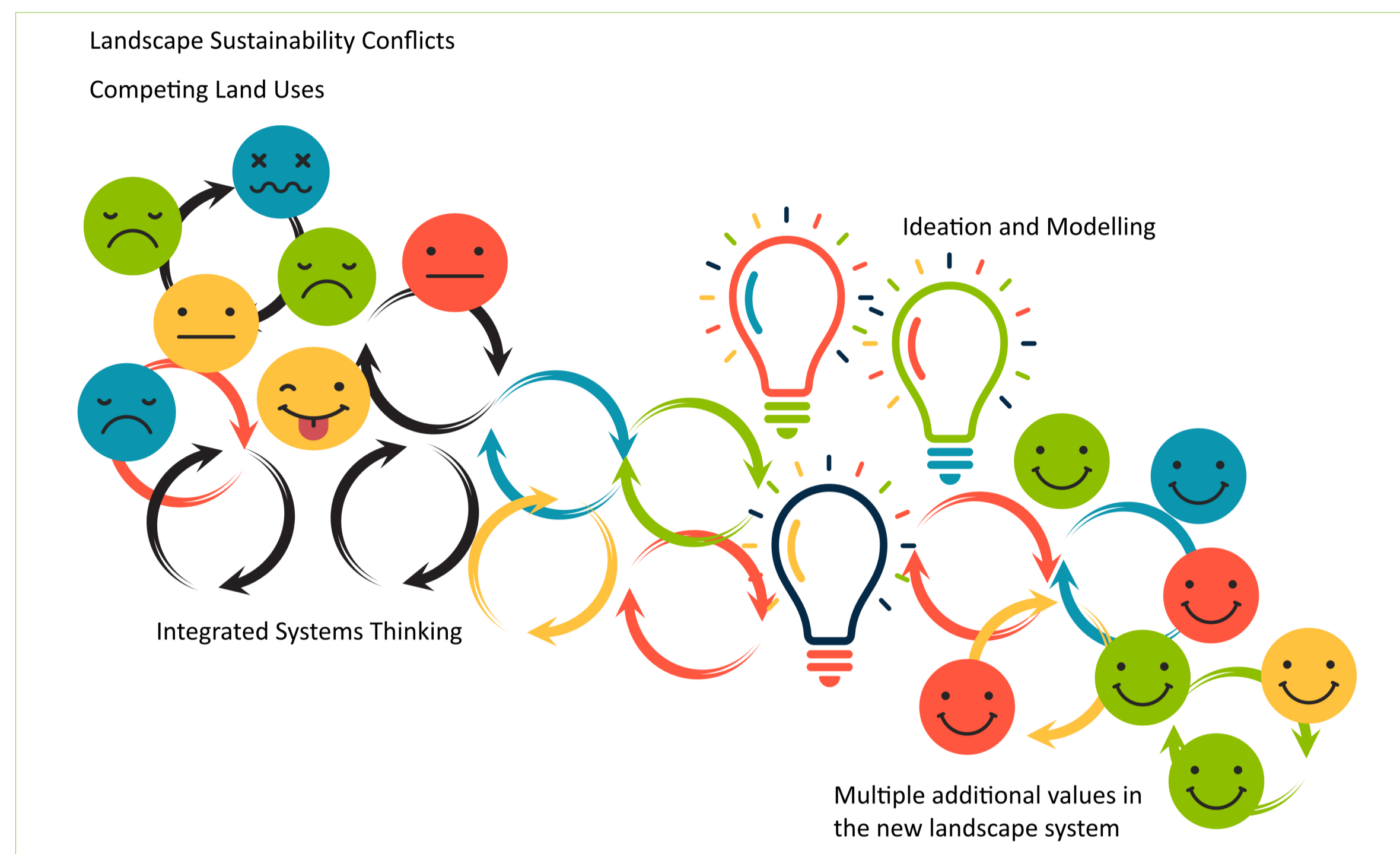


TELOS

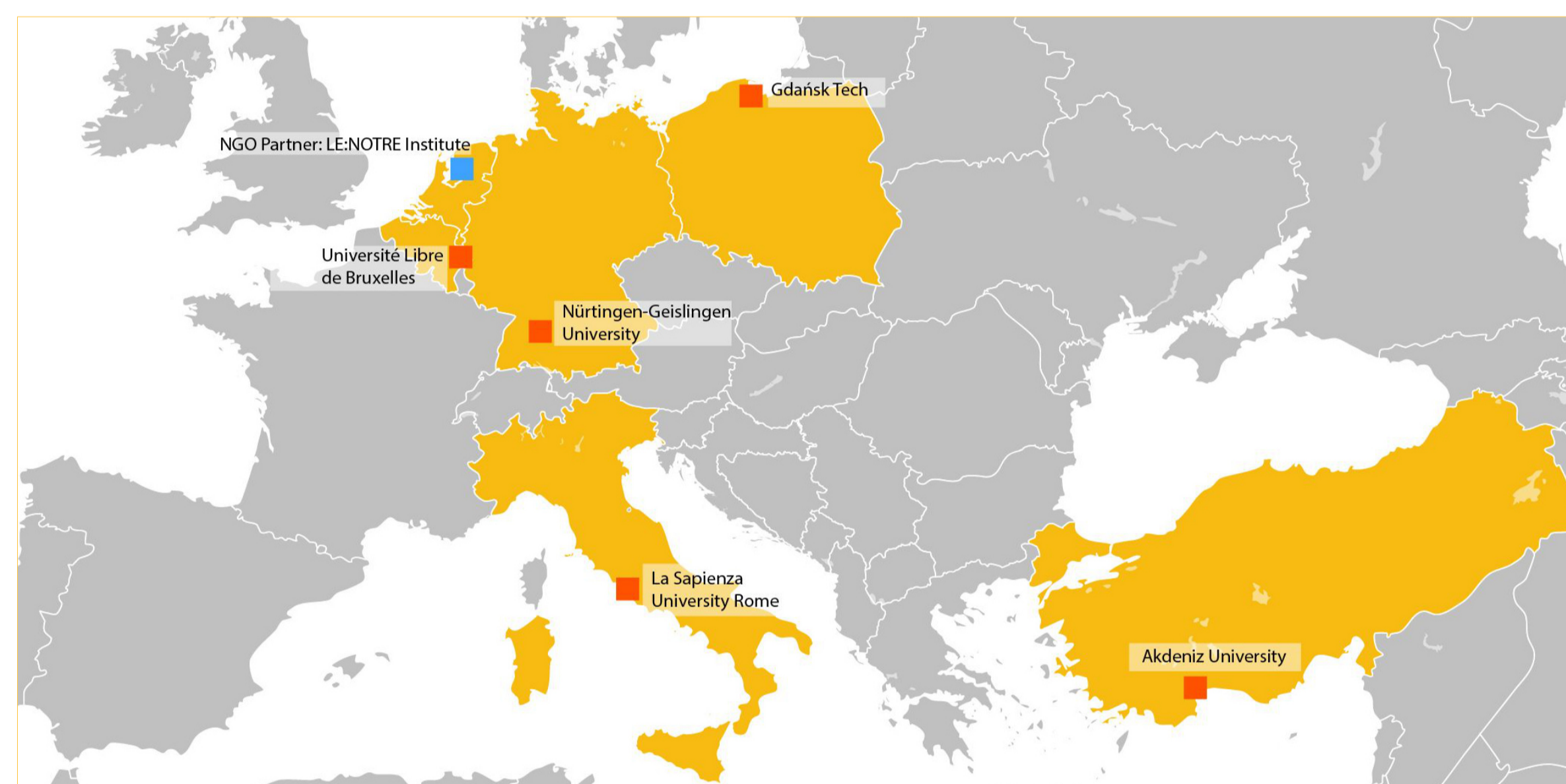
About TELOS

Towards a European Landscape Economy for Sustainable Urban Development

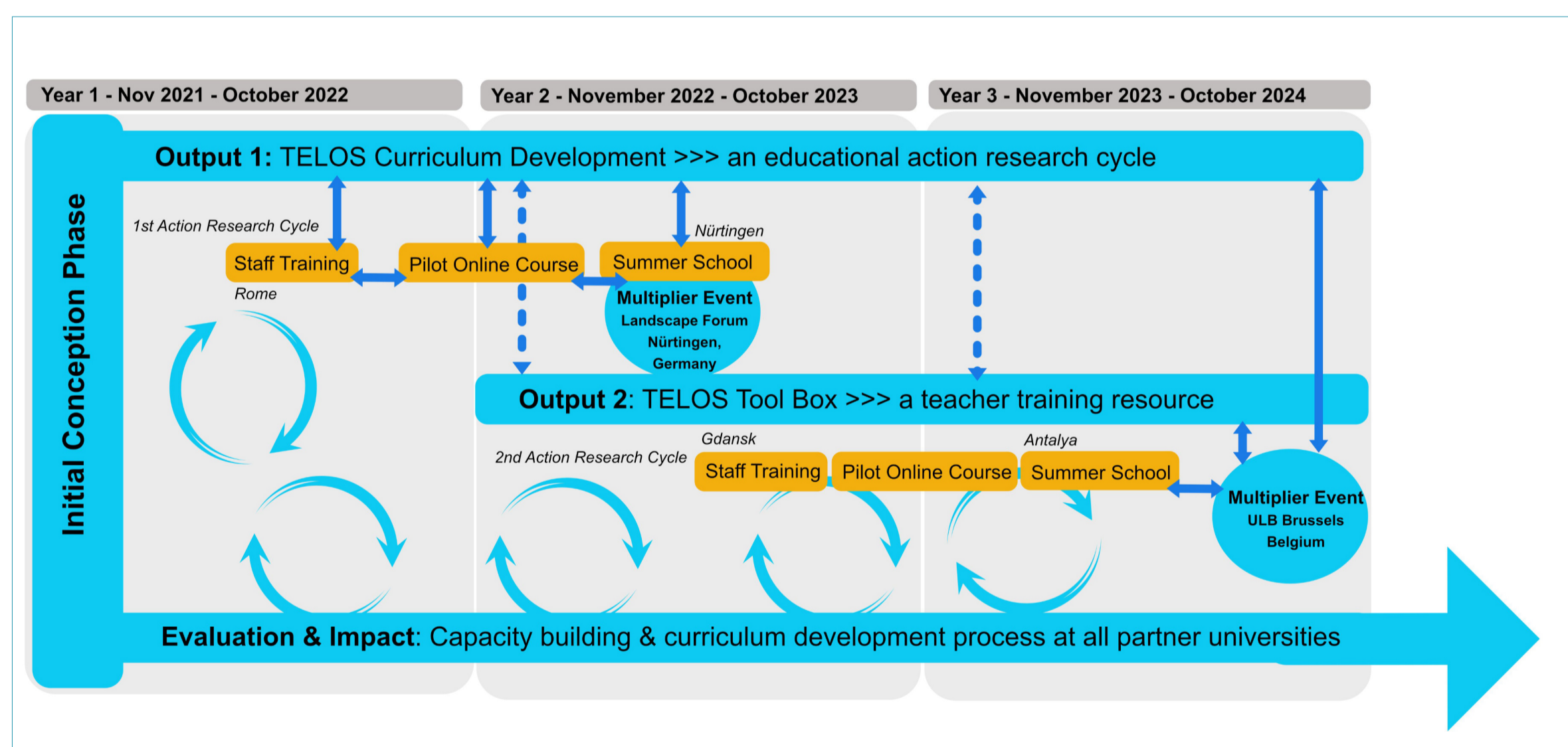
ERASMUS Cooperation Project 2021 - 2024



TELOS Theory of Change in a nutshell



TELOS ERASMUS Partnership



TELOS Project Design and Activities

Deliverables

Output 1: TELOS Landscape Economy curriculum: This includes all open educational resources of the TELOS courses. All resources can be reshared.

Output 2: TELOS Landscape Economy Toolbox: The handbook targeted to educators will include the theoretical background of landscape economy, learning goals, methodical guidance for interdisciplinary learning settings, workshop facilitations guidance, assessment criteria, evaluation methods and assignment descriptions.

Qualitative Outcomes: Substantial capacity and skills development among the core target groups of the TELOS project, which will be transferable to other European audiences and up-scaled in other European locations.

Motivation and Objectives

Today's most pressing sustainability challenges require significant capacity to lead collaboratively and to effectively work across sectors. We need effective new solutions to challenging and often systemic territorial problems. The TELOS curriculum aims at enhancing systems thinking and cross-sectoral collaboration towards innovation for sustainability. Learners are invited to explore hidden trade-offs and synergies, based on joint goals. Keywords of the new solution fields are: circular economy, ecosystem services, green infrastructure, sustainable housing, digitalisation and smart city applications, all combined with democratic leadership skills, creative financing models, and governance innovation.

ERASMUS Partnership

This three years ERASMUS cooperation project brings five European metropolitan areas together. TELOS links Stuttgart Region with Rome, Brussels, Gdansk and Antalya. This includes five university partners: Nürtingen-Geislingen University as the project coordinator with La Sapienza University in Rome, Université Libre de Bruxelles in Brussels, the Technical University of Gdansk and Akdeniz University in Antalya. The LE:NOTRE Institute links all partners with the wider European landscape network.

Project Design and Activities

TELOS is an educational development project and follows an action research cycle. We started with a conceptual phase, co-creation workshops and a staff training event. On that basis, we were ready to test our first prototype in October 2022: the first transnational landscape economy online course, attended by over 100 students from all partner universities. Some of them joined the first TELOS summer school in Nürtingen in June 2023. The first version of the curriculum is presented in this multiplier event. We will start our second action research cycle in October 2023. The project finished with the second multiplier event in Brussels in fall 2024 and the publication of the TELOS tool box as a practice guide for educators.

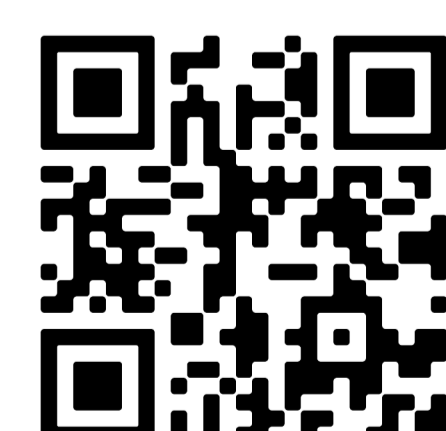
Impact

Short term impact on Higher Education: more effective education for sustainable development through staff capacity building and curriculum innovation. The following main competence fields will be addressed: (1) systems thinking, (2) anticipatory competence, (3) normative competence, (4) strategic competence, and (5) interpersonal competence. **Long term impact on the local communities and their territorial contexts:** mainstreaming TELOS competences has the potential to transform planning and development practices. This will lead to better spatial design and planning solutions characterised by sustainable economic models that support social and environmental goals.

Contact and Information

Project Coordinator: Dr. Ellen Fetzer, ellen.fetzer@hfwu.de

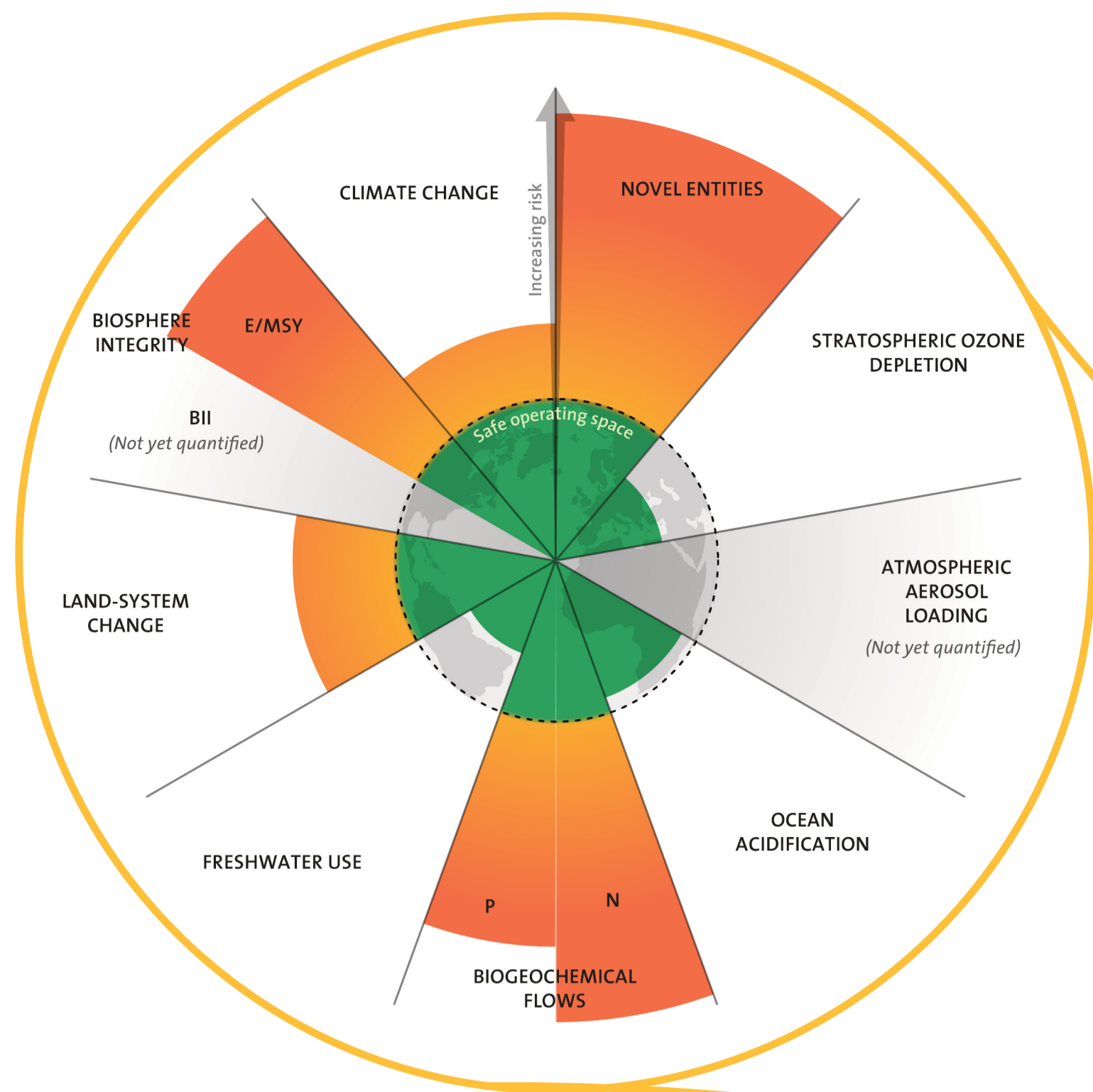
TELOS Website: <https://telos.hfwu.de>



Why is landscape an economic framework?

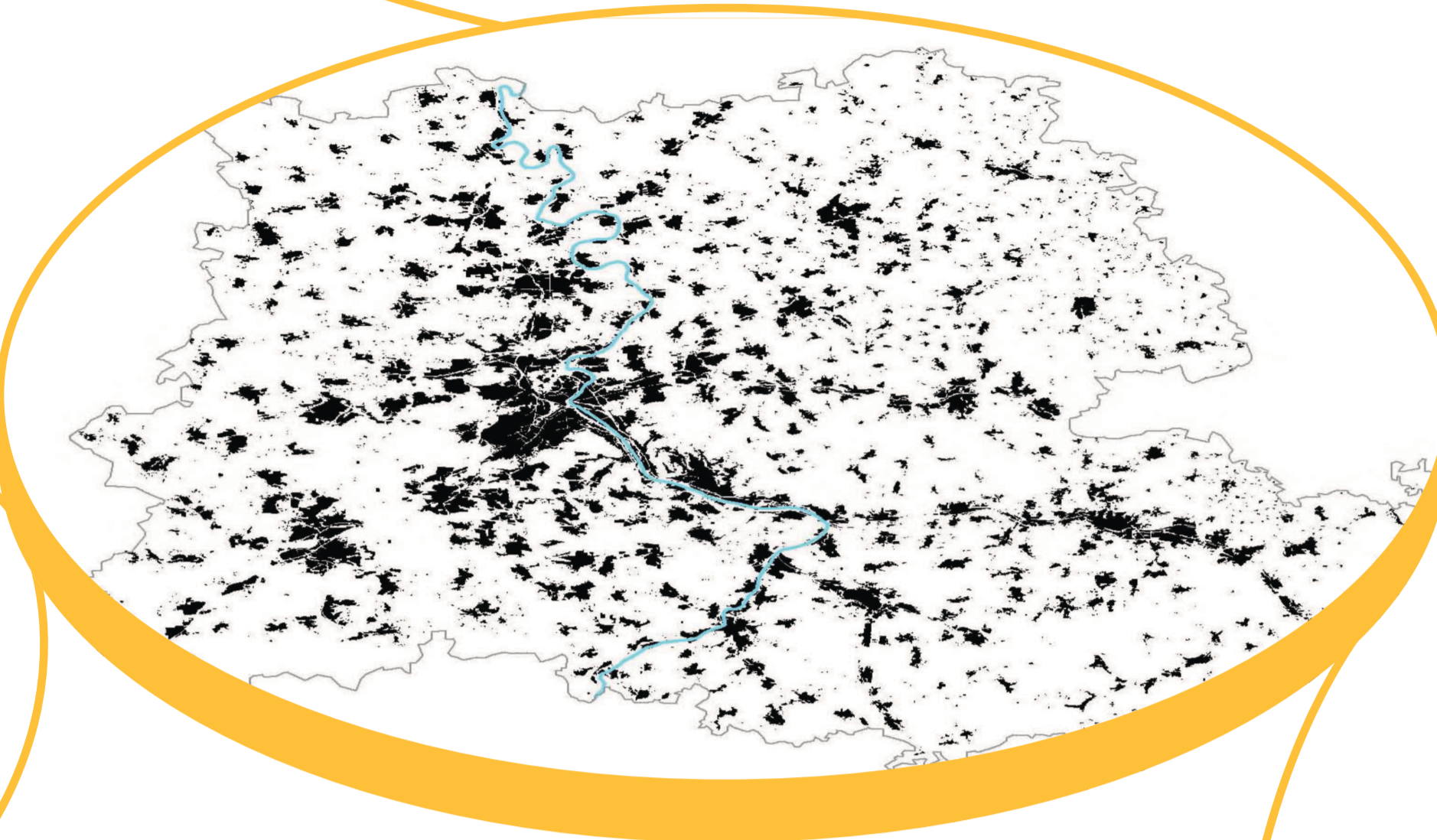
Landscape capacity as a reference of a regenerative economy

TELOS



The Planetary Boundaries: We are out of the safe operating space

Licensed under CC BY-NC-ND 3.0 Credit: "Azote for Stockholm Resilience Centre, based on analysis in Persson et al 2022 and Steffen et al 2015".



The transgression of the planetary boundaries is the sum of all local and regional transgressions. Anywhere.

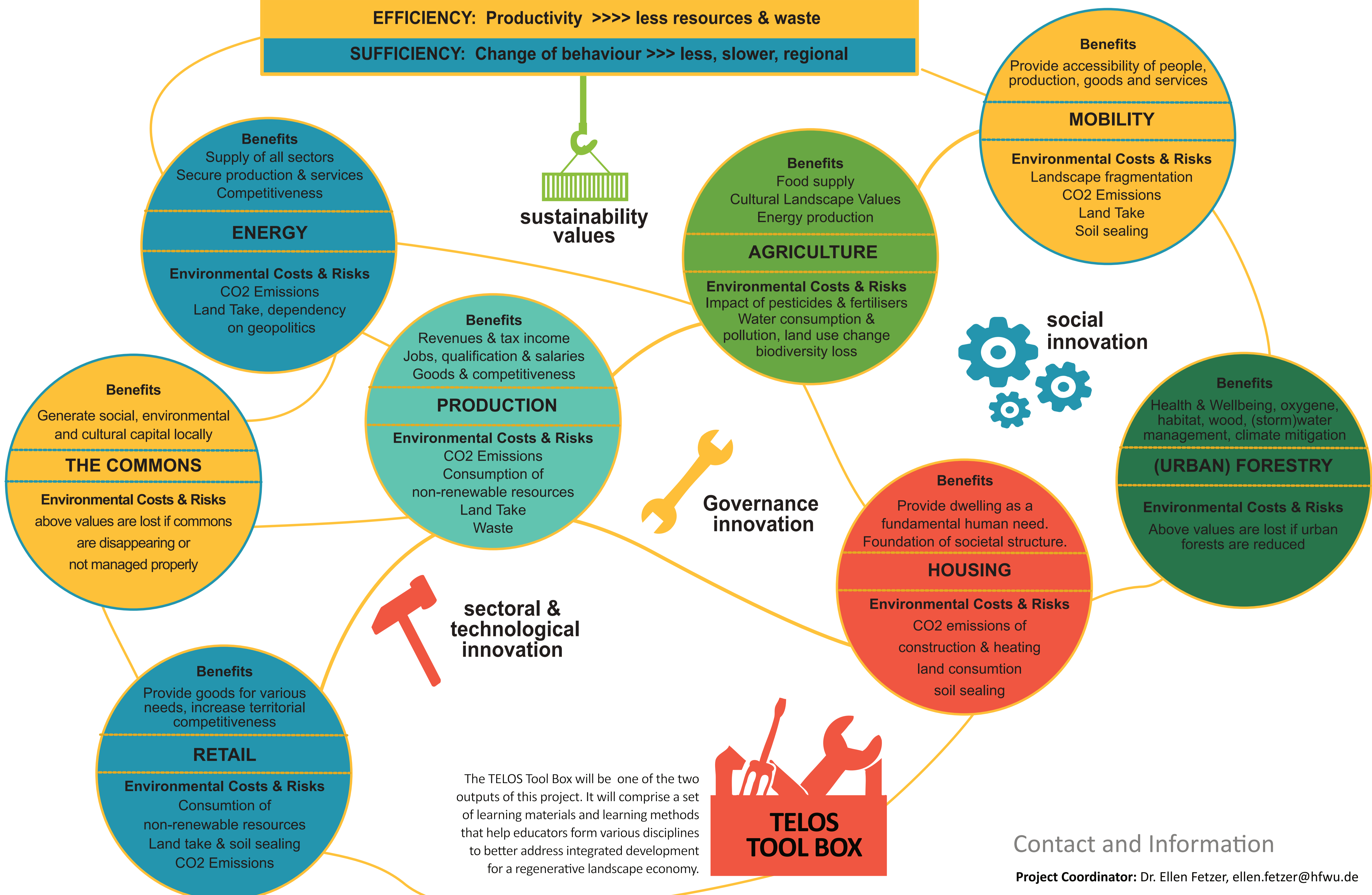
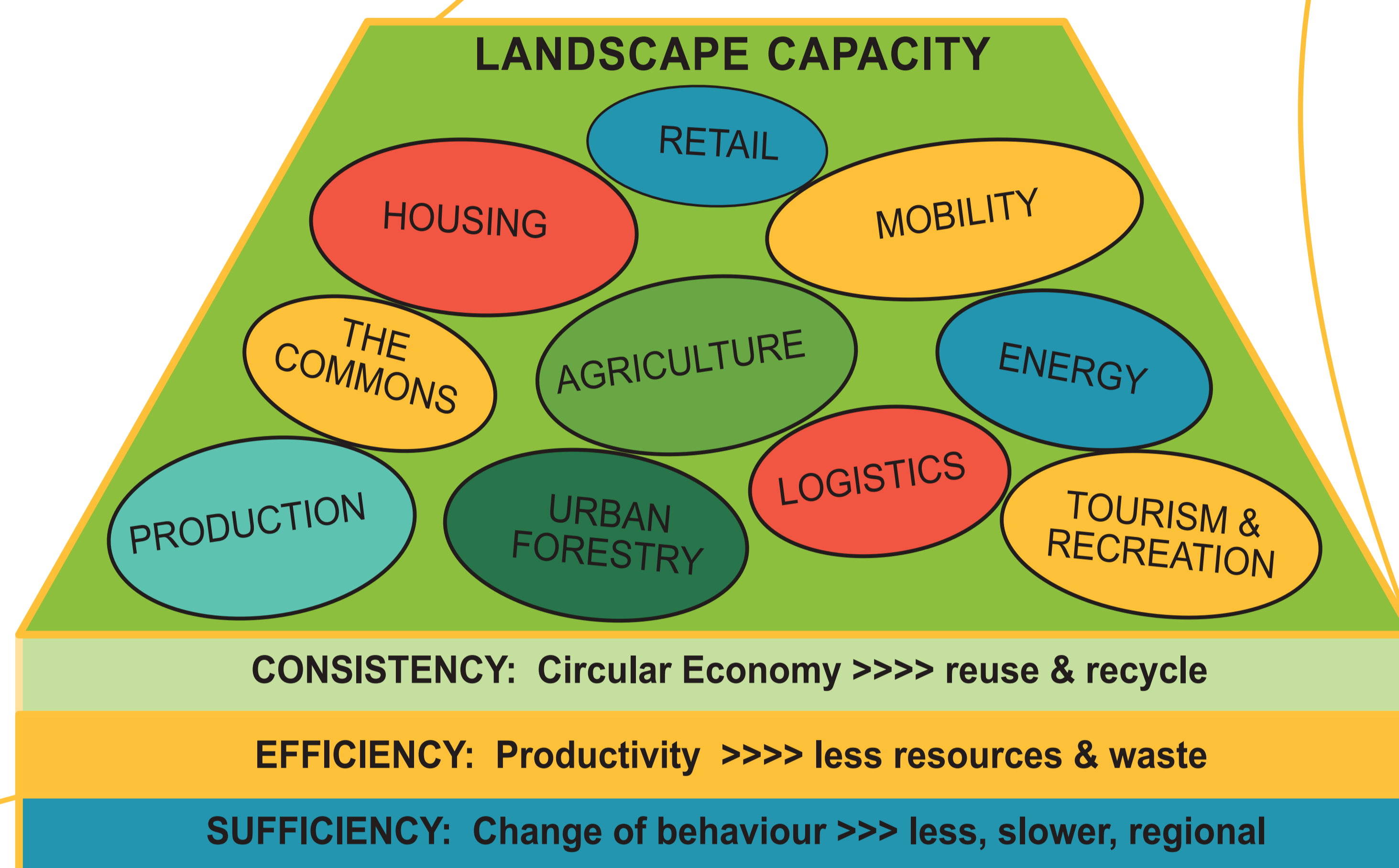
The map here shows Stuttgart Greater Region, the context of the landscape forum 2023. This is only one of many landscapes that are transgressing their capacity.

What you do not see here is the **hidden landscape consumption** of Stuttgart Region happening elsewhere in the world. These are the places where our food, energy, raw materials, water and other consumables come from.

If we consider this in an abstract way we can conclude that any landscape has only a **limited capacity**. Human-centred functions are operating within this capacity.

Future landscape capacity will be further reduced by global drivers such as climate change, biodiversity decline and migration.

Consistency, efficiency and sufficiency are relevant economic evaluation dimensions. In TELOS, we are exploring how we might translate these principles into a **regenerative landscape economy**



The TELOS Tool Box will be one of the two outputs of this project. It will comprise a set of learning materials and learning methods that help educators form various disciplines to better address integrated development for a regenerative landscape economy.

Contact and Information

Project Coordinator: Dr. Ellen Fetzer, ellen.fetzer@hfwu.de

TELOS Website: <https://telos.hfwu.de>

Curriculum Design

Learning objectives, instructional design and learning activities if the TELOS programme

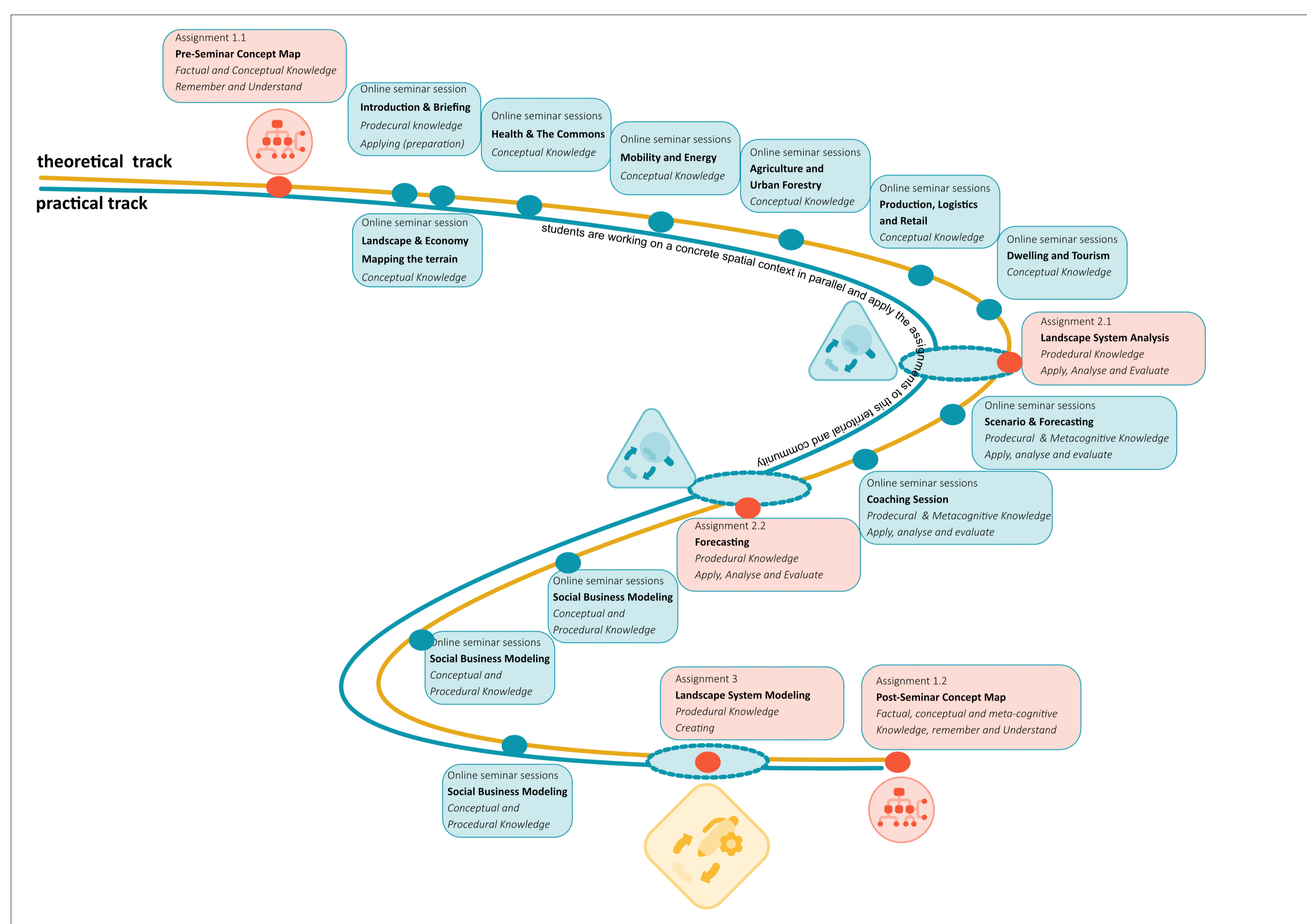
		The TELOS Knowledge Dimension			
		Factual	Conceptual	Procedural	Metacognitive
The cognitive process dimension	Remember	...the basic elements students must know to be acquainted with a discipline or to solve problems within it	...the interrelationships among the basic elements within a larger structure that enable them to function together	...how to do something, methods of inquiry, or criteria for using skills, techniques and methods	...knowledge of cognition in general as well as awareness and knowledge of one's own cognition
	Understand	...can list the main concepts related to landscape and economy, ...can list the main concepts of at least one other discipline different to his/her own discipline	...can recognize these concepts in a new context	...can recall these concepts in a new context	...knows how to retrieve missing information using multiple strategies
	Apply	...understands the main concepts related to landscape and economy, ...understands the main concepts of at least one other discipline different to his/her own discipline	...can define the conceptual connections between landscape and economy	...can use this knowledge to understand new landscape economy contexts	...is aware of the limits of his/her knowledge
	Analyse	...remembers the main methods relevant for a landscape economy approach such as DPSIR, Scenario Building, Collective Visioning, Prototyping, Modelling	...knows which methods can be applied at a certain state in the process	...is able to apply the main methods relevant for landscape economy approaches	...is aware of the limits of those methods
	Evaluate	...can translate the main concepts of landscape and economy to a specific context (urban, rural, peri-urban)	...can understand how landscape economy systems are functioning in this context	...can identify the interrelations of different elements within the landscape economy system and identify their impact on other systems	...is aware of the limits of knowledge of each system and the relationships between the system
	Create	...can translate the main concepts of at least one other discipline to this context	...can identify past landscape economy processes	...can identify present landscape economy processes	...can build scenarios of possible futures
Evaluate	...can name evaluation criteria in relation to sustainable development	...can effectively link the evaluation criteria to the analysis findings	...can evaluate the impact of past and present landscape economy processes	...critically reflects conflicts between sustainable development goals	
Create	...can evaluate the impact of a (new) landscape economy model	...can evaluate the plausibility and stability of a (new) landscape economy model	...can design / co-create a new landscape economy model (i.e. a spatial model and/or a business, governance or cooperation model for a concrete study area)	...can critically reflect the impact and feasibility of the new model	

Matrix of TELOS Learning Objectives

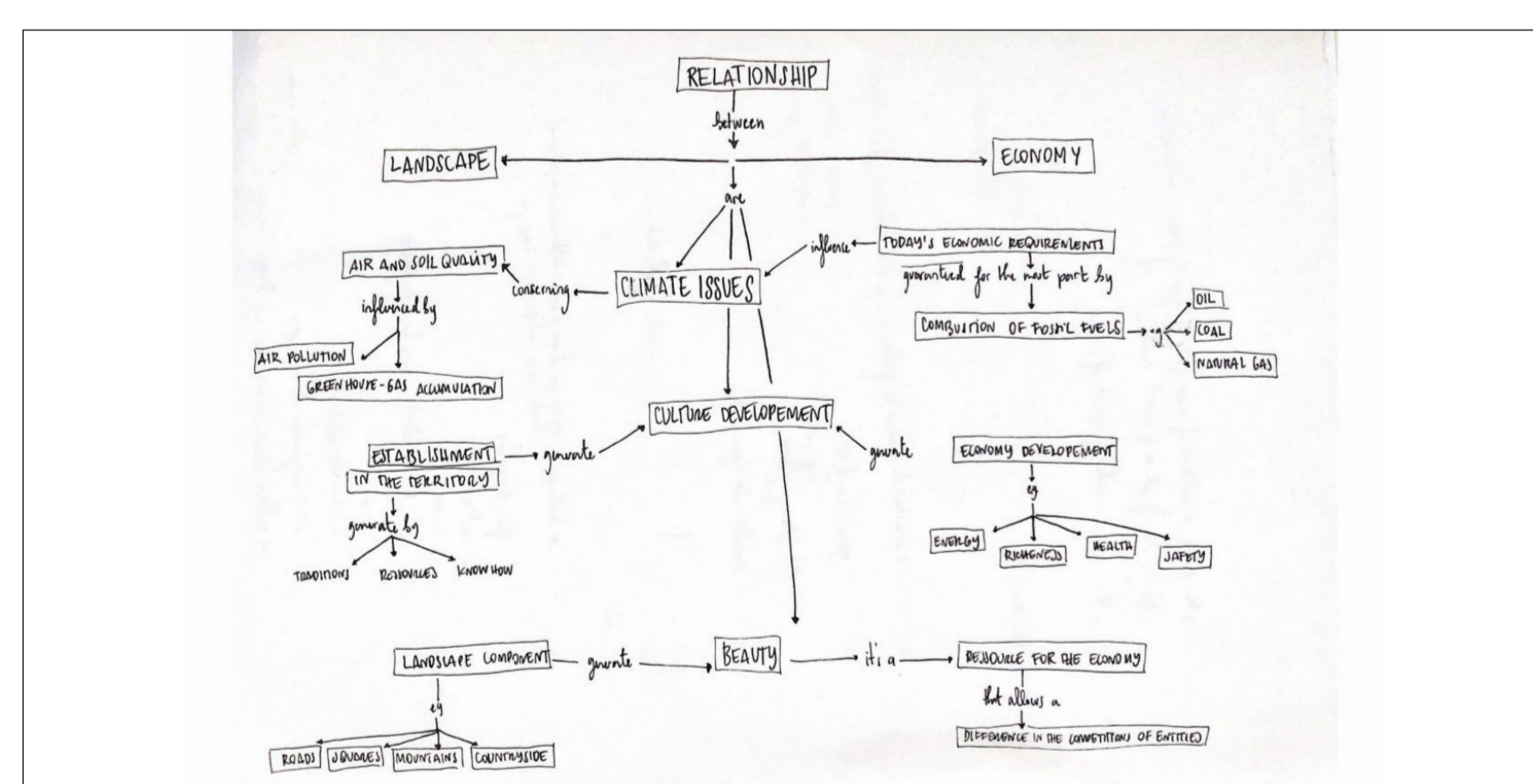
In this matrix, the TELOS Learning Objectives are represented through the Taxonomy of Learning Objectives according to Anderson & Krathwohl's model. The model builds a matrix along two conceptual lines. The knowledge dimension and the cognitive process dimension. The TELOS instructional design aims at supporting all knowledge and cognitive process dimensions in an integrated way. The assignments are diverse and interactive so that they can address these dimensions. For example, the pre- and post-seminar concept mapping and the seminar lectures are supporting the factual and conceptual dimensions and are processed by the learners as remembering and understanding. Complementary to this, there are also landscape system analysis tasks, fostering analysis and evaluation. This leads eventually to an integrative creation of new knowledge, which is the new landscape system model. Along this pathway, metacognitive and reflective aspects are integrated as well.

The TELOS Learning Pathway

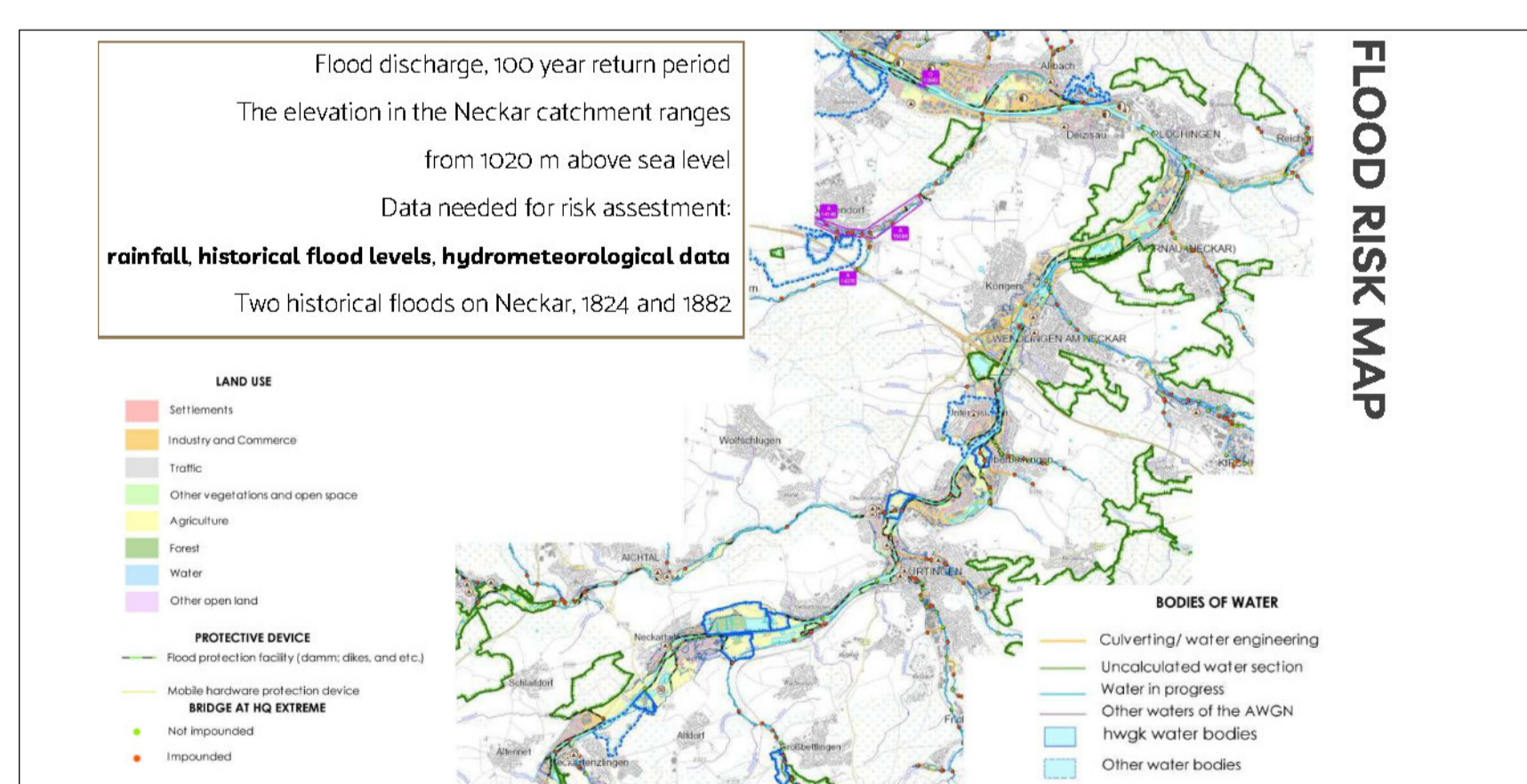
This graphical representation of the learning pathway shows how the first TELOS pilot online seminar has been implemented in the period October 2022 - January 2023, so a four months period. The course was delivered digitally as a transnational seminar with all partner universities involved. In parallel to the seminar sessions, all students were following a practical track in local working groups. Most students have chosen the International Student Competition 'Neckar Landscape Park - Re-Imagining the Productive City Region', issued by the LE:NOTRE Institute. The Akdeniz group focussed on the landscape of the Antalya Bay. The course had a very intensive input session with lectures on all the different TELOS land use sectors that are typically competing in an urban territory. The students followed a pathway of initial concept mapping, system analysis and evaluation, creation of an innovative, less impactful landscape system and final reflection via their post-seminar concept map. The process includes three transnational group presentation sessions.



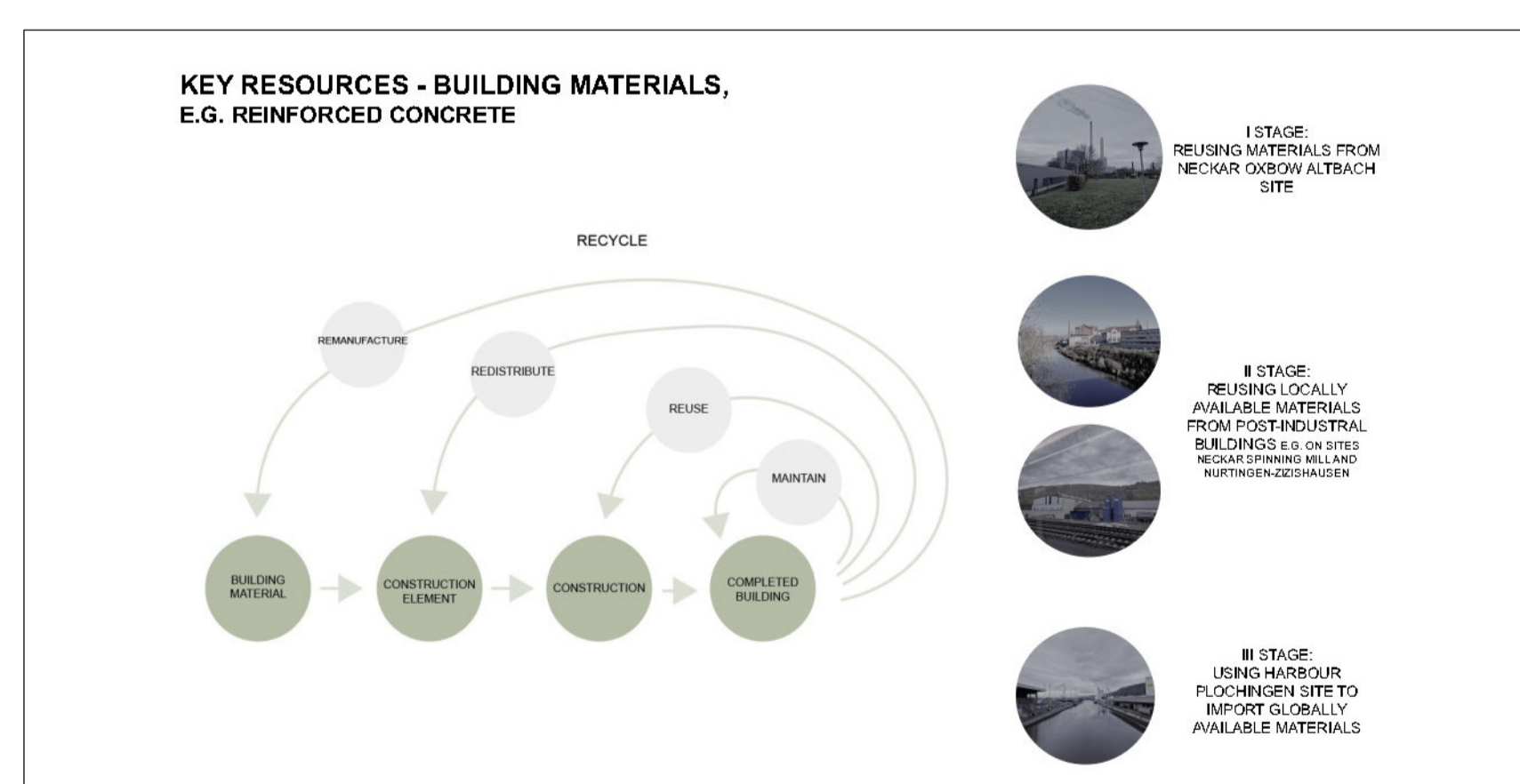
Examples from the first pilot course



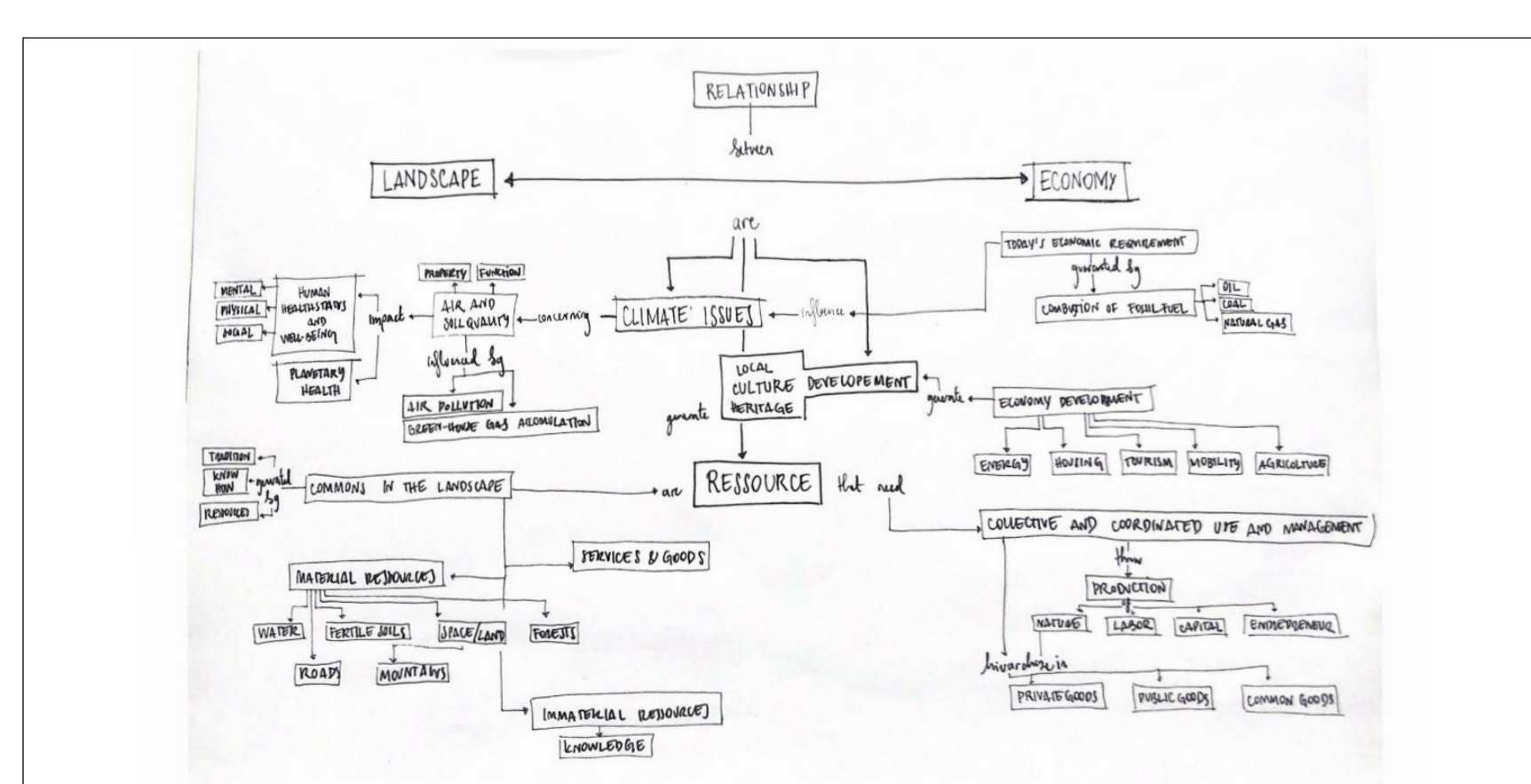
Assignment 1.1: Pre-seminar concept mapping, Beatrice Cattaneo



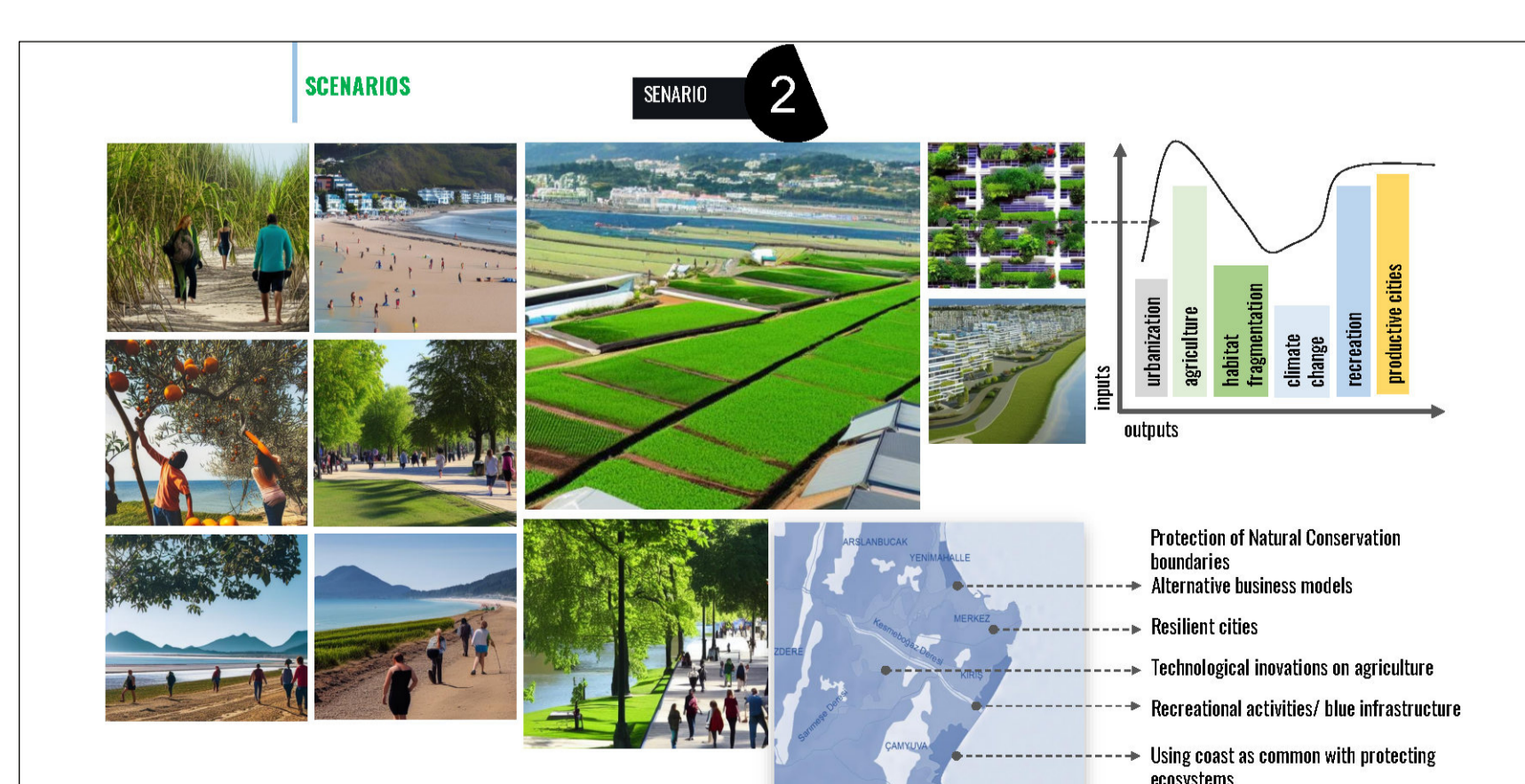
Assignment 2.1: System Analysis, Sapienza Team



Assignment 3: Landscape System Modeling, Team GTU Gdansk



Assignment 1.2: Post-seminar concept mapping, Beatrice Cattaneo



Assignment 2.2: Scenario and Forecasting, Team Akdeniz University

Links and resources

Resources from the first TELOS pilot programme (October 2022 - January 2023) with reading list, lecture recordings and presentation material:

https://telos.hfwu.de/index.php?title=Landscape_Economy_Readings_and_Resources

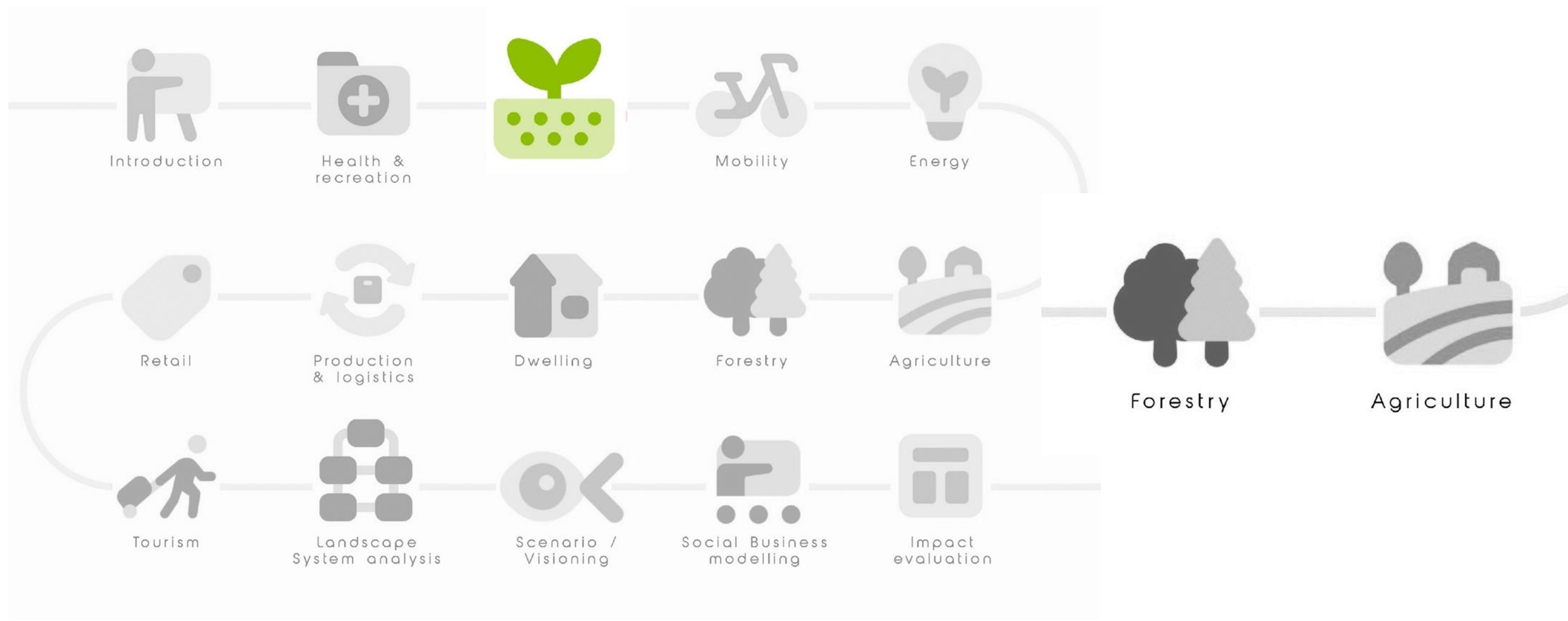
Discover more:



Poster author:

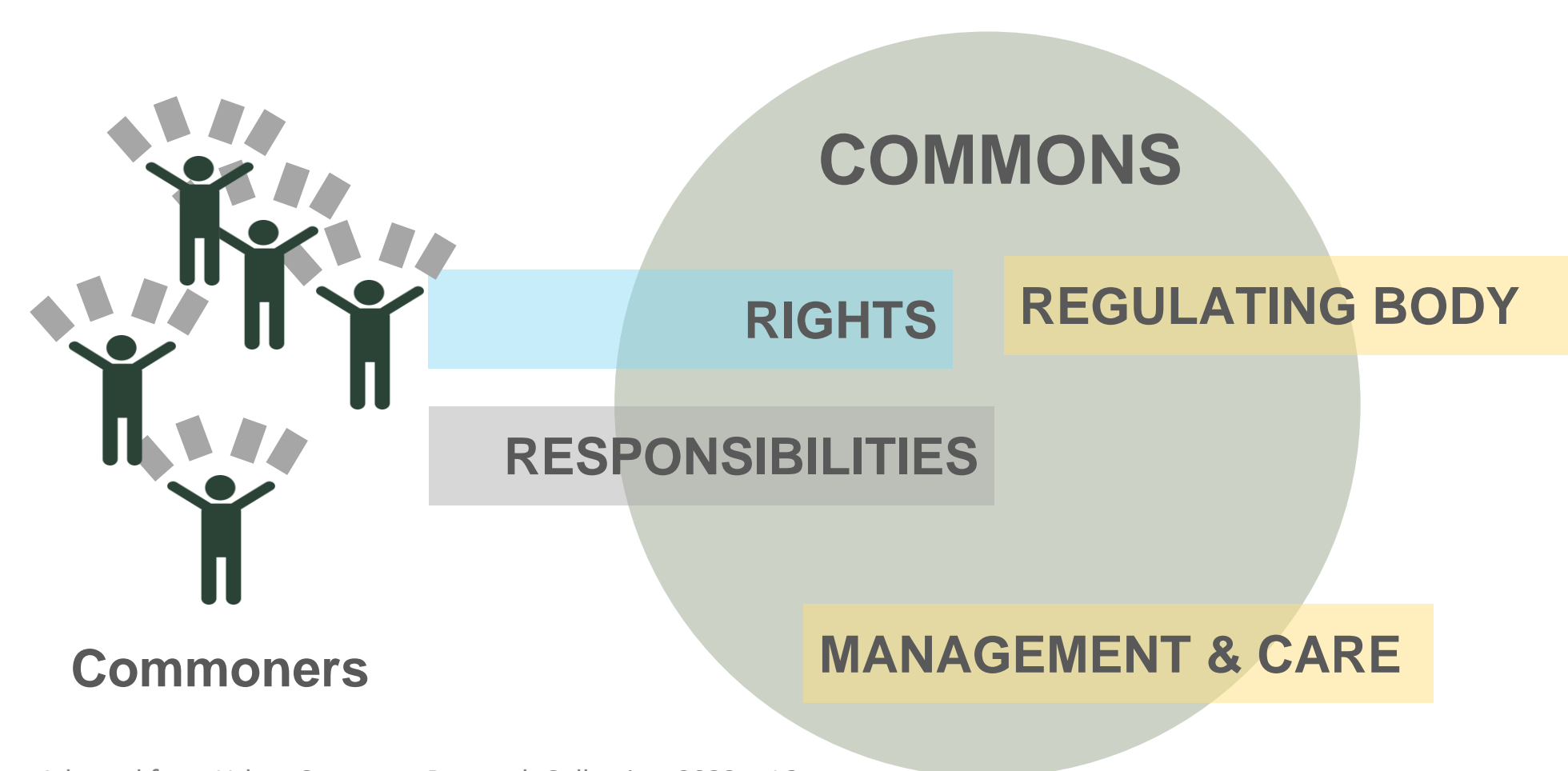
Dr. Ellen Fetzter

Nürtingen-Geislingen University, Germany



The Commons

Activating the power of collective stewardship
for a generative landscape economy



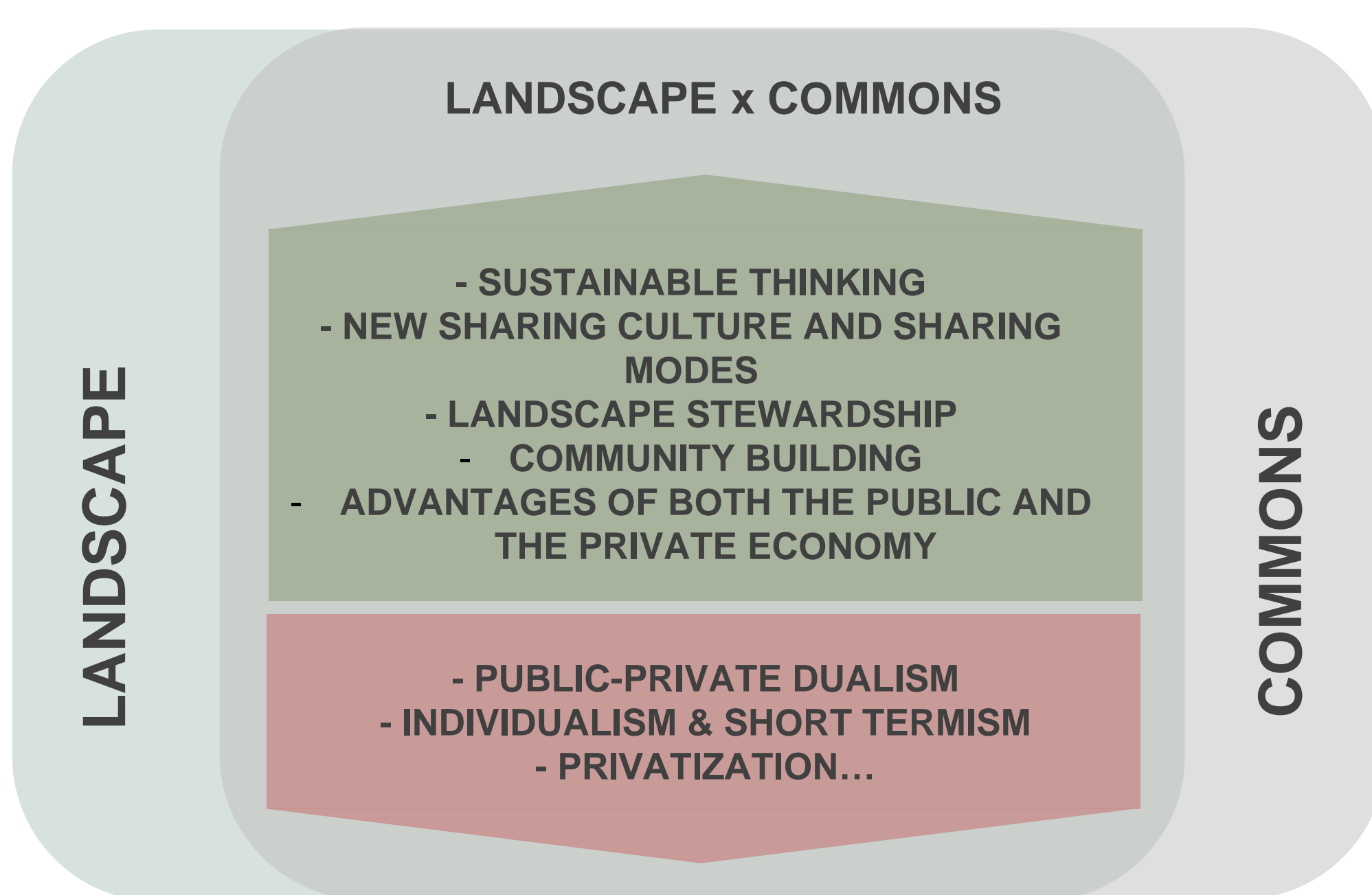
Adapted from Urban Commons Research Collective, 2022, p16

Key Concepts

A common is a piece of land, resource, or good used and shared by a group of people. According to Elenor Ostrom, commons promote intergenerational and collective thinking. Their sustainable and equitable management implies rights and duties to all the commoners and their capacity to define and modify the rules governing the common. The landscape can be perceived as a complex common combining material and immaterial resources, services, and goods, whose management resides in their inhabitants. From an economic perspective, commons can be linked to the 'social economy' or 'community economic development' in which the community's social, environmental, and economic benefit prevails over the capital or the benefit of specific individuals or businesses. The right of way, the right to a perceived landscape, and the hunting or fishing bans provide examples of how the community can regulate the use of the landscape for the common good.

Main challenges and opportunities

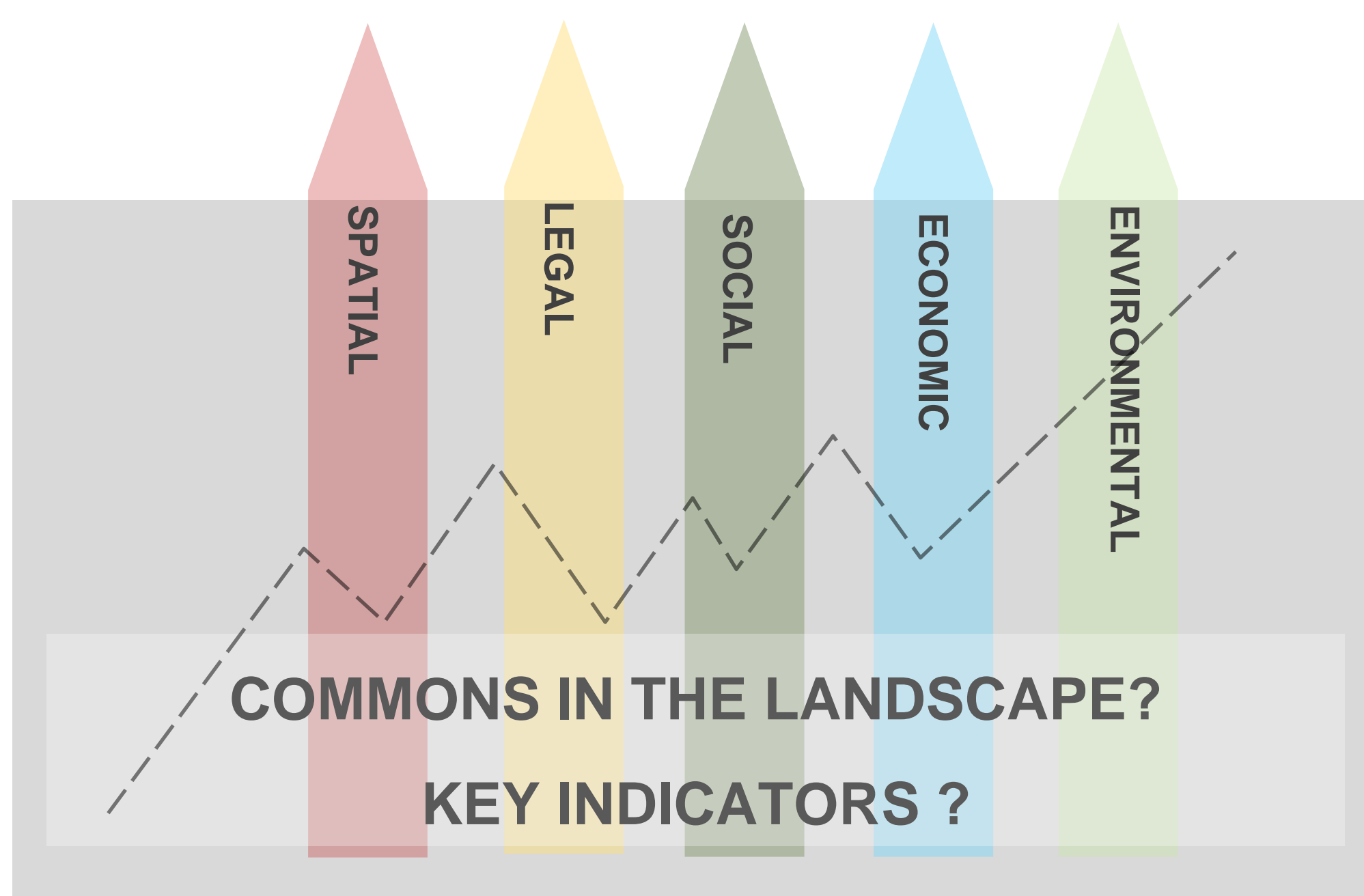
The main challenge affecting the continuity of commons has been the general belief that the selfish interest of some commoners leads to the depletion of the common ('The tragedy of the commons'). This belief has been used to support the privatization of all types of goods and the consolidation of a dualistic system combining private and public goods and space. By contrast, the emergence of traditional and new types of commons reveals a new sharing culture in which the production, use, and care of material and immaterial goods, services, and resources is the responsibility and right of communities. This new culture of the commons aligns with sustainable development, circular economies, and new governance models and can be found in some economic activities or in the access and use of resources in rural areas, cities, or the internet. Critically, the existence of commons and the activity of commoners need to be recognized and legitimized by frameworks fully integrated into increasingly complex and global legal systems.



Key quality indicators

The presence and development of commons supporting sustainable transitions in the landscape can be assessed through different and interconnected spatial, legal, economic, social, and environmental indicators:

- SPATIAL: % and connectivity of the land affected by communal regulations and use
- LEGAL: Recognition of different types of commons in the legal system and the number of legal texts regulating their use.
- ECONOMIC: % of the economic activity developed within communal structures (social economy, cooperatives, etc.) and value of the products that are regulated and managed in a communal way
- SOCIAL: % of people benefiting or participating in any kind of communal structure: people working in the social economy sector, people sharing goods (cars, flats, etc.), etc.
- ENVIRONMENTAL: Contribution of commons and commoners to the preservation and improvement of environmental values and assets (ecological connectivity, biodiversity, etc.).



Vision and strategy

Commons can be perceived as a tool to promote intergenerational, collective, and sustainable thinking in the landscape. They can also be a tool to stimulate community building, a feeling of belonging, and a reconnection between people and places. Commons offer a third way between the private and the public sectors, and the proposed indicators can help us measure their progression in rural and urban areas. For example, urban pastoralism, a subsistence pattern characterized by communal ownership and management of the land, has been a traditional practice for centuries, but it experienced a severe decline after the industrial revolution because of its "low" productivity and concurrency with intensified agriculture, industry, urban functions, and infrastructure. However, during the last decades, urban sprawl has generated an important quantity of abandoned land, especially in the cities' periphery. This has offered shepherds unexpected opportunities in times of uncertainty to extend their activity and transform abandoned areas into common grazing land.

Main references

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge, UK: Cambridge University Press.
Menatti, L. (2017). *Landscape: from common good to human right*. *International Journal of the Commons*.

Authors

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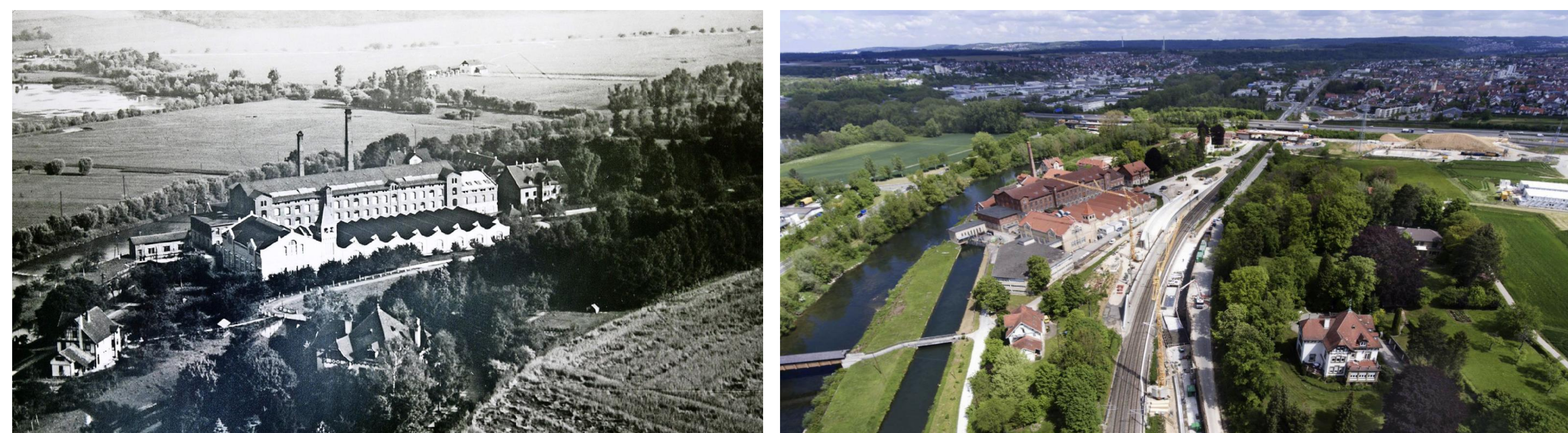
TELOS Towards a European Landscape Economy for a Sustainable urban development



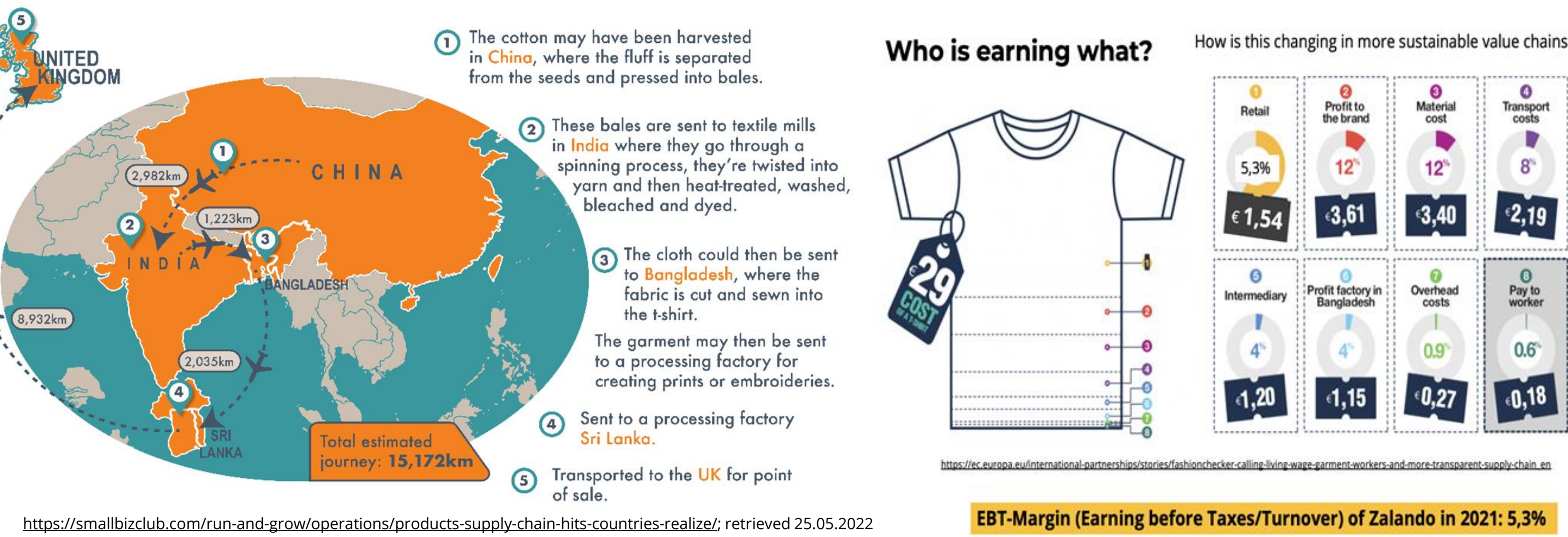
Production, logistics, retail and consumptions are globally interconnected human activities, strictly bind with each other by technologies and supply interdependencies (Fig. 1), which are creating a value added chain. The value chain shows the path a product or service takes during the transformation process: from the starting material to its use. The various tasks involved in providing the service are described. The representation ranges from development, procurement and production to sales, collection and downstream services, till the End of life of the product. Depending on the industry and the individual business models of the companies involved, there are significant influences on the landscape in the form of agricultural use, transport infrastructure, building development and waste disposal. Change in an added value chain (technological, socio-economic or political change) might create new, transform or even eliminate existing landscapes. This was for example the case of the Neckar spinning mill, Wendlingen Oberboihingen (Fig. 2).

This poster explains the value added chain basing on the example of textiles by following one T-shirt and tracing the changes it generates in distant and physically not related with each other landscapes all over the world (Fig. 3).

2. Neckar spinning mill, Wendlingen Oberboihingen founded 1861, closed 2020, in transformation project of IBA'27



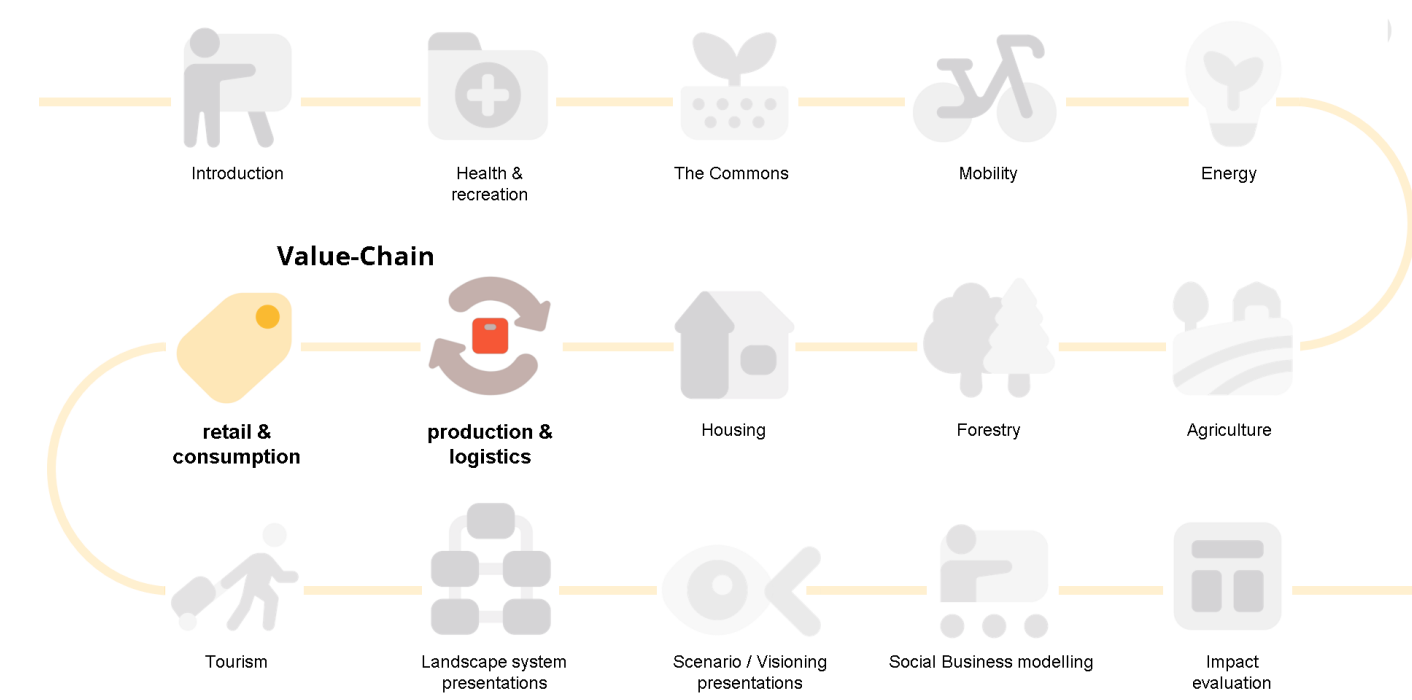
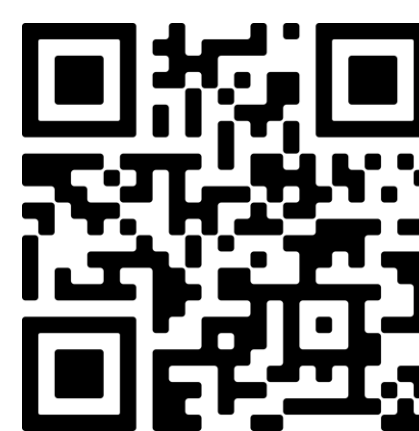
Over 1 million jobs have been lost in the German textile industry since WW2 due to technology change and relocation of production to other countries. This has been accompanied by a different use of landscape and real estate.



Landscape and the Textile Value Added Chain

Production – Logistics – Retailing – Consumption

Karolina A. Krośnicka & Dirk Funck



Impact

Ecological and social impact of the textile industry ¹

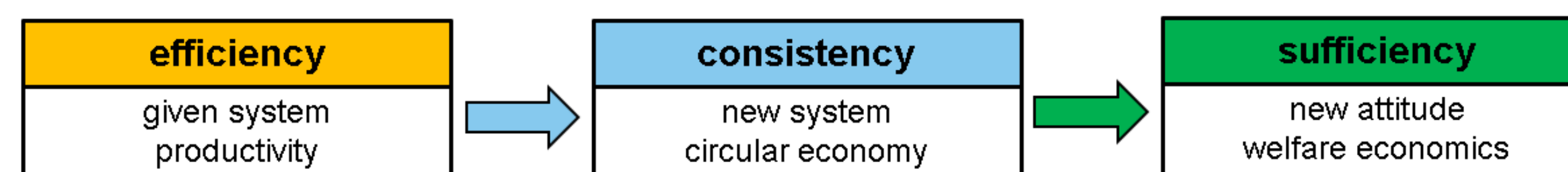
- 13 **CLIMATE ACTION**: 8-10 % of global greenhouse gas emissions ²
- 6 **CLEAN WATER AND SANITATION**: 17 to 20 percent of the world's industrial wastewater in textile finishing
- 14 **CLEAN WATER**: approx. 1/3 of the world's microplastic comes from synthetic clothing
- 12 **RECONSTRUCTION, INFRASTRUCTURE**: approx. 4.5 million tn. clothes end up in landfills in Europe per year
- 1 **NO POVERTY**: approx. 200 million predominantly women work in the textile industry, often under undignified conditions, without union protection and for wages that do not guarantee their livelihoods ³

1. <https://doi.org/10.3389/fenvs.2022.973102>
 2. https://www.idos-research.de/uploads/media/DIE_Publikation_Textilwirtschaft_2019.pdf
 3. <https://www.europarl.europa.eu/news/en/headlines/society/20201208STO93327/the-impact-of-textile-production-and-waste-on-the-environment-infographic>

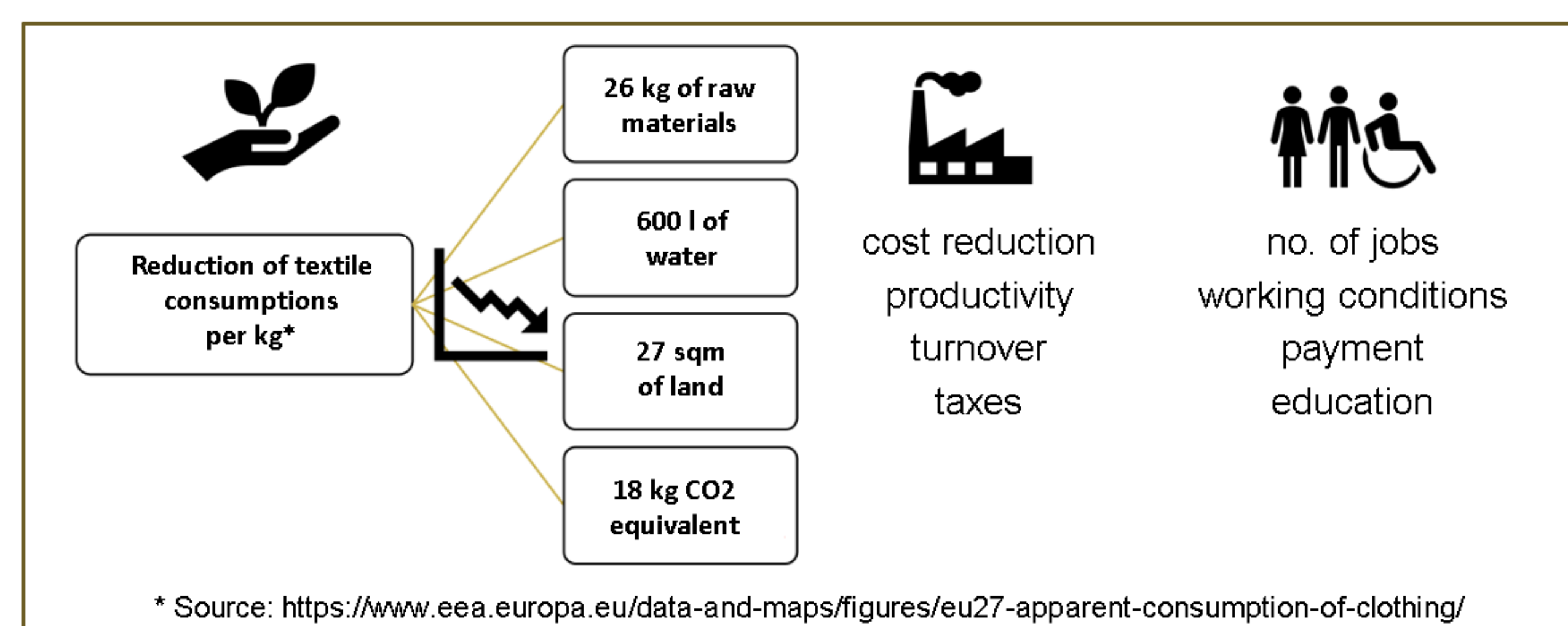
Key Concepts

- Value Added Chain
- Triple Bottom Line
- Shareholder- vs. Stakeholder Value > Social Enterprise vs. Just for Profit Business
- Consumer Attitude Behaviour Gap
- Sustainability Strategies: Efficiency, Consistency (Circular Economy) and Sufficiency

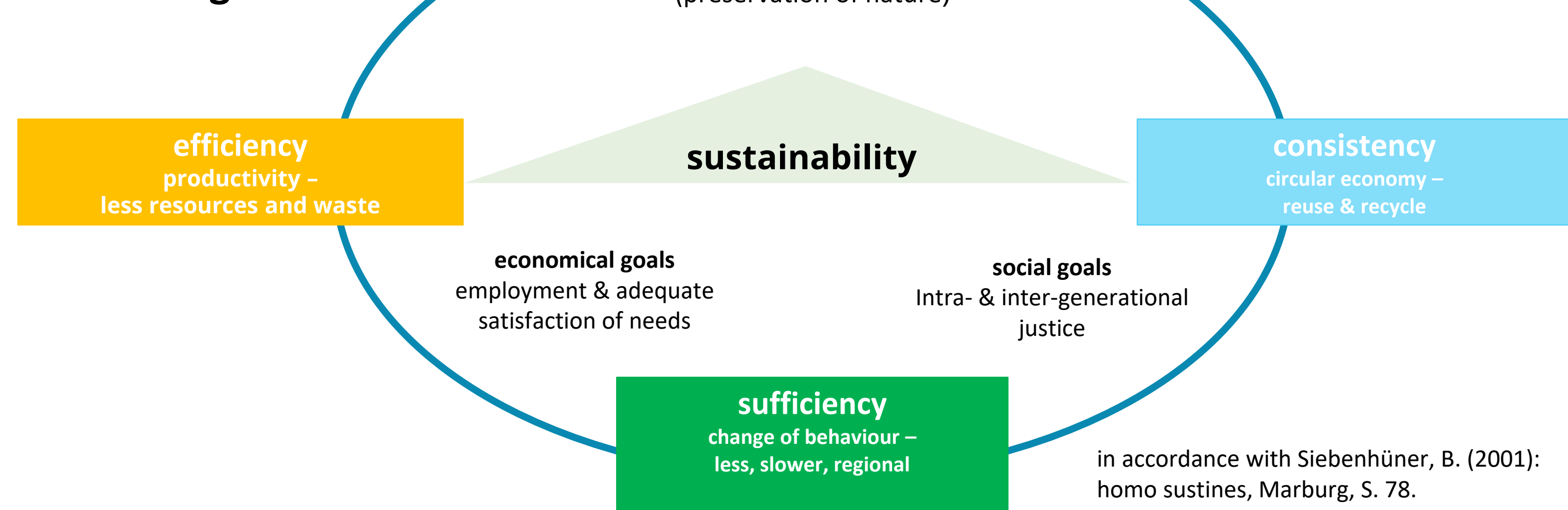
KPIs, impact measurement and solutions



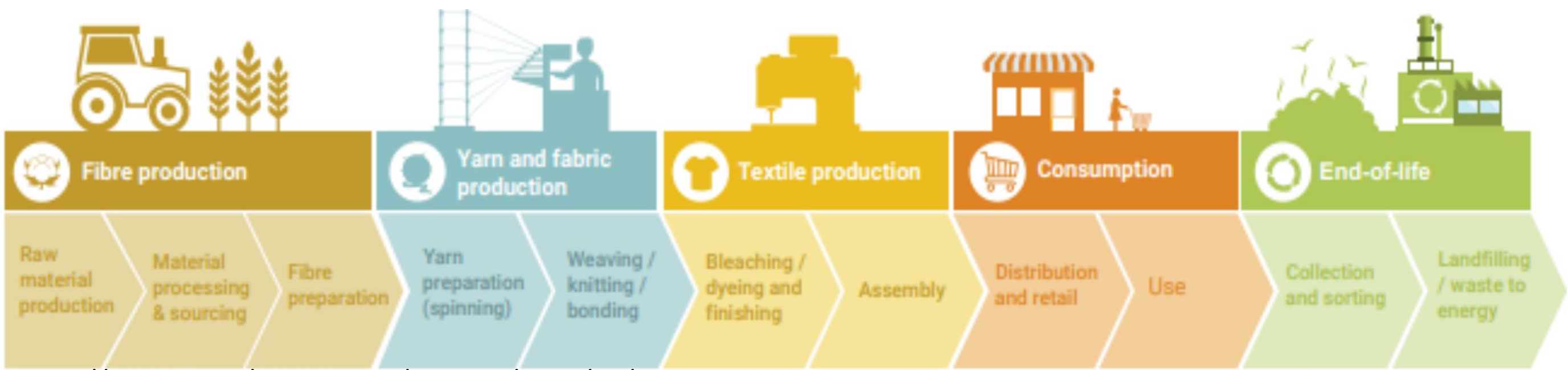
existing conflicts of objectives can (only) be resolved in the medium/long term



Sustainability goals and strategies



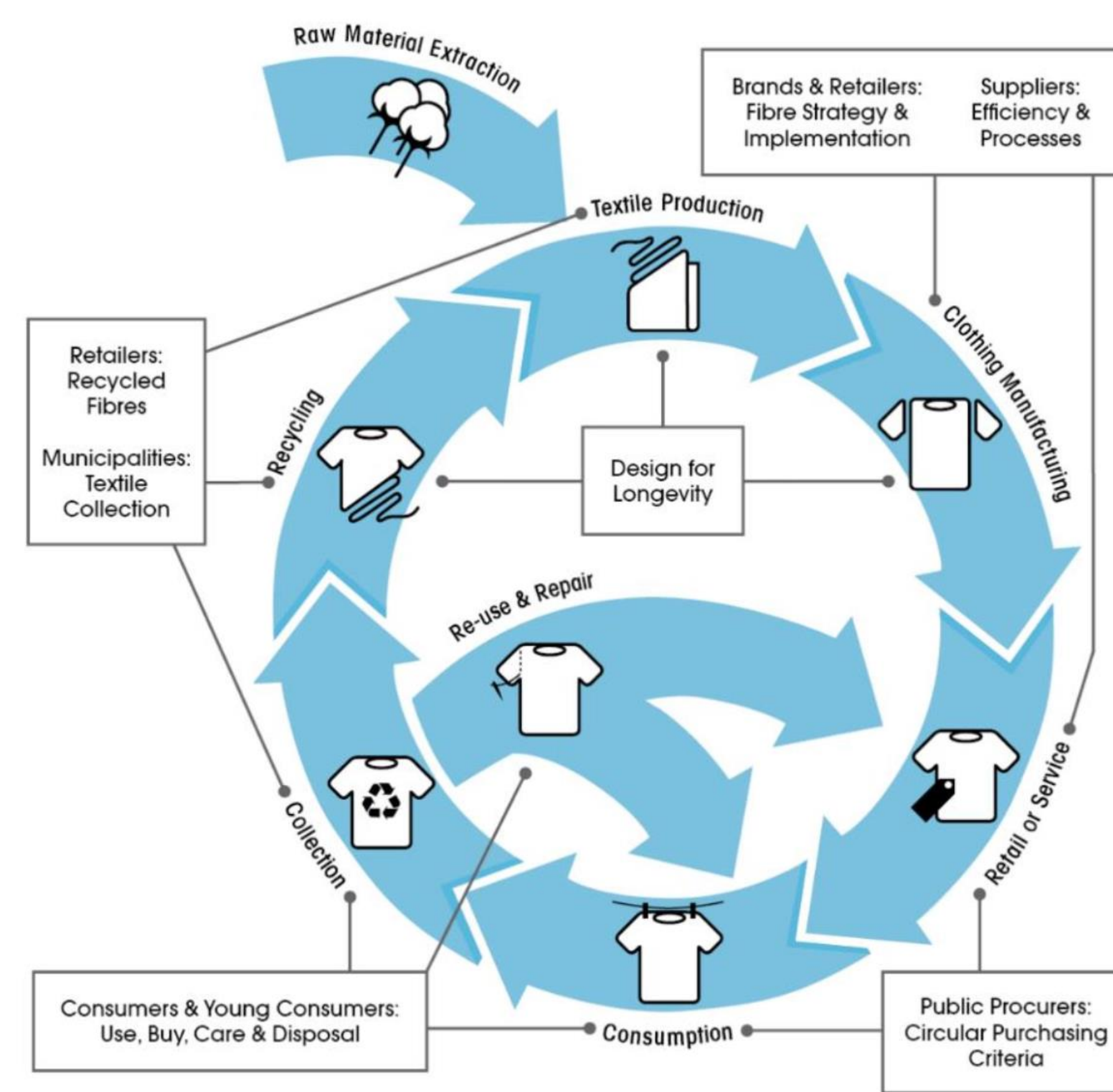
Linear textile value chain



https://unemg.org/wp-content/uploads/2021/09/Panelist-Presentation_UNEP.pdf

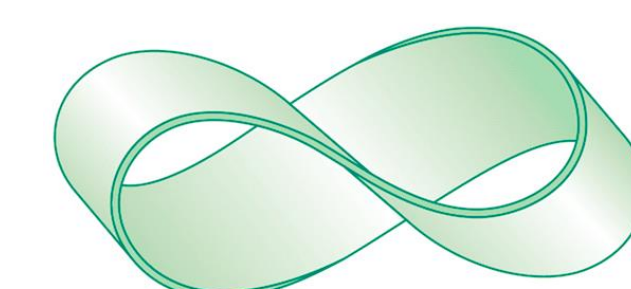


Circular textile value chain



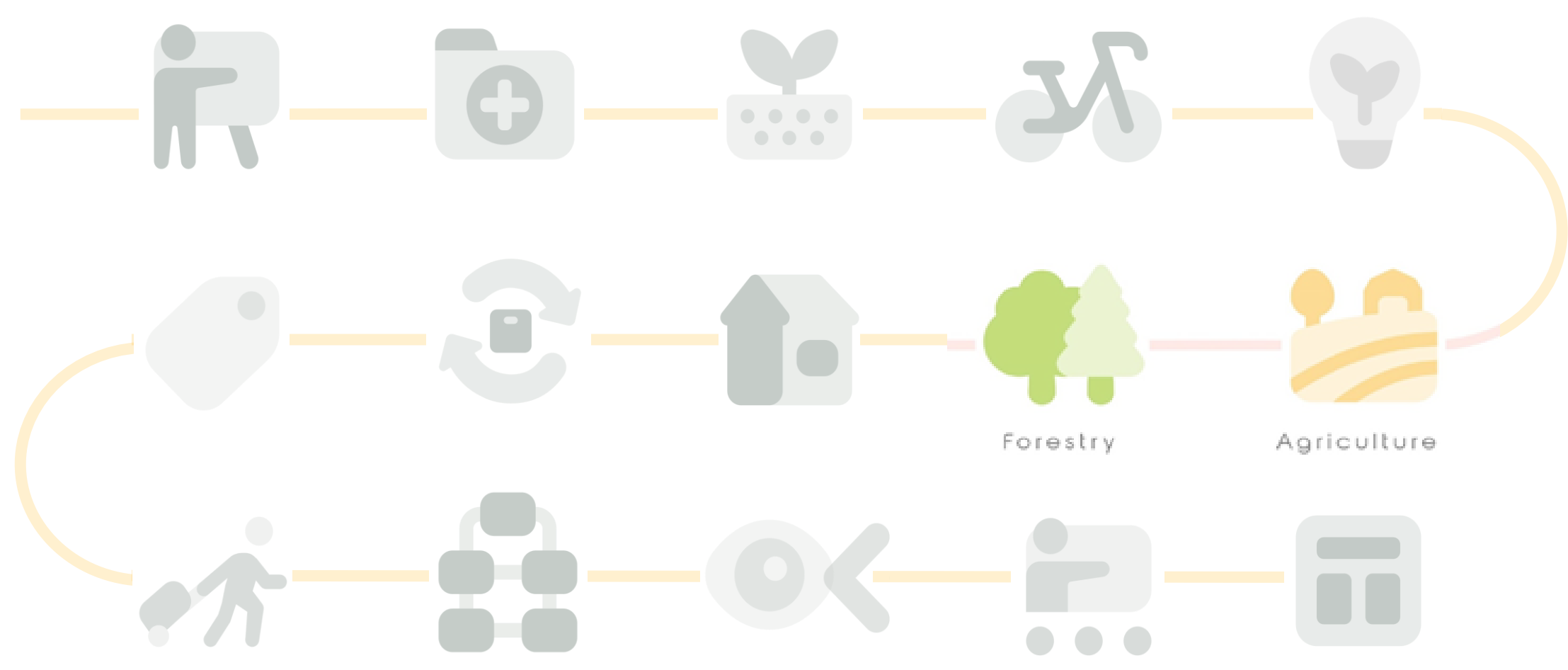
(<https://www.mckinsey.com/de/news/presse/2022-07-14--textile-recycling>; published: 14.07.2022)

The Vision: Endless textile value chain



Urban Forestry

content development by Akdeniz University
in collaboration with Gdańsk University of Technology



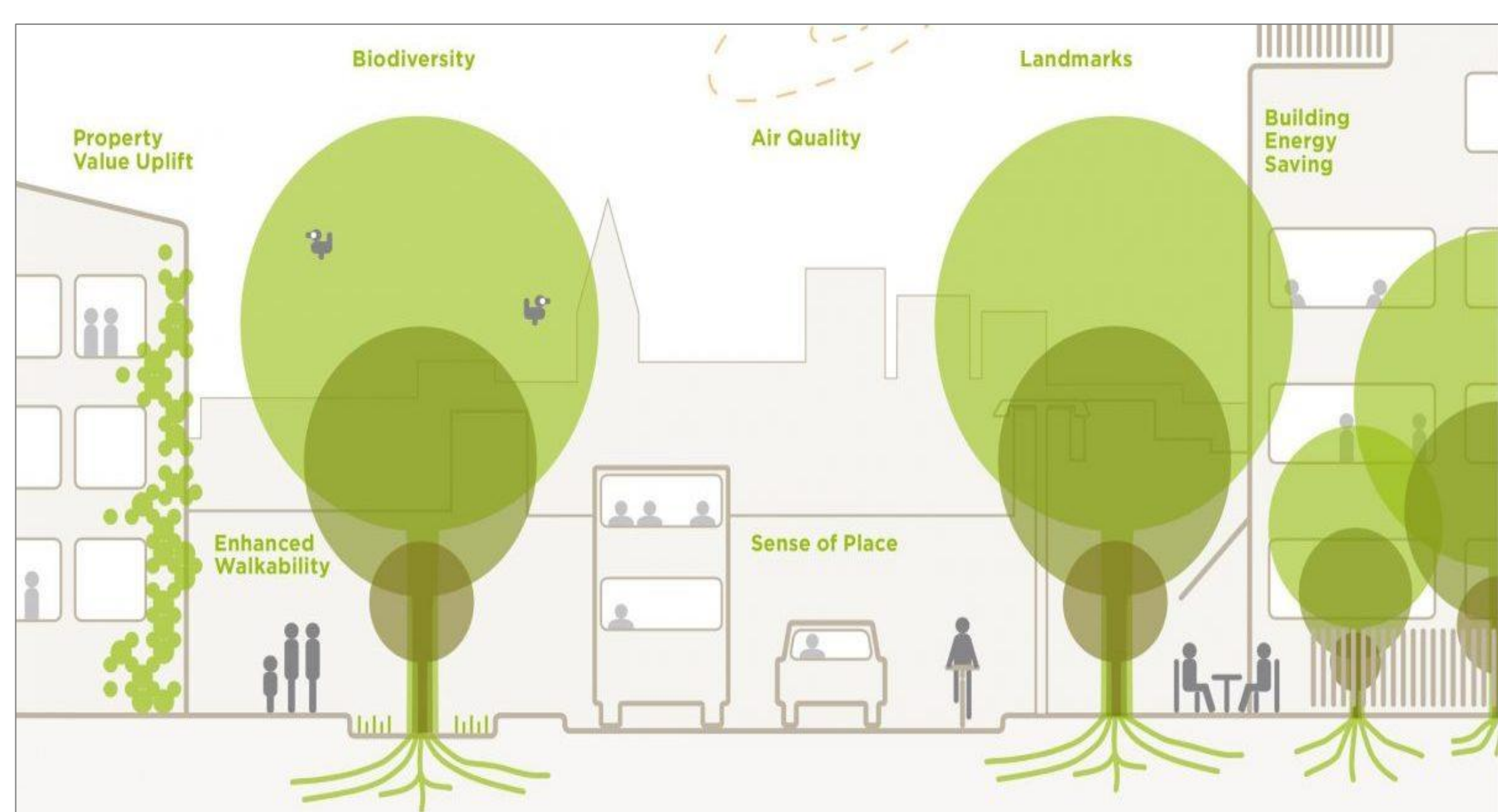
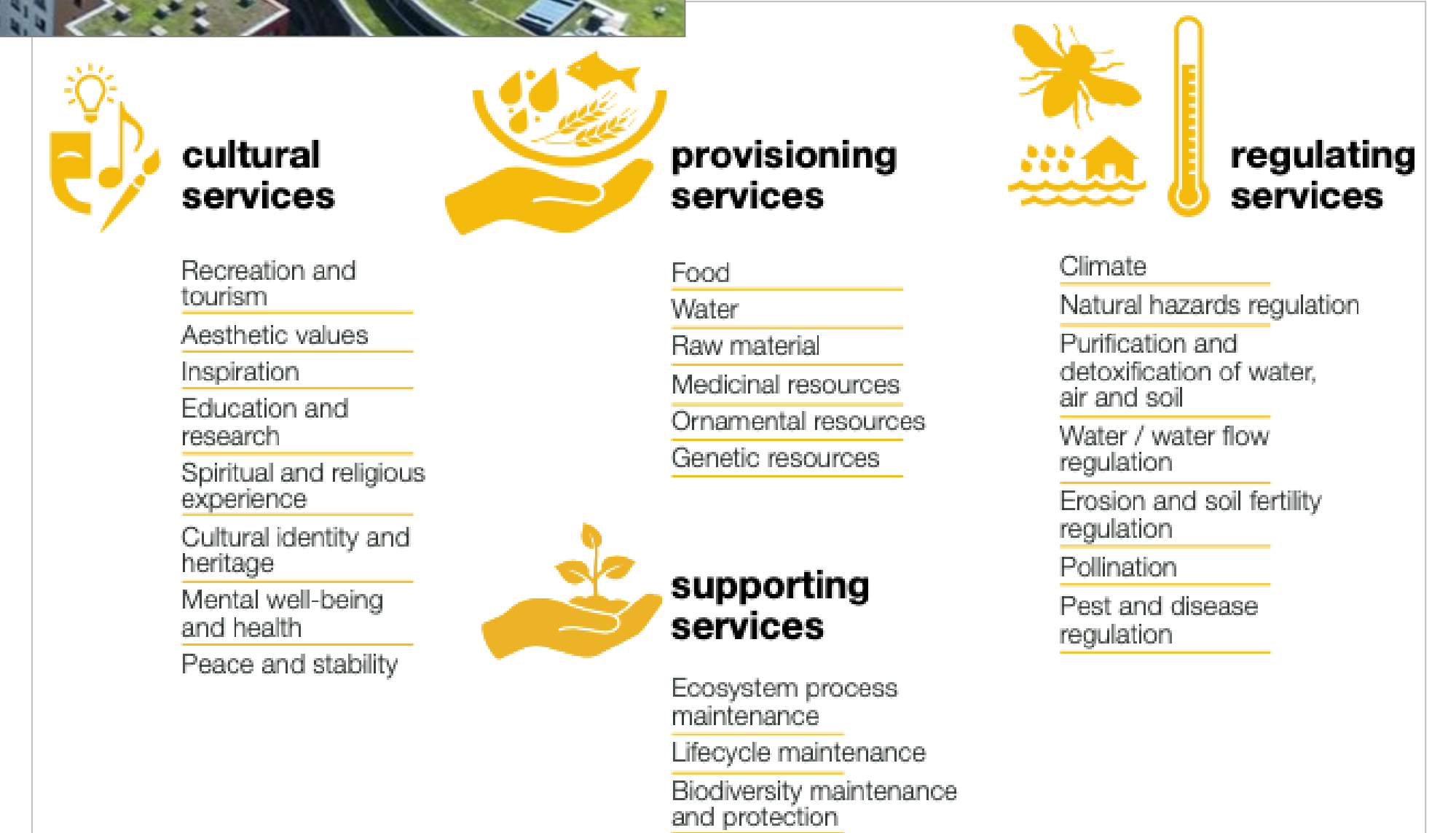
Key concepts

Most Europeans live in urban areas, and even more of our children will live in urban areas. By 2050 it is expected that 90% of Europeans and the citizens of other developed countries will reside in urban areas. The effect this will have upon humans, ecosystems and the total earth climate system is one of the biggest challenges for sustainable development across the world. In this context, a 'city' that feels and functions like a forest is increasingly being proposed as a vision for future sustainable cities. **Green infrastructure** is widely proposed as being a comparably inexpensive and a realistic strategy for delivering nature-based solutions, that support climate adaptation capacity and sustainable development in Europe's urban areas. Examples of the components of urban green infrastructure include green roofs, permeable vegetated surfaces, street trees, public parks, community garden, wetlands and not least forests. The value of nature to people has long been recognized, but in recent years, the concept of ecosystem services has been developed to describe these various benefits. An **ecosystem service** is any positive benefit that wildlife or ecosystems provide to people. The Millennium Ecosystem Assessment (MA), a major UN-sponsored effort to analyze the impact of human actions on ecosystems and human well-being, identified four major categories of ecosystem services: Provisioning; Regulating; Cultural; Supporting.



Green infrastructure Gdansk (Poland)

Ecosystem Services and related goods (iucn.org)



Main challenges

The world faces enormous environmental challenges in terms of climate change, resource use and protection of the natural environment. Urban areas have a high environmental impact that can be felt globally, as well as within its own borders. Cities comprise less than 3% of the Earth's surface, but there is an extraordinary concentration of population, industry and energy use, leading to a massive local pollution and environmental degradation. In the cities, approximately 78% of carbon emissions are due to human activities. The ecological footprints of cities go (through emissions, consumption and other human activities) far beyond their urban boundaries to forests, agriculture, water and other surfaces, which supply their residents so that they have an enormous impact on the surrounding rural, regional and global ecosystem. Cities are therefore centers of consumption (energy, materials,), greenhouse gas production, waste and emissions of pollutants in water and air. A major challenge of modern cities is to increase and enhance natural resources, especially urban greenery, and to seek a close relationship between anthropogenic and natural elements.

Key performance indicators

The KPIs reflect the priorities to expand, protect, improve, and connect urban forests. They display some of the contributions relevant administrations make to people, nature, and the economy through the urban forests. The use of KPIs also reflects their commitment to evidence-based working and to ensuring that there is robust data available to the urban forestry sector to underpin policies and operational decisions. Main KPIs for urban forests are; 1. Urban Tree Diversity, 2. Physical Access to Nature, 3. Canopy Cover, 4. Stormwater Control, 5. Habitat Provision, 6. Air Quality Improvement, 7. Visual Access to Nature, 8. Greenhouse Gas Sequestration and Storage.



Types of greenery within the city borders

- Natural green areas protected by law
- Greenery of agricultural lands: fields, meadows, orchards, vineyards
- Urban agriculture: allotment gardens, public gardens
- Greenery associated with housing: gardens
- Public greenery: city parks, neighbourhood parks, squares, pocket parks
- Greenery associated with institutions: Park-museums, zoos, botanic gardens
- Greenery on buildings (green-roofs, green walls)
- Greenery associated with (transport) infrastructure (loans, bushes, allees of trees)
- Greenery associated with industry (formed bushes, lines of trees)

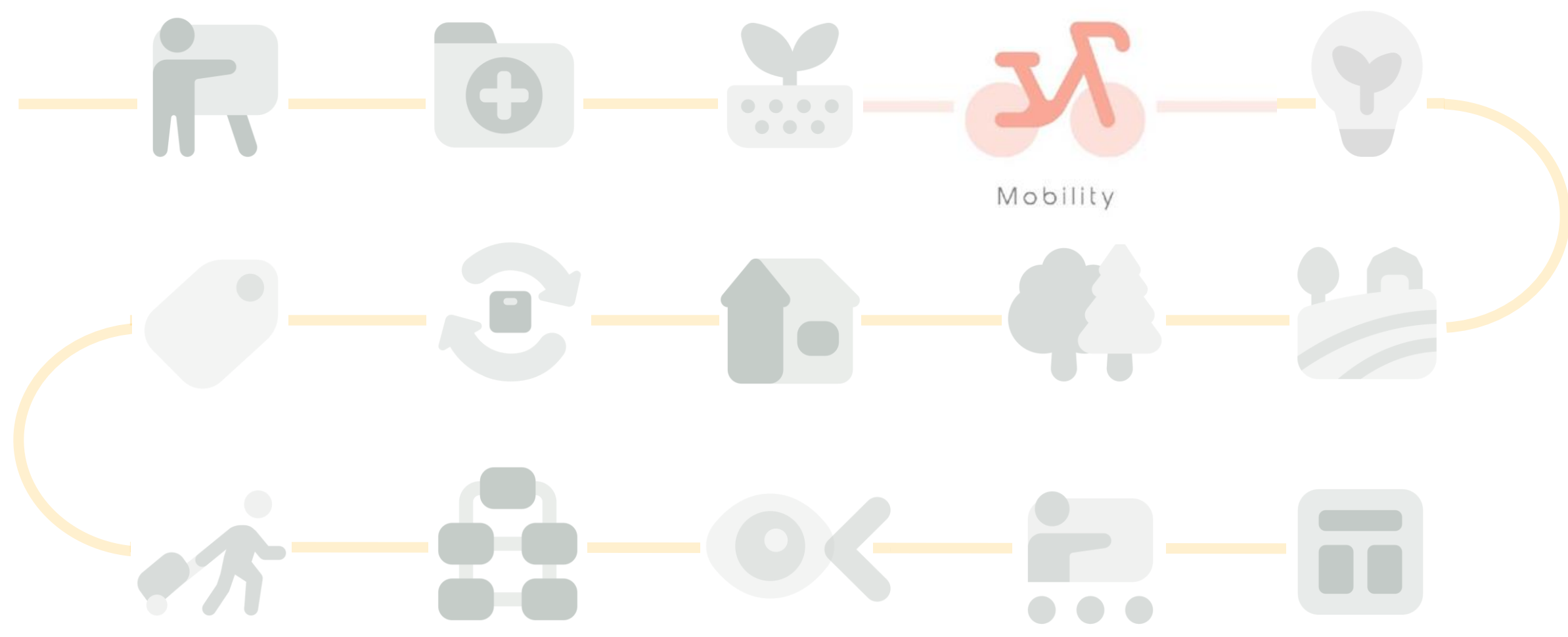
Vision and strategy

Cities, which are already responsible for around 75% of global CO2 emissions, are also at the forefront of fighting climate change and simultaneously are particularly vulnerable to its impacts. Urban trees and forests have been highlighted as a solution that can help to achieve the SDGs and make the cities resilient to the future impact of larger populations, higher temperatures, pandemics, weather extremes and natural disasters. Sometimes called a nature-based solution, sustainable urban forestry was identified by experts from national governments, city governments and civil society as a cost-effective option to future-proof. Highlighting the contribution of urban forests to sustainable development and climate action, the European Union, is discussing moving towards legally mandated targets to increase green spaces and canopy cover in European cities up until 2050. The increase of urban greenery has quantitative and qualitative dimension. The quantitative dimension concerns increasing green and water-permeable surfaces so that they form continuous systems (blue-green infrastructure). The qualitative dimension relates to increasing the effectiveness of natural elements. It means trying to ensure that every unbuilt area, every element of the natural environment - perform as many ecosystem services as possible. Such a strategy is consistent with the EU Green Deal objectives.

Main references

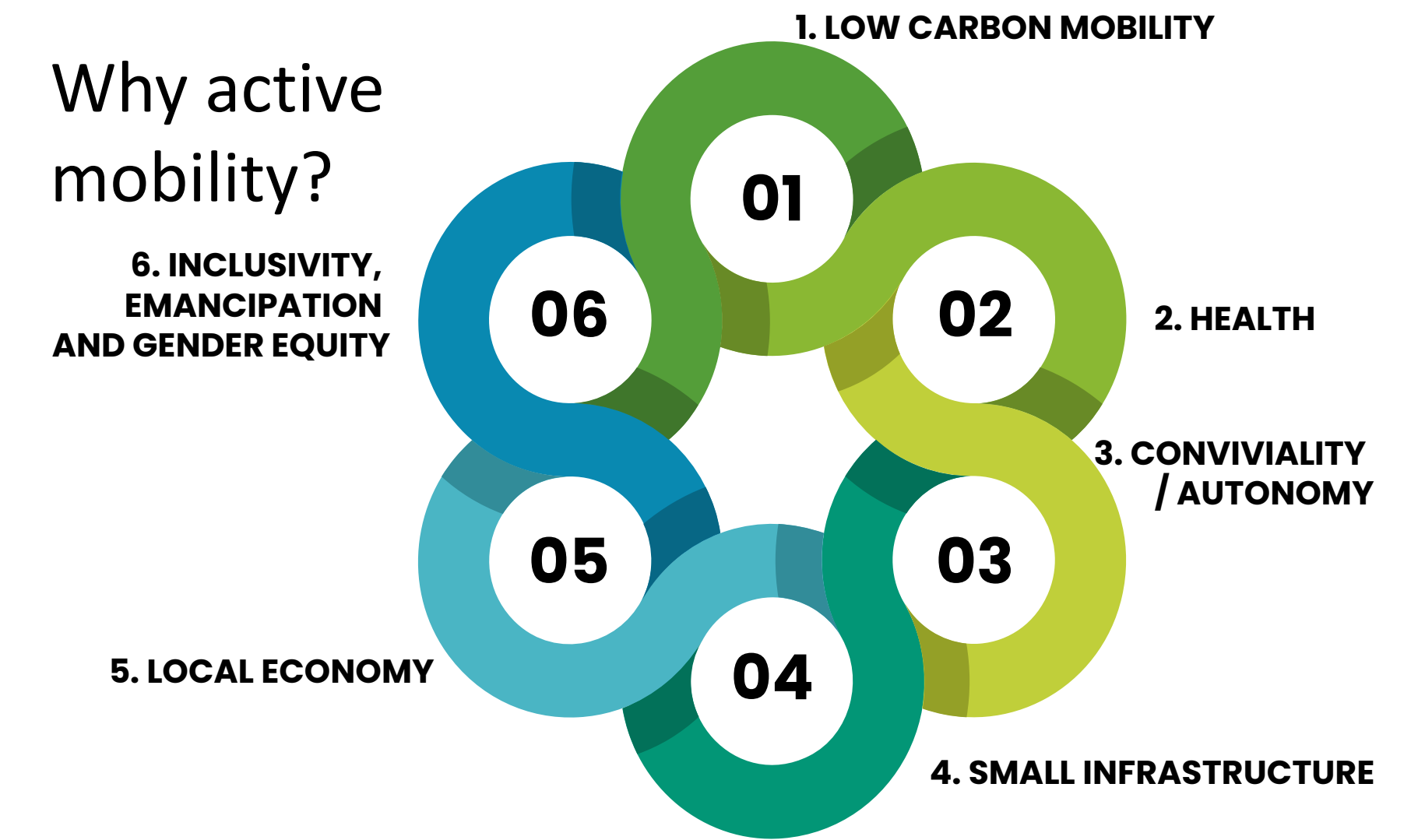
- Davies C., Andreucci MB, Zürcher N., 2017. Guideline for urban forestry as critical green infrastructure in European urban areas. DOI: 10.13140/RG.2.2.35181.18405
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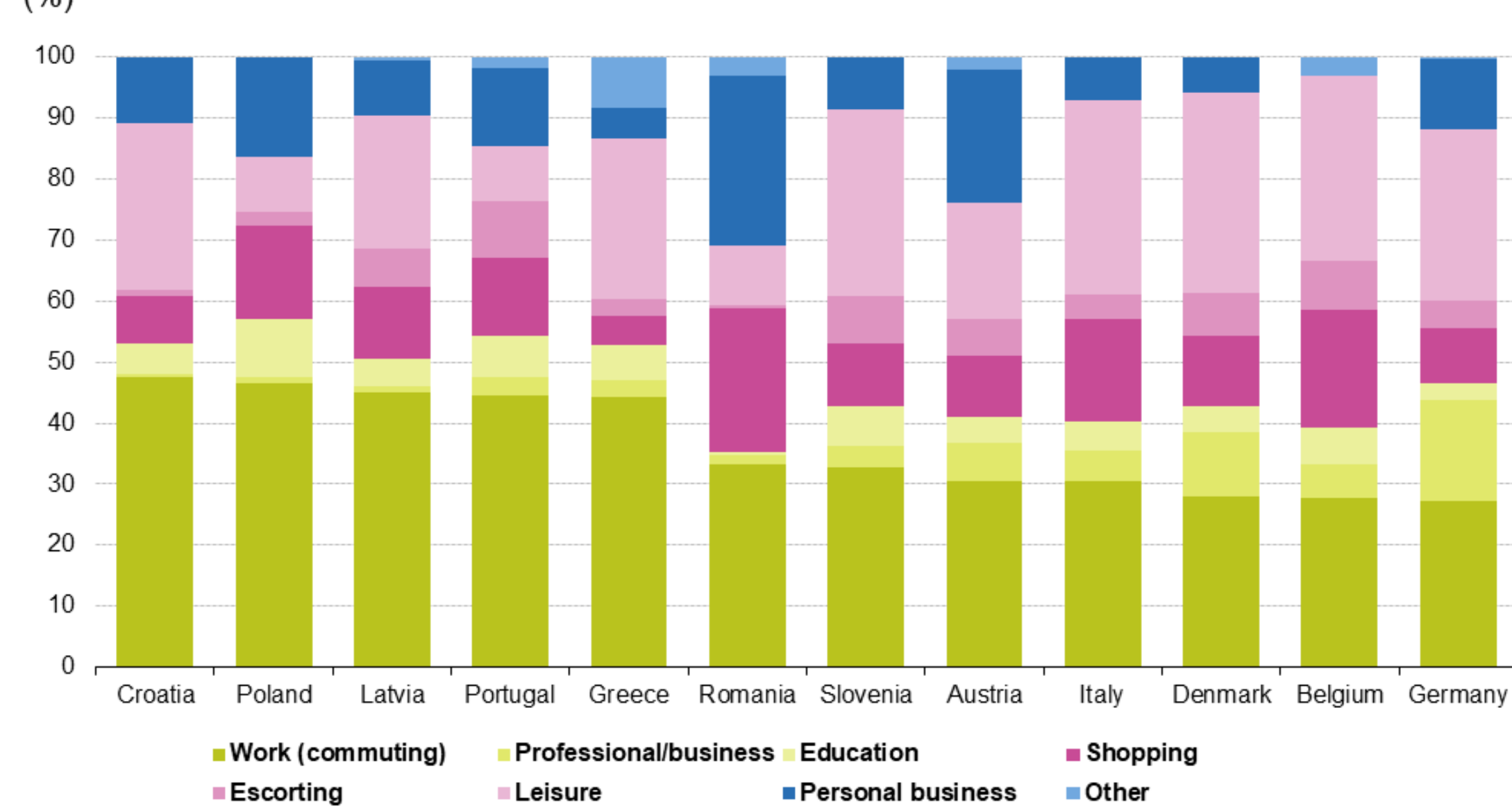


Mobility

Key driver of a sustainable landscape economy



Distribution of distance travelled per person per day by travel purpose for urban mobility on all days (%)



Source: Data from twelve Member States (eight pilot surveys and four national surveys on passenger mobility)

euromobility

Key concepts

We understand mobility as the ability to move or be moved freely and easily or physically, or between classes and occupations. Ambition is to achieve an All-inclusive Mobility, encompassing the demand for integrated offers in a seamless mobility chain, a complementary trend to the Mobility as a Service (MaaS). The MaaS concept includes mobility services making possible to use different means of transport seamlessly as required without having to invest directly in availability of vehicles. Additional to this, the concept of the Last Mile is the last (or first) section of a chain of routes that directly connects users, particularly relevant for infrastructure and logistics. And finally, the mobility behavior should essentially refer to the Modal Split analysis. Mobility and Landscape Economy include also the notions of Land Capture, Transit-Oriented Development (ToD) and 15min City approach explained below.

Main challenges

The world is becoming increasingly urban, the urban passenger mobility demand is booming, and the urban goods mobility is exploding. This combined with an increase of digitalization of our society and habits. Our mobility needs to be redefined again, in the light of the Mobility 4.0 related to the newest industrial revolution: convergence of industry and technology, digitalization and IOT. These trends are connected to the urban traffic congestion, still based on fossil fuels, the individualization of mobility (1 person | 1 car), the increase of commuting distances, as well as the electrification, automation and sharing trends of the transport sector.

Key quality indicators

Key Quality Indicators are multiple and cover several aspects of the Mobility. SDG Indicators are related to Goal 9 (e.g. CO2 emissions per mode of transport, sustainability of infrastructure), Goal 11 (e.g. accessibility to inclusive urban spaces), or Goal 13 (e.g. resilience infrastructure). In general, important indicators are related to connectivity and attractiveness, e.g. proximity or availability of infrastructure, modal split distribution and promotion of sustainable transportation, speed of travel and transport, conviviality and local economy. Mobility is one of the most important economical driver for prosperity, added-value and return on investment.

Vision and strategy

Urban Mobility demand is expected to increase in the next years: only between 2030 and 2050, urban mobility will increase by around 38% globally. Expectation of massive data growth, Big Data, new kind of mobility services, MaaS principles, autonomous driving and electric mobility will increasingly influence our urban way of life and our economies, and consequently our landscapes. Equitable Transit-Oriented Development including interconnected urban fabric, urban density and compactness, within walking distance are expected to transform our urban environment and behaviors towards 2050.

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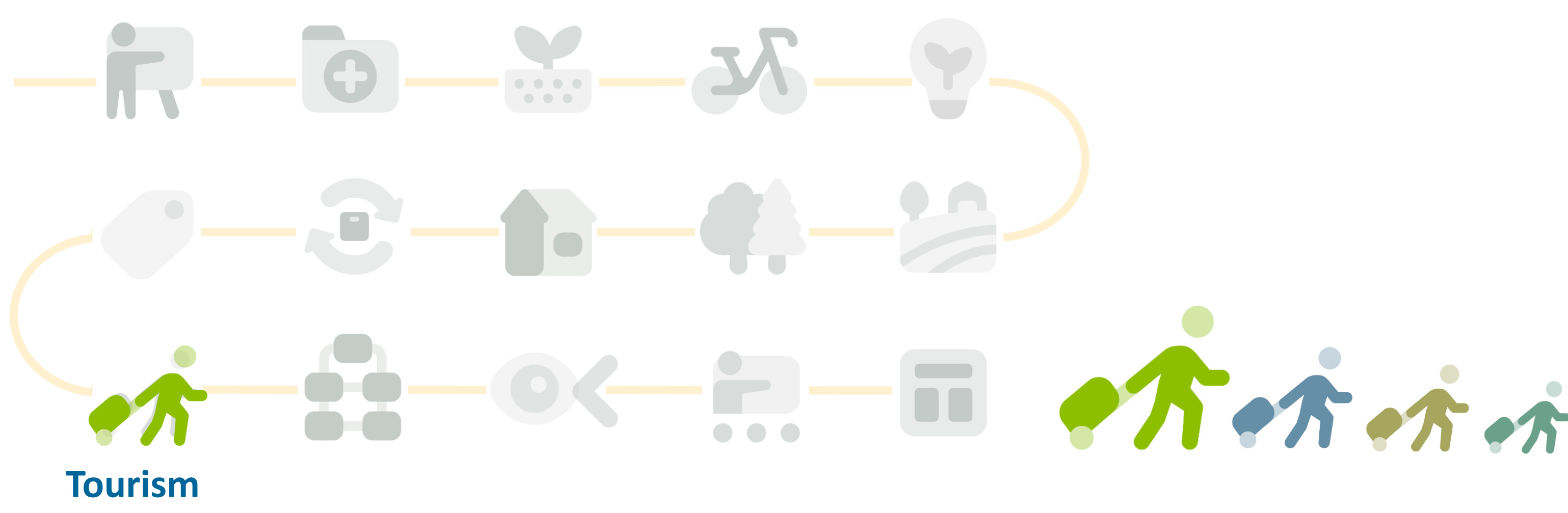


Case of positive change/successful transition
Brussels transformation of Central Boulevard with huge economic impact on catering and tourism

TELOS Towards a European Landscape Economy for a Sustainable urban development

Tourism

Meryem ATİK, atikmeryem@gmail.com
Akdeniz University, Turkey



Key concepts

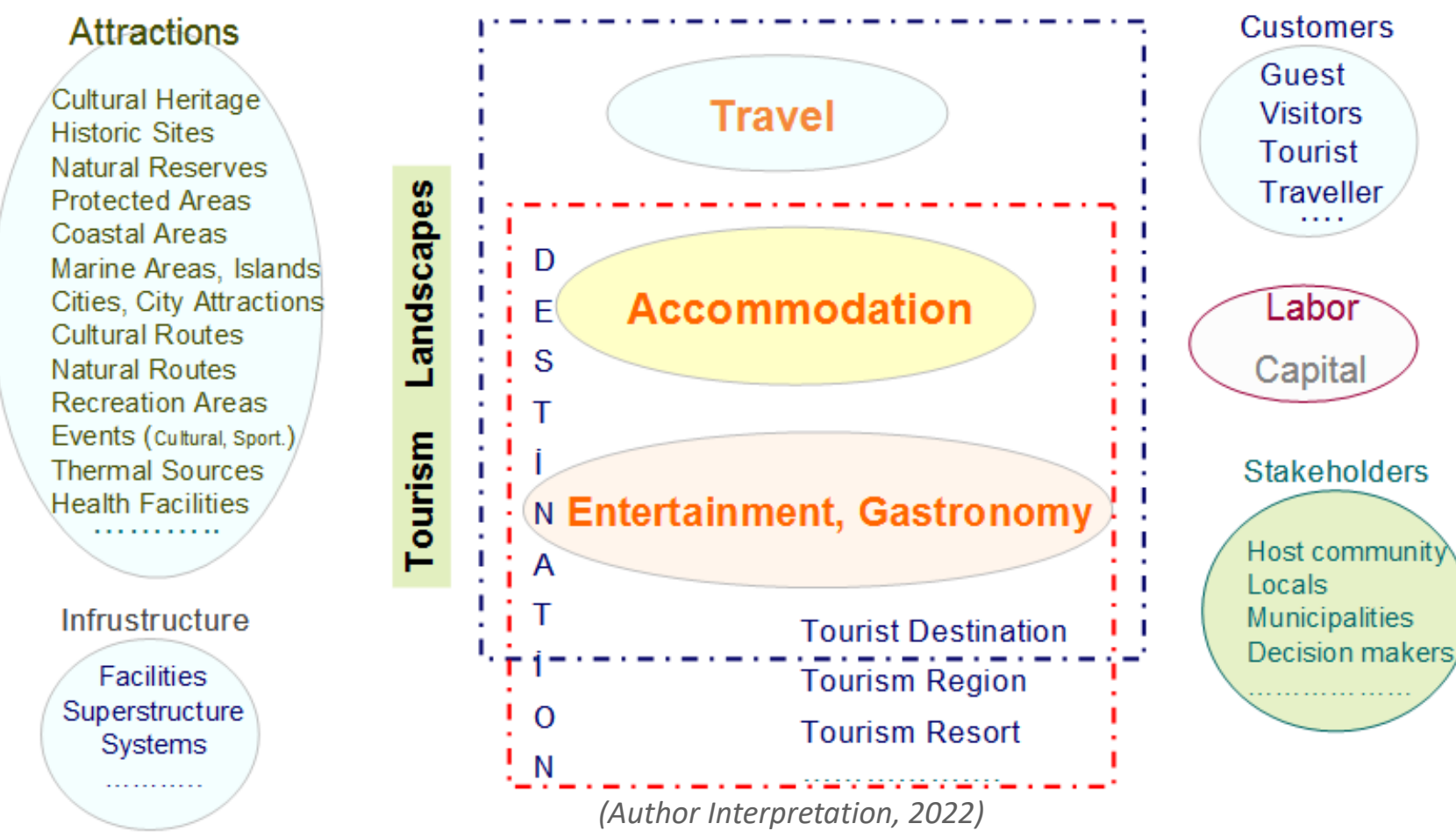
Tourism is a social, cultural and economic phenomenon that entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes

Types of Tourism

- Cultural Tourism
- Business Tourism
- Ecotourism
- Gastronomy Tourism
- Rural Tourism
- Coastal Tourism
- Adventure Tourism
- Urban/City Tourism
- Health Tourism
- Mountain Tourism
- Wellness Tourism
- Education Tourism
- Medical Tourism
- Sports Tourism
- Winter Tourism

(UNWTO, 2022). (UNWTO, 2019; Author interpretation.....)

Tourism landscape can be defined as an area whose character's is created by tourism activities. Tourist infrastructure evokes a scenery that comprised of tourism facilities, tourism sites that visited by tourist



Driving Forces	Trends	Pressures	State	Impacts
Political	-Globalisation of tourism industry -Policies in favour of investors -Emergence of mass tourism	-Any land seen as an opportunity -Heavy demand on natural ecosystems	-Limited participation on regional decision making -Lack of common good	-Intrusion of new stakeholders -Weakening local initiative
Economic	-Growing economic dependency on tourism -Capitalisation in tourism market -Fashion for new tourism products	-High travel and product costs -Economic transition from agriculture to tourism -Power relations	-Concentration of people and goods in destination -Generational and migration transition	-Creation of social disparities and vulnerabilities in host communities
Social	Individualisation in tourism after Covid Lack of work force in tourism	-Fragility of visitor cycle -Flow of people for tourism employment	-Seasonality in tourism (-New line of tourism employees)	-New settles to destinations -Loss of local cultural identity
Technological	Digitalisation of tourism Virtual Tourism	-Generic trends in tourism	-Tourism product identity oriented globalization -Fragile ecosystems	-Highly digitalised tourism product and services
Environmental	-Heavy demand over natural resources and landscapes	-High input costs		Degradation of ecosystem services
SPECTRUM OF RESPONSES				
Tools	-UN Sustainable Devel.Goals -EUGreen Deal -WU / UNWTO Sustainable tourism for development		-Integrated and Sustainable Tourism Strategies -Circular economy related to tourism -Enhancement community resilience	

(Author Interpretation, 2022)

Main challenges

Tourism as a Product

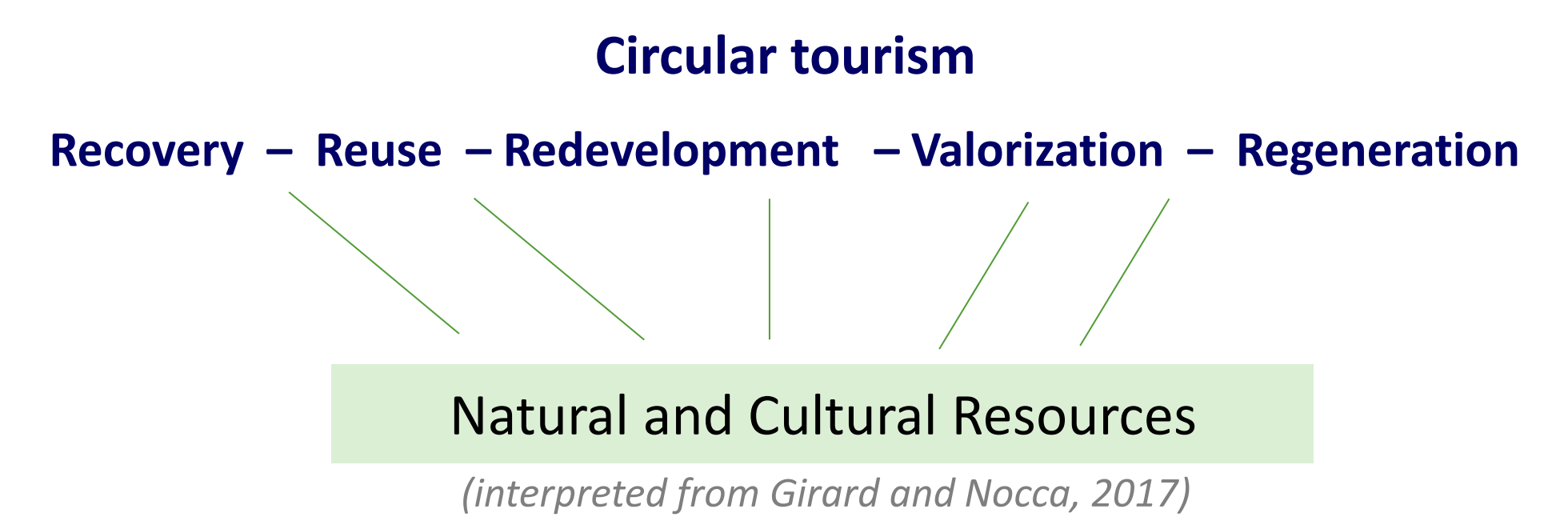
Tourism is a combination of tangible and intangible elements, such as natural, cultural and man-made resources, attractions, facilities, services and activities around a specific centre of interest which represents the core of the destination marketing mix and creates an overall visitor experience. A tourism product is priced and sold through distribution channels and it has a life-cycle (UNWTO, 2019)

Tourism as a System

Tourism systems are soft, organisational systems and among its subsystems e.g. supply, demand, intermediaries, tourists, information, as well as psychological, social, material, financial, and energetic relations exist (Jere Jakulin, 2017).

Circular tourism

Circular tourism is "a model able to create a virtuous circle producing goals and services without wasting the limited resources of the planet that are raw materials, water and energy" (Girard and Nocca, 2017; Martínez-Cabrera and López-del-Pino, 2021). **Circular tourism** could be seen as a way of approaching the study of the tourism sector, taking into account the principles of the circular economy :



Key quality indicators

SUSTAINABLE TOURISM

- Economic viability
 - Local prosperity
 - Employment quality
 - Social Equity
 - Visitor fulfilment
 - Local Control
 - Community Wellbeing
 - Cultural Richness
 - Physical Integrity
 - Biological Diversity
 - Resource Efficiency
 - Environmental Purity
- (UNWTO, 2016)

- Localisation instead of globalisation in tourism product,
- Protection of natural and cultural resources in tourism planning
- Respect geographic and natural borders in destination planning
- Job creation throughout supply chain, tourism system
- Business viability both in seasonal and sectorial terms
- Environmental Management Systems in each tourism segments (*travel, accommodation, gastronomy, entertainment, logging ...*)
- Improve environmental and life quality of host communities
- Fair share of economic contribution of tourism sector at regional and local scales
- Empower communication between institutions, tourism sector, local and regional stakeholders
- More accessibility for all in tourism facilities and amenities

- Climate change adaptation measures in tourism activities, destination
 - Limit the consumption of water, energy and other natural resources
 - Harvest, reuse, recycle water and improve water quality
 - Effective waste management, avoid and limit waste production
 - Energy conservation, adaptation renewable energy resources in destination management
 - Initiate and promote carbon-neutral mobility
 - Support maintenance of social integrity, equity and accessibility
 - Promote environmental communication and education
 - Encourage of ecolabels and good quality indicators in tourism product and services
 - endorsement of Green transition in tourism as a system
- (Author interpretation, 2023)

Vision and strategy

- Promote the dispersal of visitors within the city and beyond
- Promote time-based dispersal of visitors
- Stimulate new visitor itineraries and attractions
- Review and adapt regulation
- Enhance visitors' segmentation
- Ensure local communities benefit from tourism
- Create city experiences that benefit both residents and visitors
- Improve city infrastructure and facilities
- Communicate with and engage local stakeholders
- Communicate with and engage visitors
- Set monitoring and response measures (UNWTO, 2019)

Circularity for Sustainability in Tourism

Circularity a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible

- 1 Circular supply chains** > Source materials that are fit for a CE (pure, non-toxic, tolerating long and multiple lifecycle with low value depreciation);
- 2 Recovery & recycling** > Recovering embedded energy and resources from waste streams or by-products;
- 3 Product life extension** > E.g. through repair, maintenance, upgrades, resale or remanufacturing;
- 4 Sharing platforms** > Collaborative models to increase material and product utilization ratios and asset recirculation;
- 5 Product as a service (PSS)** > Offering access over ownership, selling product functionality without change of product ownership. (Sorin and Einarsson, 2020)

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Housing & Dwelling

KEY CONCEPT

HOW DOES THE TOPIC OF HOUSING RELATE TO THE FIELD OF LANDSCAPE ECONOMY?

The relationship between housing & landscape economy must be examined from multiple perspectives and at different scales. This is represented by the threefold nature of housing structures. Housing can be seen as a commodity, a basic human right, and a foundation of community. Furthermore, it is an integral part of natural ecosystem. The globally dominant market-oriented approach calls for in-depth reflection on the relationship between "profit and value". Advertisements featuring slogans like "living in green" echo the enduring human desire to live in direct contact with the landscape and nature. Housing, as a social construct, is manifested not only as "the right to housing," but also as the ability to access affordable, healthy, and inclusive living conditions. This is recognized in EU countries and forms the basis for creating local open communities. The interlink between quality of development and the prominence of the spatial environment, primarily associated with open spaces and the overall form of the urban landscape has been proved. This evident reference to the ecological dimension of the housing concept reaches complex issues of ecosystem services, initially created for market estimations. ecosystem services cover a wide range of topics. The ongoing search for effective planning tools involves work in the field of city morphology, particularly detailed parameterization concerning the proportions between built-up and open space. currently, scientific focus is on defining optimal typologies that offer (micro)climatic benefits, such as the local climate zones typology (look at the left # 1-2). Highly advanced interdisciplinary efforts cover the spectrum from spatial organization to building technology. Meanwhile, the broad field of urban composition research, which embodies the identity of European cities, still avoids full parameterization and optimization. This leaves room for artistic creation and a continuous urge to preserve uniqueness in shaping urban open space (look at the left # 3).

MAIN CHALLENGES

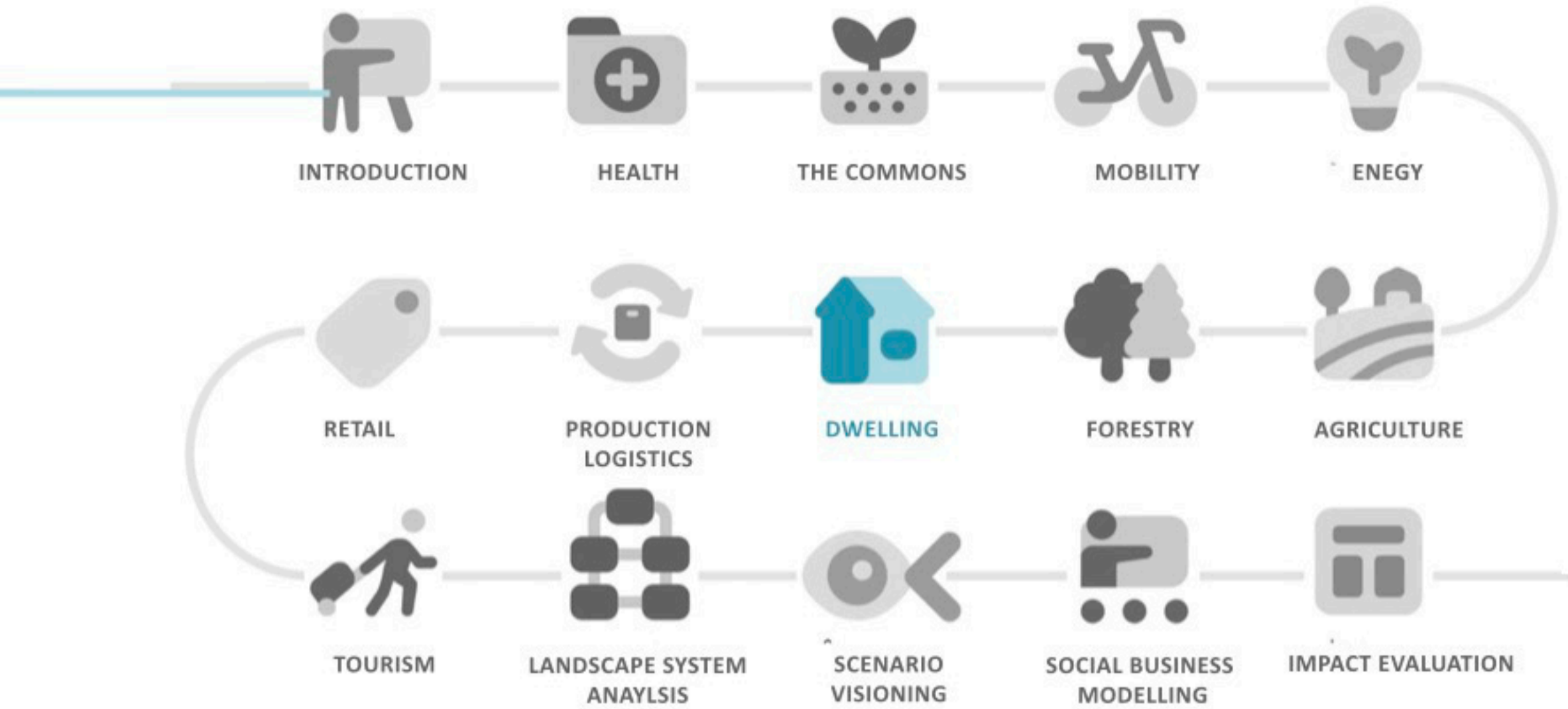
WHAT ARE THE MAIN ECONOMIC DIMENSIONS IN HOUSING - LANDSCAPE RELATION?

Housing, understood more broadly as dwelling, affects the dynamics and quality of urbanization processes, making clear the multi-scalar nature of references to landscape economy. Driven by the global capital flow, the expanding structures of the net-city stretch their suburban areas over farmland. That causes firstly loss in natural landscapes, secondly it leads to perforation of the city core. the process devastating urban landscapes in shrinking cities. One of the challenges to counteract structural dispersion, identified with slowing down or even stopping the agriculture areas conversion processes, is to improve the quality of the urban landscapes. This applies to both - existing structures and new urbanizations. In both domains the reinterpretation of the role of the urban landscape form becomes crucial to creation of a durable, high quality of housing. This requires significant changes in public awareness because a selective focus on the technical aspects of increasing energy efficiency in build-up structures may result in a repetition of XX ties century modernization's mistakes (sc. urban renewal). The effect of the " placelessness " became then an important cause of severe crisis of cities, escalating suburbanization tendencies. Efforts towards parameterization of housing-landscape relations aim better visualization of long-term economic benefits driven from respecting landscape values and included in the concept of ecosystem services. Disseminating of this knowledge, introducing it to the market game, and thus also to politics, is a key challenge today.

VISION AND STRATEGY

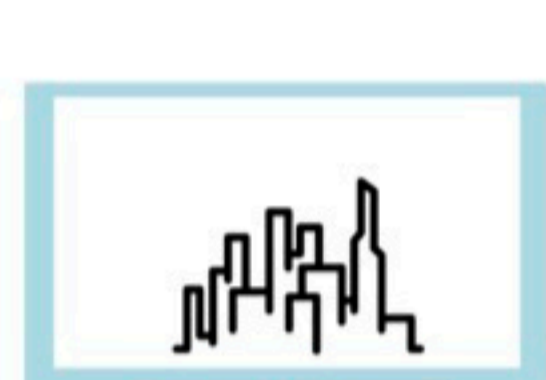
HOW CAN WE GOVERN URBAN DEVELOPMENT TO MAXIMIZE THE INCREASE OF ECOSYSTEM SERVICES?

The perception of urban development through the housing-landscape relation, identified with the concept of ecosystem services is an important challenge. Knowledge about the development conditions helps to transform international political declarations into specific actions, addressed primarily to circles that may exert pressure on decision-making bodies responsible for legal and organizational frameworks, trendsetters, and market influencers. Creativity needs to be engaged in expanding public awareness and consolidating technical knowledge. while lobbyist of the technological innovations merge with the commercial circles, promoters of nature-based solutions rather must call forth public support. in this context the European green deal: striving to be the first climate-neutral continent or New European Bauhaus: beautiful | sustainable | together sounds like distant ideals demanding lots of work. similarly, to the motto of UN sustainable development goal 11: make cities inclusive, safe, resilient and sustainable, must primarily mean creating organizational frameworks that change market trends. Only in such conditions is it possible to popularize the implementation of model solutions promoted as smart growth, compact city, or self-sufficient district. Landscape economy needs to mean creation of the friendly environment not only for technically and organizationally complex concepts, such as positive energy districts. equally legitimate are activities oriented towards popularization of placemaking, which is part of several initiatives like 15-minutes city, walkable communities, 8-80 communities or even the slow city movement.



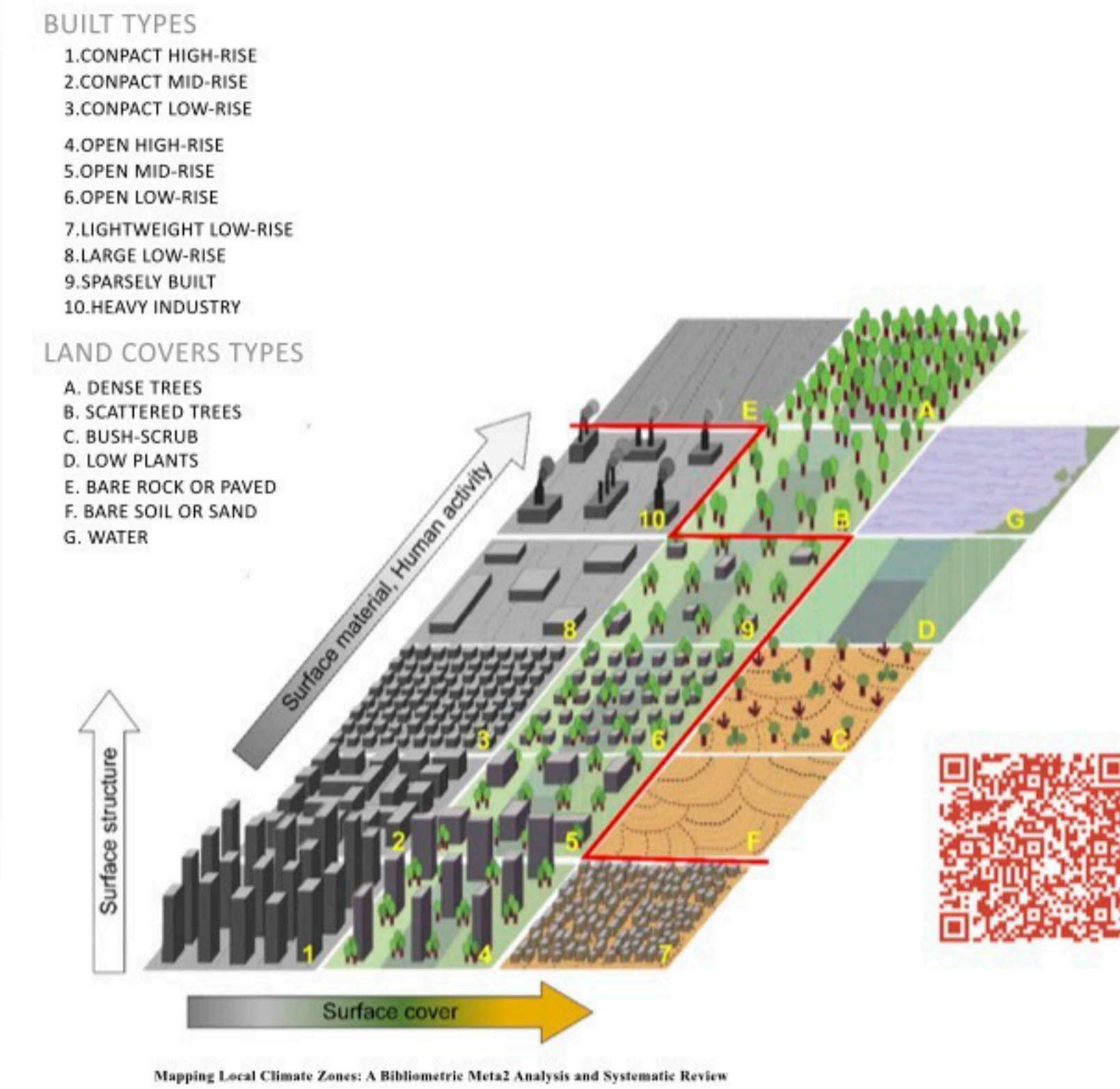
WHAT LANDSCAPE ASPECTS ARE PEOPLE EAGER TO PAY FOR

LOCALIZATION LANDSCAPE FACTORS

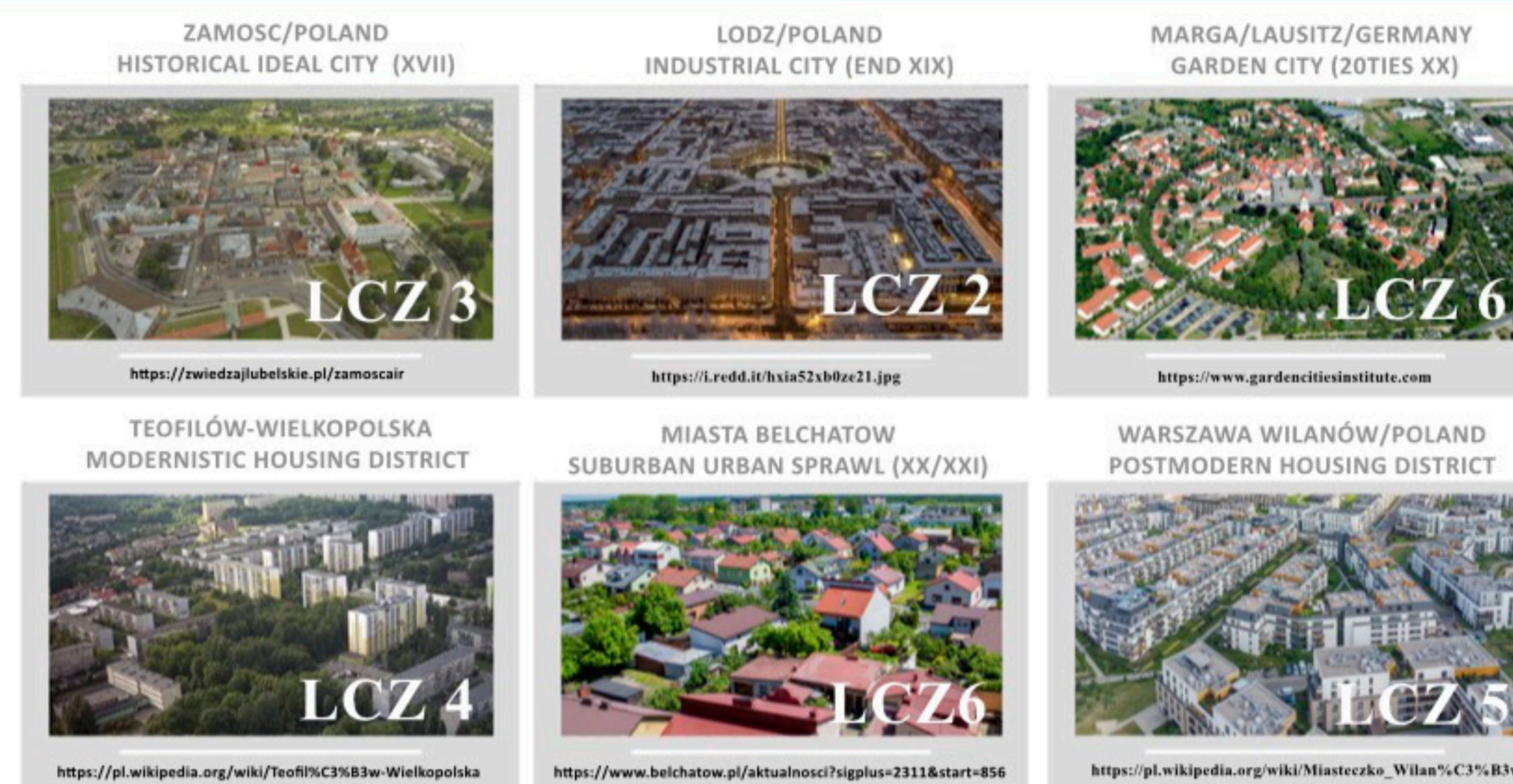


#1 URBAN MORPHOLOGY

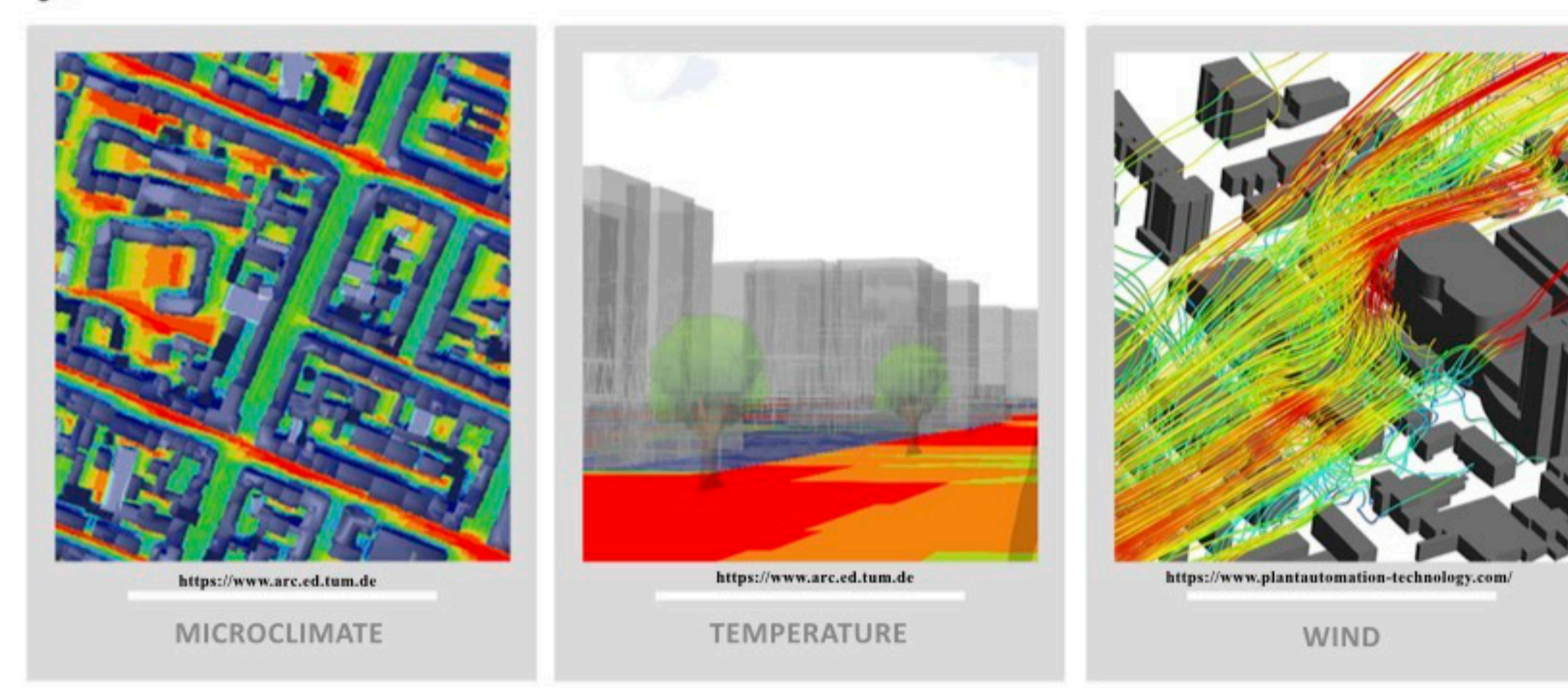
THE LOCAL CLIMATE ZONE



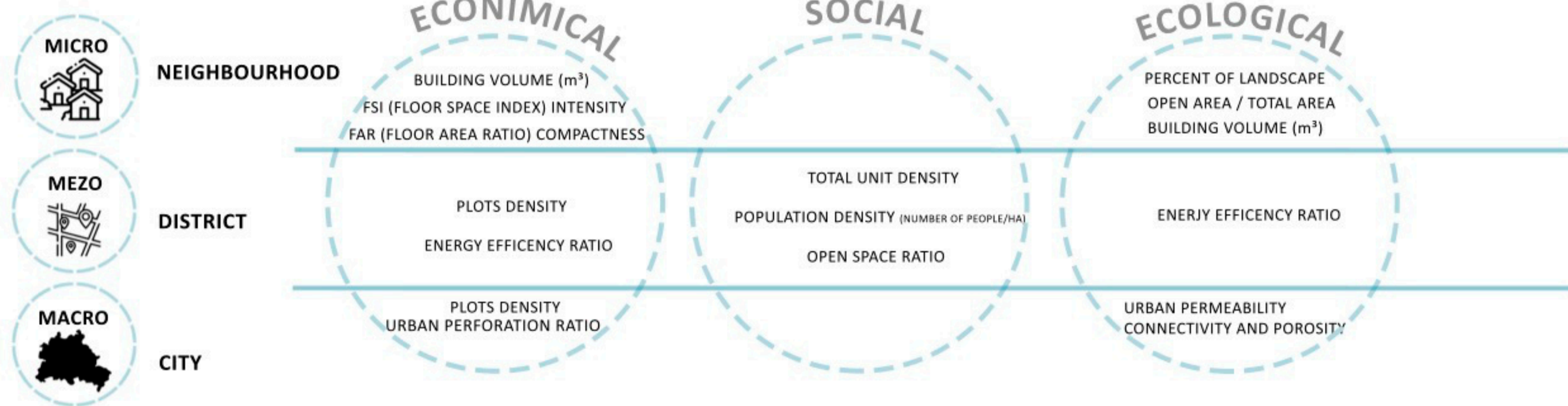
#2 URBAN DESIGN



#3 URBAN CLIMATE & ENERGY

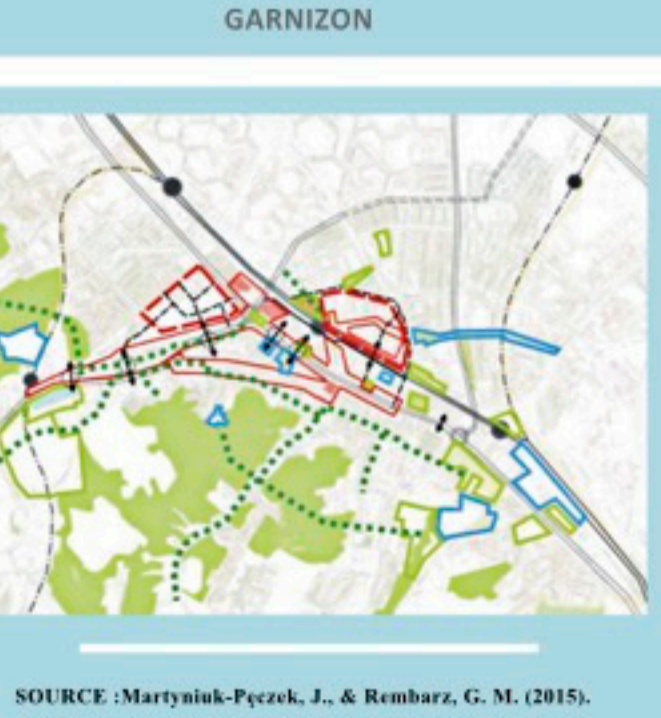
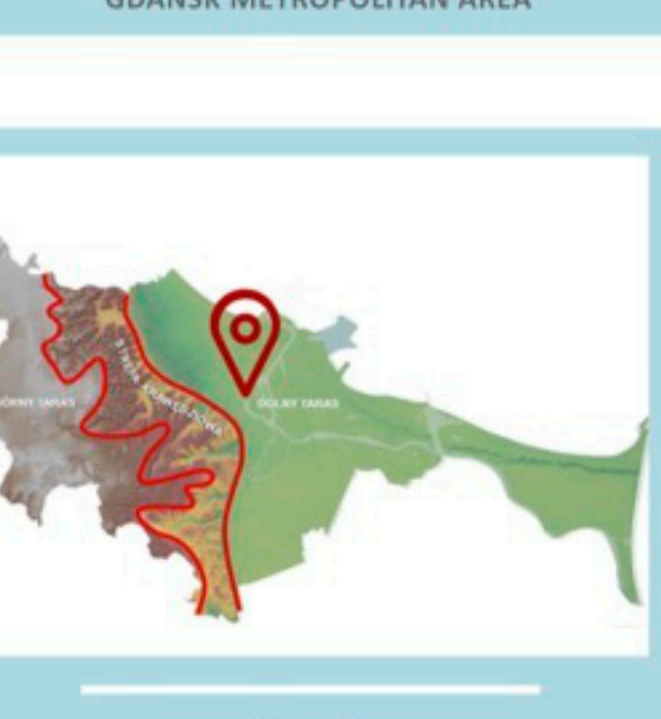


MAIN KEY PERFORMANCE INDICATOR

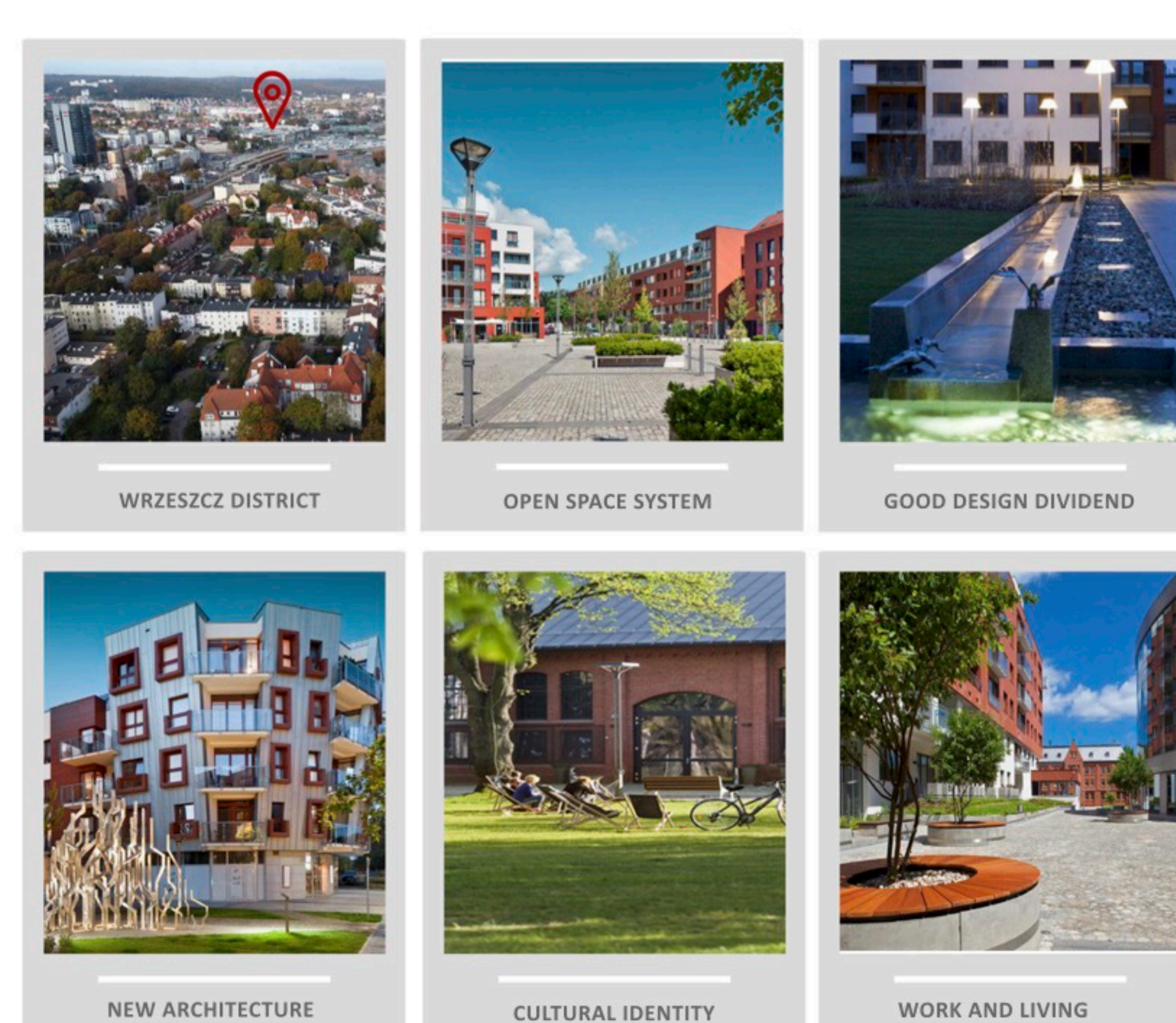


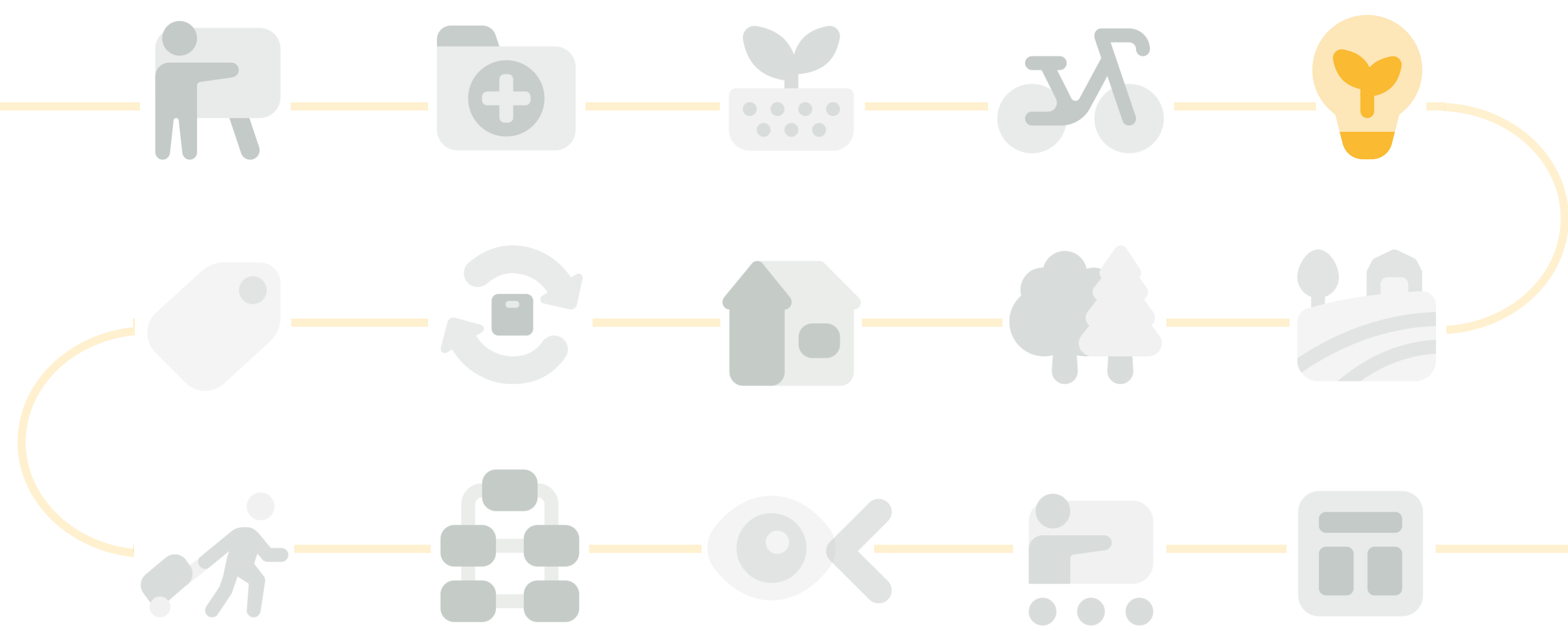
CASE STUDY : GARNIZON/GDANSK/POLAND

The city of Gdansk, with approx. 500,000 inhab., is the capital of the metro area along Gdansk bay, which houses ca.1 mio. people. ggsom is a significant socio-economic center in the southern part of the Baltic Sea Region. the city's natural landscape is an integral part of its identity. since 2005, the Garnizon housing and service estate (approx. 30 hectares) has been developed near the tri-landscape park by local developer, Grupa Inwestycyjna Hossa. this fully commercial venture will ultimately include around 2,000 apartments for approximately 4,500 residents. in 2006, the city's plans outlined relatively liberal rules for determining the functional program, spatial parameters of development, and protection of heritage. however, they introduced the principle of matching the scale of the neighboring historical district of Wrzeszcz. this resulted in an active ground floor with a significant proportion of service -70% of the total built-up surface- and limitations on building height. unexpectedly and in stark contrast to market practices at the time, the commercial model of "living&work" was implemented, strongly emphasizing the importance of publicly accessible, high-quality open space in shaping the profile of the development as a market product (product brand). in this way, the high intensity of development (ratio 1-1.2) was balanced by the attractiveness of the urban landscape, following principles promoted by Jan Gehl. as a result, Garnizon is now strongly predestined to apply for the status of a "15-minute district". the character of the urban landscape it has achieved, fitting into the context of the surrounding Wrzeszcz district with buildings dating back to the turn of the 19th and 20th centuries, gives the place a strong identity. the open space is vibrant all year round. due to its high spatial quality, Garnizon has become a desirable address and a profitable capital investment, reflecting its image on the surroundings, which until recently were a region with high revitalization needs. Despite the years that have passed since the start of the project, Garnizon has not only maintained its quality, but has also improved. unfortunately, it cannot be an example of the latest trends in optimizing energy demand as a model (i.e., positive energy districts). however, compared to other new polish and gdansk investments of a similar scale and landscape conditions, it is a leader in understanding ecosystem services and applying the principles of landscape economy.



A DISCUSSION OF THE COMPARATIVE EXAMPLE FROM GDANSK. NOWA LETNICA (GLOBAL COMPANY ROBYG), IS TO FOLLOW.

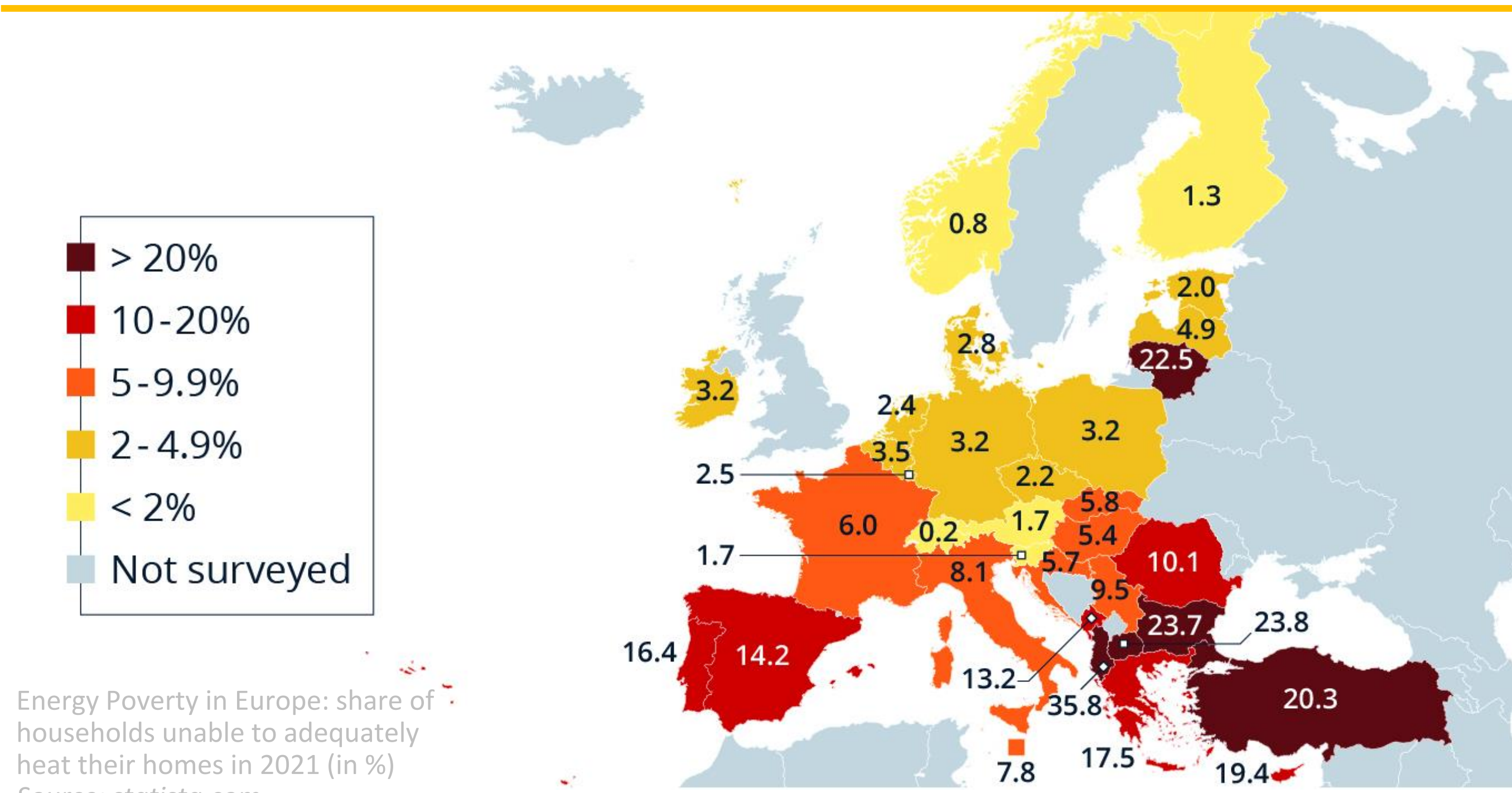




ENERGY

Positive Energy Districts: Progressing Ecological Transition and Impact Assessment

Maria Beatrice Andreucci, Dorothee Apfel, Giulia Marredda



Energy – crisis, poverty, transition

In the light of the EU's climate goals and the **global energy crisis** of unprecedented depth and complexity, which was greatly exacerbated by Russia's invasion of Ukraine, accelerating the **energy transition** is becoming increasingly important. Today's high energy prices result in household's **energy poverty**, severe production problems and slowed down economic growth. According to Eurostat's figures, about **35 million EU citizens** (approximately 8% of the EU population) were unable to keep their homes adequately warm in 2020. An important pillar of the EU energy transition lies in the **Positive Energy Districts (PEDs)**, which show extraordinary opportunities for building renovation and urban regeneration. In particular PEDs can significantly contribute to the **decarbonization** and enable with its **district-based approach** synergies of **efficiency, renewable energies** and **participatory processes**.

A key question we would like to pose, then, is:

How to establish priorities in progressing the energy transition, at the neighborhood scale, coupling the needs expressed by the local communities with the planetary boundaries?

Positive Energy Districts (PEDs)

According to the Joint Programming Initiative Urban Europe, **Positive Energy Districts** are defined as: "**Energy-efficient and energy-flexible urban areas or groups of connected buildings** which produce **net zero greenhouse gas emissions** and actively manage an annual local or regional **surplus production of renewable energy**. They require integration of different systems and infrastructures and interaction between buildings, the users and the regional energy, mobility, and information and communication technology systems, while securing the energy supply and a **good life for all** in line with social, economic and environmental sustainability".

PEDs constitute an emerging **energy transition paradigm**: the EU's goal of achieving **100 PED** by 2025 partly responds to this needs for change and is aimed at accelerating the **regeneration of urban areas**.

Ensuring the successful development of PEDs requires the coming together of **multiple stakeholders**, applying a **collaborative governance model**, which in this sense is indispensable for connecting, aligning interests and priorities, and creating a **common vision** made up of shared values among stakeholders. In particular, the emerging impacts associated with the development of PEDs can be referred to as incentives to mobilize stakeholder participation. Energy-related impacts-i.e., **reduced energy consumption, increased energy efficiency, reduced dependence on fossil fuels, and increased system flexibility**-are direct benefits to multiple stakeholders (including households, local governments, and electricity grid operators), which may not only lead to the involvement of more local actors, but also contribute to the public acceptance of PEDs.



Source: Driving Urban Transitions Partnership DUT

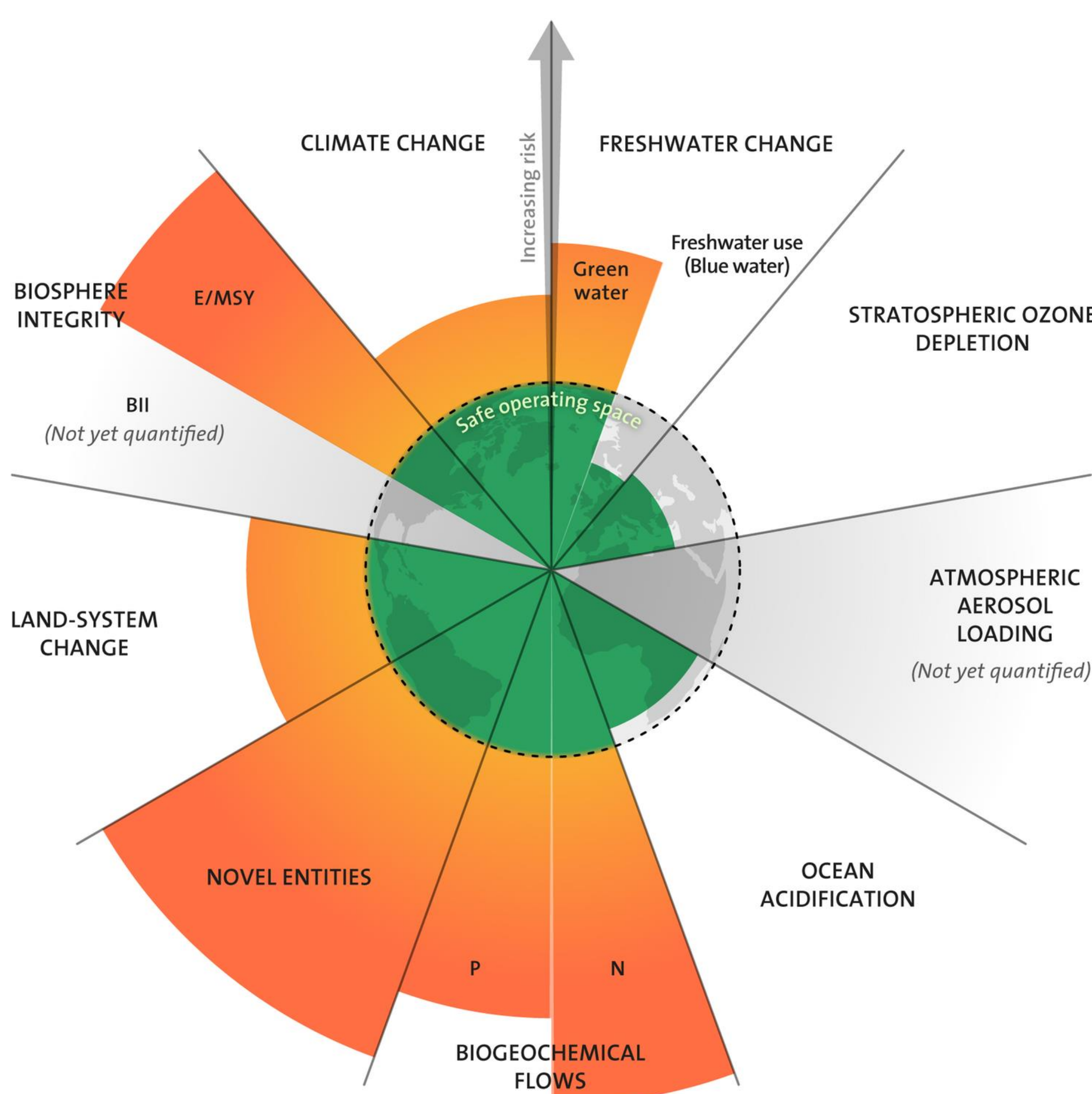
PEDs within Planetary Boundaries

In 2009, Johan Rockström led a group of 28 internationally renowned scientists to identify the **nine processes** that regulate the **stability and resilience of the Earth system**. The scientists proposed quantitative **planetary boundaries (PB)** within which humanity can continue to develop and thrive for generations to come. Despite data and information limitations present challenges, **PED benchmarking** seem possible using available data, and referring to PB is an informative exercise for both policy implementation and future research. An on-going research (Haase, Andreucci et al., E2023) aims at shedding lights on the importance of **relating the PED concept to the PB** and stimulating a science-policy-practice debate on **sustainability assessment** of PEDs.

The PB framework is based on critical processes that regulate the Earth system (ES) functioning. By combining improved scientific understanding of the ES functioning with the precautionary principle, the PB framework identifies levels of anthropogenic perturbations below which the risk of destabilization of the ES is likely to remain low, i.e., a "**safe operating space**" for global societal development. There is an urgent need for a new paradigm that integrates the continued development of human societies and the maintenance of the ES in a resilient and balanced state. The PB framework contributes to such a paradigm by providing a **science-based analysis of the risk** that human perturbations will **destabilize the ES at the planetary scale**. Even if the **PB framework does not dictate how societies-or PEDs-should develop**, by identifying a safe operating space for humanity on Earth, it can make a valuable contribution to decision-makers in charting desirable courses for societal development, encompassing PED implementation. The PED experiences gathered so far at European level show that their **focus is not on the planetary boundaries**, with efforts concentrated on energy efficiency, and clean energy production, and limited attention paid to energy flexibility.

In conclusion, two aspects can be highlighted:

- 1) Since the very early stage of a PED development, there should be a focus on a **regenerative sustainability model** (John T. Lyle, 1996) for the built environment that allows us to plan and design settlements and urban areas that stay within the "safe operating space";
- 2) Regeneration of the ES will require a **fundamental shift** in the way we think about our **relationship with the planet**.



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