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ENVIRONMENTAL REPORTING

Vlaanderen
is omgeving

BRIEFING 1

# LAND TAKE

THE GROWTH OF SETTLEMENT AREA:
EVOLUTION DURING THE PERIOD 2013-2022
IN FLANDERS

DEPARTEMENT
OMGEVING

VLAANDEREN.BE/OMGEVINGSRAPPORTAGE

## KEY MESSAGES:

- The settlement area in Flanders is continuously increasing. By 2022, as much as one third (32.4%) of Flanders' surface area has been taken up by human activities.
- However, in the past three years, the rate of land take has been decreasing to an average of 3.8 ha/day. The recent decline in the rate of land take can be attributed to the fact that the rate of land take for housing and the economy is slowing down and, in the case of agricultural infrastructure, even declining.
- The settlement area is three times higher in some regions than in others. Rural regions have the largest spatial footprint and this is still increasing.

## CONTENTS



## INTRODUCTION

The settlement area in Flanders amounts to 32.4% of its surface. This makes Flanders one of the most intensively used regions in Europe. Settlement area is the term used to refer to the part of our spatial environment in which the biophysical function does not take precedence. It includes all space used for settlements (such as housing, industry, facilities, agricultural infrastructure, transportation and recreation). Parks and gardens are also part of the settlement area.

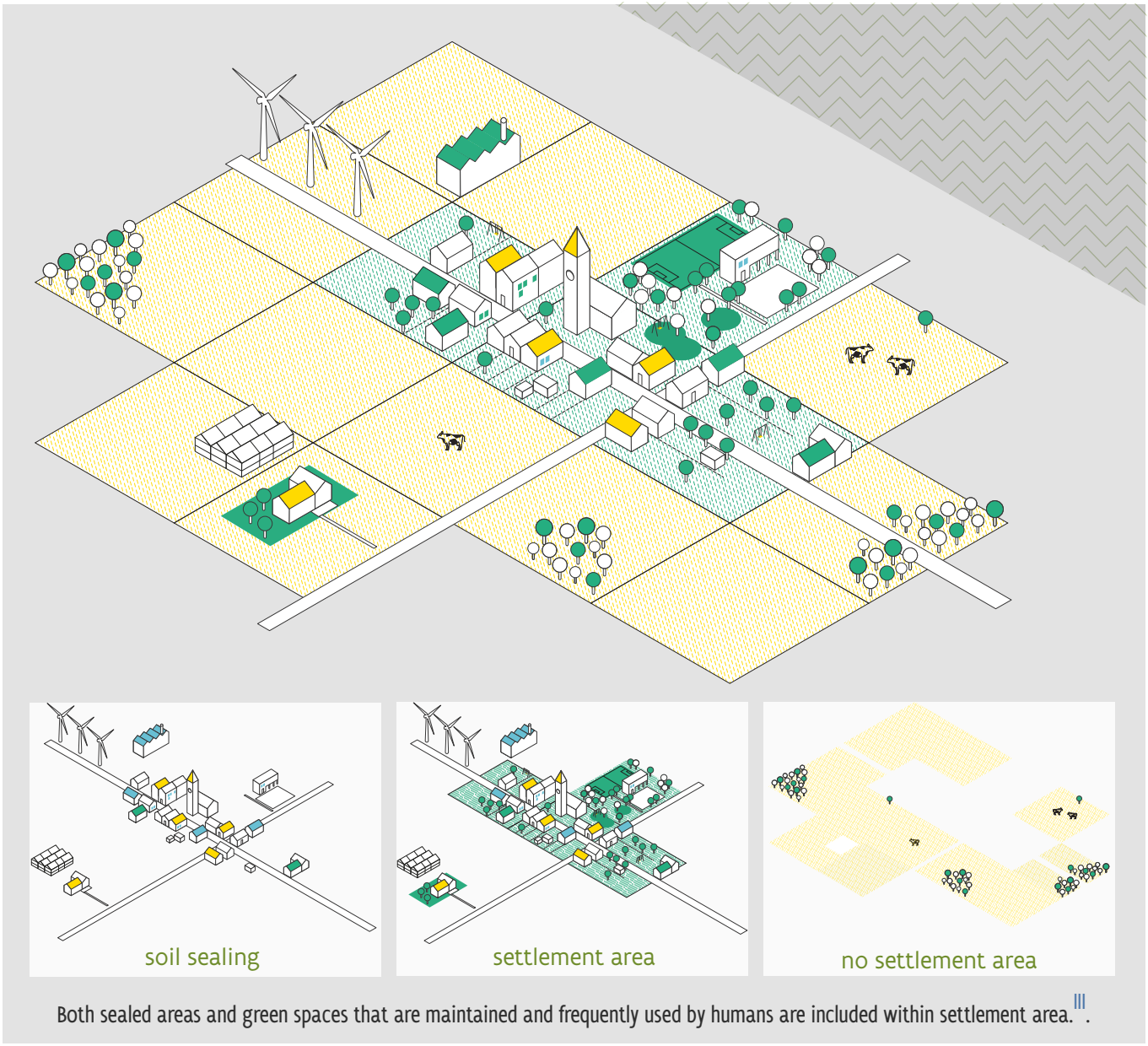
The settlement area in Flanders is very extensive and continues to increase every year. This puts pressure on the remaining open space, from which sections of land are increasingly being taken away. This process is called Land Take. Open space is essential for many functions, such as food production, water storage and biodiversity. The path towards a sustainable future must be accompanied by measures aimed at preserving our open space and reducing the increase of settlement area. For this reason, the Government of Flanders sets policy targets to reduce net land take to a rate of 0 hectares per day by 2040.

The key question here is:

*How has land take evolved during the past decade? And what are possible explanations for certain trends that can be observed within settlement areas?*

# 1. WHAT IS SETTLEMENT AREA?

Settlement area consists of "the space occupied by our settlements, that is, by housing, industrial and commercial activities, transportation infrastructure, recreational purposes, greenhouses, etc. Parks and gardens are also part of this. This corresponds to the European definition of settlement area[I]. In addition to buildings or soil sealing, settlement area therefore also includes the gardens of residential properties, neighbourhood parks, soccer fields and the like. It is important to note that settlement area also occurs in open space (and zoned areas designated as such)"[II].




Both sealed areas and green spaces that are maintained and frequently used by humans are included within settlement area.[III].

'Land take' is the process of creating additional settlement area. Reducing land take to 3 ha/day by 2025 and 0 ha/day by 2040 is an objective put forward by the strategic vision of the Spatial Policy Plan Flanders (BRV)[IV]. This means that from 2020 to 2040 a maximum of 16,400 hectares of settlement area may be added[V] and that the initial focus will be placed on increasing the spatial efficiency within the existing settlement area.

At the same time, it will be necessary for new land take to contribute towards the targets that are

part of a broader environmental policy. What is important here is that land take is realised in the 'correct' locations to avoid further fragmentation and to respect both social and planetary boundaries. This way, reducing land take can act as a lever with which to facilitate the realisation of broader targets.

Qualitative open space management:

- among other things promotes climate change mitigation and adaptation by allowing a larger quantity of carbon to be stored in the soil.
- provides nature and biodiversity with the necessary open space, for example by means of green-blue networks.
- also sets a challenge within the existing settlement area, such as in gardens and parks.
- plays a part in reducing land take and in contributing towards a healthy living environment by reducing exposure to pollution and environmental nuisances.
- provides a more pleasant living environment, thereby enhancing housing quality and social cohesion.

Within the broader spectrum of these objectives, reducing land take can therefore play its part in the realisation of a sustainable Flanders.

# 2. CHANGES IN LAND TAKE DURING THE PAST DECADE

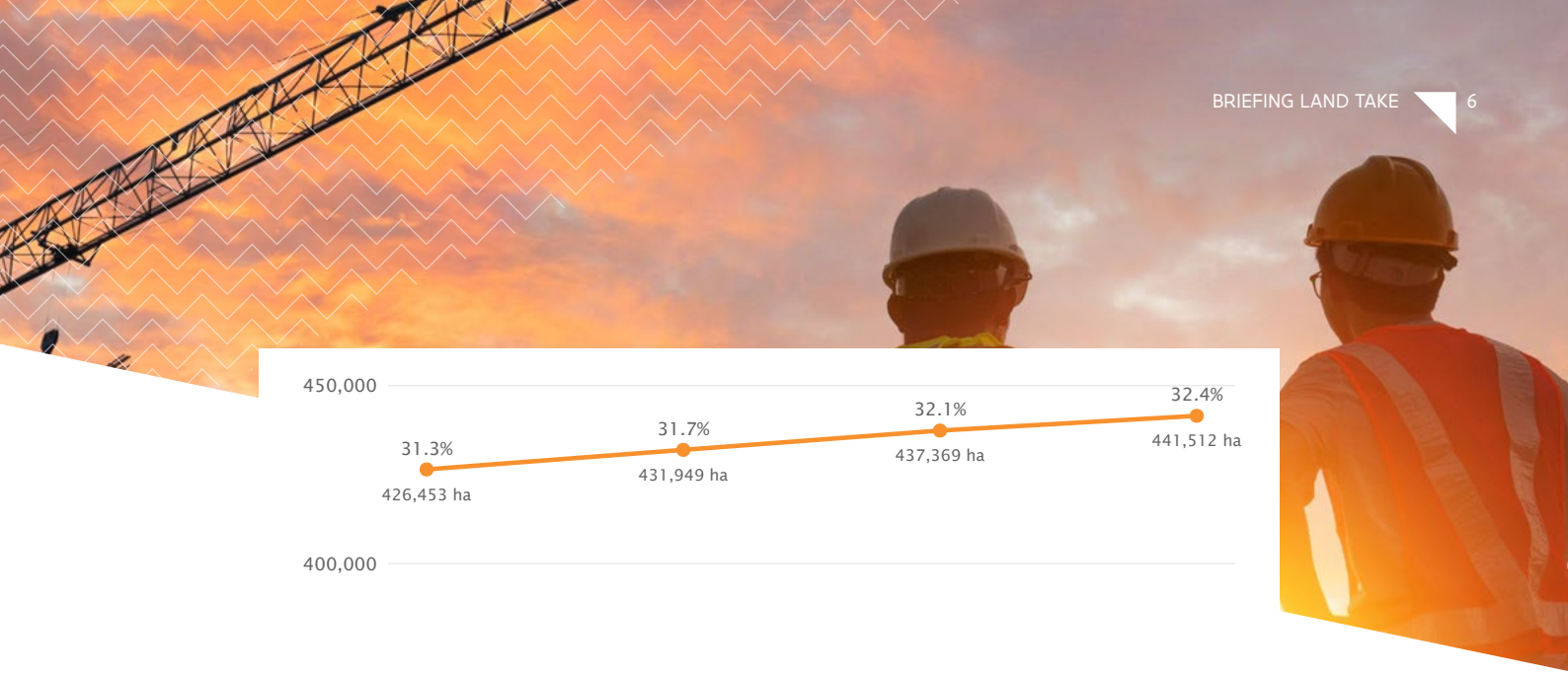
The current situation and the spatial evolution of land take during the past 10 years (the period 2013-2022) will now be set out in more detail. Based on available data, we can identify a number of trends.

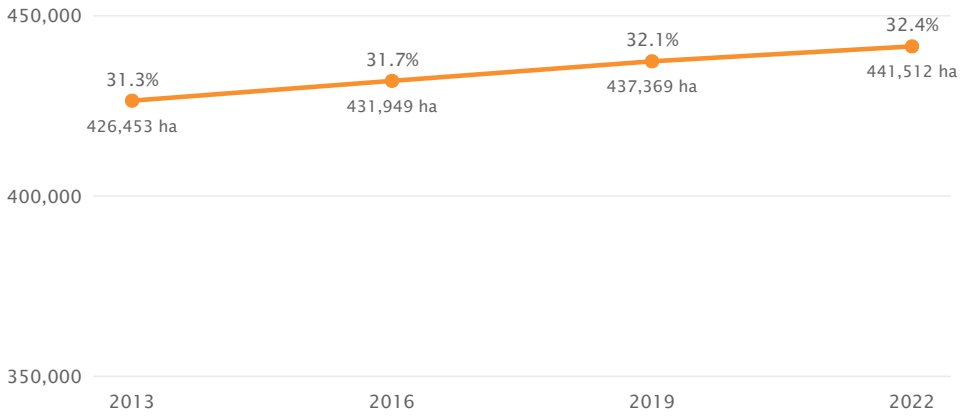
## THE SETTLEMENT AREA IN FLANDERS IS CONTINUING TO INCREASE

The current settlement area occurs scattered throughout Flanders and amounts to approximately 441,500 hectares (2022). This corresponds to 32.4% of the surface area of Flanders. Since 2013, the total settlement area has increased by about 15,000 hectares. This overall net land take is the result of, on the one hand, land use changes leading to the creation of settlement area (such as the conversion of agricultural crop- and grassland to new houses and gardens) and, on the other hand, land use changes where settlement area disappears (such as the demolition of stables and livestock sheds and the conversion to arable land). This last process is often called 'reverse land take'. With regard to the gross figures, an additional 26,000 hectares of settlement area has been added, while the gross decrease in settlement area amounts to 11,000 hectares. This resulted in a net increase of approximately 15,000 hectares.

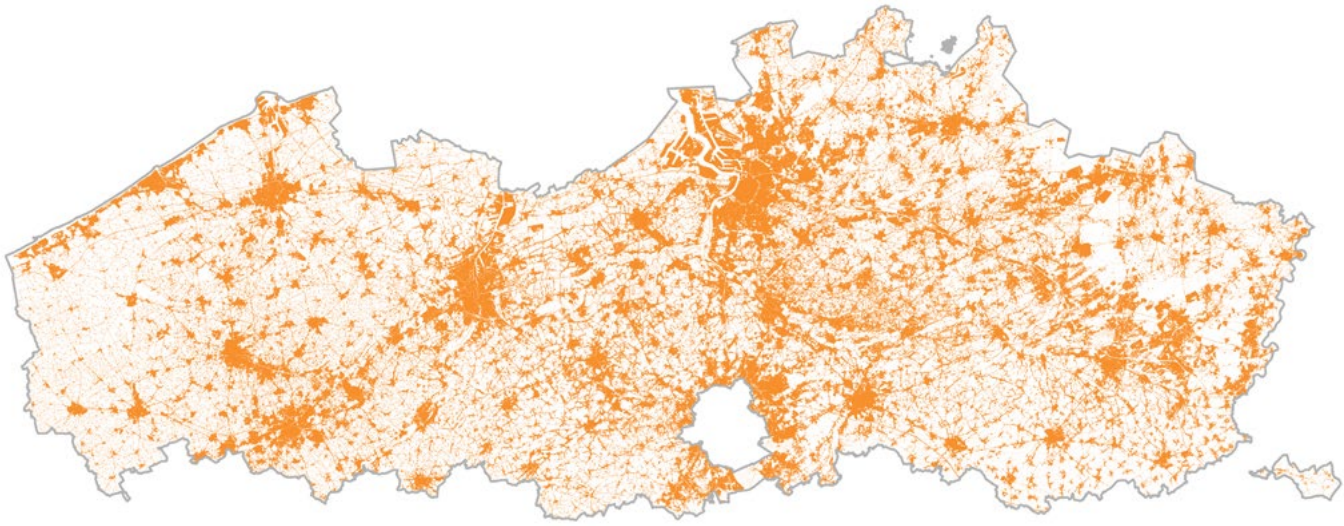
The figures for settlement area and the land take rate for 2013, 2016 and 2019 in this report are not exactly the same figures previously communicated in the Flemish 'Ruimterapporten' and other documents. This is because limited adjustments were made to the methodology used to determine settlement area and the underlying types of land use, as a result of advances in our understanding of the databases used and as a result of changes within the source files. In order to enable comparisons over time, the updated technique for 2022 was also applied to previous years, thereby resulting in adjusted figures. The definition of settlement area has not changed, however. All adjustments to the methodology have been documented in the technical report[VI] drawn up by VITO.

The most important changes are as follows: Parcels of land for agricultural purposes that are used for the cultivation of a crop will now have priority over built-up plots around a farm. Compared to the previous version, data sources were added: the Boswijzer (Agency for Nature and Forests), the sports domains (Sport Vlaanderen), the designated properties included in the Inventory of Immovable Heritage (Agency for Immovable Heritage), the Inventory of Land Use and Recreation Database (Department of the Environment and Spatial Development) and the outlines of the active clearings of land (Department of Environment and Spatial Development).





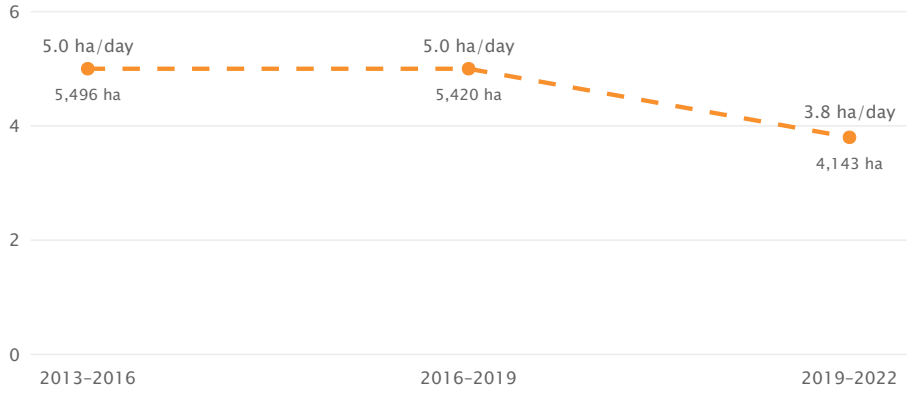

Settlement area in Flanders between 2013 and 2022 (in ha)



Settlement area in Flanders in 2022 (10 m resolution)

## THE LAND TAKE RATE HAS BEEN DECREASING RECENTLY

The 'land take rate', measured as the average land take per day in the 2013-2022 period as a whole, is 4.6 ha/day. The target is to reduce the rate to 3 ha/day by 2025 and to 0 ha/day by 2040. In the past three years (2019-2022), the land take rate per day decreased to 3.8 ha/day compared to the previous three-year periods (5.0 ha/day in the periods 2013-2016 and 2016-2019).

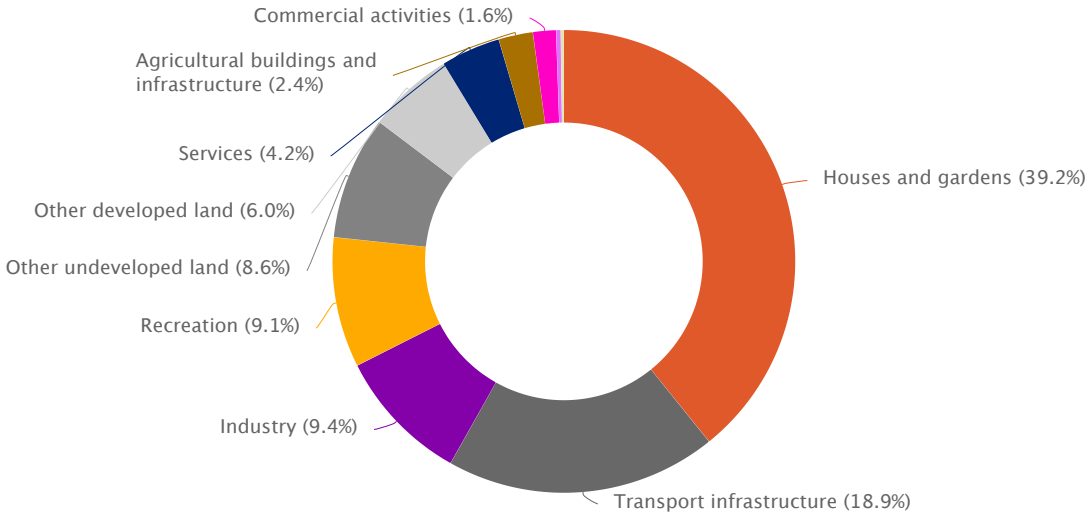



Land take rate (in ha/day) and additional settlement area (in ha) in Flanders per period[VII]

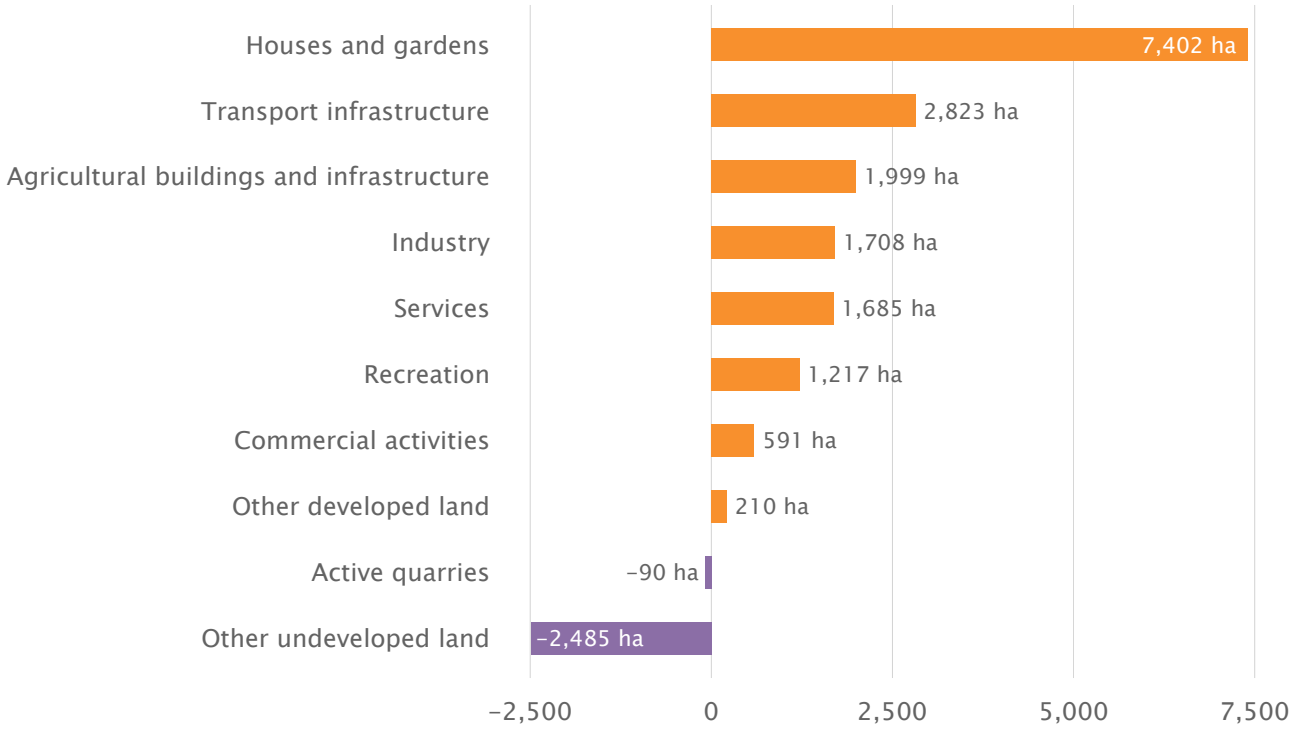
## HOUSES AND GARDENS ACCOUNT FOR MOST OF THE SETTLEMENT AREA

The land-use category houses and gardens accounts for more than one third (39%) of the settlement area. In 2022, it amounted to approximately 173,000 ha, an increase of 7,400 ha since 2013. Transportation infrastructure also occupies a relatively large amount of space, namely 83,500 ha (+2,800 ha or +3.5% since 2013), which equates to 19% of the settlement area in Flanders. Together, these two land use categories therefore account for more than half of the settlement area. The absolute growth in settlement area is also dominated by these two types of land use. In Flanders, many houses with gardens have been added, accompanied by the construction of new roads and bicycle infrastructure.

The largest relative growth since 2013 has taken place in registered agricultural buildings and infrastructure, for which a growth of 23% (+2,000 ha) was recorded. This increase was also due to the more effective registration of the locations in which agricultural businesses are based. Further research is still needed in this area. The surface area of other undeveloped land[VIII] decreased by 2,500 ha, mainly because these areas were substituted with houses and gardens.




Settlement area according to land-use types in Flanders in 2022 (in %)



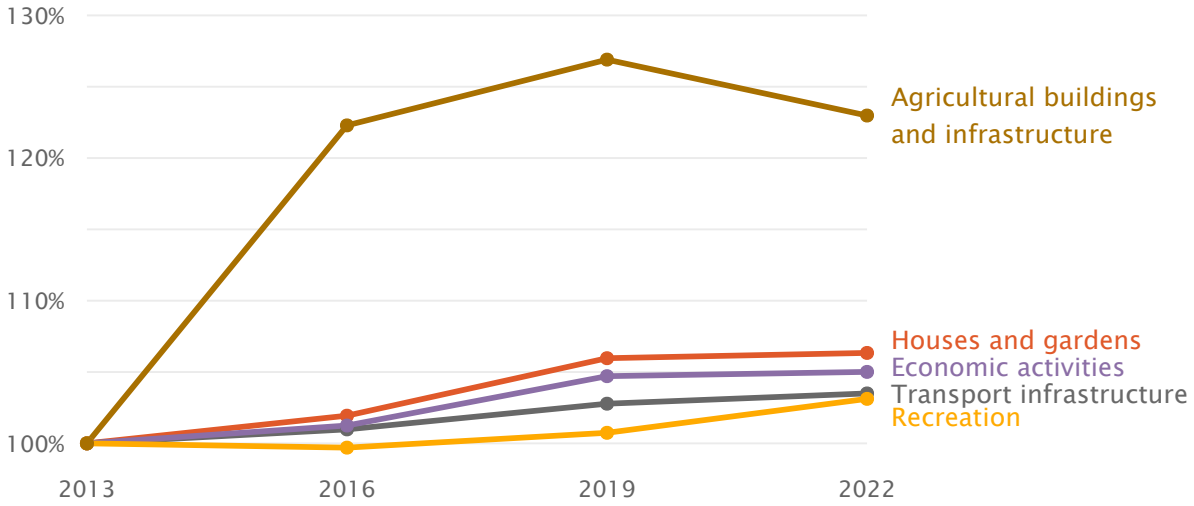

Change in settlement area between 2013 and 2022 according to the different types of land use in Flanders (in ha)

## THE LAND TAKE RATE IS DECREASING IN THE CASE OF HOUSING, ECONOMIC ACTIVITIES AND AGRICULTURE, BUT INCREASING IN THE CASE OF RECREATION ACTIVITIES

The increase in settlement area between 2013 and 2022 was caused by several trends within the land-use categories that make up land take. A sharp relative increase occurred with regard to the surface area occupied by agricultural buildings and agricultural infrastructure. Transportation infrastructure continued to rise fairly evenly throughout the period. The growth rate of land take for recreational purposes was higher in the 2019-2022 period than in previous periods. One possible explanation is the greater availability of data on recreation since 2022.

In the most recent period, namely 2019-2022, we can observe a slight tailing off in the rising curves for houses and gardens on the one hand and economic activities (industry, services and commercial activities) on the other. This indicates, therefore, that settlement area is growing at a slower pace. The surface area occupied by agricultural buildings and infrastructure actually decreased during the 2019-2022 period. This partially compensates for the large increase within this category during the 2013-2019 period.

In other words, the overall decline in the rate of land take is mainly determined by the fact that the area of land used for houses and gardens, economic activities and agricultural buildings and infrastructure is increasing at a slower rate or even declining.




Changes in settlement area according to a number of land-use categories between 2013 and 2022 (2013 = 100%) (in %)

## THE SPATIAL FOOTPRINT IS BECOMING SMALLER

The 'spatial footprint', calculated as the area of settlement area in Flanders divided by the number of inhabitants[IX], has been decreasing slightly since 2013, from 668 $m^2$/inhabitant to 664 $m^2$/inhabitant in 2019 and to 659 $m^2$/inhabitant in 2022. This means each person residing in Flanders occupies an average settlement area of 659 $m^2$. Limited densification has therefore occurred during the past 10 years, due to the fact that the number of inhabitants in Flanders increased faster than land take did.

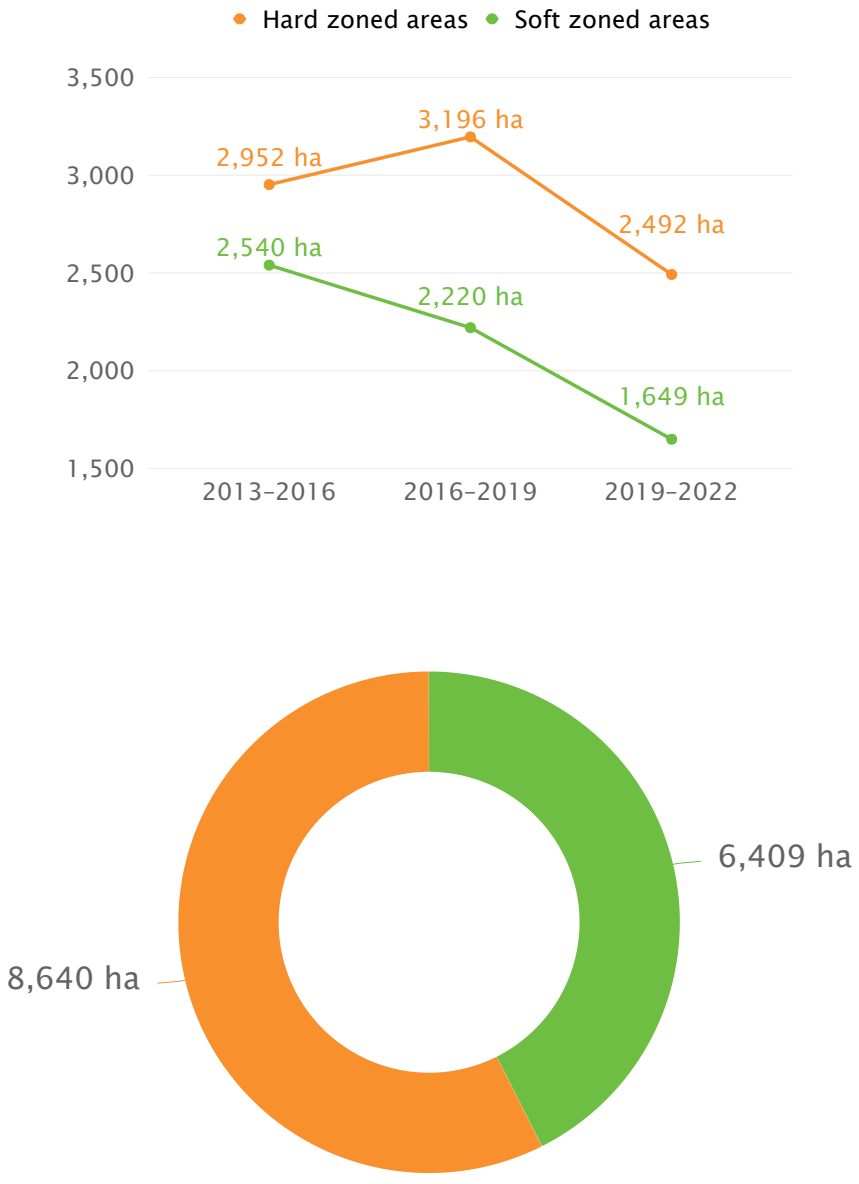
In Wallonia, the spatial footprint is about the same as in Flanders. If we look at our northern neighbours, each person in the Netherlands occupies about 400 $m^2$[X]. The spatial footprint of a resident of the Brussels Capital Region is only slightly more than 100 $m^2$/inhabitant.

## SETTLEMENT AREA IN SOFT ZONED AREAS INCREASED BY MORE THAN 6,000 HA

Settlement area occurs in both 'hard' and 'soft' zoned areas. Zoned areas designated as 'hard' are mainly intended to be used as settlement area. These include the zoning categories 'residential', 'industry and seaports', 'recreation', portions of 'other green zonings' (parks, buffers, linkage areas, etc.) and a residual category with zoning for 'community facilities and public utilities', 'transportation infrastructure', 'landfill areas and areas raised by hydraulic fill', etc. Zoned areas designated as 'soft' are mainly intended not to be used as settlement area. These consist of the zoned areas 'agriculture', 'nature', 'forest', parts of 'other green zonings' (play forests, special green areas, ...) and other zonings such as 'mining area' and 'military area'.

In 2013, a total of about 131,600 ha of settlement area was located within 'soft' zoned areas and 294,700 ha in 'hard' zoned areas. This means that 1/3rd of the settlement area in 2013 was situated in soft zoned areas.

Between 2013 and 2022, the net land take situated in 'soft' zoned areas (approx. +6,400 ha) was almost as high as the net land take that took place in 'hard' zoned areas (approx. +8,600 ha). This means that 43% of the total net land take (2013-2022) is connected to 'soft' zoned areas. Part of this is associated with agricultural infrastructure, especially between 2013 and 2019, but residential and economic developments and transportation also accounted for the ongoing occupation of zoned areas designated as 'soft'.




Net land take in hard and soft zoned areas in Flanders per period (top) and in total (bottom) between 2013 and 2022 (in ha).

# 3. LAND TAKE IN A SOCIAL AND SPATIAL CONTEXT

Previous research[XI] has shown that the changes in settlement area in the period before 2013 can partly be explained by aspects such as policy and legislation, demographic trends, the economy and prosperity, and the evolution of building stock and infrastructure. These trends reflect the changes that have taken place within society. This study sought to identify correlations. There may be a causal relationship between highly correlated variables, but that relationship may also be indirect or even somewhat coincidental in nature. No comparable research has yet been carried out for the period 2013-2022, but it is possible to provide an insight into the recent evolution of explanatory factors. Further research into these aspects is therefore needed.

## SOCIETY IS CONSTANTLY CHANGING

The economic climate plays a role in the development of settlement area. Construction costs and land prices have risen.

We can approximate the first of those variables by referring to the index of construction output prices. This measures only the development of housing (excluding collective housing), office buildings, land prices and the fees paid to architects and others and reflects the prices paid by the client to the construction company[XII]. This index increased from 97.3 to 132.2 between 2013 and 2022. Since 2021 in particular, the index increases sharply, partly due to the war in Ukraine and to relatively high inflation (10.35% in December 2022 compared to 0.97% in December 2013) and partly caused by higher energy prices[XIII]. Another factor is the attractiveness of real estate as an investment. Low rates of interest on savings are therefore encouraging the construction of apartments in particular. Land prices are also rising sharply, as a result of which the cost of the land accounts for a bigger proportion of the property price. According to research by HOGENT University of Applied Sciences and Arts[XIV], unit prices (€ /m$^2$) increased relatively little between 2016 and 2022. In the researchers' opinion, however, the stagnation from 2016 onwards, which followed a sharp rise that began in 2004, appears to be a temporary levelling off. Indeed, the year 2022 was characterised by a (sharply) rising median unit price, with a significantly lower number of transactions than in the previous period.

Demand for houses and apartments is partly driven by growth in the number of households. Households are getting smaller and smaller, increasing the demand for more space-efficient housing. Flanders gained about 208,000 additional households between 2013 and 2022. According to STATBEL, the number of housing units increased by around 273,000 during the same period.

More homes are therefore being built or subdivided compared to the number of households that are being added. The difference between the two also grew wider between 2013 to 2022.

The demand for additional space for economic activities is the result of spatial-economic dynamics: new establishments, expansion investments with additional land take and relocation movements... Of course, part of this demand for space can also be met by means of unoccupied premises and conversions of older sites. However, changes in the nature of economic activities sometimes require different types of locations in which businesses are able to establish their premises. The number of places for businesses with employees to establish themselves increased by about 13,000 during the same period (2013-2022).[XV]

The agricultural sector in its turn is characterized by a scale-up, necessitating new farming infrastructure.

## CONCRETE POLICY IMPLEMENTATION IS LIMITED

Although reducing land take is an important policy issue, its operationalisation within specific policies and other legally binding instruments has been relatively slow[XVI]. At present, there is no spatial policy directly driven from spatial policy plans, as these are still in the drafting stage within the provinces[XVII], in Flanders and in most municipalities.

In addition, the legally available 'hard' zoned areas have not decreased due to the adoption of zoning plans in the past 10 years. Indeed, the total legally available zoned area for residential (reserve) areas remains the same. In the case of industrial activities, it is increasing slightly[XVIII] .

Research[XIX] shows that a considerable amount of indirect influence is being exerted by the government. In many cases, informal discussions take place between the initiators of projects and local government during the initial stages of a permit process. These conversations, whether supported by municipal policy texts or not, can have a steering effect, leading to fewer submissions of projects by developers that would result in land take.

## NUMBER OF PERMITS FOR NEW CONSTRUCTION IS INCREASING, BUT THE NUMBER OF AGRICULTURE-RELATED PERMITS IS DECREASING

When we analyse the permits granted over the past 10 years (2013-2022)[XX], we find that the number of housing units for residential new construction for which a building permit was granted has increased during the past 5 years from approximately 185,000 (2013-2017) to approximately 220,000 (2018-2022). It is especially noteworthy that the number of buildings containing a single dwelling increased (from 73,000 to 95,000). The decline in the growth rate of houses and gardens is therefore not due to a decline in the number of permits.

Yet, during the period as a whole, more apartment/multi-family buildings were granted a building permit each year than single-family buildings. The average surface area[XXI] per dwelling for which a building permit was granted decreased from 400 $m^2$ in the 2013-2016 period to less than 300 $m^2$ in the 2019-2022 period. As a result, the total surface area for which a building permit was granted decreased slightly in the 2019-2022 period in comparison to previous periods.

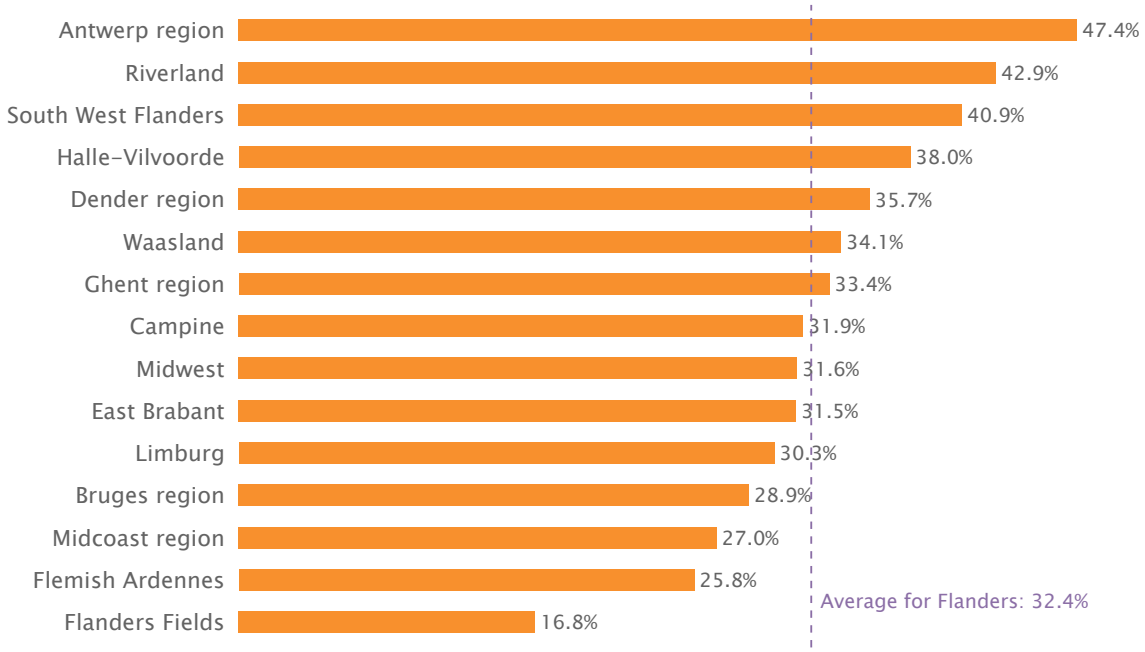
Permits for non-residential new construction[XXII] (offices, industrial plants, recreational infrastructure and so on) also increased from about 16,000 (2013-2017) to approximately 24,000 (2018-2022).

As far as permits for agricultural infrastructure are concerned, we can observe that the situation is moving in the opposite direction. The figures in the Environmental and Spatial Permits Desk (Omgevingsloket) show a clear decrease in the annual number of permits starting in 2021. On 25 February 2021, the Council for Permit Disputes handed down the so-called 'nitrogen ruling'. In the agricultural sector, economic uncertainty and uncertainty regarding the construction or expansion of agricultural business premises as a result of nitrogen issues appear to be playing a role in slowing down the increase in settlement area.

# 4. LAND TAKE IN REFERENCE REGIONS

In early 2022, the Government of Flanders decided to establish 15 reference regions in Flanders. In terms of settlement area and land take development between 2013 and 2022, significant differences can be observed between the reference regions. These differences could form the basis of specific policy goals for each region.

## SETTLEMENT AREA IN THE ANTWERP REGION IS THREE TIMES HIGHER THAN IN FLANDERS FIELDS




Share of settlement area by reference region in Flanders in 2022 (in %)

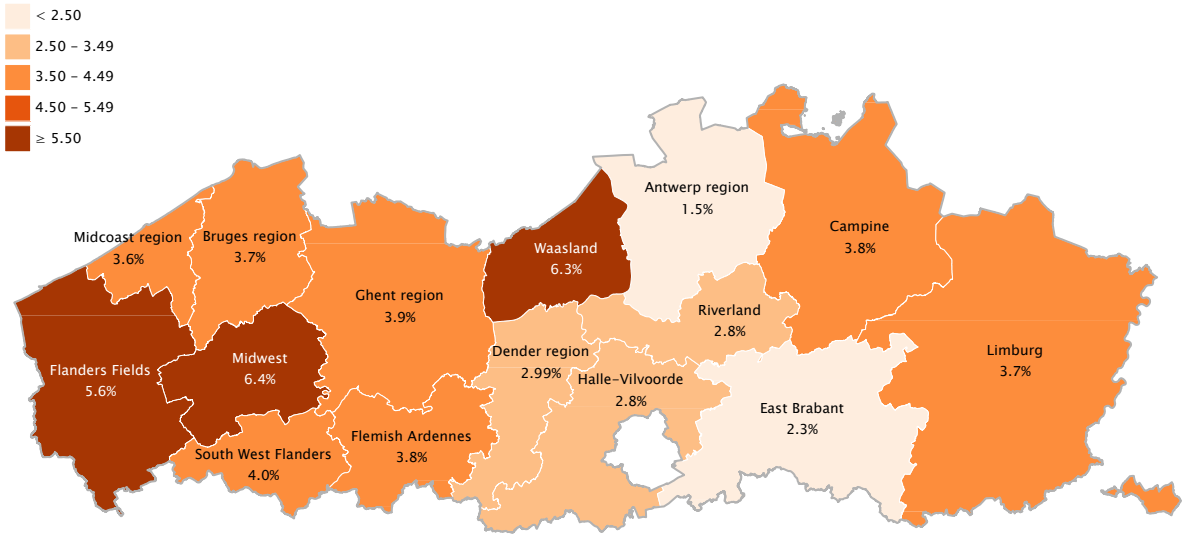
The regional figures for settlement area range from 16.8% to 47.4%. These numbers are explained by the uniqueness of each region and by the large spatial differences in terms of urbanisation (and thus transport infrastructure and buildings) and by the regional activities present. The region of Flanders Fields, which is primarily made up of large agricultural areas, small towns and villages, consists of more than 80% open space. Proportionally, the settlement area there is three times lower than in the Antwerp region, which is the most highly urbanised region with the highest settlement area. The regions of South West Flanders and Riverland also have a settlement area that is higher than 40%. Both regions are characterised by strong urbanisation around a metropolitan core (Kortrijk and Mechelen, respectively).

## LAND TAKE IS TAKING PLACE EVERYWHERE, BUT THE RATE VARIES GREATLY FROM REGION TO REGION

In every region, the settlement area has increased since 2013, but the extent to which it has increased varies from region to region. In the Waasland region, the seaport of Antwerp implemented developments on the Left Bank and some business parks expanded. Among other things, the expansion of business parks and service zones around Roeselare and the surrounding towns gave rise to additional settlement area in the Midwest region. The Flanders Fields region included the expansion of business parks near Poperinge, Ieper, Veurne and Diksmuide, as well as infrastructural works along watercourses and along roads in the polders. In the South West Flanders region, business activity increased in the outskirts of Kortrijk and surrounding towns. In the future, this land take will have to become manageable. The increase of settlement area remained limited in the East Brabant and Antwerp regions. Settlement area in the Midcoast and Limburg regions grew at an almost equal rate between 2013 and 2022 (by 3.65% and 3.73%, respectively).

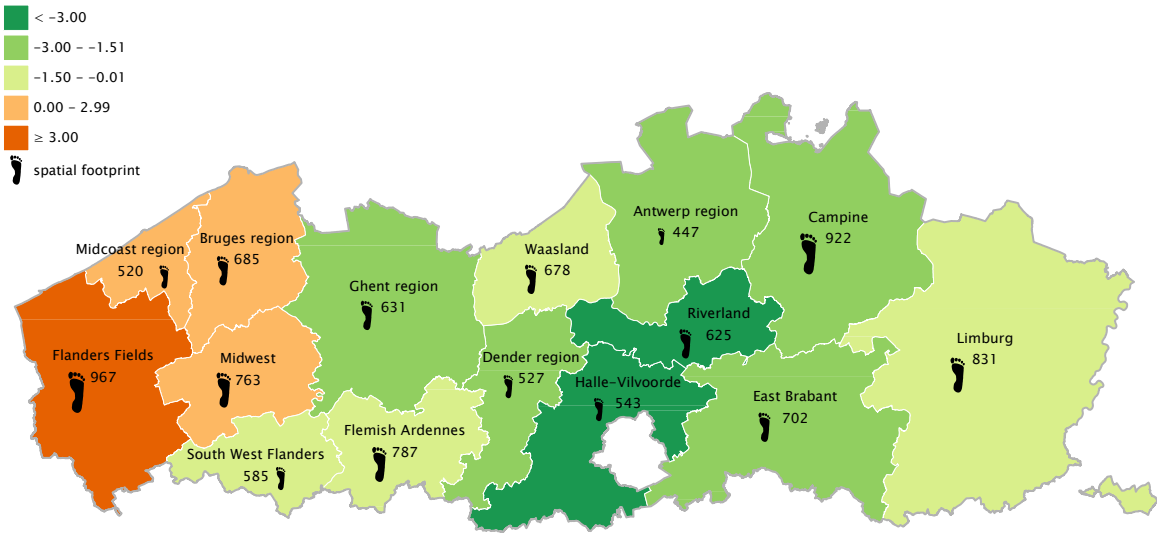
In absolute net figures, by far the biggest growth of settlement area (over +2,500 ha) took place in Limburg, but that region is by far the largest of all the reference regions. Large surfaces of settlement area have also been added in the Ghent and Campine regions (more than +1,500 ha in each case). The smallest absolute growth (less than +300 ha) can be observed in the Midcoast region. This reference region is also the smallest in area of all the reference regions in Flanders.

Also notable is the small absolute increase in the Antwerp region (+714 ha). However, the settlement area in this region was already very high. It does indicate that new developments in the region (e.g. in the port) primarily occur as a result of redevelopment and – relative to other regions – to a lesser degree as a result of new land take of open space.




Relative growth of settlement area between 2013 and 2022 by reference region in Flanders (in %)

## RURAL REFERENCE REGIONS HAVE THE BIGGEST SPATIAL FOOTPRINT




Spatial footprint in 2022 (in $m^2$ per inhabitant) and relative growth (in %) between 2013 and 2022 by reference region in Flanders

The spatial footprint in the rural regions of Flanders Fields and Campine is more than twice as large as that of the Antwerp region, which has the lowest spatial footprint. Even though the infrastructures, industries and metropolitan functions in the Antwerp region provide the highest percentage of settlement area in Flanders (47.4%), its large number of inhabitants creates a much lower spatial footprint than in regions with much smaller populations such as the Flanders Fields, Campine, Limburg and the Flemish Ardennes.

For Flanders as a whole, the spatial footprint has been decreasing slightly since 2013. At the level of the reference regions, the story is more differentiated. In the Flanders Fields region, for example, the spatial footprint increased substantially between 2013 and 2022 (+4.2% or almost +40 $m^2$ extra per person). This means that settlement area grew more significantly than the number of inhabitants, or in other words, that the amount of settlement area per inhabitant increased. The speed of the land take rate is however decreasing. The spatial footprint is also increasing in other regions in West Flanders, namely the Bruges, Midwest and Midcoast regions. In all other regions, by contrast, the spatial footprint is shrinking: land take in those regions occurs therefore at a relatively slower rate than population growth.

Relatively speaking, the spatial footprint in the Halle-Vilvoorde, Riverland and Antwerp regions is decreasing the most. Halle-Vilvoorde also scores best in absolute numbers, ahead of East Brabant, Riverland and Antwerp.

Flanders is faced with the task of coordinating between the reference regions in order to reduce the overall net land take to zero by 2040.

Although there are major spatial differences between the regions (in terms of urbanisation, the concentration of economic activities, the importance of the agricultural sector, the presence of ecologically valuable areas ...), it is a shared policy objective to bring land take to a halt. In some regions, such as in the Antwerp region for example, the rate of land take is already decreasing significantly. Other regions with high occupation rates will need to take additional steps to catch up with the other regions, such as densification (with regard to residential real estate as well as to economic activities), continuing the roll out of desealing actions and using good examples of the better performing regions as a guideline. Only in this way the regions will be able to collectively achieve a zero increase in settlement area over time.

In the regions with highly urbanised environments, a decrease in the spatial footprint can occur almost automatically, since the largest population growth in the future is mainly expected to occur in urban agglomerations. In the more rural regions, in which population growth is expected to be lower, a reduction in the spatial footprint cannot be expected until they implement the abovementioned actions in order to reduce land take.

# 5. CONCLUSION AND OUTLOOK

A takeaway from the analysis of human settlement areas and its evolution over the past 10 years, is that the global evolution towards reducing land take has begun. In Flanders in the past 3 years (2019-2022), there have been fewer cases in which areas of open space have been taken compared to preceding years. During the course of the past 10 years, however, we still have lost approximately 15,000 hectares of open space to housing and gardens, transportation and agricultural infrastructure, economic activities and recreation.

The rate of land take has decreased to 3.8 ha/day. The target is to reduce the rate to 3 ha/day by 2025 and to 0 ha/day by 2040. This lower rate of land take is almost entirely explained by changes taking place in the agricultural sector. Between 2013 and 2019, agricultural infrastructure took up a relatively large amount of additional territory, however in the past 3 years its total surface has decreased. In that same period, the amount of land take attributed to housing and gardens and economic activities was also lower, which can be considered as a positive shift. This may be associated with densification within the existing settlement area. Future research will sort out whether existing settlement area is being used more intensively or not. A critical analysis of the locations in which land take occurs will need to be carried out in order to avoid further fragmentation and respect the social and planetary boundaries.

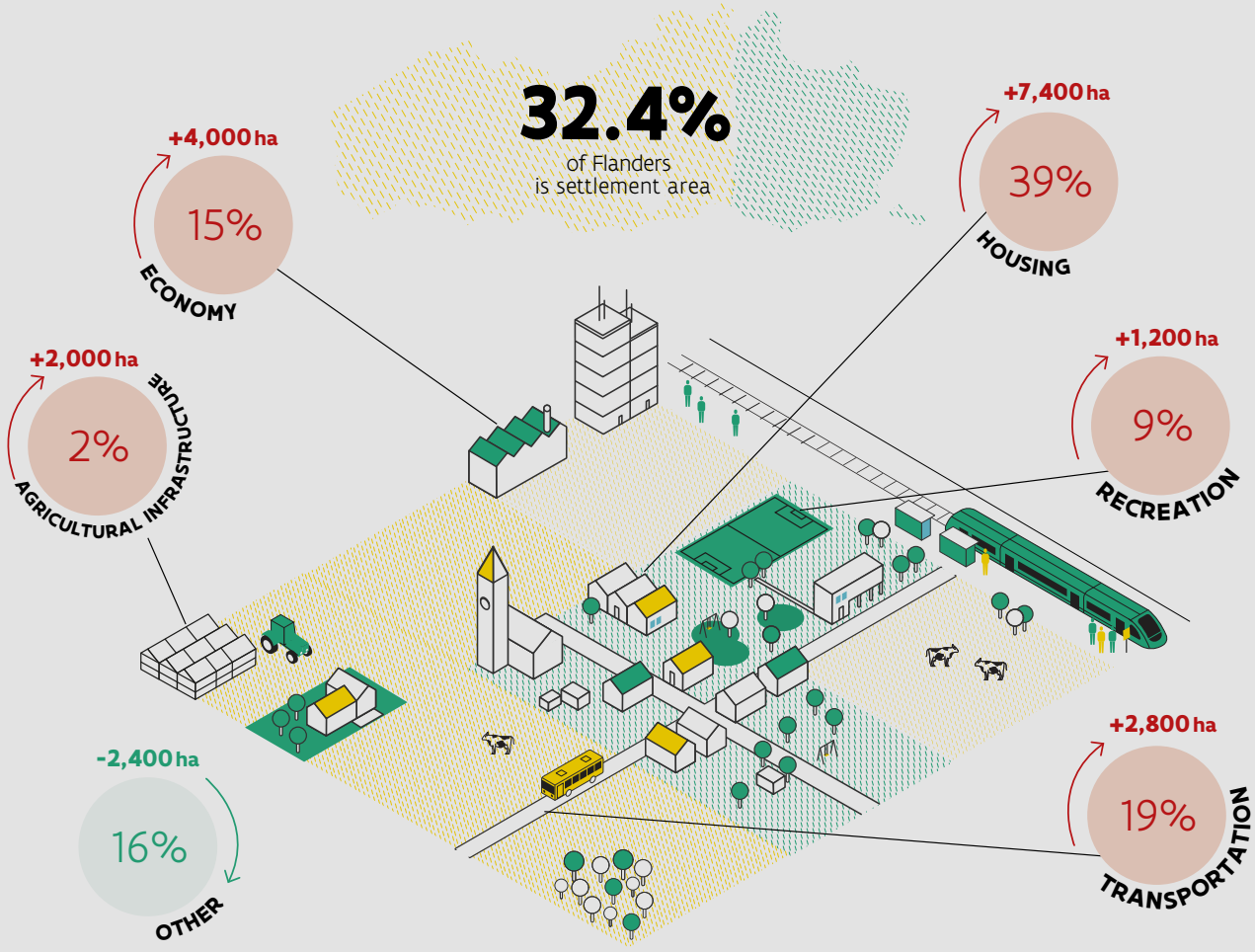
The continual pressure on open space is not entirely unexpected, given the recent increase in the number of building permits for new constructions – both residential and non-residential – for example. Agriculture and horticulture are characterised by economies of scale, as a result of which new agricultural infrastructures are now required. The number of residents, households and business locations has increased. Factors arising as a result of the economic context, such as rising land prices and increasing construction costs, are simultaneously encouraging more economical use of space. Low saving rates and attractive mortgage loans are injecting capital into the construction of new apartments. It is very uncertain how these factors determined by the economic context will evolve in the future. Mortgage loans have recently become more expensive, for example. The nitrogen ruling will be succeeded by a decree initiative, which will provide greater clarity for the agricultural sector and for other sectors of the economy. At the same time, we know that the number of households in Flanders will continue to increase in the coming years.

It is notable that only a limited amount of direct policy initiatives underlie the changes that have occurred with regard to land take. In the coming years, more active spatial policies are expected by all governments due to the development of policies and policy frameworks that specifically enact the objective of reducing land take. These spatial policies will require regional or local differentiation. After all, the challenges are very different per region..

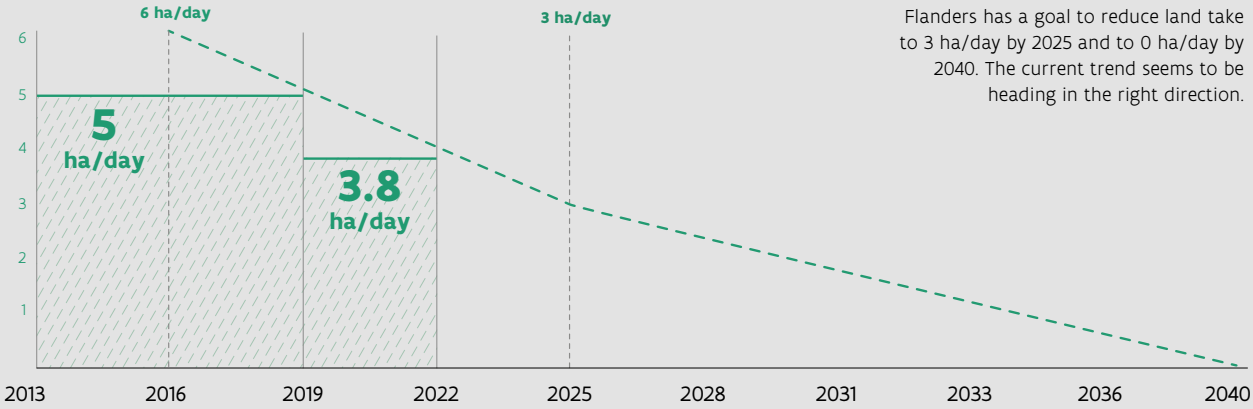
# No Net Land Take in Flanders

## The growth of settlement area: evolution during the period 2013-2022 in Flanders

**441,500 hectares** , one third of the surface of Flanders, is occupied by human activities: housing and gardens, industries, facilities, agricultural infrastructure, transportation, recreation and parks. The pressure on the open space increases annually, even though it is essential for biodiversity, food production or water storage.




## Land take




Flanders has a goal to reduce land take to 3 ha/day by 2025 and to 0 ha/day by 2040. The current trend seems to be heading in the right direction.

## FOOTNOTES

I Settlement area per capita (sdg_11_31) (europa.eu)

II Government of Flanders, 2018, Strategic vision of the Spatial Policy Plan Flanders.

III Strategic vision within the Spatial Policy Plan Flanders

IV Idem

V Taskforce Bouwshift, 2021

VI Poelmans L., Janssen L., Hambsch L. (2023), Landgebruik en ruimtebeslag in Vlaanderen, toestand 2022 [Land use and land take in Flanders – the situation in 2022], carried out on behalf of the Flemish Planning Bureau for the Environment and Spatial Development.

VII 2013-2016 refers to the period from 1/1/2013 to 31/12/2015. And similarly for the other periods.

VIII This category includes urban areas and buildings, dikes, airfields and landfill sites, as listed on the biological evaluation map (BWK) (for a description, please refer to https://www.ecopedia.be/pagina/de-biologische-waarderingskaart), the function or use of which cannot be determined from the other source files used, as described in this report. In other words, this category includes areas of land that occur in highly urbanised or built-up environments, but do not form part of built-up parcels or roadways. These may, for example, include market squares and car parks, as well as (yet) undeveloped plots present in highly urbanised environments, abandoned quarries, etc.

IX The population figures are based on figures from Statistics Flanders: https://www.vlaanderen.be/statistiek-vlaanderen/bevolking/bevolking-omvang-en-groei. In 2013, the population figure was 6,381,859; in 2019, it totalled 6,589,069 residents and in 2022, that figure came to 6,698,876.

X Test projects for depaving: Workbook version 1, p.20

XI https://archief.algemeen.omgeving.vlaanderen.be/xmlui/bitstream/handle/acd/230065/Eindrapport_ruimtebeslag.pdf

XII https://statbel.fgov.be/en/themes/indicators/prices/construction-output-price-index

XIII https://statbel.fgov.be/en/news/inflation-amounts-1035

XIV https://www.hogent.be/sites/hogent/assets/File/Rapport2_BouwgrondenprijzenInVlaanderen_v5.pdf

XV https://www.steunpuntwerk.be/cijfers/vlaamse-arbeidsrekening-vestigingen-jobs

XVI https://www.standaard.be/cnt/dmf20230804_97288861

XVII The province of Flemish Brabant recently introduced a provincial spatial policy plan (2023) and the municipalities of Geel and Zwijndrecht also have a municipal spatial policy plan (2023).

XVIII https://indicatoren.omgeving.vlaanderen.be/indicatoren/ruimteboekhouding-rsv

XIX https://omgeving.vlaanderen.be/nl/evaluatie-van-de-werking-van-het-omgevingsvergunningendecreet

XX Processing based on https://statbel.fgov.be/en/themes/housing/building-permits

XXI For details regarding the total surface area, see: Addendum – Statistiek Bouwvergunningen [Building Permit Statistics]: The total area is the sum of the surface areas of the different levels, calculated between the outer walls, including the area occupied by the walls themselves. The total area includes not only the habitable area (that is the sum of the area of all rooms for habitation), but also the surface area of bathrooms, toilets, stairs, hallways, garages, etc. The total area refers only to the area of the structure – so it has nothing to do with the area of the plot as recorded at the land registry.

XXII Processing based on https://statbel.fgov.be/en/themes/housing/building-permits

## COLOFON

In the context of Environmental Reporting, the Department of Environment and Spatial Development is preparing briefings that highlight important aspects of the environment.

**CITE THIS ITEM:**

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**CONTACT**

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