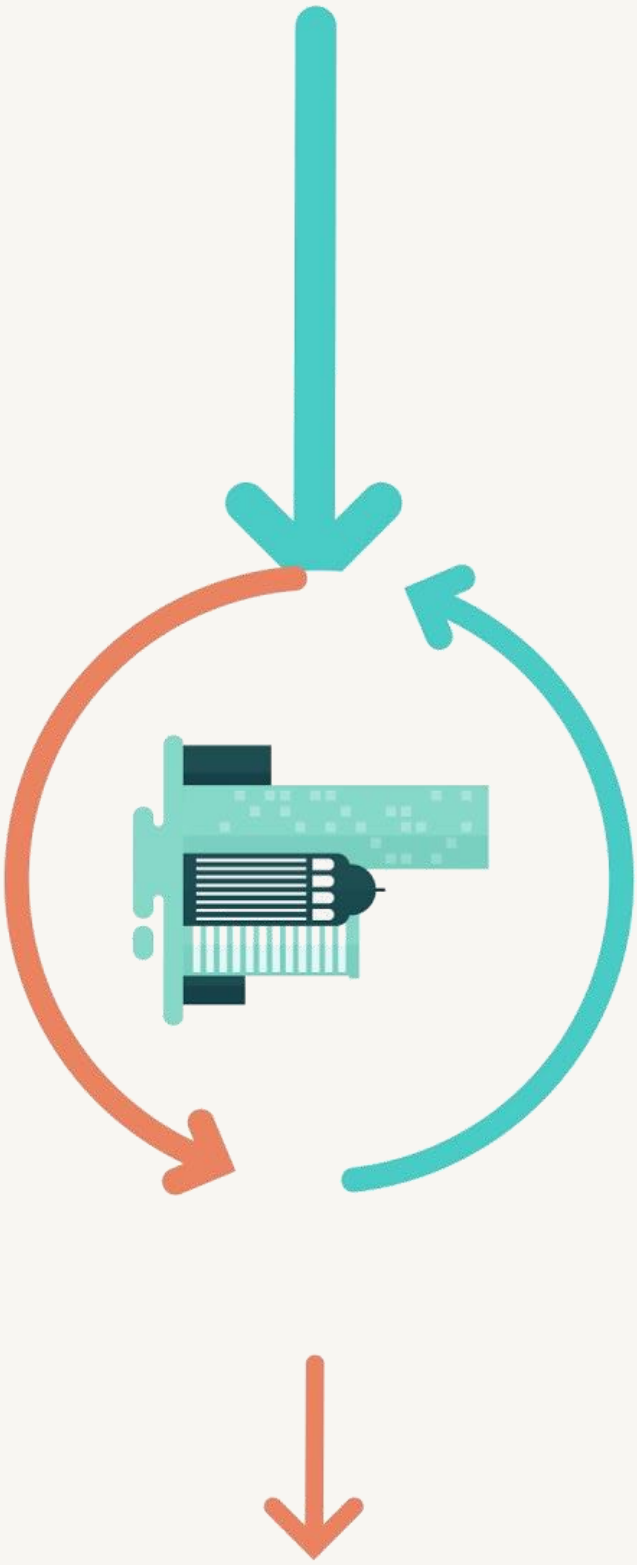


Urban Metabolism



Brussels' urban metabolism – linear and open

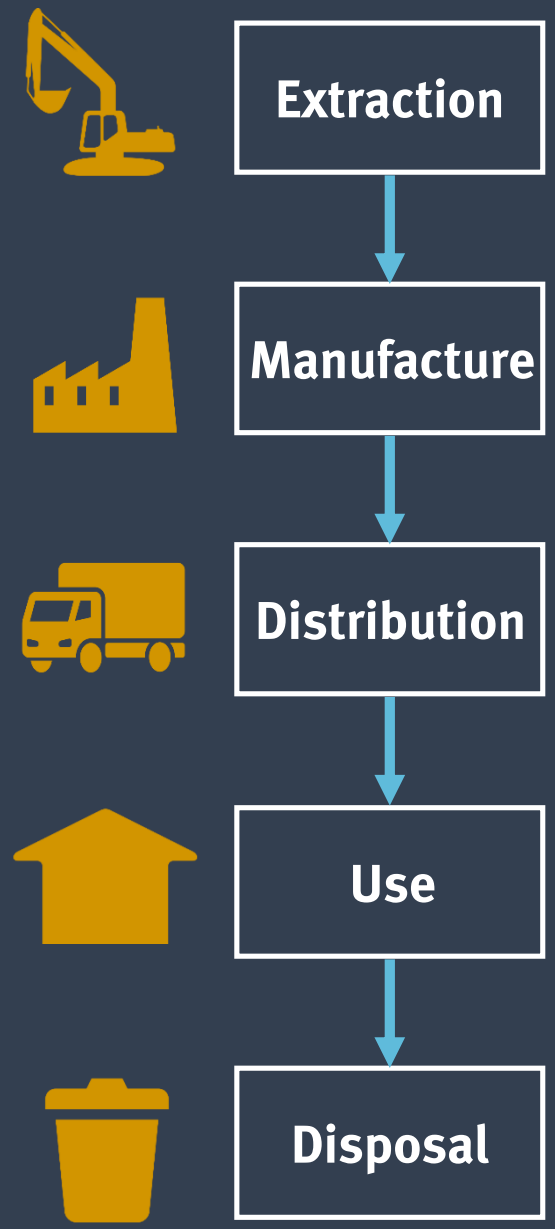
Circular Metabolism

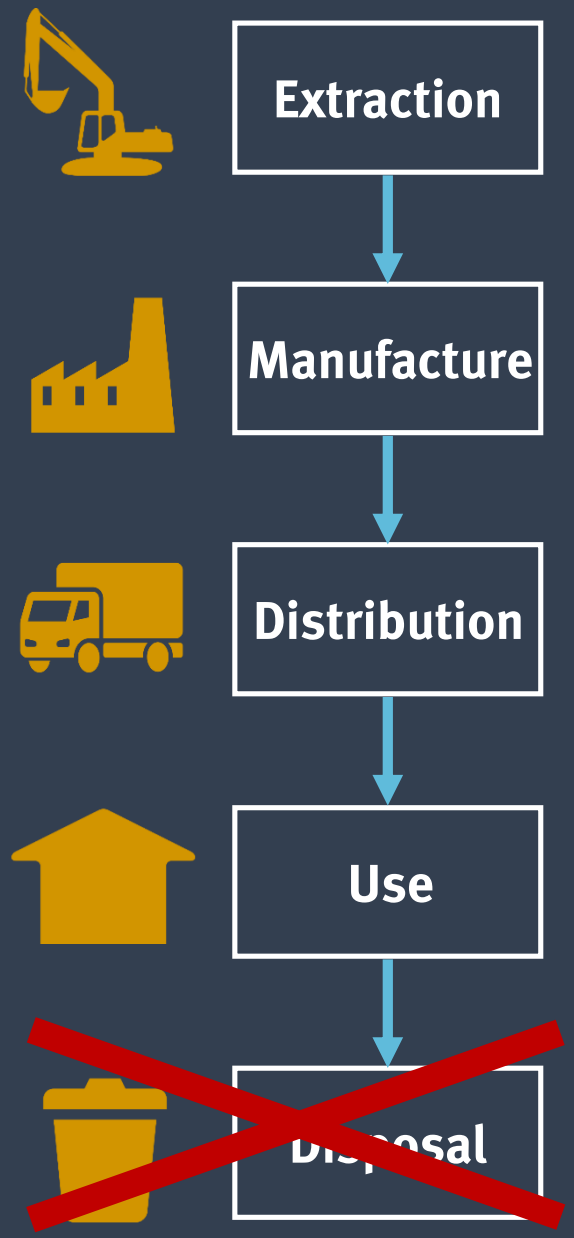


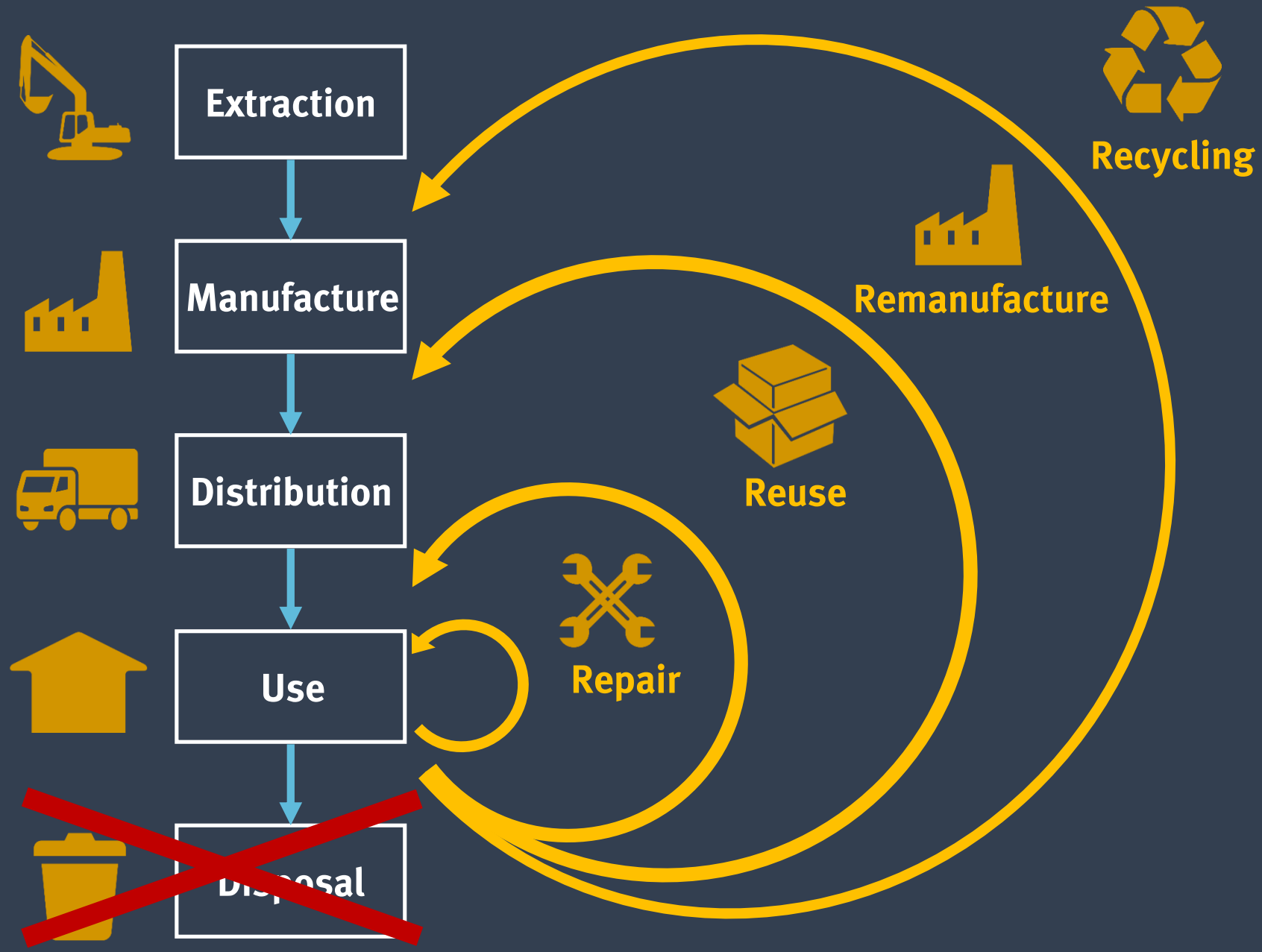
https://www.youtube.com/watch?v=uu-a1hFEV7Q

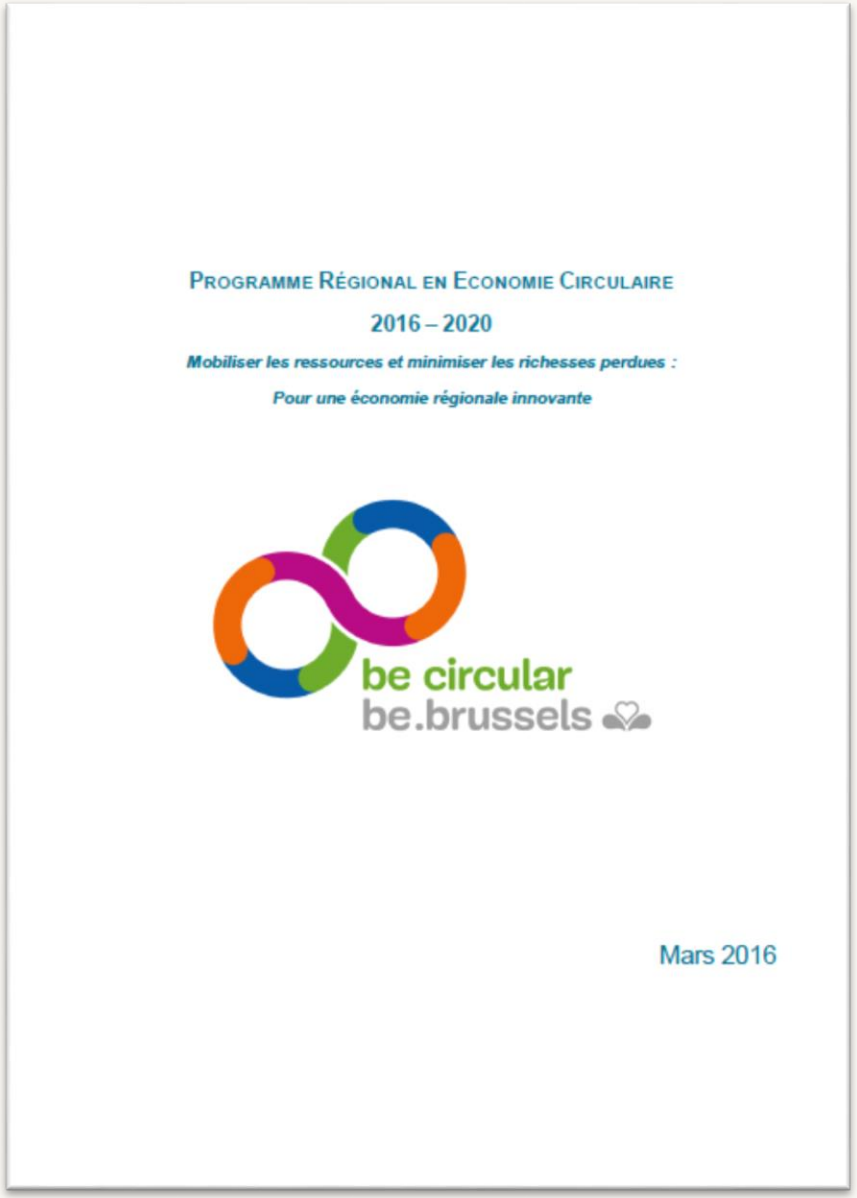
An economic system of exchange and production that is aiming to increase the resource efficiency and decrease the environmental impact at every life cycle stage of products (goods and services), as well as increase human well-being.

Circular Economy


Extraction
Manufacture
Distribution
Use
Disposal


Extraction
Manufacture
Distribution
Use


Extraction
Manufacture
Distribution
Use
Disposal
Recycling
Remanufacture
Reuse
Repair



3 ministries

(Economy, Environment, Waste)

4 strategic themes

(Transversal, Sectoral, Territorial, Governance)

4 sectors

(Construction, Resources & Waste, Logistics, Retail, Food)

111 actions

Brussels' Circular Economy Plan

SUSTAINABLE DEVELOPMENT GOAL 11

Make cities and human settlements inclusive, safe, resilient and sustainable

11.6
By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

Link with SDG 11

Better Understanding / learning

Metabolism of Cities | About | OMAT | Publications & Research | Data | Stakeholders Initiative | More | Login

- Introduction
- Overview
- Module 0: Welcome to the course
- Module 1: Introduction
- Module 2: Accounting methodologies and indicators
- Module 3: Case studies
- Module 4: Urban metabolism policies
- Module 5: Final quiz
- Syllabus
- Feedback

Urban Metabolism for Policy Makers

Welcome to the first online course on Urban Metabolism for Policy Makers!

The world is urbanising rapidly. In 2009, the number of people living in cities (around 3,5 billion) surpassed the number living in rural areas. While the urban population is hosted only on 3% of global land area, it is also responsible for over 70% of natural resources and energy use and for 60% pollution emissions and waste generation. While cities are responsible for the greatest share of man-made environmental impact, they are also the places 80% of global GDP is produced and are the nodes of innovation. Therefore, the fight against climate change will be won or lost in cities.

Yet, cities are extremely complex systems where social, economic, political, territorial, ecological, resource, waste, etc. challenges coexist. Urban metabolism is way to look at cities from a systemic point of view linking all the above mentioned challenges. This metaphor conceptualises the city as living organism where resource flows enter, are transformed or stocked and waste flows exit the territory.

This course is targeting policy makers who are interested in learning how urban metabolism can help them develop more comprehensive and system urban policies in order to meet the Paris Agreement targets.

To know what Urban Metabolism is, have a look at the following video!

This is the first MOOC provided by the GI-REC (Global Initiative for Resource Efficient Cities). The GI-REC is a cooperation platform offered by UN Environment to connect different institutions that are using systems approach (and specifically urban metabolism) towards building low-carbon, resilient and resource efficient cities. This MOOC is produced and run for you by Metabolism of Cities, in partnership with the League of Cities of the Philippines and UN Environment.

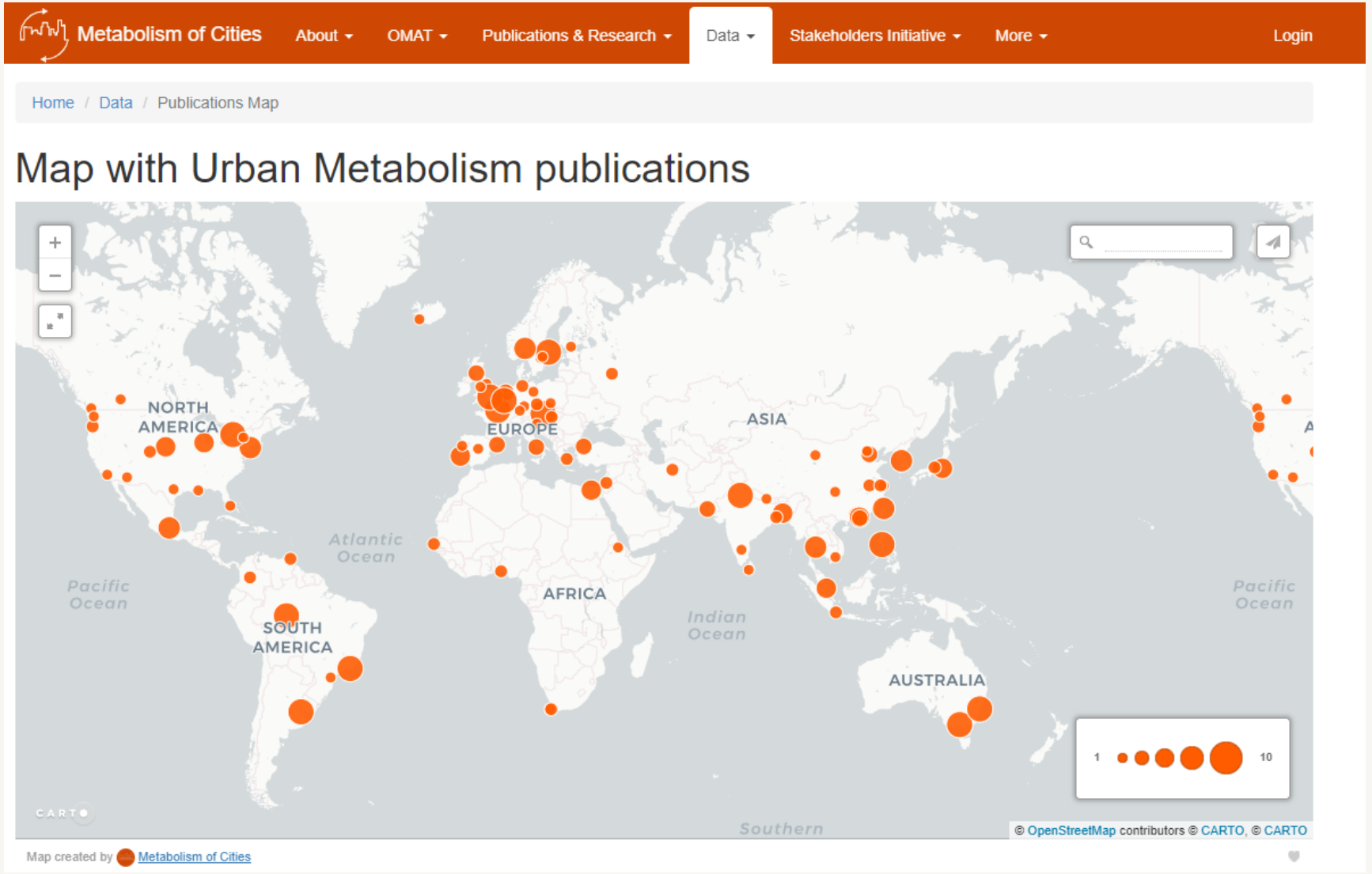
UN environment

GI-REC
Operationalizing Urban Metabolism at the City Level

https://metabolismofcities.org/mooc

Link with SDG 11 – How can we scale up?

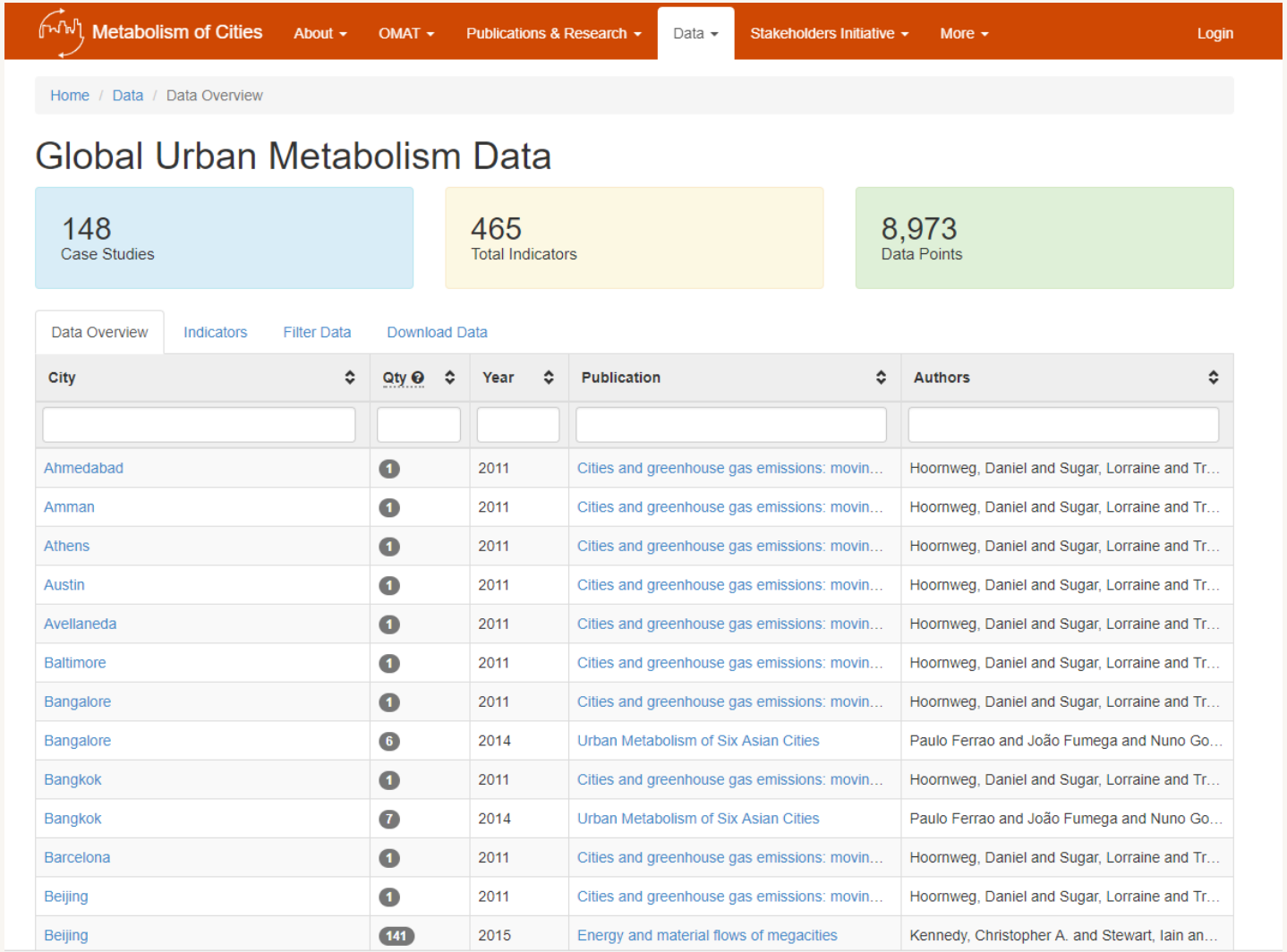
Available/Accessible curated information



https://metabolismofcities.org/page/map

Link with SDG 11 – How can we scale up?

Data collection & analysis (Evidence-based policies)



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Home / Data / Data Overview

Global Urban Metabolism Data

148
Case Studies

465
Total Indicators

8,973
Data Points

Data Overview | Indicators | Filter Data | Download Data

City	Qty	Year	Publication	Authors
Ahmedabad	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Amman	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Athens	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Austin	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Avellaneda	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Baltimore	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Bangalore	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Bangalore	6	2014	Urban Metabolism of Six Asian Cities	Paulo Ferrao and João Fumega and Nuno Go…
Bangkok	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Bangkok	7	2014	Urban Metabolism of Six Asian Cities	Paulo Ferrao and João Fumega and Nuno Go…
Barcelona	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Beijing	1	2011	Cities and greenhouse gas emissions: movin…	Hoornweg, Daniel and Sugar, Lorraine and Tr…
Beijing	141	2015	Energy and material flows of megacities	Kennedy, Christopher A. and Stewart, Iain an…

https://metabolismofcities.org/page/casestudies

Link with SDG 11 – How can we scale up?

Thanks

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