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Baltic Sea Region



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Welcome

laipni lūdzam

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Learning Platform

Training Module *Land Use Planning*

Outlines

- **What is Land Use Planning**
- **Compact Cities**
- **Good examples**
- **The role of local authorities**
- **Adapting to climate change**
- **Your activity: How to develop your city?**

What is Land Use Planning?

How do we want to live, work and live in the future? In a land use plan, the municipality describes how it wants land, water and the existing urban environment to be used, preserved and developed in the long term. It is one of the municipality's most important planning tools.

Europe is one of the most intensively used continents on the globe. It has the highest proportion of land (up to 80 %) used for settlement, production systems (in particular agriculture and forestry) and infrastructure. However, conflicting land-use demands often arise, requiring decisions that involve hard trade-offs.



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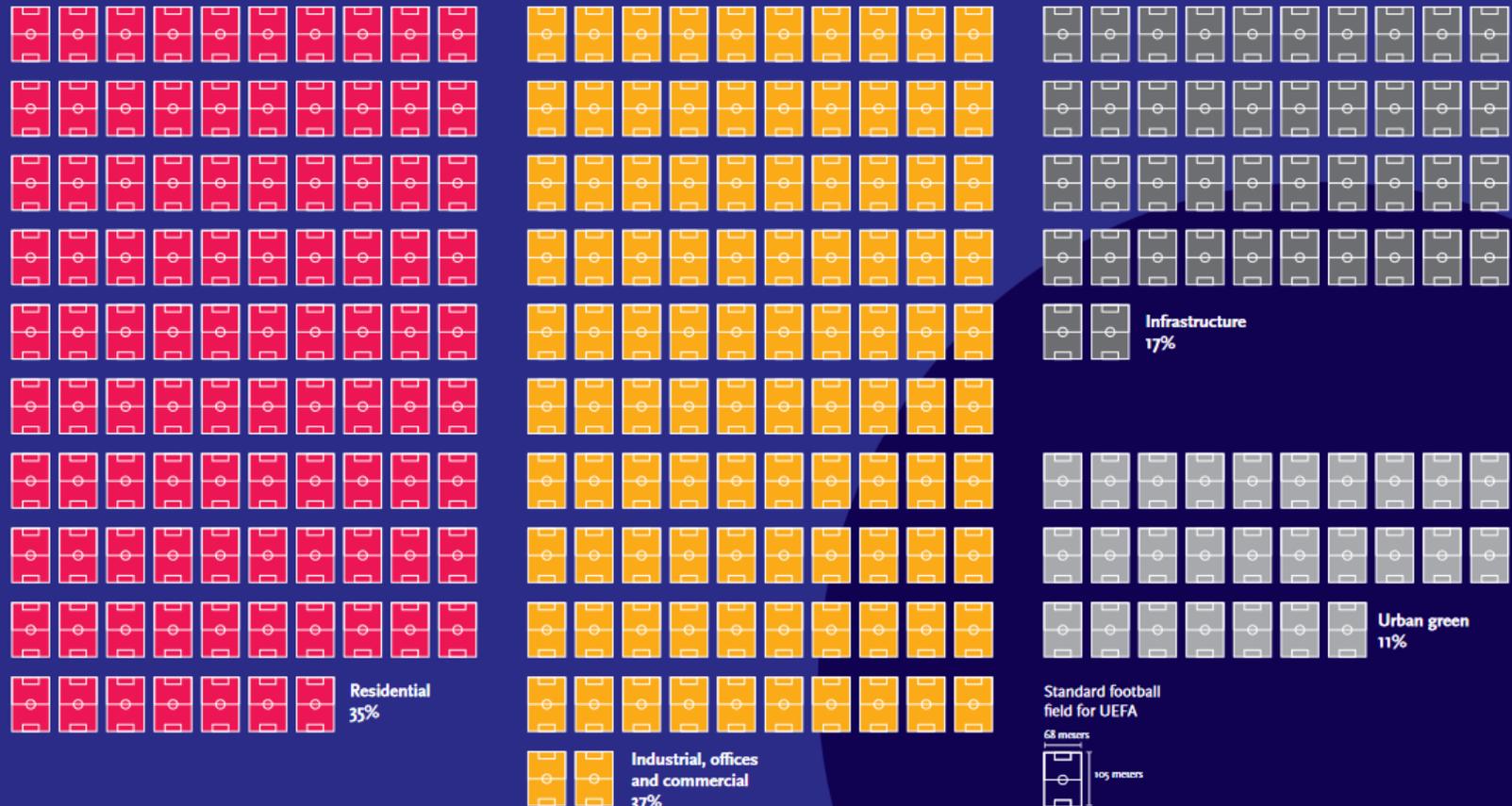
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INFOGRAPHIC 1

How many football fields per day?

Land use change from agriculture or nature to...

About 1.17 million hectares of land were converted to urban use in the ESPON space in the 2000-2018 period. This equals about 248 football fields per day. Of this, 35% became urban fabric (predominantly residential), 37% industrial (including business parks, shopping centres and offices), 17% infrastructure (including airports) and 11% urban green.



Source: PBL/ESPON SUPER

On average, an area of more than 250 football fields is built-up in Europe every day. Between 2000 and 2018, as many as 1.25 million hectares of natural green or rural land were converted into urban use areas.

Source: <https://www.espon.eu/super>

Compact cities reduce transport needs

- Compact cities offer reduced travel distances and, hence, increase possibilities for public transport, cycling or walking. It also improve opportunities for district energy and preserves surroundings, green and rural areas.
- There is significant evidence that creating high residential densities co-located with high commercial (employment) densities. A study found that a doubling of the average neighbourhood density was associated with a 20-40 per cent decrease in vehicle use per household, leading to a corresponding decline in GHG emissions (Gottdiener and Budd 2005, cited in Global Report on Human Settlements 2011).

Compact city for efficient energy use

- Promoting dense, mixed-use neighbourhoods also leads to more balanced energy demand profiles throughout the day compared with single-use residential or commercial districts. It is therefore also beneficial for local clean energy initiatives, as well as district heating and cooling networks (Source: C40 Cities Climate Leadership Group <https://www.c40knowledgehub.org>)
- Heat mapping exercises can help determine where energy or heat surplus and demands are, which enables among others the use of waste heat from industry. It also helps to develop efficient district heating and to link local electricity production to energy storage and / or to electric vehicle charging infrastructure.

INFOGRAPHIC 2

Three main types of urbanisation

Urban form is usually the product of historical evolution, but it can also be the outcome of policy. Compact urbanisation, for instance, is often the goal of containment policies which attempt to direct new development inwards, through regeneration, infill, or redevelopment. Polycentric urbanisation is often pursued by spatial planning policies such as garden cities or transit-oriented development. Diffuse urban form is often the result of policies stimulating private car use (e.g. road infrastructure provision) and homeownership. The three types of urbanisation perform differently in relation to sustainability both as a whole as well as with respect to individual dimensions.



Compact



Polycentric



Diffuse

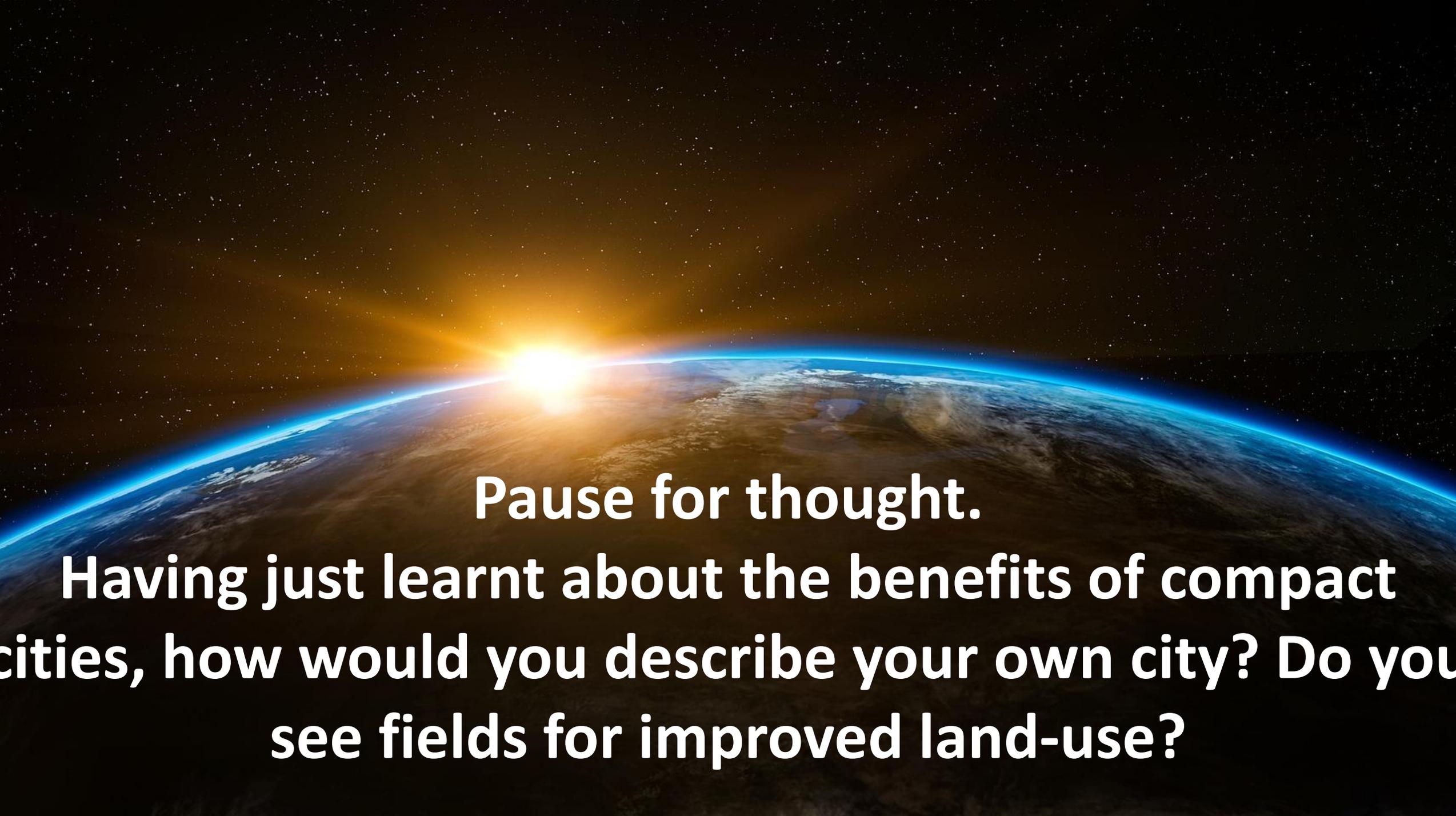


■ Urbanisation
■ New urbanisation

Source: PIB/ESPON SUPER

New urban developments give the opportunity to develop more sustainable infrastructure, while the case of existing areas is much more challenging.

Source: <https://www.espon.eu/super>

A view of Earth from space, showing the curvature of the planet and the sun rising over the horizon, creating a bright glow and lens flare effect. The sky is dark with many stars.

Pause for thought.

Having just learnt about the benefits of compact cities, how would you describe your own city? Do you see fields for improved land-use?

Kiruna: Building a new sustainable centre

- Kiruna is Sweden's northernmost city.
- Due to extending iron ore mining, parts of the city have to relocate. It is the biggest urban transformation in northern Europe.
- Priority is given to sustainability, pedestrians and public transport rather than cars.
- The compact town centre is planned to serve as an arena for connecting people while giving access to green areas within a max. distance of three blocks.

Citizen participation for local development plan

- Krummnußbaum (Austria, about 1600 inhabitants) focused on making the city centre more attractive. New spots in the centre were made available for new developments. A key success factor was the citizen participatory started in 2012.
- Due to the positive developments, a new small grocery was opened, the building applications have doubled and the kindergarten needs a new group. Read more: https://www.krummnussbaum.at/Krummnussbaum_hat_ein_neues_Ortszentrum



The role of municipalities and local communities

Land-use planning and management decisions are usually taken at local or regional level, e.g. as part of urban planning. However, there are also national and international Regulations, e.g.

- Strategic Environmental Assessment Directive
- Environmental Impact Assessment Directive
- Sector regulations such as the Water Framework Directive, the Floods Directive or the Common Agricultural Policy.

Adapting to climate change through spatial planning

- In Europe, nearly 73% of the population lives in urban areas and this is projected to increase.
- Climate change makes extreme weather events like heatwaves or flooding more likely. The costs of extreme events are significant,
- Integrating climate change mitigation and adaptation measures into spatial plans supports local authorities in achieving climate change resilience.

Four high-potential systemic-resilience actions



Risk assessment:
hazard maps, impact
assessment, and
spatial analysis



**Incorporating
climate risk into
urban planning**



**Early-warning
systems and
protocols**



**Climate insurance
provision and
alignment**

High-potential actions for each of five hazard types

Nature-based solution

Extreme
heat



Street trees

Cool surfaces

Inland
flooding



River-
catchment
management

Nature-
based
sustainable
urban drainage
solutions
(SUDS)

Coastal
flooding and
storm surges



Coastal
nature-based
barriers

Coastal artificial
barriers

Flood- and
storm-resilient
buildings

Drought



Water-
conservation
behavior
programs

Water-system
efficiency

Wildfires



Development
planning

Preventive
forestry
management

Adapting to climate change through spatial planning

“Urban development is a key factor in how climate risks, such as floods or the urban heat island, affect a city. Labelling these ‘natural disasters’ ignores the extent to which a sprawling, impervious built environment exacerbates climate hazards.”

<https://www.c40knowledgehub.org>.
C40 Cities (2020) Integrating Climate
Adaptation toolkit

Your turn: How to develop your city?

Think about different solutions for sustainable local development and find out, what your local authority is planning for – check your municipal website and/or ask!

Take into consideration:

- Promoting cycling and walking infrastructure
- Developing mixed urban areas and urban consolidation (not develop new areas outside the city's boundaries)
- Greening the city: more trees and green areas to avoid dangerous heat islands
- Implementing or developing district heating and the use of waste heat

What own ideas or visions for your city do you have?



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Thank You for your attention!

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