

# TERRITORIALL.

the ESPON magazine

Take no land no more:  
soil matters



Cristina Maestre



Frida Nilsson

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## EditoriALL



**Wiktor Szydarowski, ESPON EGTC Director**

### Dear readers

Finding balance between urban development and preservation of natural land is not an easy exercise. According to the EEA “about three fourths of the land take in the EU occurs on agricultural land. Cities have been built on the most fertile soils”, as Mirco Bardero policy officer of the Agency writes in his article.

We need to build houses and infrastructure, but we also need to protect nature and ensure that our environment remains in a good shape. This is why in this issue we say “Take no land no more” as we explore the EU objective to achieve a balance between urban development and preservation of natural land by 2050.

No net land take has become a high priority topic for the European Institutions. “Soil is a source of life, is critical for biodiversity and plays a critical role in the climate transition”, as noted by the three EESC rapporteurs.

But, “despite its paramount importance, soil health remains an overlooked issue. Many stakeholders perceive it as a luxury, rather than the basis needed for sustainable development”, underlines Frida Nilson, CoR’s rapporteur on soil monitoring and resilience.

In ESPON we worked a lot on the No net land take objective, with a flagship project -SUPER- but also with events and publications. My colleagues, Marjan and Nikos, present them in an article.

No net land take is one of the main priorities of the Belgian EU Presidency, and the Vice-President of Wallonia explains how the Walloon Region uses two territorial planning tools to address the challenges of “maximal land preservation, as well as efficient and consistent land use through urbanisation” -what he describes as spatial optimisation.

And experts from the Department of Environment and Spatial Development of Flanders explain how Flanders, being one of the most intensively used and inhabited regions in Europe, addresses the challenges

in striking a balance between growth and preserving open space.

Alexandre Petit, of the IDELUX Group, adds that “close cooperation among those responsible for territorial planning in the various territories is necessary for the coordination of territorial planning policies from a sustainable development perspective”.

And Thomas Deridder, Director-General, Destrée Institute, adds the cross-border and interregional element of cooperation on urbanisation strategies to address climate change.

Henk Bouwman, secretary general of METREX, finds it positive that no net land take policies pause the process of further urban expansion, allowing more time to develop and exchange solutions to come back with a better one.

Serena Lisai from the ACR+ notes that “If we develop policies mainly around energy efficiency, we risk underestimating the environmental impact of sustainable buildings in terms of land use and material resources”.

OECD’s Rudiger Ahrend and his colleagues clarify that “smart spatial planning does not just aim to reduce artificial land cover. It also promotes sufficiently densely populated settlements that are well connected by public transport”.

But what is the land without its people? In this issue we also host an article by MEP Cristina Maestre, rapporteur of the Harnessing talents in EU Regions report, that calls the Member States to have greater flexibility when establishing priorities within programmatic objectives to be able to favour regions that lose population in a severe and permanent manner.

**Enjoy your reading**

*new policy brief*

ESPON



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POLICY BRIEF

# Role of small and medium-sized towns and cities in territorial development and cohesion

FEBRUARY 2024



## How is Wallonia addressing the challenge of spatial optimisation?

In Belgium, territorial planning is the responsibility of the Regions, namely the Brussels-Capital Region, the Flemish Region and the Walloon Region.

In Wallonia, to ensure a strong and integrated territorial strategy, socioeconomic development, and a high-quality living environment, whether urban or rural, the Walloon Government has initiated the revision of two major territorial planning tools: the Territorial Development Code (Code du développement territorial or CoDT) and the Territorial Development Plan (Schéma de développement du territoire or SDT).

The SDT is the guiding document that settles the territorial development strategy for Wallonia, and the objectives to be followed by regional and municipal authorities. The CoDT provides the legal framework for the applicable provisions and procedures to implement the strategy. It will come into force on 1 April 2024 and will provide a legal basis for the SDT.

The SDT outlines the Walloon Government's territorial planning objectives for spatial optimisation aiming to:

- reduce land artificialisation by preserving agricultural land, green spaces and forests;
- reduce urban sprawl by avoiding dispersion and low-density construction;
- limit soil sealing in the event of urbanisation by maintaining greenfield areas.

The concept of spatial optimisation reflects the major challenge of maximal land preservation, as well as efficient and consistent land use through urbanisation. The objective is to promote construction on already artificialised lands within existing urban areas, close to services or facilities and served by public transport, while preserving the soil from sealing, or alternatively while providing retention and infiltration devices.

The SDT sets trajectories towards achieving zero net artificialisation of land by 2050, as well as measures and indicators for monitoring artificialisation and residential urban sprawl by spatial optimisation

**The concept of spatial optimisation reflects the major challenge of maximal land preservation, as well as efficient and consistent land use through urbanisation.**

basins.

**Spatial optimisation and its activation tool: centralities**

The concept of centralities is one of the key

**SDT project defines three types of centralities: village centralities, urban centralities and urban pole centralities. The urban pole centralities in Wallonia correspond to those hosting the main cities.**

instruments for implementing spatial optimisation.

In Wallonia, since the 1980s, nearly 80 % of the territory has been intended for agriculture, forests and natural spaces, but greater ambition is needed today because of climate change and biodiversity loss. Therefore, it is necessary to limit urbanisation to already built-up areas or brownfield sites and to promote the creation of three out of four new housing units within the centralities.

In this context, the SDT project defines three types of centralities: village centralities, urban centralities and urban pole centralities (in yellow, orange and red, respectively, in the figure below). The urban pole centralities in Wallonia correspond to those hosting the main cities.

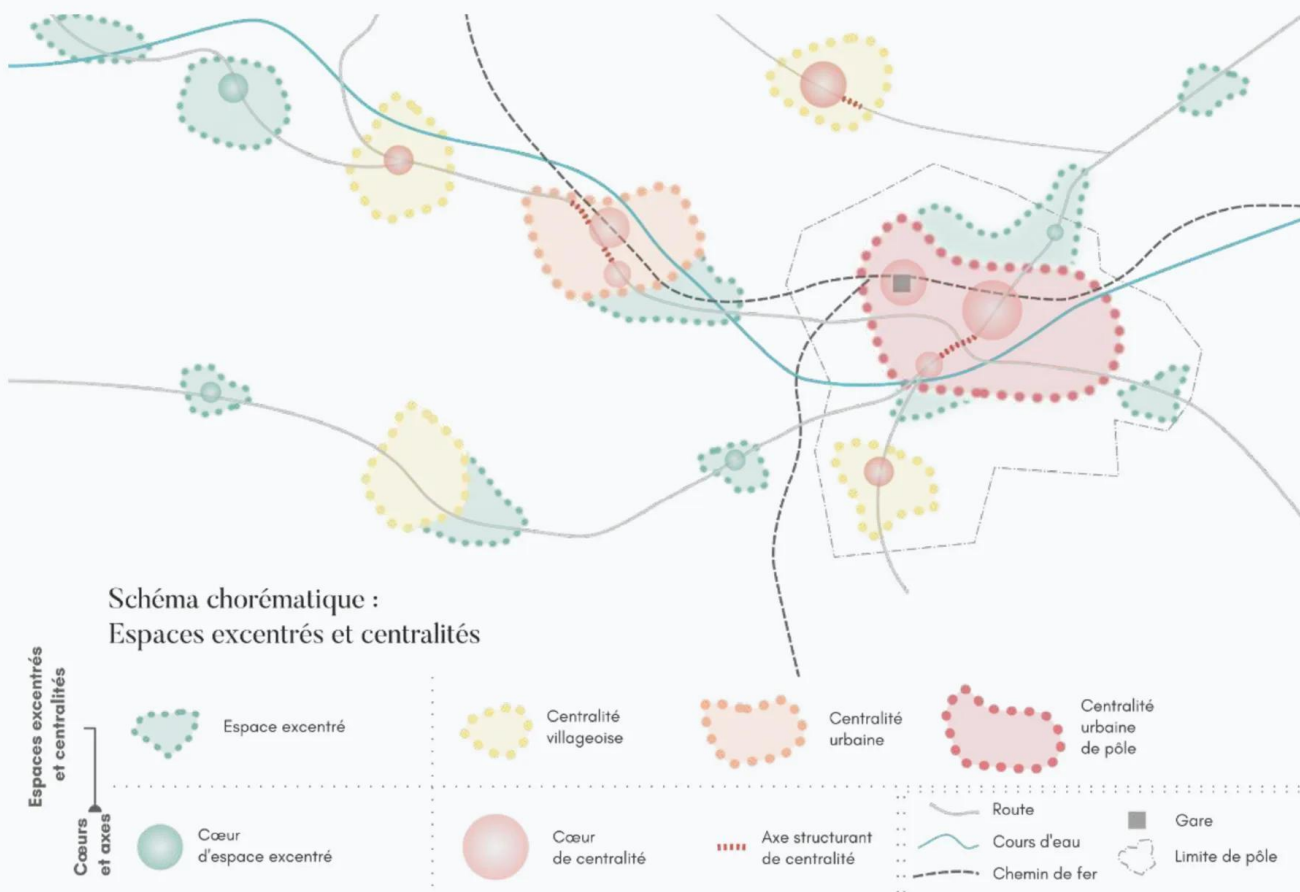
The strengthening of centralities and densification must be accompanied by a policy of revitalisation of city centres, functional diversity and promoting quiet cities based on the idea of a 10-minute city or village.

Beyond centralities, it is necessary to take measures to limit urbanisation, both to avoid exposure to risks related to flooding, in particular, and to be able to control road mobility. Thus, outlying spaces will be urbanised moderately or in a targeted manner, as in the cores.

The SDT project provides guidelines and an initial mapping for all Walloon municipalities. However, municipalities can adjust their centralities within six years from the adoption of the SDT based on their knowledge of the territory and their municipal strategy within the framework of a municipal development plan (Schéma de développement communal" or SDC) or, in some cases, a multimunicipal development plan (schéma de développement pluri-communal" or SDP). After this six-year deadline, the centralities defined and mapped in the SDT project will apply.

The SDT was subject to public consultation in 2023. As the consultation phase is now completed, the Walloon government plans to adopt it during the first semester of 2024. The SDT aligns with the plans and strategies defined at the European level for a greener, fairer, more resilient Europe that leaves no one and no territory behind.

*Vice-President of Wallonia, Minister of Economy, Foreign Trade, Research and Innovation, Digital, Agriculture, Territorial Planning, IFAPME, and Competence Centres.*



# Cristina Maestri Martin De Almagro



## Boosting talent in the EU

Europe's got talent. And that talent, sometimes, departs for better horizons. At times, it moves from one Member State to another, and on other occasions it transfers to third countries. However, above all, it travels from rural to urban areas, emptying the former for lack of opportunities, impoverishing the social reality of these types of regions and increasing demographic pressure in already overcrowded urban areas.

The European Year of Skills has spearheaded work on diverse areas in the European Parliament. The report adopted during the November plenary session on



***The average age in the EU is estimated to increase by 5.8 years over the next 78 years thus drastically reducing the share of people active in the labour market***

"Harnessing talents in EU Regions is, in my view, among the most important ones. This text brings into



conversation one of the topics that the REGI committee has been most concerned about over the last mandate, demographic challenges, with the need for investment in education, retaining talent, and job creation.

I am proud of this report because I do not believe that demographic challenges are a watertight compartment. Demographic challenges and the phenomenon of the rural exodus are the result of complex processes manifested through a reality of economic and social poverty, together with lack of access to public services. To bring forward solutions to solve these issues, a holistic response is required, one that takes into account all the variables that come into play when analysing these phenomena.



***The report calls on Member States to have greater flexibility when establishing priorities within programmatic objectives to be able to favour regions that lose population in a severe and permanent manner***

Data addressing demographic transformation are worrying: the EU population is expected to decrease by 27.3 million over the next 78 years (by 2100). In turn, the average age in the EU is estimated to increase by 5.8 years over the same period, thus drastically reducing the share of people active in the labour market and further increasing existing territorial disparities and pressures. However, I actively refuse to address the rural exodus and the process of talent drain in a negative way. This has been, at all times, the spirit of the report that we have adopted in this regard.

In this sense, a conceptual point of departure when drafting the report has been to understand what the risks are for Europe, in the medium and long terms, if the loss of the young population in regions with serious economic imbalances is not addressed. In turn, we have tried to escape myths and commonplaces when we tackle talent drain and demographic challenges by listening to stakeholders and regional and local administrations, taking into account their feedback and reflecting it in the text.

This mandate has been particularly prolific in what concerns rural areas. The report on Harnessing Talents, the latest of the 2019–2024 term on this topic, is particularly relevant because it proposes innovative solutions and has generated a very broad political consensus. The document identifies substantial progress from the European Parliament, such as calling on Member States to have greater flexibility when establishing priorities within programmatic

objectives in order to be able to favour regions that lose population in a severe and permanent manner. We have also asked for a specific budget line for these types of regions. More specifically, we have called for at least 5 % of the cohesion funds of the next programme period to be earmarked for rural areas.

However, I thought it essential to go beyond budgetary claims, which, although very important, do not cover the full reality of the solutions that, in my belief, the European Parliament must propose. I am talking, for instance, about the fundamental fact that all public policies developed in such territories are 'place-based' policies, implementing a kind of verification mechanism that we have called 'rural proofing' to ensure that the difficulties faced by this type of territory are taken into account when designing specific plans.

I am also talking about making education and training programmes accessible to all ages and social groups, both face to face and remotely. More specifically, I speak of the importance of countries implementing programmes to encourage the inclusion of girls and women in digital training in rural areas and other affected areas.

We have also requested that progress is made in the digitalisation of public services so that schools, universities, research centres and public transport networks are included in these processes. Related to this point, we have highlighted the importance of Member States sponsoring the creation of research centres and networks of researchers to address the phenomenon of talent drain.

It is therefore a very comprehensive and multifaceted report that goes a step further in its commitment to rural areas. Tying populations to regions and creating spaces where citizens, especially young people, want to live and thrive is a clear commitment of the European Parliament. We demonstrate that, once again, with this report.

*Cristina Maestre Martin De Almagro,  
Member of the European Parliament*



# ***NO Net Land Take***

## Thematic dossier



# Land take in the EU Soil Policy



Mirco Barbero

Ample attention has been given in recent years to the concept and implications of the planetary boundaries for human activities. Research has made it clear that we have exceeded the boundary of the land system through our ever-growing competition for land and soil needed for various human activities such as building homes and growing food. The demand for space is greater in the areas of the European Union that are more densely populated.

**Land taken extends today approximately over 4 % of the EU, about half of which is soil sealed. Locally the proportion of land taken can be much higher, as can the related impacts.**

There is no doubt that we need land for settlements, and soils provide the foundation needed for buildings and infrastructure. However, when we seal soil, we are losing its capacity to provide key ecosystem services: to absorb, store, infiltrate and filter water and transform nutrients and substances; to provide the basis for biodiversity, including habitats, species and genes; to produce food and other biomass; to absorb and stock carbon to mitigate and adapt to climate change by absorbing carbon or avoiding heat island effects.

Land take, of which soil sealing is the most extreme form, is often driven by economic development needs, and transforms natural and seminatural areas (such as forests, grasslands, peatlands and agricultural land) into artificial land development (such as buildings and infrastructures, including roads and airports, or open-pit mining).

Land taken extends today approximately over 4 % of the EU, about half of which is soil sealed. However, locally the proportion of land taken can be much higher, as can the related impacts. Land take also continues at a pace of more than 400 km<sup>2</sup> per year in the EU.

It has been estimated by the EEA that about three fourths of the land take in the EU occurs on agricultural land. Cities have been built on the most fertile soils, so urban sprawl impacts in particular the soils that are best for agriculture, reducing the potential for farmers and foresters to make a living.

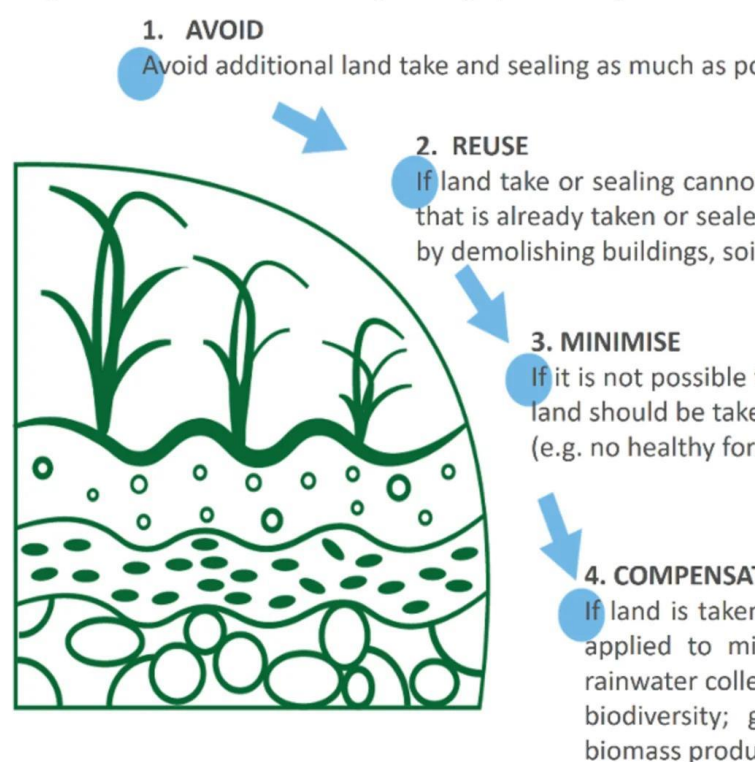
## How the EU Soil Strategy and the Soil Monitoring Law proposal address land take and soil sealing

Several initiatives have been taken at both global and local scales to address the worrying prospect of excessive land take and its known negative impacts on our well-being. In particular, Sustainable Development Goal 11 recognises the need for sustainable human settlements and sets the target to reduce the adverse environmental impact of cities per capita by 2030.

Acknowledging the impacts of soil sealing and land take on the environment and eventually on human well-being, the European Commission has developed over the years policy initiatives to address these issues, in particular in the EU Soil Strategy for 2030 and in the recent proposal for a Directive on Soil Monitoring and Resilience (the Soil Monitoring Law).

The EU Soil Strategy for 2030, defines the overall strategical direction for the EU in the coming years. The strategy proposes a new vision to reach healthy soils across the EU by 2050, to address our main climate and biodiversity challenges under the

Figure 1: The land take hierarchy // image provided by the author



European Green Deal. For limiting land take and soil sealing, with a circular use of land, the EU Soil Strategy:

- recalls the goal of reaching “No Net Land Take” (NNLT) by 2050 already established in 2013 by the European Parliament and the Council in the seventh Environmental Action Plan;
- proposes concrete actions for the Member States and the Commission to progressively achieve the NNLT goal;
- defines a land take hierarchy (Figure 1) to reduce land take and soil sealing as much as possible, conceptually similar to the waste hierarchy.

*It has been estimated by the EEA that about three fourths of the land take in the EU occurs on agricultural land. Cities have been built on the most fertile soils.*

Among the actions, **there is a call for Member States** to:

- set by 2023 their own ambitious targets to reduce net land take by 2030 and report on progress;
- integrate the land take hierarchy into their Urban Greening Plans, giving priority to reusing and recycling land through regulatory initiatives, and phasing out financial incentives that would go against this hierarchy.

**The Commission also committed to:**

- developing legal provisions for land take;
- revising by 2024 the existing EU guidelines on soil sealing and foster an exchange of best practices, building on experiences from Member States or regions.

**The proposal for an Soil Monitoring Law (SML) follows up on the strategy.** It includes:

- common definitions of land take, reverse land take and net land take consistent with the concept of soil health, and the soil's capacity to provide ecosystem services;
- an obligation for Member States to regularly monitor land take and soil sealing yearly on the basis of a number of descriptors, and to assess the impact of land take and sealing on the loss of ecosystem services;
- an obligation for Member States to make the related data public;
- a set of principles to mitigate the negative impacts of land take on soil health, in terms of the loss of soil's capacity to provide ecosystem services; those principles are inspired by the land take hierarchy (Figure 1) set out in the EU Soil Strategy.

At the date this article is published, the SML proposal is under discussion in the Council and in the Parliament under the co-decision procedure.

**In conclusion**, the EU Soil Strategy together with the proposal for the Soil Monitoring Law provides a coherent set of both voluntary and legislative measures designed to limit the negative impacts of land take and soil sealing and to contribute to achieving the NNLT goal, without imposing objectives or restrictions in relation to land take at EU level. Nevertheless, the successful implementation of the strategy and of the future law will require the commitment and coordinated efforts of the EU, national, regional and local levels and collaboration by the various stakeholders.

*Mirco Barbero, Policy officer, Soil Protection and Sustainable Land Use DG Environment, European Commission*

# No net land take in simple words



**Marjan van Herwijnen**



**Nikos Lampropoulos**

This TerritoriALL focuses on the concept of “no land take objective” and “sustainable land use”. We asked the ESPON Research and Policy Manager, Marjan Van Herwijnen to help us explain those terms in simple words.

## **Marjan, what is the no land take objective and why is it important?**

This objective aims to ensure that there is no land take taken after 2050 and that the soil and the land remains in a good condition for ecological functions, for biodiversity, for nature and agriculture.

## **So if for example we want to build a new road, we cannot do it anymore?**

You can do it, but you need to ensure that another part of the land is given back. So to construct a road, we can dismantle an industrial area that is not being used anymore and return the soil in a such a condition that nature can be restored in that area. But as definitions vary among member states we need create a common European approach.

## **What is the ESPON doing about this?**

Currently ESPON supports the Belgian Presidency with a number of initiatives such as the present issue of TerritoriALL magazine but mainly with the development of a new policy paper on ‘No net land take – policies and practices in European regions’. This paper will address some key policy questions on the topic such as the tools, the policies the obstacles and the proposed solutions to ensure an effective implementation of the “no land take” objective.

## **Do we have other ESPON projects that provided evidence about sustainable land use?**

A flagshipe ESPON project, SUPER, provides an overview of land-use changes in Europe since the year 2000 and land-use modelling up to 2050, as well as an overview of over 230 interventions and their impacts on urbanisation.

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## **ESPON resources on *no net land take* topic**

### **Projects:**

**SUPER** - Sustainable Urbanization and land-use Practices in European Regions

**Case study Lithuania** - Sustainable Urbanization and Land-use Practices

**Case study Croatia** - Sustainable Urbanization and Land-use Practices

**EU-LUPA** - European Land Use Patterns

### **Events including presentations**

Online Workshop: **Sustainable urbanisation strategies in the Netherlands** (post event brief and presentations)

Peer Learning Workshop: **How to reach no net land take by 2050?** (post event brief and presentations)

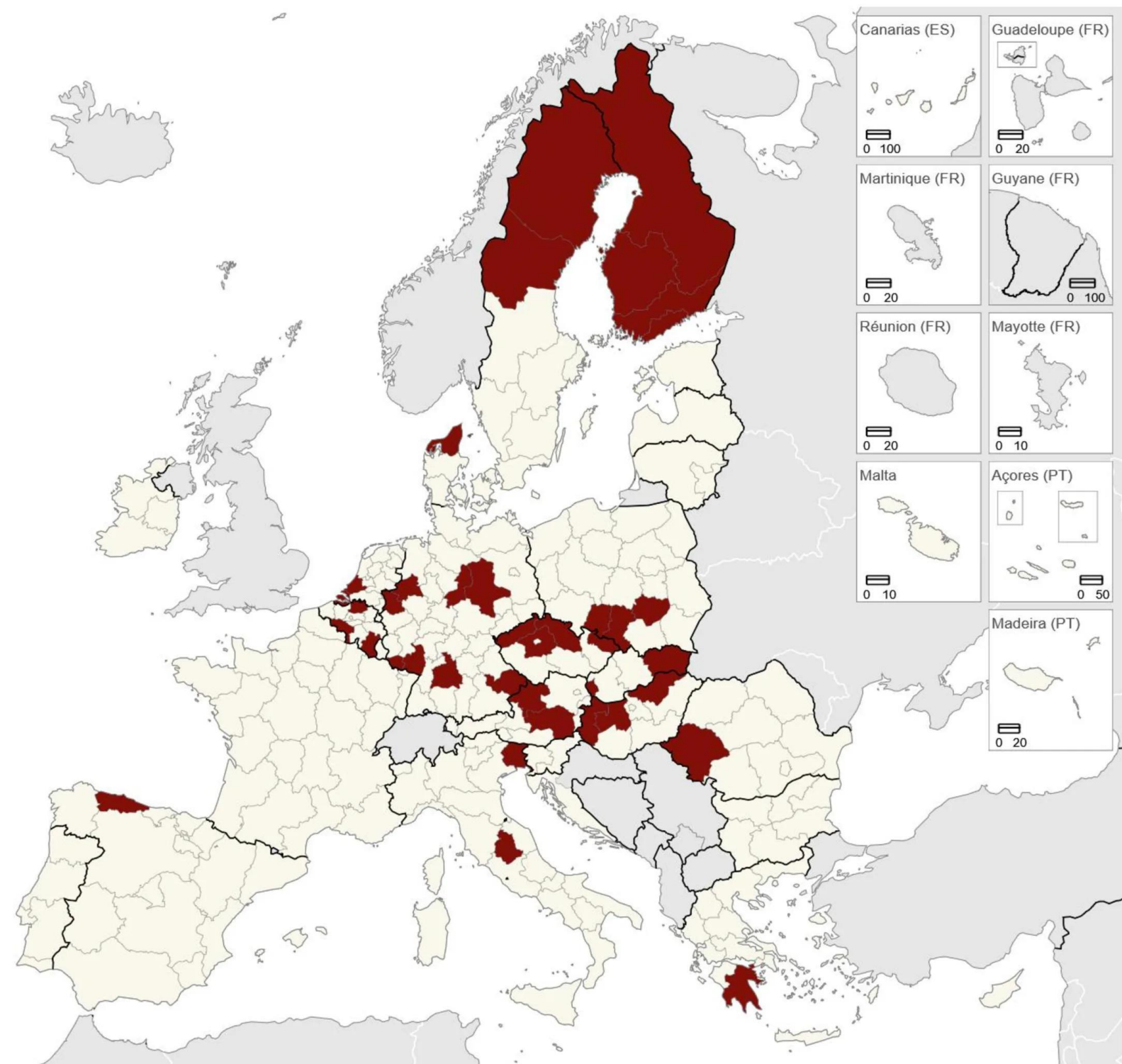
### **Articles in other TerritoriALL editions:**

**Measuring the climate impact of spatial planning** [TerritoriALL 3 – June 2021]

**Promoting sustainable urbanization and land use in your region** [TerritoriALL 5 – November 2021]

**European challenges at the heart of renewed territorial planning** [TerritoriALL 6 – June 2022]

# 41 most vulnerable regions to industrial green transition



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat  
Cartography: Eurostat – IMAGE, 08/2023

- Most vulnerable regions to industrial green transition
- Other regions

Note: No data available for outermost regions. For the sake of the 2023 EU Annual Report, the map does not show data for two NUTS2 regions in the United Kingdom however please note the OECD report provides them  
Source: Data retrieved from Organisation for Economic Co-operation and Development, Regional Industrial Transitions to Climate Neutrality, 2023

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## European soil health framework: why soil matters – the local and regional perspectives

The European Commission's initiative to establish a coherent and integrated EU soil protection framework aiming for healthy soils by 2050 has garnered diverging acknowledgment and support. While the questions remains whether the proposal is ambitious enough, the fact that this initiative recognises soil as a fundamental pillar of the European economy, vital for achieving climate neutrality and zero pollution, halting biodiversity loss, ensuring food and water security and preserving public health, is already a step in the right direction.

Our starting point is not a good one: today, up to 70% of soils across the EU are estimated to be in an unhealthy state, with the costs of inaction on soil degradation exceeding EUR 50 billion per year. The European Green Deal's objectives, including climate neutrality, zero pollution, biodiversity restoration and sustainable food systems, hinge upon healthy soils. Hence, any comprehensive soil policy must reflect the diverse local and territorial dimensions, encompassing varying ecosystems, soil compositions, land uses and climatic conditions. In the light of this, the critical role of local and regional authorities (LRAs) in implementing sustainable soil management practices, particularly in less developed regions, cannot be overstated.

While welcoming the proposed Soil Monitoring Law as

***Our starting point is not a good one: today, up to 70% of soils across the EU are estimated to be in an unhealthy state, with the costs of inaction on soil degradation exceeding EUR 50 billion per year.***

a pivotal first step, we in the European Committee of the Regions, as the voice of European cities and regions, still find it important to emphasise the need for specific support and capacity-building initiatives for LRAs. And while fully understanding that monitoring should be a first step towards improving the health of soil, we see the need to establish soil districts and keep any targets of improving soil health close to the territories to which those targets apply.

According to the European Commission's proposal, ***"Soil districts should constitute the basic governance units to manage soils and to take measures to comply with the requirements laid down in this Directive, in particular with regard to the monitoring and assessment of soil health"***.

As local and regional authorities, we are very well aware of the multitude of related regulations, such as those addressing biodiversity conservation, pollution prevention and circularity in agriculture, that are expected to be implemented in the coming years. If we do not ensure synergies with the regulation on improving soil health and the already existing legislation, full and current implementation in practice will be endangered.

Furthermore, technical and financial support for soil health initiatives, including nature-positive solutions such as community gardens and regenerative farms, is imperative to ensure widespread adoption. Collaboration with the European Soil Mission and leveraging existing tools such as the common agricultural policy and Horizon Europe can enhance local, regional and national action towards healthy soils by 2050.

Despite its paramount importance, soil health





Lidköping, Sweden //image from Shutterstock.com



**Frida Nilsson**

remains an overlooked issue. Many stakeholders perceive it as a luxury, rather than the basis needed for sustainable development. So we see a clear need to increase awareness among land managers and the general public, and we emphasise the role of education and engagement in fostering new business models and sustainable practices. Awareness and education are a cornerstone of the required buy-in of all the actors that live from land, but also the wider society whose lives will be impacted if we do not act appropriately now.

In the light of the increasing threat from climate change, I find it important to stress the need for land set-asides for climate adaptation measures and the importance of stable soil in mitigating erosion and landslides – effects that an increasing number of our communities are exposed to, or will be in the near future. However, a balanced approach considering administrative and financial burdens, alongside a clear delineation of responsibilities and the application of the polluter-pays principle, is essential.

Unsustainable soil management poses significant threats to food security, biodiversity and climate resilience. But we are also aware that, without sustained financial assistance for soil managers and without the current involvement of LRAs in promoting

**Despite its paramount importance, soil health remains an overlooked issue. Many stakeholders perceive it as a luxury, rather than the basis needed for sustainable development.**

**We are also aware that, without sustained financial assistance for soil managers and without the current involvement of LRAs in promoting sustainable soil practices and capacity building, we will not get far.**

sustainable soil practices and capacity building, we will not get far.

In addition to support measures, we call for practical tools such as a sustainable soil management toolbox, accessible through a digital soil health data portal. As those in charge of spatial planning, we are very well aware that the quality of soil cannot be categorised in oversimplified terms – the reality on the ground demands an assessment model that provides a nuanced overview of soil health status.

However, we strongly believe that, by addressing these multifaceted challenges and leveraging collaborative efforts at all levels, the EU can pave the way towards achieving its ambitious soil health targets and safeguarding its environmental and socioeconomic resilience.

*Frida Nilsson is a member of Lidköping municipal council (Sweden), she is the CoRs' rapporteur on soil monitoring and resilience. Her opinion is scheduled for adoption by the committee's plenary in June 2024.*

# The implications of land take, urban sprawl and soil sealing for people, businesses and the environment

In the pursuit of sustainable development, the European Economic and Social Committee (EESC) has been a leading voice, addressing critical issues such as land use and its profound implications for people, businesses and the environment. This article revolves around the implementation of the no net land take policies, a pivotal strategy aiming to reconcile economic progress with environmental preservation.

Within this broader context, the EESC has raised significant concerns regarding the potential threat posed by land grabbing, fuelled by various EU policy areas, including policies on the bioeconomy, trade and agriculture. The acquisition of agricultural land by external investors and entities raises alarms about its adverse impact on family farms. In response, the EESC advocates for protective measures to ensure the sustainability of family farming, which is a viable alternative to the challenges posed by industrialised agriculture.

Taking into account the multilateral values of soil, the protection of soil is important for maintaining the identity, culture and heritage of rural areas. Not only is soil used in different production processes, but it is the link between generations, current and future ones, and this should remain unchanged.

Addressing issues related to responsible land governance, the EESC has been actively urging Member States to implement the voluntary guidelines on responsible governance on tenure, which seeks to establish a robust framework that safeguards against unfair practices and promotes responsible land tenure.

The EESC has also called upon the European Parliament and the Council to deliberate on the free movement of capital concerning the alienation and acquisition of agricultural land and agribusinesses. This debate not only extends within the EU but also raises questions about how these movements might affect relationships with third countries. Striking a balance between economic interests and responsible land use becomes imperative in these discussions.

The free movement of capital contributes to land grabbing, driven by factors like globalization, population growth, and rising demand for resources. Large corporations, dominating the land market, distort its functioning, affecting prices and lease conditions. The swift movement of capital from one region or continent to another exacerbates over-exploitation and soil degradation, emphasizing the generational responsibility for soil protection within sustainable development principles.

In its opinion on the Soil Health Law, the EESC

recognises the strategic importance of soil as an economic and environmental asset, recalling that healthy soils are a fundamental resource for food production. Advocating for a European legal framework, the committee aims to prevent soil degradation, support restoration programmes and establish a road map towards maintaining good soil health. This underlines the interconnectedness of environmental sustainability and economic prosperity.

The principle of transversal multilevel and multistakeholder approaches in the field of urban development can be easily transferred to soil management and governance, taking into account urban-rural complementarity.

Urbanisation processes, often resulting in land take, present a significant challenge. While the EESC supports the ambitious goal of achieving the no net land take objective by 2050, it also emphasises the importance of accompanying this goal with incentives that encourage the reuse of abandoned sites and the restoration of unused impermeable surfaces. This approach seeks to mitigate the impact of urbanisation on fertile soils, thus aligning with the broader objectives of responsible land management.

The EESC prioritises the importance of a circular and resource-efficient economy in safeguarding the ecological productivity of European soils. Initiatives for deforestation-free guarantees in international trade underline the need for responsible global engagement in land use practices.

Acknowledging the substantial land use of the livestock sector, the EESC calls for a European protein strategy that aligns with regional feed potential. The emphasis is on sustainability and responsible land management within the agricultural sector that also enhances biodiversity.

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 ***The free movement of capital contributes to land grabbing, driven by factors like globalization, population growth, and rising demand for resources. Large corporations, dominating the land market, distort its functioning, affecting prices and lease conditions.***

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**Nicoletta Merlo**



**Stoyan Tchoukanov**



**Florian Marin**

At the same time, the EESC calls for the better support of the use of abandoned land and for the consideration of land that could be recovered through the reduction of food waste (20 % of the food produced in the EU is wasted).

Moreover, in its recent own-initiative opinion on the role of young people in rural development, the EESC recognises that generational renewal in the agricultural sector and access to land are key components of fostering vibrant rural communities. As Europe strives for a more sustainable and inclusive future, the engagement of young people is increasingly pivotal, including on matters relating to land use planning and management.

In light of these considerations, the EESC emphasises the critical role of the common agricultural policy (CAP) in preserving access to and sustainable use of agricultural land across the EU. To address the decline in the number of farms and to promote generational renewal, the EESC calls for action to increase average earnings from farming and improve access to land. This includes measures such as investment grants, preferential credit, national legislation regarding land transfer, and favourable investment conditions under the second pillar, bringing additional private funding. In addition, the CAP must play a vital role in preventing land abandonment and promoting the sustainable exploitation of marginal land to ensure the overall attractiveness of rural areas.

In addition, in its opinion on soil health, the EESC highlights the need for a standardised list of examples of forms of land cover. This list would provide a common framework for all Member States to monitor land cover consistently, particularly in cases where doubts may arise regarding the classification of artificial land. This standardised approach aims to enhance transparency and facilitate effective

decision-making regarding land use policies across the EU.

Soil is not an ordinary resource in the necessary mix of resources in development. Soil is a source of life, is critical for biodiversity and plays a critical role in the climate transition. The relation between soil and development is very sensitive and needs to be approached by taking into account future needs at the same time as protecting life. The handling of soil must take into account intersectoral and interinstitutional cooperation and integration at strategic and operational levels in order to ensure the just, green and productive usage of soil.

*Nicoletta Merlo, EESC member and rapporteur of EESC Opinion: The role of youth in rural development;*

*Stoyan Tchoukanov, EESC member and rapporteur of EESC Opinion: Promoting autonomous and sustainable food production strategies for the common agricultural policy post-2027;*

*Florian Marin, EESC member and rapporteur of EESC Opinion: Thematic partnerships under the Ljubljana Agreement.*

**The principle of transversal multilevel and multistakeholder approaches in the field of urban development can be easily transferred to soil management and governance, taking into account urban-rural complementarity.**



Liege, Belgium // image from Shutterstock.com

# ESPON week

*seminar theme:*

**No net land take – policies and**

**Registration link for the events and regular update  
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and practices in European regions

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# No land take in a cross-border metropolitan context: Province of Luxembourg and Grand Duchy of Luxembourg



**Alexandre Petit**

In a cross-border metropolitan context with high pressure on land, as is the case in the south-east of the Belgian province of Luxembourg, bordering the Grand Duchy of Luxembourg, a significant driver of socioeconomic development, it is difficult to achieve the objective of no net land take, which aims to limit the consumption of natural, agricultural and forested areas.

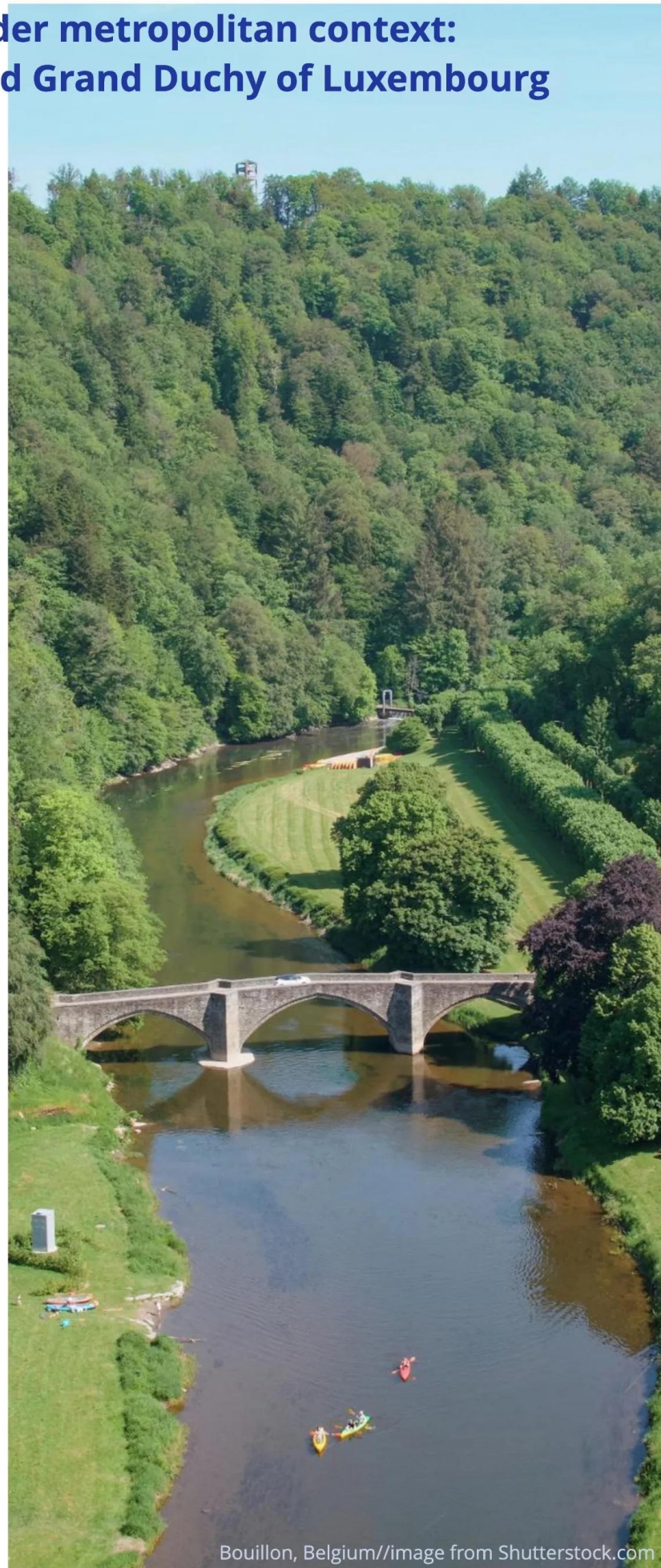
Cross-border metropolitan areas are often faced with strong competition for land, particularly for the location of economic activities and residential functions. The pressure faced by the province of Luxembourg is even stronger because the Grand

***The constant increase in the number of cross-border commuters residing in the province of Luxembourg and working in the neighbouring Grand Duchy of Luxembourg directly affects housing production***

Duchy continues to rapidly attract a growing workforce but is no longer able to accommodate half of these additional workers on its territory, as access to housing has become financially impossible for a large proportion of these workers, forcing them to become cross-border commuters.

Thus, the province of Luxembourg, which is the largest and least populated province in Belgium, is experiencing significant relative demographic growth compared with other Walloon territories (16.5 % between 2003 and 2023 compared with 9.3 % for Wallonia). This demographic growth is mainly due to a very positive international migration balance (the share of foreigners increased from 4.5 % to 9.8 % between 2003 and 2023, with a numerical increase of 152 % over this period).

Consequently, between 2021 and 2022, 65 % of land artificialisation in the province of Luxembourg was in residential areas. Housing thus appears the main



Bouillon, Belgium//image from Shutterstock.com

contributor to land artificialisation. Land pressure and land artificialisation are even more significant as one approaches the borders with Luxembourg (22.2 % population growth between 2003 and 2023 in the Arlon district).

The constant increase in the number of cross-border commuters residing in the province of Luxembourg and working in the neighbouring Grand Duchy of Luxembourg directly affects housing production (an increase of 10 440 cross-border commuters in the last 10 years in the province of Luxembourg, including 4 740 in the Arlon district alone and 2 340 in the Bastogne district, which also borders the Grand Duchy of Luxembourg).

Close cooperation among those responsible for territorial planning in the various territories is therefore necessary. It must allow for the coordination of territorial planning policies from a sustainable development perspective.

As a socioeconomic development intermunicipal corporation of the province of Luxembourg, IDELUX has been a player in cross-border cooperation alongside Wallonia within the Greater Region for many years.

**The south and east of the province of Luxembourg have recently been integrated into two new "Functional Cross-Border areas" (ZFT) with the west of the Grand Duchy of Luxembourg.**

The Greater Region includes the Grand Duchy of Luxembourg, the Walloon Region in Belgium, the Grand Est Region in France, and Saarland and Rhineland-Palatinate in Germany. This cooperation with all the partners of the Greater Region has led to the drawing up of the Territorial Development Plan of the Greater Region (SDT-GR).

The SDT-GR is a strategic territorial planning document aimed at promoting sustainable development within the Greater Region. It identifies three scales of cross-border territorial cooperation that were validated during the ministerial meeting on spatial planning of the Greater Region on 12 January 2021:

- the supraregional scale corresponding to the Greater Region as a whole;
- the central metropolitan area around Luxembourg;
- nearby cross-border territories.

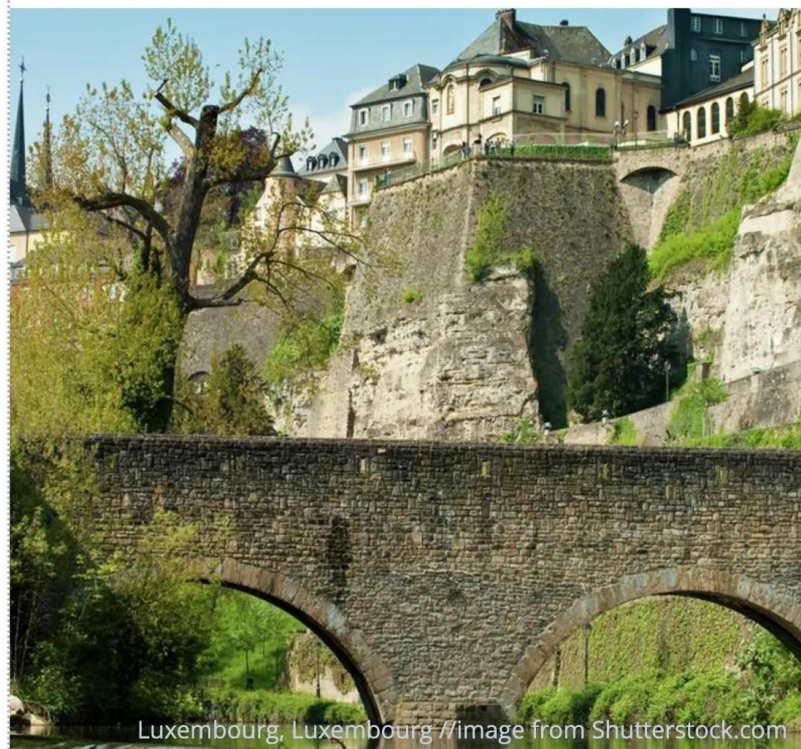
The SDT-GR, which provides a strategic framework at the transregional level, defines no net land take as a 'collective ambition to no longer artificialize new agricultural, natural, or forest lands'. Several implementation measures are proposed, such as intensifying the use of already urbanised areas, concentrating urbanisation near major public transport nodes, better coordinating the location of jobs, housing and local shops in border areas, developing sustainable mobility, and promoting the circular economy.

The south and east of the province of Luxembourg have recently been integrated into two new "Functional Cross-Border areas" (ZFT) with the west of the Grand Duchy of Luxembourg. These areas are important for the economic and social development of the territories that compose them.

Established and financed by the Interreg Greater Region Cross-Border Cooperation Programme, they should leverage synergies between these territories and address common challenges, such as mobility, the environment or social cohesion, through local cross-border cooperation projects, but also exchange on the direct and indirect cross-border effects of policies implemented on both sides of the border.

However, these areas will have no direct impact on land artificialisation, since, for example, they will not act on permit issuance. Nonetheless, they will be a cross-border forum, with significant representation from the local level through municipalities, in which these issues can be discussed.

*Alexandre Petit, Head of territorial strategy department, IDELUX Group*



Luxembourg, Luxembourg //image from Shutterstock.com

# Comparative analysis of the concepts of soil sealing and land take in major European cities



Antoine Decoville

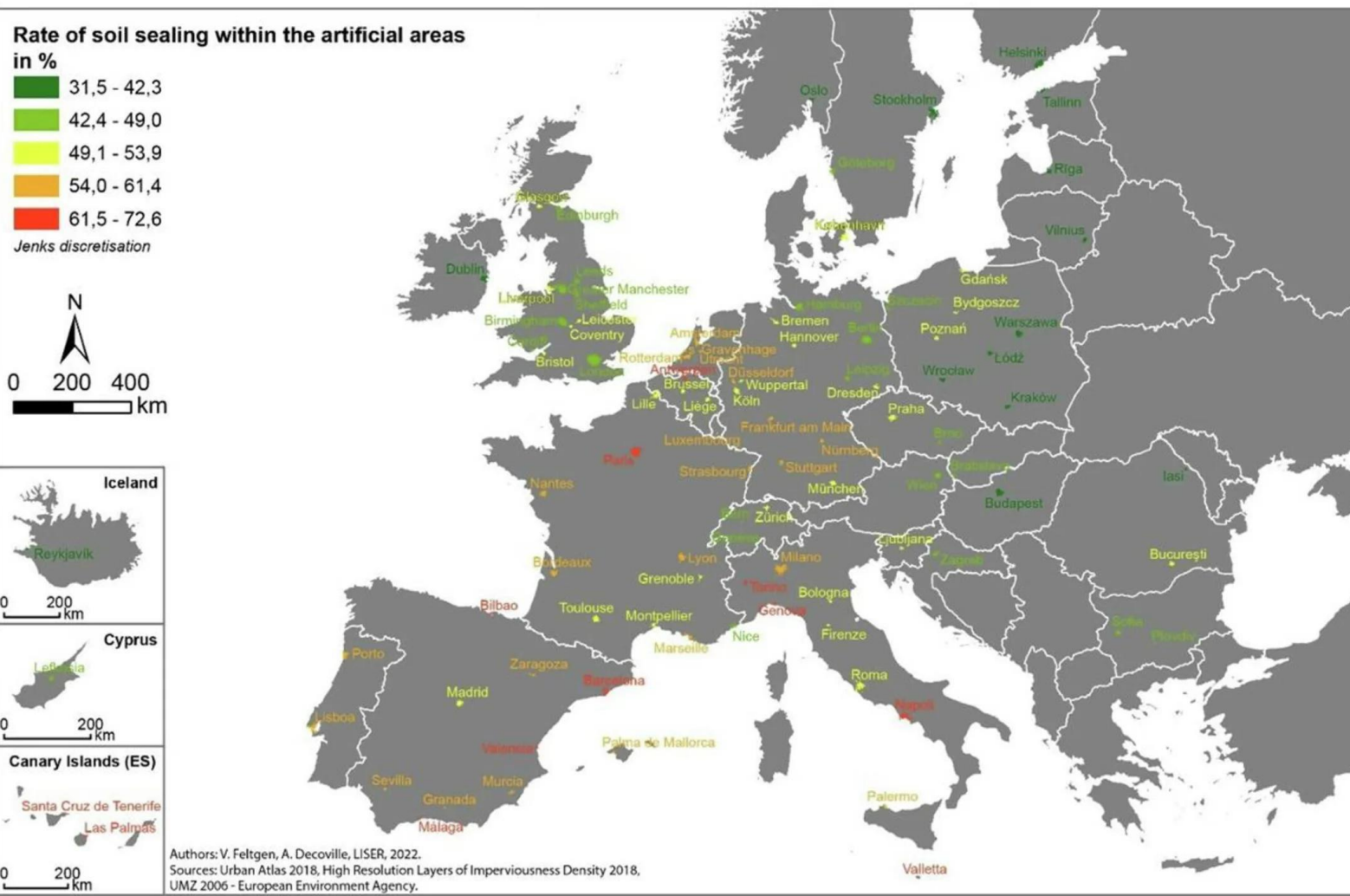


Valérie Feltgen

The objective of no net land take by 2050, first mentioned in 2011 in the document titled 'Roadmap to a resource efficient Europe', is becoming one of the biggest challenges facing European planners. It aims to halt the dramatic expansion of the area covered by cities in Europe, an expansion that threatens biodiversity and food supply.

However, despite the apparent simplicity of the objective, the concept of land take can lead to misunderstandings and even potentially to counterproductive outcomes, as it introduces a dichotomous distinction between non-artificial areas, which benefit from a positive connotation, and urban areas, which appear, by contrast, to be problematic. In

*For instance, the European Environment Agency's definition of artificial urban spaces includes intra-urban green spaces (parks, cemeteries, etc.) that can sometimes be more biodiverse than intensively farmed fields.*





reality, the land use mosaic is much more complex.

For instance, the European Environment Agency's definition of artificial urban spaces includes intra-urban green spaces (parks, cemeteries, etc.) that can sometimes be more biodiverse than intensively farmed fields.

This is why the proposal for a directive of the European Parliament and of the Council on soil monitoring and resilience suggests generalising the monitoring of soil sealing, a notion that complements that of land take. It has more objective attributes than the notion of land take, as it relates to a physical property of the soil: rainwater can no longer penetrate it deeply but instead runs off the surface.

In terms of land use planning, these seemingly small differences between the no net land take and no net soil sealing notions have tangible consequences. For instance, filling unbuilt land plots in the urban fabric may be compatible with a no net land take approach, whereas it will increase the degree of soil sealing. It is therefore important to take into account the degree of soil sealing in artificial areas to determine to what extent the internal horizontal densification of urban

***In terms of land use planning, these seemingly small differences between the no net land take and no net soil sealing notions have tangible consequences.***

areas is desirable and compatible with other environmental concerns, such as the prevention of urban heat islands or the loss of intra-urban biodiversity.

The literature has already shown that, on average, the rate of sealing within built-up areas is close to 50 % (Prokop et al., 2011). However, this is an average value, and situations can vary considerably. An appropriate ratio of impervious surfaces in an artificial area could be considered a satisfactory compromise between, on the one hand, densifying the built-up substance to save land resources and, on the other hand, maintaining construction-free zones that provide more resilient and socially acceptable urban environments.

**The map** illustrates the importance of these variations, showing the proportions of sealed surfaces within the artificial areas of the most important European morphological agglomerations in terms of size and administrative power. To do this, data produced by the European Environment Agency were used, namely the Urban Atlas (for the artificial areas) and the Copernicus high-resolution layers of imperviousness density (for the sealed areas).

The rates of soil sealing within the artificial areas vary greatly, from 31.5 % in Stockholm to 72.6 % in Valetta.

Northern cities appear, in general, to be much less sealed than Mediterranean ones, with a few exceptions, such as Antwerp (where the proportion is largely linked to the sealing of its major port). This can be explained in various ways. In Scandinavia, low population densities have long favoured less compact urban forms thanks to the greater availability of land. In the United Kingdom, the urban planning tradition, which is favourable to the maintenance of vast urban parks, has allowed ratios of imperviousness that have remained quite moderated, despite substantial densities. In London, for instance – which shows the highest rate of land take inside of the city limits of the whole sample (96.4 %) – the proportion of surfaces that are sealed is 46.6 %, which is below the average of the sample.

The high rates of sealing in cities around the Mediterranean Sea may seem problematic, insofar as this region has been identified as one of the climate change hotspots in Europe, with a summer temperature that is expected to increase by 2 °C over 2021–2050 compared with 1961–1990. This has the potential to result in severe drought episodes and water shortages that will become more and more critical.

The map also shows that cities located in eastern European countries, which were largely transformed by the post-World War II Soviet urban planning tradition, generally have lower imperviousness densities within their artificial spaces (Bratislava, Wrocław, Iași, etc.) than cities in western Europe.

This comparison shows that the potential for horizontal densification in urban areas, which is a priori the easiest way to allow new development within the urban fabric and without new land take, varies from one context to another. This underlines the need to adopt strategies tailored to the specificities of each context and to use the full range of potential tools to achieve the objective of no net land take, and not just horizontal densification. Renaturation, compensation and vertical densification are other avenues to consider.

To know more, please consult: Decoville, A. and Feltgen, V. (2023), 'Clarifying the EU objective of no net land take: A necessity to avoid the cure being worse than the disease', *Land Use Policy*, 131: 106722.

*Antoine Decoville and Valérie Feltgen are geographers working at the Luxembourg Institute of Socio-Economic Research (LISER). They run the Observatory for Spatial Development, which provides evidence-based recommendations to policymakers in Luxembourg*

# Urbanisation strategies for transregional or transnational valleys facing climate change



Thomas Deridder



Christian Bastin

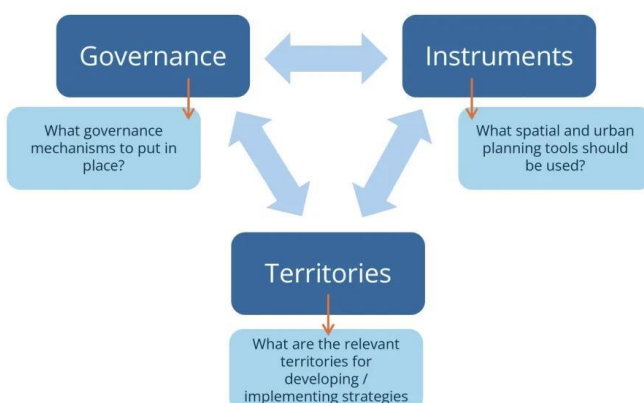
Year after year, water management retains an increasingly important place in Belgian spatial planning policy. Extreme weather events such as the catastrophic floods of 2021 in Wallonia and the growing risk of drought and water shortage led stakeholders to become interested in this subject.

In this context, the three Belgian regions decided to launch a pilot action, as part of the Territorial Agenda 2030, that would examine two types of strategies for water management: a proactive strategy aimed at anticipating and preventing disasters, on the one hand, and a reactive strategy focused on crisis management mechanisms, on the other.

During intra-Belgian preparatory discussions on two case studies (the Vesdre valley in the Walloon Region, and the Woluwe valley in Flanders and the Brussels Region), three fundamental dimensions and associated questions were identified. They can be summarised as in Figure 1.

In order to fuel reflection on these three dimensions, the Belgian regions organised two webinars open to European partners, on 11 September and 12 October 2023. The first webinar focused on an exchange of experiences in which speakers presented six case studies from Wallonia (the multidisciplinary strategic plan for the Vesdre watershed, referred to as 'the Vesdre plan'), Flanders ('The Dry Delta', 'Leve(n)de Woluwe' and 'Water-Land-Schap'), Brussels Region (the Woluwe valley) and the European metropolis of Lille, in France ('Gardiennes de l'eau', referred to as 'Guardians of Water'); see Table 1.

Dimensions of and questions on the case studies



The second webinar favoured open discussions based on a series of guiding questions during two round tables. These two events brought out the initial key elements explained below.

## Governance

In terms of governance, a few key elements emerged. The first one is the importance of networks and the cooperation of actors at all levels and between sectors. This element is particularly important for the many small innovative water management projects, which are increasingly multifunctional, as described in the Woluwe valley and Dry Delta case studies.

*Networks and the cooperation of actors is particularly important for the many small innovative water management projects, which are increasingly multifunctional*

At transregional and transnational levels, a lack of knowledge of the relevant structures and stakeholders on the other side of the border constitutes a major obstacle, which could possibly be overcome through a mapping of stakeholders.

Regarding horizontal cooperation, there is a need for greater territorial solidarity, which must be based on win-win solutions given that the solutions are often to be found in other territories than those where the consequences are felt. This is notably the case in the Vesdre valley, where decisions taken in villages located on the plateau have an impact on villages in the valley.

Finally, the role of the umbrella authorities (often the regional authority) is an important one in terms of financing local projects, providing technical and logistical support and guaranteeing that local projects are consistent with each other. This role seems particularly important in times of crisis, as described in the Vesdre valley case study. However, for prevention policies, local authorities seem better equipped to implement transversal projects because

The case studies:

Case study	Risks	Type of strategy	Territory		Governance mechanisms	Type of instruments/ planning tools
Vesdreplan	Floods	Reactive	Vesdre valley	Walloon Region	Informal networks (and formal networks to be built)	Innovative
Woluwe valley	Floods	Mainly proactive	Woluwe valley	Brussels Region	Use of existing mechanisms	Innovative
	Drought/water					
Dry Delta	Drought/water scarcity	Proactive	Three test zones	Flanders	Pilot action led by regional actors	Potentially Innovative
Leve(n)de Woluwe	Floods	Proactive	Woluwe valley	Flanders	Transversal cooperation	Overall strategic plan Specific action plan
Water-Land-Schap	Water scarcity and quality	Proactive	Pilot zones	Flanders	Local coalitions within a regional	Specific actions
Guardians of Water	Water scarcity and quality	Proactive	Water capture	European Metropolis of Lille	Co-design between the metropolis and local authorities	Innovative strategy to implement coercive measures

of their knowledge of their territory and their population. This is particularly the case when establishing local coalitions, as in the Water-Land-Schap project.

### Instruments

In terms of instruments, there is strong interest in using innovative and non-binding spatial planning instruments, as illustrated by the Guardians of Water and the Leve(n)de Woluwe case studies. These instruments add real value because they offer numerous possibilities. They notably make it possible to better adapt the content, procedures and territorial scale to the problems to be solved. It is also possible to test their efficiency, which could ultimately lead to positive changes in traditional instruments.

However, it is important to set up consultation and co-creation mechanisms to ensure that these non-binding instruments are properly implemented. These mechanisms should involve a large number of stakeholders, including local authorities and citizens,

who are now considered important in territorial planning. They should start when the diagnosis is established, continue throughout the whole construction process and end with the choice of measures to be implemented. This participatory process was notably experienced in the Vesdre valley during the preparation of the Vesdre plan.

### Territories

The choice of watersheds and their delimitation as relevant territories for water management does not seem to be an issue. However, there is an interest in testing strategies in pilot areas, generally chosen according to their territorial typology.

In addition, the establishment of a global vision of territorial development is necessary to ensure the coherence of the various strategies and local projects. However, this approach proves difficult to implement, as shown in the Guardians of Water project.

### Next steps

These first key elements, complemented by additional reflections from bilateral interviews, will be developed in more detail in a guide to good practices. This guide will be published during the Belgian Presidency of the Council of the European union, the first half of 2024.

*Thomas Deridder, Director-General, Destrée Institute, and  
Christian Bastin, Associate Researcher, Destrée Institute*

**The role of the umbrella authorities is important in terms of financing local projects, providing technical and logistical support and guaranteeing that local projects are consistent with each other.**

## No net land take policies, a recurring metropolitan affair?



**Henk Bouwman**

Europe is on the way to elections in June. The new parliament will need to form a view on the events that are rapidly changing the European and global landscape: war and conflicts, elections in the United States, climate change, immigration and more. The outcome of the European elections will, as usual, bring new spatial policy approaches, but how does the very slowly changing practice of land use planning answer to that? Are there innovative ways to translate new policies into practical planning instruments?

Europe's metropolitan regions and areas, and their urban and rural communities, are inventing every day. The issues they face on a daily basis demand continuous innovation in which integrated thinking is key. Adaptation to climate change, for example, is typically a field where everything is interconnected. And, in my view, we understand less than half of what is happening when various climate phenomena come together and react.

Metropolitan regions and areas are often derived from the understanding of a need for regional comprehensive spatial planning, which is typically where activities such as housing, transport and workplaces should come together in an integrated, balanced land use plan for the wider region. But, over the last few decades, METREX – which I lead – has witnessed this spatial planning process becoming increasingly more complex. It must now take into account all the physical, sometimes invisible, environmental effects of our decisions in both the short and long terms.

To address climate adaptation in spatial planning, cities around the world are increasingly adopting sustainable urban development practices, including policies to limit urban sprawl and protect green spaces. Cities such as Amsterdam, Lyon and Paris,

known for their commitment to sustainability and environmental consciousness, have implemented or are on their way to implementing policies known as no net land take policies.

The no net land take concept generally refers to policies or initiatives aiming to prevent the conversion of additional land for development, with the goal of minimising any impact on natural habitats and ecosystems. When one sees maps of the Netherlands over the last few decades, the land taken for urban extension has been enormous: a vast sea of low-density housing around cities, affecting ecosystems, but also pushing out farmland that could help feed cities locally.

Across Europe, we see a variety of reasons for designing no net land take policies. By addressing these factors, these policies can contribute to creating more sustainable and resilient urban and rural environments. Roughly, the policies aim to conserve natural habitats and preserve natural landscapes and certain agricultural ones, to avoid further urban

***The no net land take concept generally refers to policies or initiatives aiming to prevent the conversion of additional land for development, with the goal of minimising any impact on natural habitats and ecosystems.***



sprawl, to promote brownfield redevelopment and to support measures for climate adaptation.

When we add the many other themes that a land use plan must address, one can see the complexity and can understand the lengthy processes involved in producing and deciding on these plans. This does not always appeal to the politics of here and now.

One of the positive side effects of implementing no net land take policies is that it pauses the process of further urban expansion, providing more time to develop and exchange solutions to come back with a better one. METREX strongly believes that this only makes sense on a metropolitan scale, where the effects of policies can be seen in a wider context. Although we feel the pressure 'to get on with it', we also see the uncertainty regarding policy effects and therefore the vulnerability in the difficult and polarised political landscape.

A more far-reaching approach, typical of land use

***One of the positive side effects of implementing no net land take policies is that it pauses the process of further urban expansion, providing more time to develop and exchange solutions to come back with a better one.***

planning, could be inspired by England. It is an interesting example to look at, as we seem to have forgotten about the green belt approach. In the Financial Times on 26 January 2024, Joshua Oliver highlighted one of the important things we can learn from the English case: adding 'natural value to land' seems to work best when we also understand it is important to not take that land for urban or agro-industrial use. But, rightly, the article also shows the difficulties in keeping land open when it has little value, that is, when it is waste land without any natural value. I suggest enriching the thinking of no net land take with adding explicit value to the land that is not to be taken, and therefore really showing what this added value can bring to the wider regional area. Otherwise, a well-meaning policy may result in further urban sprawl outside the policy area, something we see in the aforementioned cities and regions.

Above all, we are optimistic about the ability of metropolitan areas to design regional policies and alliances with the surrounding (sub)rural areas. However, research and capacity building are urgently needed from a wide array of specialists. And for this, we have excellent experience with the ESPON targeted analysis programmes and we call upon you to join us in one around this topic.

*Henk Bouwman is secretary general of METREX, a network of over 50 European metropolitan regions and areas.*

Brussels, Belgium //image from Shutterstock.com



# Calling a halt to land take in Flanders



**Margo Bienstman**



**Ann Pisman**



**Isabelle Loris**



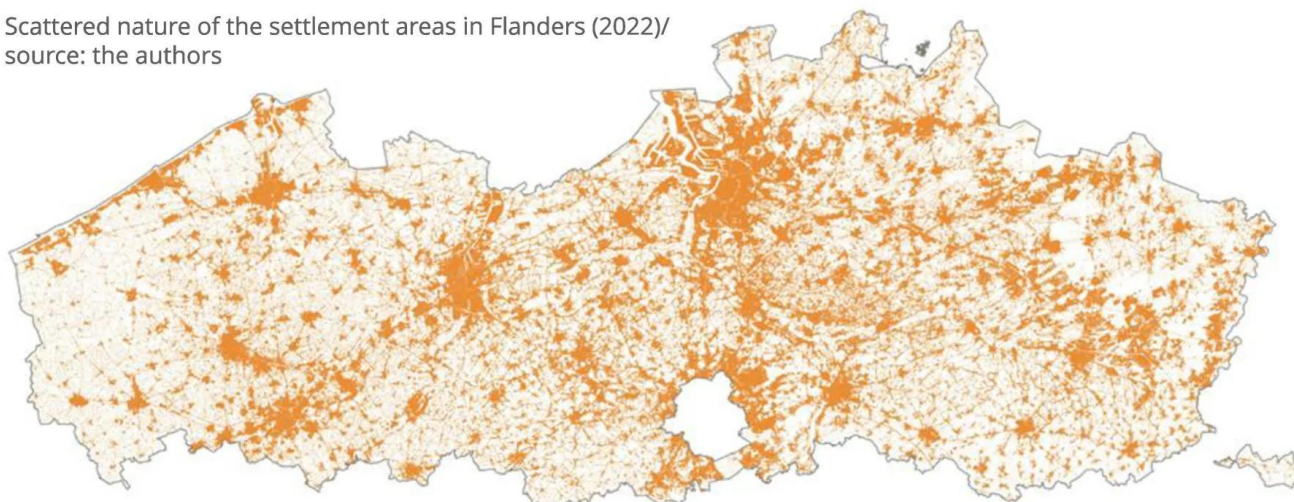
**Stijn Vanderheiden**

Preserving open space is crucial in creating a sustainable region, supporting natural resources, biodiversity, a healthy living environment and climate mitigation. However, the growing population and economy continually demand more space, placing significant pressure on non-built-up areas. Flanders, as one of the most highly frequented and populous regions in Europe, faces challenges in striking a balance between growth and preserving open space.

## Flemish ambitions

The competence for environmental policies in Belgium has been transferred to each region. Flanders, the Northern and Flemish-speaking part of Belgium, has formulated a strategic vision to reduce net land take. The goal is to reduce net land take from 6 ha/day in 2016 to 0 ha/day in 2040, with an intermediate target of 3 ha/day by 2025. This means

Scattered nature of the settlement areas in Flanders (2022)/ source: the authors



This article gives a brief overview of the region's goals and challenges in managing this delicate equilibrium. Key trends and developments in Flemish settlement areas are highlighted.

### Settlement area

The European Environment Agency (2012) defines a settlement area as 'the area of land used for housing, industrial and commercial purposes, health care, education, nursing infrastructure, roads and rail networks, recreation (parks and sports grounds), etc. In land use planning, it usually corresponds to all land uses beyond agriculture, semi-natural areas, forestry, and water bodies.' In 2016, Flanders introduced a definition that is very similar to the settlement area but also includes agricultural constructions such as stables and greenhouses. Settlement areas reached 32.4 % of Flanders' total area in 2022. This makes it one of Europe's most densely developed regions.

that between 2020 and 2040 the additional land take should be limited to 16 400 ha. The negative consequences of the extensive spatial expansion and sprawling settlement layout in Flanders, such as floods, soil degradation and reduced biodiversity, are starting to show. Flanders' highly ambitious objective of reducing land take is reflected in the urgency with which it aims to preserve open space.

### Evolution of land take in Flanders

Between 2013 and 2022, additional land take amounted to 15 000 ha, resulting in a total settlement

**Flanders strategic vision to reduce net land take means that between 2020 and 2040 the additional land take should be limited to 16.400 ha**

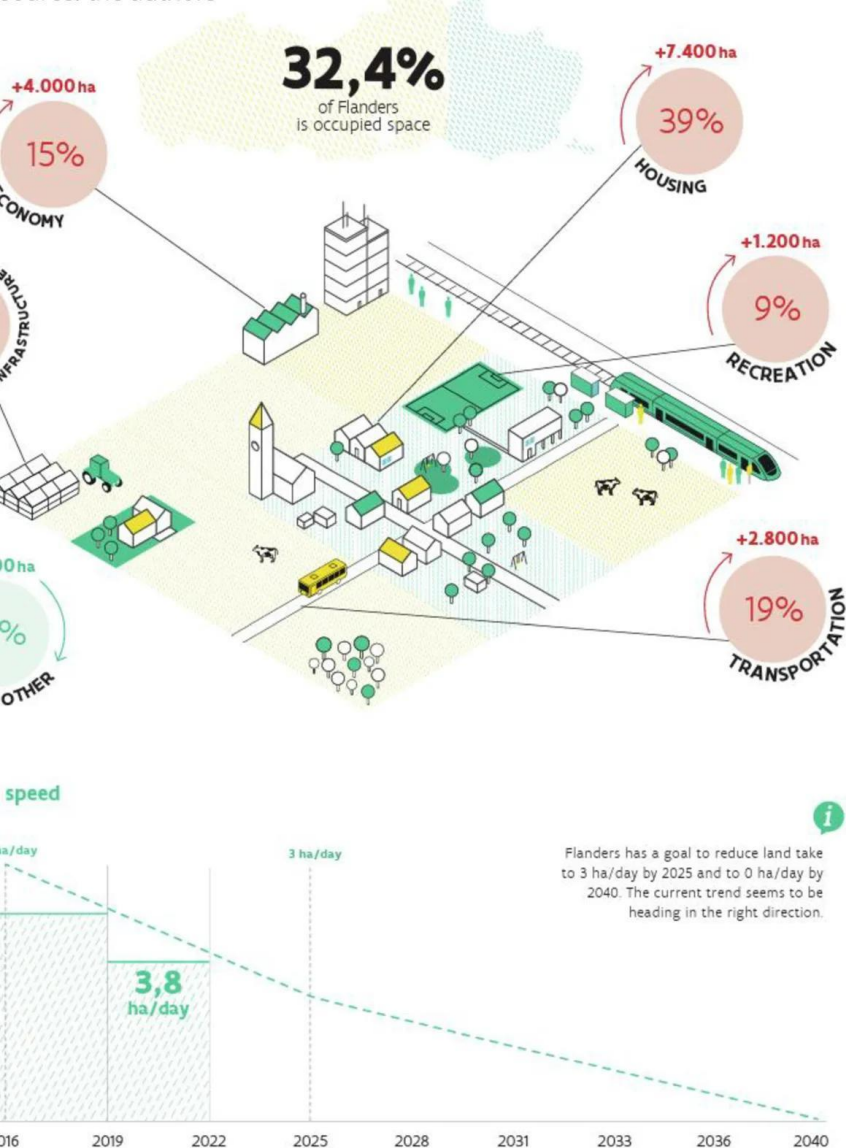


area of 441 500 ha in 2022, or 32.4 % of Flanders' total land. This is the result of both an increase (26 000 ha) and a decrease (11 000 ha) in land take. Although land take increased annually, the rate at which open space was taken reduced from an average of 5 ha/day (2013–2019) to 3.8 ha/day (2019–2022). The goal of reaching 3 ha/day by 2025 is therefore within reach.

Housing (including gardens), which takes up more than a third of the total settlement area, saw the largest absolute increase in land take, namely 7 400 ha in 2013–2022. Transport infrastructure is the

**Flanders, as one of the most intensively used and inhabited regions in Europe, faces challenges in striking a balance between growth and preserving open space.**

No Net Land Take in Flanders - evolution between 2013 and 2022/  
source: the authors



second largest occupier of space (19 %), with an additional 2 800 ha taken up in the last decade. Economic land use, such as for industry, retail and services, accounts for 15 % of the settlement area. The settlement area used for these purposes increased by 4 000 ha in 2013–2022. In general, the slow decrease in overall land take since 2019 (from 5 ha/day to 3.8 ha/day) can be seen in all the land use categories. Only agricultural constructions, which take up only 2 % of the settlement area, exhibited a slightly atypical course: first a steep increase from 2013 to 2019, followed by an actual decrease in settlement area.

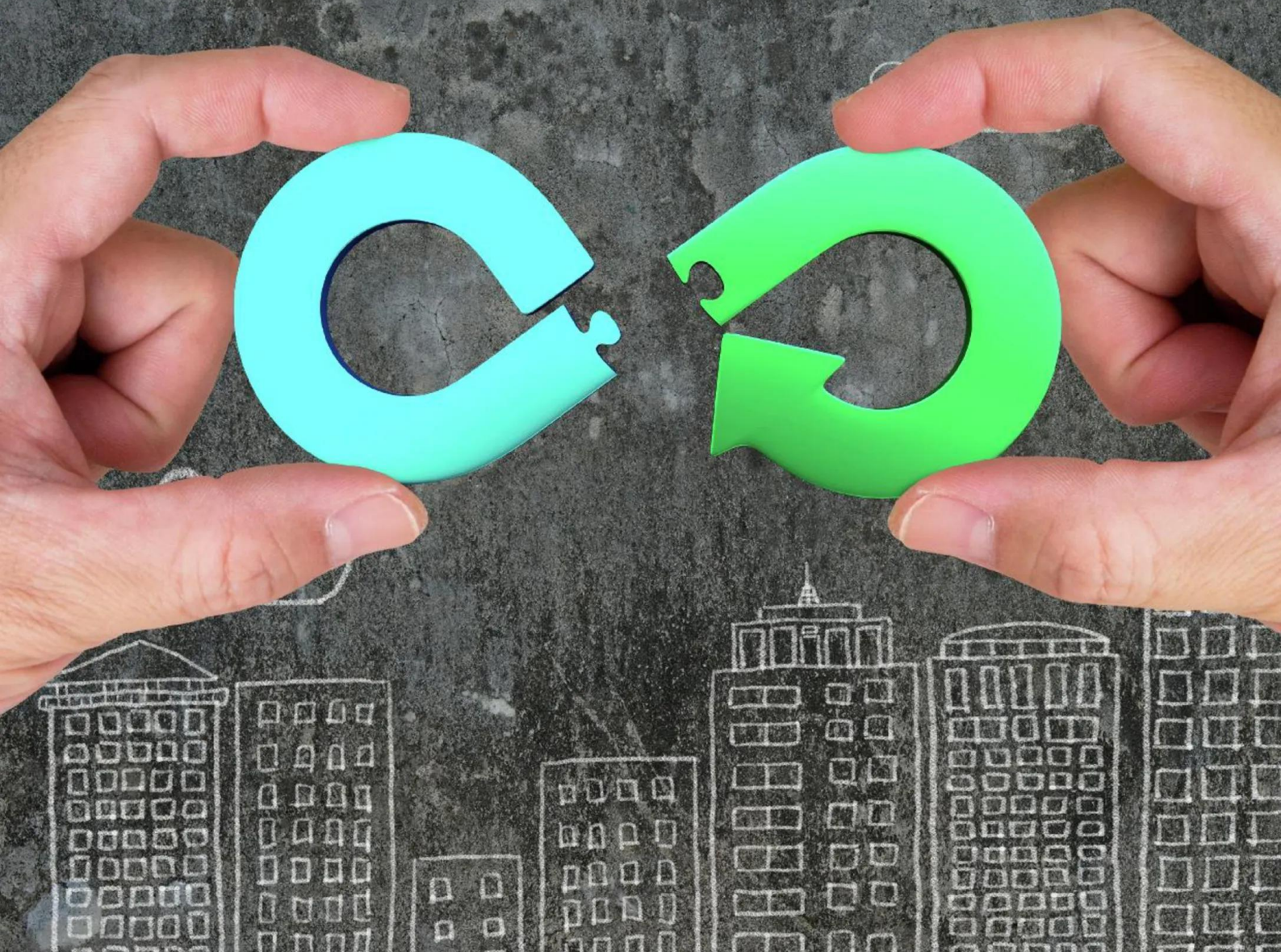
Owing to the gradual reduction of the land take rate and an increase in the Flemish population, the average space per resident decreased slightly between 2013 and 2022, from 664 sqm to 659 sqm. This indicates a modest densification of Flanders' built-up fabric. However, the space per resident is still relatively large, partly because of the extensive urban sprawl in the region.

Lastly, there are some areas more suitable for settlement than others. For example, forests, nature reserves and agricultural fields are less favourable than other areas. However, in 2013 a third of the settlement area lay in these less suitable areas. Of the 15 000 ha of land that was taken during 2013 and 2022, 6 400 ha was taken in these 'green' spaces. Some of the land included agricultural constructions, but housing and transport also took up a lot of space.

### Conclusion

The shift towards reduced land take that began in 2013 is progressing as intended by policymakers, although the specific role of policies in this matter remains to be seen. It remains crucial to continue promoting the maximum protection of open spaces and the optimisation of existing settlement areas. Regional differentiation is essential to balance the needs of both residents and the planet, guiding Flanders towards a sustainable future.

*Margo Bienstman, Ann Pisman, Isabelle Loris and Stijn Vanderheiden, Department of Environment and Spatial Development Flanders*



## Built environment: Connecting the dots of circularity



**Serena Lisai**

Why would a network of cities and regions promoting circular economy tackle the topic of the built environment? After years of focusing rather on the need for an energy transition for buildings, the discussion is moving to connecting the scarcity of our material resources and energy efficiency. Material resources play a strategic role in the building sector and of course in the overall development of cities and regions.

If we develop policies and recommendations mainly around energy efficiency, we risk underestimating the environmental impact of so-called sustainable buildings in terms of land use and material resources. Connecting these issues is the path chosen by the As-

*If we develop policies and recommendations mainly around energy efficiency, we risk underestimating the environmental impact of so-called sustainable buildings in terms of land use and material resources.*



sociation of Cities and Regions for Sustainable Resource Management (ACR+) to join the dots of circularity.

ACR+ has made the built environment one of its thematic priorities, together with sustainable food systems, circular lifestyles, policy and governance, and waste and material flows. The over 80 members of the network, mainly representing decentralised authorities, are engaged in discussions, learning opportunities, projects and events to acquire the right tools to include a circular approach in their local and regional initiatives.

ACR+ has already been advising and supporting its members on including the waste hierarchy within their local policies for 30 years. Today, it keeps pushing not only for even more challenging targets that can foster a circular transition and a sustainable material resource management but also for public authorities to fully seize their role and for all actors and fields to work together. This brings us back to the necessity to link material resources and energy when talking about built environment policies.

The most visible aspect of material resource management in the built environment is obviously construction and demolition waste (CDW). As is well described in the technical report recently published by the European Commission's Joint Research Centre, CDW is responsible for more than one third of all waste generated in the EU. We need to prefer technologies sup-

**Cities can be seen as material stocks, and the promotion of renovation projects can boost a circular urban metabolism, reusing and valorising the existing resources.**

porting recycling and preparation for reuse rather than end of pipe solutions like landfill and incineration (in some cases) for most of the CDW fractions.

The financial costs of these operations are likely to increase significantly, due to increased costs for processing and selective demolition, which represents the main barrier to this sector transitioning to circularity. Reuse and recycling of individual material fractions of CDW can bring significant societal and environmental benefits strongly reducing external costs.

Besides the mere management of CDW, the building sector requires a more comprehensive approach. It should support sustainable land use that reduces urban soil sealing, promoting a cultural change aimed at extending the life of existing buildings, and integrating energy efficiency with circular material resource management.

Considering that 53% of the existing European buildings' stock was built before 1971, and only 6% after 2000, the appropriate balance between energy efficiency and material use should be analysed for each case. Renovation projects offer a great opportunity to

implement a comprehensive approach, linking energy efficiency with circular material resource management, while avoiding urban sprawl and building too much on urban soil. The recent Belgian Renovation Week organised by the three Belgian regions within the framework of the Belgian Presidency of the Council of the European Union drew attention to the role that policymakers can play in supporting renovation projects, based on local and efficient reuse of the materials, social housing, a multistakeholder and participatory approach, and the use of alternative bio-based products. Cities can be seen as material stocks, and the promotion of renovation projects can boost a circular urban metabolism, reusing and valorising the existing resources.



//image from acrplus

What can decentralised authorities do, then, to boost a circular approach to the built environment? In the first place, they have the legal power to give planning permission, through which they can impose some sustainability criteria.

Moreover, city governments can act as front runners and lead the transition by providing good examples. For example, green public procurement is a concrete tool in their hand that can serve to guide various stakeholders towards a fair and circular transition. Last not but least, they can support local players by setting up financing schemes to promote innovative sustainable solutions and products, and encourage the use of certification.

All in all, cities have great potential to foster the circular transition while boosting a green, fair and accessible built environment. Renovation policies and initiatives coupled with a clear balance between energy efficiency and sustainable material resource management can help to reach the no net land take targets and reduce urban soil sealing.

Some recent examples, such as the Flemish Region and its ZIN project, provide interesting insights into the role played by green public procurement and the implementation of a circular approach in the building sector. We are waiting for other cities to follow!

Serena Lisai, Project Officer, Built Environment Thematic Lead, ACR+

# Land Use Policies: Local Solutions for Global Challenges



Rudiger Ahrend



Andres Fuentes



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Matteo Schleicher

Land use policies – the planning and regulation of land use – are mostly a matter for local and regional rather than national governments. So it often goes unnoticed that these policies are key to addressing some of the world's most pressing challenges. And since we don't get many chances to change the way we use land, we must think ahead so that our land use decisions today help to solve these challenges. And a regional perspective is key to addressing major global challenges, as the 2021 edition of the OECD Regional Outlook has shown.

## Making land use consistent with environmental challenges

Take the environment. The United Nations has identified three big challenges that could really affect our well-being: climate change, losing plant and animal species, and land degradation. How we use land plays a huge part in all these issues. Covering the ground with artificial surfaces is bad news for biodiversity. Our soil is important too: it holds more carbon than the air and all living things combined. It can also soak up as much as 25 % of its mass in water, helping to prevent disasters and act as a long-term

**Smart spatial planning does not just aim to reduce artificial land cover. It also promotes sufficiently densely populated settlements that are well connected by public transport.**

water reservoir. Plus, healthy land is crucial for growing food, especially as the risk of food shortages gets higher because of climate change.

Places differ in their potential to provide essential ecosystem services, and in their incentives to protect or enhance them. Financial incentives can motivate communities to do so, while providing them with additional income. For example, Irish regions can bring back wetlands to store carbon, or Spain's Andalusia can encourage habitats for migrating birds from all over Europe.

Smart spatial planning does not just aim to reduce artificial land cover. It also promotes sufficiently densely populated settlements that are well connected by public transport. In doing so it offers the dual benefits of environmental protection and infrastructure cost savings.

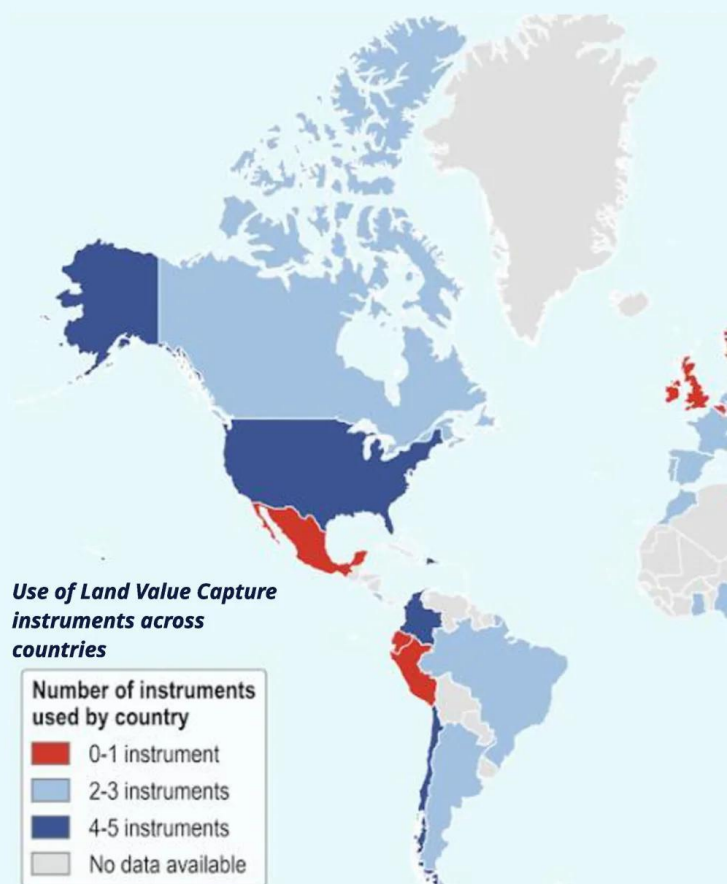
Adapting to climate change means changing how we use land too. Too often, we see new developments in

places prone to flooding, driven by economic incentives, despite geospatial data showing these to be high-risk areas.

## Adapting land use to demographic change

Population is growing in large cities, but often shrinking elsewhere. This trend is driven by a high share of elderly people, against a background of low fertility rates and, in particular, young people moving out of rural areas to cities in search of opportunities and amenities. By 2050, it is expected that two thirds of Europe's regions will see a population decrease. This could easily amplify regional inequalities and deepen geographies of discontent, and lead to increasingly inefficient land use as certain built-up rural areas are left abandoned.

Inefficient land use makes it more expensive for governments to maintain services and amenities in these shrinking communities. With falling populations increasingly thinly spread across large areas of land, per capita costs for infrastructure and services increase. Simply put, a busline can provide more frequent service and at lower cost from a city to a



dense village than to a set of dispersed isolated homes in the countryside – not to mention the roads, water, sewage and energy supply infrastructure. In shrinking areas, policies that allow the demolition and renovation of housing, coupled with efforts to return unused land to its natural state, will need to be implemented, such as in the case of the Stadtumbau program in Germany.

Where populations are increasing, sprawling and inefficient low-density development should be avoided. Such development too often occurs in places critical for conservation. In any case, it intensifies environmental footprints by spreading infrastructure over larger areas and by increasing reliance on cars. It leads to more detached housing, with higher per capita energy consumption. Instead, growth should be accommodated by increasing density where possible to bring down the costs of services and infrastructure while preserving the environment for future generations.

Setting urban growth boundaries, when implemented with flexibility to adapt to underlying population developments and housing demand, can also be one possible approach to curb sprawl. In the areas surrounding larger cities, development needs to occur near public transit corridors with minimum density thresholds. The 'Finger Plan' of Copenhagen, Denmark, is one example that implements such planning strategies. Split-rate property taxes that tax land at higher rates than buildings can also encourage densification. More generally, regional and national governments should embrace Green Urbanism principles, which seek to consciously reduce future emissions in urban development and create a

healthier and more liveable environment for citizens.

### **Land use planning for affordable housing and sustainable urban growth**

Sufficiently dense cities make more efficient use of land, but, if buildable land is scarce, it can make housing expensive, taking a big bite out of poorer households' budgets. And dense cities require sufficient infrastructure to avoid congestion – which typically is expensive to build, too. Land use planning and land-based finance can help fund both the housing and the infrastructure.

Here is how it can work. Government actions often increase the value of land. Cities can relax planning constraints to allow taller buildings in a specific area, for example. This makes land more valuable, as developers can add new floors and sell more units. Developers who get permission to build taller buildings could be asked to provide a proportion of them as affordable housing units. Cambridge, Massachusetts, has used this tool – called inclusionary zoning – to provide more than 1 000 units of affordable housing.

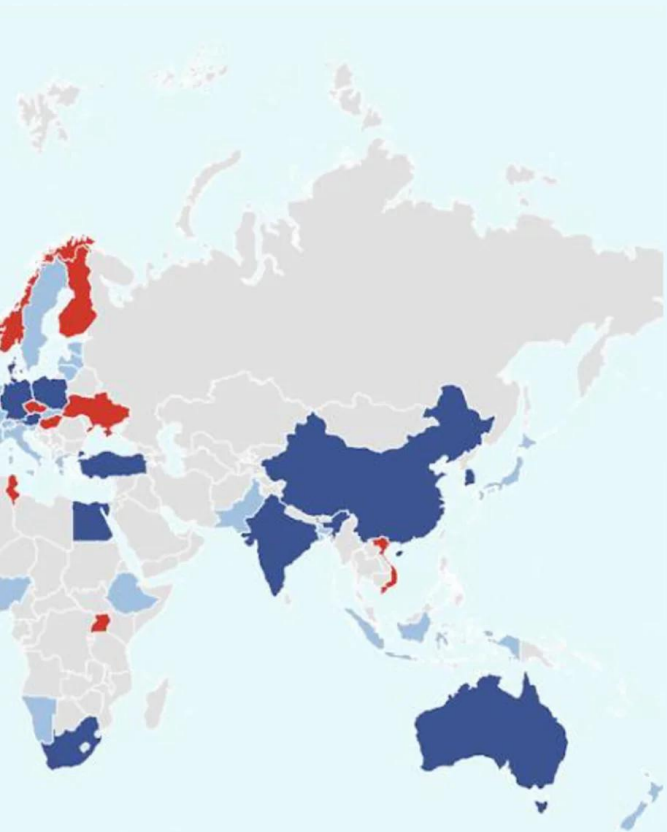
The same applies to infrastructure that makes dense cities work. A new metro line increases accessibility, which makes nearby properties more valuable. The construction of a metro line in 2000 in Manila, the Philippines' capital, increased the value of land within 1 km of the line's stations by nearly USD 3.4 billion. The city government recouped some of this gain by levying a fee on landowners whose plots increased in value thanks to the metro line – a land-based finance tool called an infrastructure levy. A fraction would have been enough to pay for it, as the Manila metro

**Dense cities require sufficient infrastructure to avoid congestion – which typically is expensive to build, too. Land use planning and land-based finance can help fund both the housing and the infrastructure.**

cost the city USD 655 million to build.

Land use planning tools provide municipalities with a huge opportunity to make their communities sufficiently dense, more affordable and more sustainable, and thereby to improve the well-being of the local populations. But they also give them great responsibility to solve some of the most pressing global challenges.

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//image from Compendium of Land Value Capture Policies

# A tool for improving land use: RUDIFUN



Arjan Harbers

What is the building density of your neighbourhood, how does it compare with those of other neighbourhoods and how can territorial evidence about building densities contribute to the ambitions of the No Net Land Take target?

PBL Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving) has created a data set to use in comparing building densities nationwide and in conducting research on how building density influences various aspects of urban life, such as energy consumption, mobility, climate adaptation and public health.

Urban density is usually measured in terms of dwellings per hectare or inhabitants per square kilometre. These units, however, do not acknowledge the fact that dwelling sizes may vary greatly and that the urban fabric not only consists of dwellings, but also contains schools, shops, offices and factories.

That is why PBL developed the Spatial Densities and Mixed Use in the Netherlands (Rudifun) data set. For every urban block, neighbourhood and municipality, the data set provides the building density and the Mixed-Use Index, representing the extent to which residential uses are mixed with non-residential uses.

**PBL Netherlands Environmental Assessment Agency has created a data set to use in comparing building densities nationwide and in conducting research on how building density influences various aspects of urban life, such as energy consumption, mobility, climate adaptation, public health.**

The Floor Space Index (FSI) provides the unit for building density, which is the gross floor space of the buildings related to the accompanying terrain surface. Instead of counting dwellings or inhabitants, it calculates the floor space of every building layer.

The initial version of the data set was released in 2019, and the data set is now being used widely in the Netherlands by researchers, policymakers, town and country planners, urban designers and architects. For instance, it has been used by municipal authorities

Floor Space Index (FSI) 2022 per urban block in Amsterdam



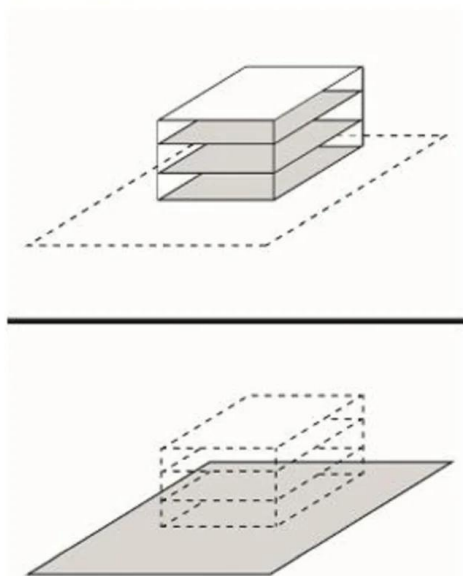
Source: BAG, BGT (Kadaster), NWB, ESRI; adapted by PBL

who can make comparisons between the brief of a future area development and existing areas with similar FSI and Mixed-Use Index values, and has been used to study the densification capacity of a given urban area.

Researchers may also use the data set to study the correlation between density or densification and real estate prices, travel behaviour or liveability. For example, researchers from Wageningen University and Research used Rudifun in a study of the correlation between urban fabric and carbon emissions. The Amsterdam University of Applied

*For instance, a building with five layers, each measuring 1 000 sqm, on a 5 000 sqm parcel has a building density of  $(5 \times 1\,000 \text{ sqm})/5\,000 \text{ sqm} = 1.0$ . A building with 10 layers of 500 sqm on a 1 000 sqm parcel has a building density of  $(10 \times 500 \text{ sqm})/1\,000 \text{ sqm} = 5.0$ .*

#### Floor Space Index



extract from the RUDIFUN 2022 report

Sciences used the Rudifun data set to create a neighbourhood typology that can be used to allocate climate adaptation measures. PBL discovered that, in densely built-up municipalities, further densification leads to lower real estate prices, while, in less dense municipalities, densification leads to a price increase.

**Rudifun can be a tool that contributes to the ambitions of the no Net Land Take target because it can identify examples of neighbourhoods with particular densities and urban designers can learn from these examples and improve on them.**

## No Net Land Take

As building in high densities reduces the need for urban expansion, it is useful to know how we can design attractive, densely built-up neighbourhoods. In this way, Rudifun can be a tool that contributes to the ambitions of the no Net Land Take target because it can identify examples of neighbourhoods with particular densities and urban designers can learn from these examples and improve on them. It offers references for future city development based on territorial evidence. In this way, the Deltametropolis Association successfully applied Rudifun to find examples of urban densification projects in the Netherlands, which it can subsequently analyse regarding how the projects have dealt with the spatial, social and environmental impacts of densification.

Densely built-up areas can take on many forms. High density does not necessarily mean high-rise. After all, a neighbourhood with high-rise buildings can have the same level of building density as urban blocks with mid-rise buildings. The two neighbourhoods in the photographs – both in Amsterdam – have similar FSIs. Their appearances, however, differ enormously. One neighbourhood (Plan van Gool) has five-floor residential buildings in between large green spaces. The other neighbourhood (Van der Pekbuurt) mainly contains buildings with only three floors and has less public space. Both neighbourhoods have the same accommodation capacity in terms of floor space. It is up to the urban designers and the project developers which spatial layout they prefer.

The map illustrates the FSI in Amsterdam per urban block. Green indicates the unbuilt and sparsely built-up areas, yellow indicates medium densities and red indicates higher building densities. As can be expected, the city centre is the densest area, but there are also high-density clusters outside the city centre, such as the financial district and the redeveloped brownfields in former port areas.

Analysing building densities in urban areas is crucial for understanding urban development patterns, planning future projects and assessing the impacts of densification on various aspects, such as travel behaviour, real estate prices and quality of life. By providing territorial evidence, Rudifun can assist in identifying reference neighbourhoods and gathering data to inform decisions related to urban redevelopment.

The Rudifun data set is based on open data and is therefore free to download; it is updated every two years. To increase the opportunities to compare urban fabrics at the international level, we would encourage other countries to develop similar data sets.

*Arjan Harbers, Martijn Spoon and Hans van Amsterdam (PBL Netherlands Environmental Assessment Agency)*



***No Land Take***



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# Affordable and adequate housing – a common goal in the face of diverse contexts



Blankenberge, Belgium //Image from Shutterstock.com



**Selim Banabak**



**Franziska Sielker**

From Madrid through Amsterdam to Berlin, finding and affording a decent home is perceived as increasingly difficult in European cities. Despite a broad consensus on the importance of affordable and high-quality housing, policymakers often struggle to deliver good housing conditions to a broad population.

Unfortunately, researchers also tend to give conflicting advice on what to do. There is no universal solution to the affordability crisis, as housing markets and their regulatory contexts vary considerably, even within Europe. To give examples, Poland and Spain heavily rely on homeownership and as a result are often closely interwoven with financial markets (see Figure 1) to ensure housing provision. Meanwhile, Austria and Germany are known for their large rental shares and amounts of subsidised housing.

In the pursuit of adequate and affordable housing, policymakers are navigating a complex terrain shaped by economic models, welfare systems and diverse housing regimes. A traditional assumption, influenced by experiences in western Europe and North America, suggests that, as economies develop, the middle class strengthens, diminishing the need for social housing. However, the emergence of the 'precariat' in the 1980s challenged this notion, highlighting the need for a nuanced understanding of housing markets and

***Poland and Spain heavily rely on homeownership and as a result are often closely interwoven with financial markets to ensure housing provision. Meanwhile, Austria and Germany are known for their large rental shares and amounts of subsidised housing.***

the context in which they are embedded.

Meanwhile, post-socialist countries, undergoing transitions to market-based economies, witnessed a contrasting housing policy paradigm. A liberal approach advocated comprehensive reforms to free the housing market from state control, epitomised by the World Bank's 'enabling markets to work' model. In contrast, the 'housing for all' approach gained momentum after the 2008 crisis, attributing the housing crisis to market failures and advocating for

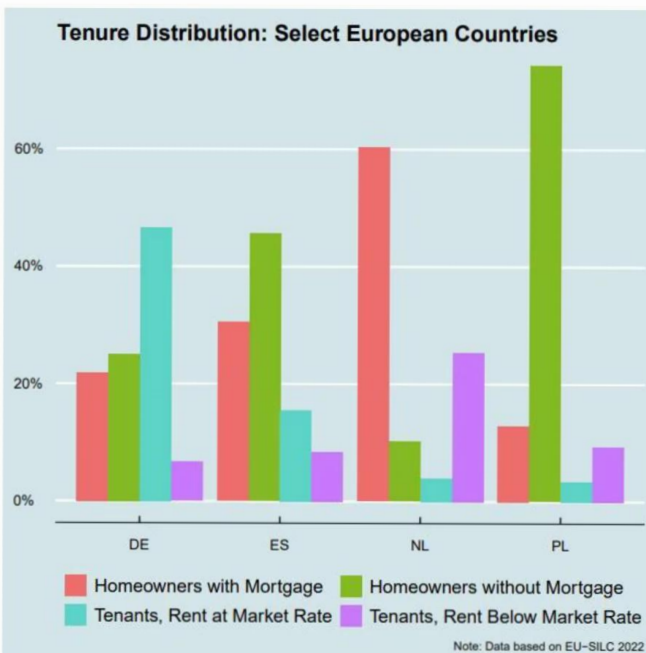


tighter regulations. The debate between the two housing policy paradigms is intrinsically tied to the stability of the middle class. A stable middle class, fortified by strong trade unions or political support, aligns well with market-oriented solutions. Conversely, a precarious middle class demands meticulous market regulations and substantial

**Familistic and liberal approaches leaned heavily towards homeownership, with familial networks playing pivotal roles in housing provision in the former and market mechanisms dominating in the latter.**

government subsidies to ensure housing stability and affordability. Therefore, housing policymakers are faced with different challenges in different welfare systems.

Welfare systems – historically conceived to redress social imbalances in domains such as education, employment and health – initially neglected the crucial facet of housing. While these systems traditionally sought to ameliorate disparities across key life realms, housing policies were often treated as peripheral concerns. A paradigm shift occurred with the rise of alternative theories, notably exemplified by Kemeny’s influential dual and unitary rental market model (Kemeny, 1995). Kemeny’s conceptualisation brought tenure form to the forefront as a pivotal variable in understanding housing dynamics within diverse welfare contexts. The dualist rental systems, characterised by the coexistence of a targeted social rented housing segment and an unregulated private sector, is contrasted with the unitary systems, where both social and private rental housing are encouraged to compete for tenants.



To return to the example countries presented above, Austria would be a housing system showing many characteristics of the unitary rental market model; Poland would be an example displaying many characteristics of the dualist system. As a result this differentiation tends to allow for the identification of the manifold influences on housing prices and access to different tenures.

The theoretical landscape evolved further with nuanced typologies that aimed to categorise housing tenure systems based on their alignment with distinct welfare regimes. The lens of social democracy, corporatism, familism, liberalism and transitional models offered a comprehensive framework to comprehend the diversity of housing structures within the broader welfare context. Each model carried its unique imprint, shaping the tenure distributions and influencing housing provision across different social classes. The paradigms ranged from social democratic systems, where the state assumed responsibility for equitable redistribution across all tenures, to corporatist models that favoured a dominant private rental sector.

Familistic and liberal approaches leaned heavily towards homeownership, with familial networks playing pivotal roles in housing provision in the former and market mechanisms dominating in the latter. The transitional model, characteristic of post-socialist transitions, witnessed a rapid shift from state-owned rented housing to a surge in homeownership, reflecting the broader economic shifts in eastern European countries, such as Poland. However, clearly distinguishing the model in each country is not always straightforward. Austria is, for example, a country that falls under the corporatism model, yet also has characteristics from the other four welfare regimes.

Herein lies the crux of developing housing policies. The evolution of housing theories within welfare systems underlines the intricate relationship between social policies and housing dynamics. The recognition of tenure form as a defining variable and the nuanced typologies framing housing within broader welfare contexts have significantly enriched our understanding of the complex interplay between societal structures, economic models and housing outcomes.

This evolution paves the way for more targeted and effective housing policies that acknowledge the multifaceted nature of housing challenges within the broader landscape of social welfare. As a result, a comprehensive approach, considering the nuances of diverse housing solutions, is essential for crafting effective and inclusive housing policies across Europe.

Over the next 24 months, the ESPON House4All (access to affordable and quality housing for all people) project aims to provide an overview of European housing systems and markets, and strategies to tackle the affordability challenge.

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Franziska Sielker, Professor of Urban and Regional Research,  
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# New calls for tenders



## Strategic Autonomy Rules for Trade in European Regions (STARTER)

 04 April 2024 at 10h00 (CET)

## Territorial perspectives of digital transition in European regions (DIGIREG)



 08 April 2024 at 16h00 (CET)



## Governance mechanisms for cross-border functional areas (CROSSGOV)

 15 April 2024 at 11h00 (CET)

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