Land-use Planning Systems in the OECD

COUNTRY FACT SHEETS

OECD

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BETTER POLICIES FOR BETTER LIVES

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Foreword

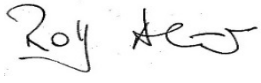
How land is used affects a wide range of outcomes – from day-to-day quality of life, such as the length of commutes, to the environmental sustainability of urban and rural communities, including the possibility for climate change adaptation and mitigation. Moreover, the economic importance of land is immense. Land and the buildings on it are approximately seven times as valuable as all other assets taken together and land-use policies play a crucial role in determining land and property prices. Beyond economic value, land also has important sentimental value. Many people are strongly attached to existing neighbourhoods and landscapes in their vicinity. Thus, it is not surprising that land use is often contested and political conflicts about it are common at the local level.

This report provides a systematic overview of spatial and land-use planning systems across the OECD. It is intended as a compendium for practitioners and academics interested in the structure of planning systems. The report contains country fact sheets for 32 OECD member countries. Each fact sheet presents an overview of the responsibilities of different levels of government with respect to land-use policies and describes the different types of spatial and land-use plans in the country, including key characteristics of the planning system. A diagram showing the hierarchical relations of all spatial and land-use plans is provided for all countries. For most countries, the fact sheets include key figures on land use.

The OECD has undertaken a broader research programme on land-use governance. This report is published jointly with the report The Governance of Land Use in OECD Countries: Policy Analysis and Recommendations, which provides policy analysis and a synthesis of the main recommendations from OECD work on land use. Also, recent and forthcoming OECD Land-Use Governance Case Studies provide in-depth analyses of land-use policies in specific cities and regions.

Taken together, the reports argue that planners and policy makers in other fields should consider the influence of all public policies on land use. A lack of co-ordination can lead to policies that provide contradicting incentives to developers and land owners. The reports call for more integrated approaches to spatial development that take into account the wide array of policies that affect land use but that are beyond the purview of the planning system itself.

The reports also stress that land-use planning should be more than a technical endeavour – it should be a political and democratic process that mediates the abovementioned conflicts over land use. Through the development of strategic plans, planners ask residents to imagine the future that they want for their cities and communities and jointly develop a road map for how to get there. This requires strong public engagement and communication. In its ideal form, effective planning reflects and develops a common community vision.



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Executive summary

This report brings together, for the first time, systematic overviews of planning systems for nearly all OECD countries. It is based on a new and extensive OECD survey of land-use governance, conducted in 2015 and 2016. Fact sheets on 32 countries present the respective planning systems and include diagrams showing the relationship of their spatial and land-use plans. Depending on data availability, most fact sheets also contain key facts on land-use trends in the country. All fact sheets follow the same structure and provide comparable information.

Key findings

- Spatial and land-use plans are among the most important and widely used instruments used in land-use planning. Spatial plans aim to structure the general pattern of human activity across space without necessarily determining land use at any given location. Land-use plans aim to prescribe particular land uses for specific locations. The OECD Land-Use Governance Survey has identified 229 different types of plans in 32 OECD countries. The total number of individual spatial and land-use plans in the OECD is likely to be above 100 000.
- All levels of government use spatial and land-use plans as instruments to shape land use. The 229 different types of plans are roughly equally divided between plans prepared at the national level, regional level and local level.
- National governments and regional governments focus primarily on spatial planning, that is on strategic planning and the provision of policy guidelines. Land-use planning is predominantly a local task, even though several countries use guiding land-use plans prepared at the regional or inter-municipal level. With the exception of Israel, national governments in the 32 surveyed countries do not prepare land-use plans for the entire territory of a country, but are sometimes responsible for the preparation of land-use plans for areas of particular importance.
- Dedicated metropolitan plans to ensure policy co-ordination in densely populated urban areas are rare. In some countries, regional plans play an important co-ordination role at the metropolitan level.
- In all unitary countries except Italy, national governments adopt the framework legislation that structures the planning system. In federal countries, this task belongs predominantly to the federated states. In practice, the consequences of this distinction are small. Few unitary countries tend to have entirely homogenous approaches to planning for their territory, while the federated states or regions within a federal country tend to adopt similar framework legislation. For the character of a planning system, the degree of local autonomy seems to matter more than the degree of regional autonomy.

- Major reforms that completely change the character of the planning system are rare. The median planning system in the OECD was established in 1979 and in three countries, it was established before 1940. Nevertheless, planning practices have changed significantly in many countries, indicating that many systems offer a considerable degree of flexibility if change is supported by all involved actors.
- Co-ordination mechanisms between levels of government and across sectors are common and consultation procedures exist in most OECD countries. However, often co-ordination aims at achieving a minimum degree of consensus and lacks a forward-looking strategic component.
- Formally, stakeholder involvement in planning processes is very similar in most OECD countries, focussing primarily on a public consultation process. In practice, the differences between countries concerning the influence of stakeholders on the planning process appear greater than could be suspected given the formally similar procedures.
- Land-use regulations are well enforced in most OECD countries and the amount of illegal construction has declined. A more important challenge in most countries is how to ensure that national objectives are represented in local land-use regulations. In this respect, the question of how to provide clear and unambiguous regulations, while at the same time leaving lower levels of government and private actors sufficient flexibility is important – and frequently challenging.
- Value capture instruments are designed to capture private windfall gains related to land. For example, they intend to tax the increase in land value that occurs when the zoning of land is changed from agricultural to developable. They are potentially an important instrument to raise public funds and to improve the equity of public planning and investment decisions. Although they are common throughout the OECD, their fiscal impact is small and only small sums are raised through them.
- The expropriation of land for the construction of infrastructure is possible in all surveyed countries and usually does not present major difficulties from a legal perspective. Whether land can be expropriated for other purposes, including privately-led developments varies from country to country.
- For this report, academic experts on planning and land-use governance from 32 OECD member countries have been surveyed. Most frequently, the experts see environmental challenges from land use and unconstrained development as a major challenge, as well as shortages of affordable housing, slow and bureaucratic planning processes, and a lack of co-ordination at the regional level.

Chapter 1

Spatial and land-use planning systems across the OECD

This chapter provides an overview of spatial and land-use planning systems across the OECD. It summarises the information presented in the subsequent country fact sheets and focuses on formal aspects of planning systems, as they are defined by laws and regulations. Among other topics, the chapter discusses the characteristics of different types of plans and how plans differ depending on the level of government that prepares them. It also discusses land value capture tools, land expropriation procedures and reforms of the planning system. The information provided in this chapter was collected through a survey that involved academic experts on planning from all 32 countries covered in this report.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Introduction

This chapter describes the planning systems of 32 OECD countries. It gives an overview of the tools and instruments that are commonly used in spatial planning and land-use planning and describes their characteristics. It is based on a new data set that provides a nearly complete overview of all spatial and land-use plans and many other important aspects of planning systems across almost all of the OECD.

The chapter's objective is to present facts about planning systems across the OECD in order to provide the foundation for an informed policy debate. It focuses on characteristics of the planning systems that can be described unambiguously and are not subject to interpretation. As a consequence, it covers primarily formal characteristics of planning systems. This includes, for example, the existence of specific instruments for planning, formally established planning procedures and legal requirements. Most importantly, the chapter discusses spatial plans and land-use plans, since they are the most explicit tools to shape the spatial structure of the economy and land-use patterns. To the degree that the chapter also reflects the views of 34 academic experts that have been involved in the data collection process, it clearly distinguishes factual information from information based on expert opinions.

Formal characteristics can describe only some aspects of planning systems. It is equally important how formal rules are interpreted and implemented in daily practice. Examples in this respect are stakeholder involvement processes. While the formal requirements for stakeholder involvement look very similar in most OECD countries, several OECD (2016a) land-use case studies have shown that the involvement of stakeholders varies strongly in practice. Such "soft factors" related to countries' planning cultures and institutional traditions are not captured in this chapter. This is primarily due to the limited possibilities of collecting the corresponding information in a systematic way. It should not be interpreted as a judgement concerning their importance. Readers interested in informal aspects of planning systems are referred to Silva and Acheampong (2015) who synthesise existing literature to develop typologies of planning systems that take planning cultures into account.

The chapter presents the instruments that are used for planning. It does not develop typologies of specific planning traditions or describe the entire planning systems of countries. While examples from individual countries are frequently mentioned, readers with a particular interest in specific countries are referred to the country profiles contained in Chapter 2 of this report.

The chapter starts with a brief outline of the data collection process and methodology. The main analytical part begins with a description of the different spatial and land-use plans in OECD countries, including the levels of government responsible for them, their geographical scope and their content. Subsequently, differences between federal countries and unitary countries in the organisation of land-use governance systems are discussed. Further sections contain an overview of important aspects of the planning process such as co-ordination mechanisms between sectors and levels of governments, stakeholder involvement and value capture mechanisms. Issues related to land management procedures are also discussed in this context. Lastly, the chapter concludes by summarising the view of the involved experts on the main challenges concerning land-use planning.

Collected data

This chapter presents data on land-use governance systems in 32 OECD member countries that has been collected by the OECD Secretariat during 2015 and 2016. The data can be downloaded at http://www.oecd.org/gov/governance-of-land-use.htm. The data

collection is based on a questionnaire that contained questions concerning levels of governments and their responsibility; spatial plans and land-use plans; the main legislation affecting land use; permitting processes; fiscal instruments; stakeholder involvement; co-ordination of policies; and a variety of specific questions. The questionnaire contained both open and closed questions (i.e. questions that asked respondents to select one of several predetermined options and questions that asked respondents to provide a written response). Most questions referred to factual information, but many others requested the judgement of the expert, for example concerning the importance of a particular instrument.

Data has been collected for the countries listed in Table 1.1, 23 (72%) of them are unitary countries and 9 (28%) are federal countries. Out of the 32 countries, 5 (16%) have two levels of government, 19 (59%) have three levels of government and 8 (25%) have four levels of government (OECD, 2016b).

Table 1.1. **Analysed countries by government structure**

Unitary countries	Federal (and quasi-federal) countries
Chile (3)	Australia (3)
Czech Republic (3)	Austria (3)
Denmark (3)	Belgium (4)
Estonia (2)	Canada (3)
Finland (3)	Germany (4)
France (4)	Mexico (3)
Greece (3)	Spain (4)
Hungary (3)	Switzerland (3)
Ireland (2)	United States (4)
Israel (2)	
Italy (4)	
Japan (3)	
Korea (3)	
Netherlands (3)	
New Zealand (3)	
Norway (3)	
Poland (4)	
Portugal (2)[1]	
Slovak Republic (3)	
Slovenia (2)	
Sweden (3)	
Turkey (3)	
United Kingdom (4)[2]	

Note: The number of levels of government in the country is shown in parenthesis.

1. An additional level of government exists for the autonomous regions of the Azores and Madeira.

2. Counting devolved administrations in Scotland, Wales and Northern Ireland as one level of government, and local councils and county councils in England as separate levels of government.

Source: OECD (2016b), *Subnational Governments in OECD Countries: Key Data 2016*, www.oecd.org/regional/regional-policy/Subnational-governments-in-OECD-Countries-Key-Data-2016.pdf; OECD (2016c), "Subnational government structure and finance", OECD Regional Statistics (database), http://dx.doi.org/10.1787/05fb4b56-en (accessed 28 November 2016).

The data collection process followed a multi-stage process. In a first stage, the OECD Secretariat developed a questionnaire covering major issues related to land-use governance. Subsequently, it identified academic experts who are well-placed to answer the questionnaire. A large majority of the identified experts are university professors working in the field of spatial and land-use planning or related disciplines. The experts kindly agreed to answer the questionnaire during the second half of 2015. The OECD Secretariat reviewed the completed questionnaires and requested revisions. The involved experts completed all revisions by early 2016.

Subsequently, the OECD Secretariat isolated factual information from the revised questionnaire and sent this information to the relevant ministries of member countries for verification. Member countries verified the factual parts of the questionnaires during the second quarter of 2016. Generally, the information pertains to the situation during the first half of 2016.

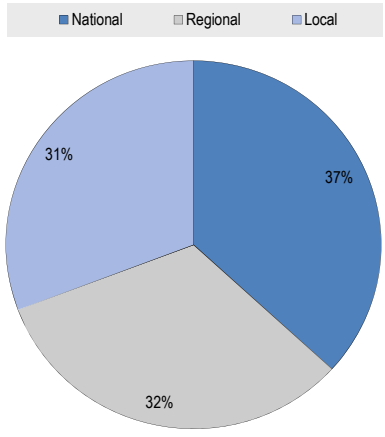
A considerable part of the original questionnaire contained expert judgements, for example answers concerning the most important challenges that land-use governance systems face. This information has not been verified by delegates from member countries and the OECD will not release this information. It is inherently subjective and the OECD Secretariat cannot verify the judgements independently. Instead, several sections of this report present and discuss the general picture provided by expert judgements without mentioning any specific country. This makes it possible to show general trends on which experts agree without relying on the judgement of a single expert.

Spatial and land-use plans across levels of government

The OECD land-use governance survey has identified 229 unique types of spatial plans and land-use plans in the 32 surveyed countries. This figure does not count plans separately that exist several times in a country. For example, a hypothetical country might have a regional plan that exists once in each of its 20 regions. Such a plan would be counted once. Similarly, a local plan that exists in each municipality of a country would also be counted once. Since local and regional plans are prepared in many jurisdictions, the total number of individual plans in the OECD is likely to be very high. At the very least, many tens of thousands of individual land-use plans exist. Given that in some countries, local governments prepare many individual detailed plans for small areas, the total number of plans may possibly be several hundreds of thousands.

The responsibility for the 229 plans is approximately evenly split between the national government, regional governments and the local governments (see Figure 1.1).[1] The national government can enact 37% of all identified plans, the regional level is responsible for 32% of the plans and the local level is responsible for 31%. In several countries (primarily in Austria and the Netherlands), the same type of plans can be enacted by several levels government. Less than 10 plans are not under the responsibility of a regular level of government, but of another entity, primarily inter-municipal associations and metropolitan authorities. In Figure 1.1, these entities are summarised under the regional level of government.

Figure 1.1. **Share of plans under the responsibility of each level of government**

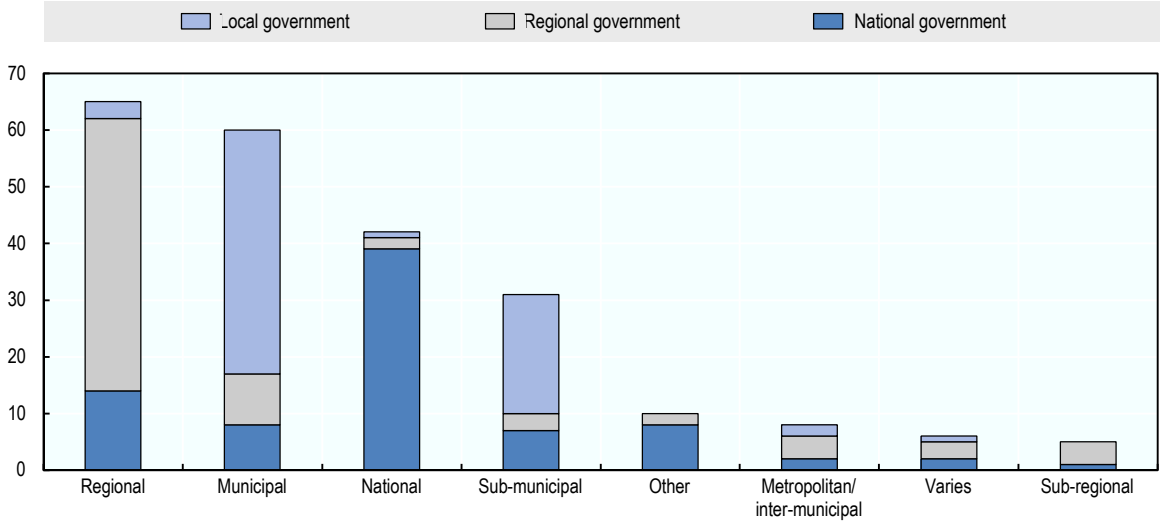


Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

The level of government that is responsible for plans does not reflect their actual geographical scope. In many countries, national and subnational governments are responsible for the approval of plans for the jurisdictions of lower levels of government. Less than half (39 out of 84) of the plans enacted by the national government cover the entire national territory. The remaining 46 plans relate to specific regions or cities or are plans that exist with varying geographic scopes. Similarly, only 53 out of 76 plans approved by regional governments have a regional geographic scope. Most of the 23 other plans refer to metropolitan areas or individual municipalities, but two plans (the Austrian Spatial Development Concept and the Territorial Development Concept Switzerland) are national plans that are prepared and approved jointly by all levels of government, including the regional one. Plans approved by local governments concern almost exclusively their own territory. However, many of those plans concern only specific parts of their own territory, just as many plans approved by national and regional governments concern only specific parts of their territory, too.

When the geographical scope of the plans is considered independent from the level of government that approves them, municipal and sub-municipal plans form the biggest group of plans, followed by regional scale plans and national plans. Figure 1.2 shows that most plans are enacted by the level of government that corresponds to their geographical scope. However, almost a third of all plans are enacted by a higher level of government for the jurisdiction of a lower level of government.

Figure 1.2. **Geographical coverage of plans and the level of government responsible**



Note: Each bar shows the number plans referring to the respective geographical area. The shading of the bars indicates the level of government responsible. The category "Varies" is used for plans that may exist for varying geographical areas. The category "Other" refers to plans that concern other geographical areas, such as coastal areas or mountain areas.

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

It is noteworthy that there are ten OECD countries in which the national government neither prepares any general spatial or land-use plan (except for thematically narrow sectoral plans such as a national transport plan) nor any general guidelines on land use. As discussed below, federal countries are overrepresented among countries where the national government does not prepare any plans, but no clear pattern emerges. There are also five unitary countries that do not approve any national level spatial plan and four federal countries where the national government approves such a plan.

Table 1.2. **National governments preparing spatial or land-use plans**

National governments preparing plans	National governments not preparing plans
Austria*1	Australia*
Chile	Belgium*3
Czech Republic	Canada*
Denmark	France
Estonia	Italy
Finland	New Zealand
Germany*	Spain*
Greece	Sweden
Hungary	United Kingdom2
Ireland	United States*
Israel	
Japan	
Korea	
Mexico*	
Netherlands	
Norway	
Poland	
Portugal	
Slovak Republic	
Slovenia	
Switzerland*	
Turkey	

Note: * Indicates federal or quasi-federal country.

1. All levels of government in Austria prepare a Spatial Development Concept jointly for the entire country.

2. The United Kingdom has a separate National Planning Policy framework for England and Scotland each, a Spatial Plan for Wales and a Regional Development Strategy for Northern Ireland.

3. The government of Belgium was responsible for the preparation of a zoning plan for the entire country. While this responsibility has been delegated to the regions, large parts of the plan that was originally prepared by the national government are still in place today.

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Just as the geographical scope of plans approved by a level of government varies, so does its function. Across the OECD, plans that function as policy guidelines, strategic plans, and boundary plans (see Box 1.1 for a definition of the concepts) can be found at every level of government. While some plans are more common at a level of government than others (for example boundary plans at the local level), in general a great diversity exists across OECD countries.

Given that plans can be categorised according to the responsible level of government, according to their geographical scope, according to their function or according to their thematic content, several possibilities to structure a discussion of plans exist. In the following, plans are discussed according to their geographical scope, i.e. whether they concern a national, regional, metropolitan or local territory. This decision is motivated by the consideration that a plan represents an instrument to govern land use in a given geographical area. Discussing plans according to the geographical area that they concern implies that different instruments for the same tasks are compared to each other.

National plans

Among the 229 plans identified in the OECD Land-Use Governance Survey, 39 are national plans in the sense that they cover the entire territory of a country. All of them are approved by the national government, but as discussed above, in two cases national governments share their responsibility for the plan with other levels of governments.

Box 1.1. **Functions of plans**

This report differentiates three broad functions that spatial and land-use plans play in the policy-making process; they may serve as "policy guidelines", as "strategic plans", or as "zoning/boundary plans".

Policy guidelines aim at steering the land-use planning process, but do not have any direct spatial dimension. In other words, they do not make any prescriptions for specific areas except through non-spatial references. For example, policy guidelines may refer to measures that are supposed to be undertaken in environmentally sensitive areas, but do not specify where those measures are undertaken except by similar non-spatial references, such as "in areas of high biodiversity", etc. They may contain principles that should be followed when planning, specify procedural aspects of the planning process or outline non-spatial objectives. They are generally not map-based and may or may not be legally binding.

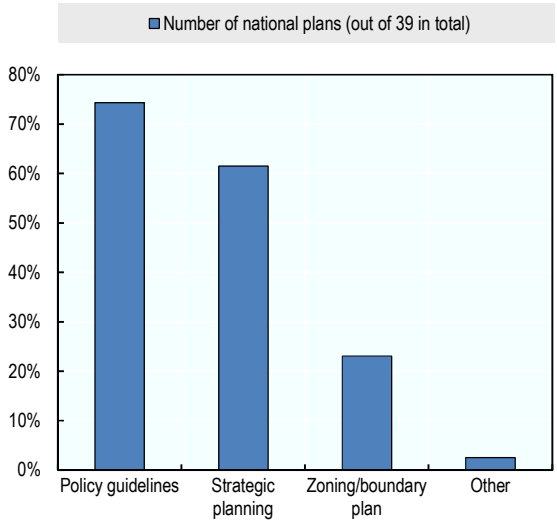
Strategic plans address major challenges and policy responses without providing all details of a policy. Instead, they focus on high-level objectives and ways to achieve them. Strategic planning may encompass decisions how to align different sectoral plans in an area, but it could also describe a corridor for an infrastructure project, or specify growth areas of a city. Strategic plans can be map-based, but if maps are used they tend not to delineate clear boundaries. Instead, they are for illustrative purposes or make heavy use of symbols to leave sufficient flexibility for the subsequent planning process.

Zoning/boundary plans are plans that specify the intended land use in a narrow sense. For a given location they show what type of use is intended or permitted. They usually contain a map-based part, Depending on the scale and geographical area of coverage, the level of detail that is provided by boundary plans varies. In some cases, just broad categories of land use are defined, whereas in other cases high degrees of details may be specified in the plan. Boundary plans are frequently the only plans that contain legally binding regulations for land owners.

In many cases, a plan has more than one function. For example, a regional plan can be primarily strategic in its role, but it may include detailed boundary plans for areas of particular importance. Similarly, a municipal master plan can contain general policy guidelines that elaborate principles for land development within its jurisdiction while at the same time containing detailed boundary plans for the entire municipality. Therefore, multiple functions have been assigned to a plan where appropriate.

More than three-quarters of all national plans contain policy guidelines as defined in Box 1.1 and more than 60% contain strategic plans. Significantly fewer national plans (24%) contain detailed boundary plans. While even this share might be considered surprisingly high, it must be taken into account that many of the plans that contain boundary plans do so only for limited areas or are sectoral plans that cover only a specific policy area, such as transport or water. General boundary plans at the national level such as Israel's National Master Plan No. 35 are very rare across the OECD.

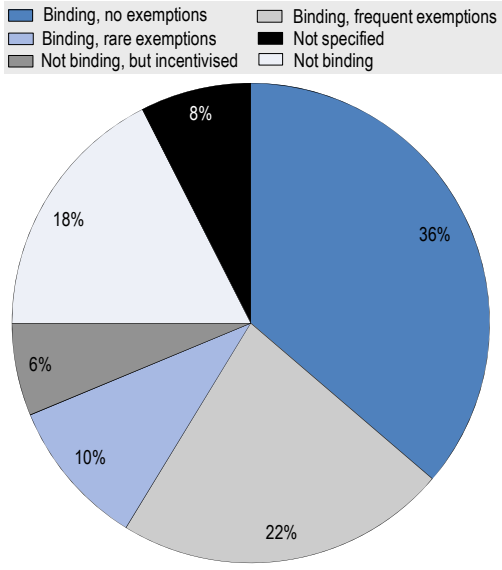
Figure 1.3. **Functions of national level plans**



Note: Percentages do not add up to 100 as plans may combine different functions.

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.4. **Legal status of plans approved by national governments**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

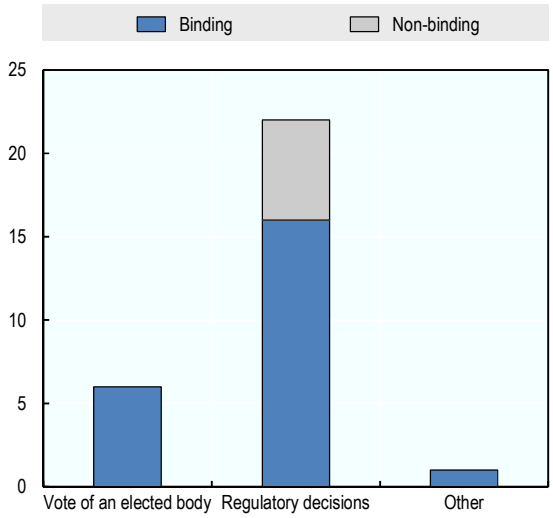
A majority of all national plans (68%) contain binding regulations for other public authorities.[2] As Figure 1.4 shows, for most national plans that contain binding provisions (36% of all plans), no exemptions can be made, whereas 32% of all plans are generally binding but exemptions are possible. In contrast, only 24% of all national level plans are not binding. However, these figures should be interpreted carefully, lest they give the impression of more control over the planning process by the national government than there actually is. Even if national level plans are legally binding for other public authorities, they do not necessarily influence their actions for several reasons. Frequently, national plans and guidelines are not reflected in lower level planning and compliance of lower level plans with national plans is not always enforced.

Several reasons may be responsible for a lack of enforcement of national plans and guidelines on lower level planning. First, plans may not contain enforceable language because their formulations are vague or flexible. This may be done on purpose in order to ensure sufficient flexibility of the plan and to avoid restricting the policy options of lower levels of government or other public authorities. However, in other instances, ambiguous formulations may result from unclearly defined objectives that make it difficult for planners to develop specific objectives. Ambiguity may also reflect conflicts within administrations about the best strategy. Second, plans that contain enforceable language may not be enforced if enforcement mechanisms are lacking. In several countries, national plans and guidelines are supposed to be binding for subnational authorities, but the national government does not have the power to enforce their compliance with national plans. Alternatively, higher levels of government may have the power to enforce plans but lack the resources to do so. Third, plans may not be enforced if they require active contributions from other public authorities that do not agree with it. For example, a national plan might contain planned infrastructure projects, but does not necessarily include binding funding mechanisms. In such cases, decisions on infrastructure projects may be driven by funding decisions rather than the plan. Similarly, there may not be any mechanisms to ensure that

lower level plans conform to national plans. Fourth, even if plans contain enforceable language and enforcement mechanisms exist, there may not be the required political will to carry out the enforcement. In such cases, authorities may decide for political reasons not to insist on the enforcement of plans even though they could.

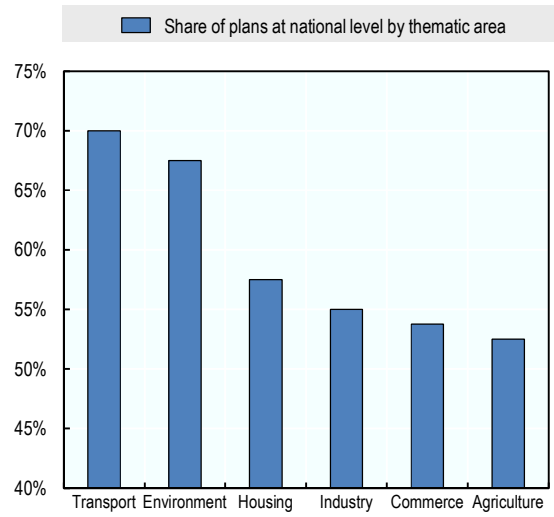
Most national plans are approved through a regulatory decision, but seven plans (in six countries; Greece, Hungary, Mexico, Portugal, Slovenia and Turkey) are approved by a vote of the national parliament. All plans that are approved by a vote of parliament are legally binding. The exception highlighted in Figure 1.5 is the Regional Zoning Plan (*Gewestplan, Plan de Secteur*) in Belgium that was prepared by the national government for the entire country several decades ago. Since the responsibility for planning has been transferred to regions, this plan is not updated or replaced anymore, but remains valid for a majority of the country.

Figure 1.5. **Approval processes for national plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.6. **Thematic areas covered by plans under national responsibility**

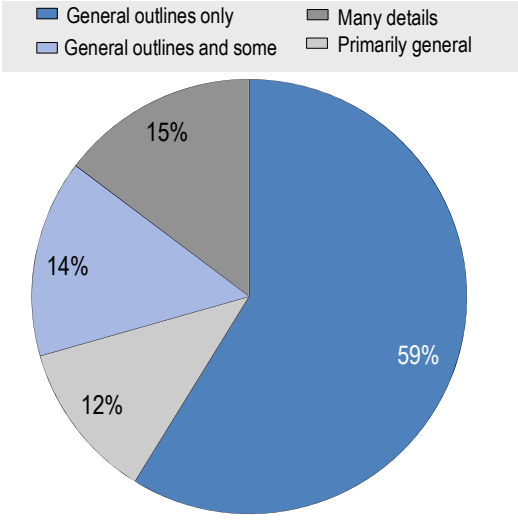


Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Reflecting the trend of integrated planning, most plans cover a broad range of policy fields. Of the 29 national plans that refer to a list of 6 thematic areas (transport, environment, housing, industry, commerce and agriculture), 76% cover three or more of those policy fields and only 24% cover only one or two of them.[3] Figure 1.6 shows the resulting distribution of thematic areas to which national plans refer. Most common are transport and the environment, followed by housing, industry and commerce. Even agriculture – the least common thematic area – is still discussed in more than half of the national level spatial plans.

Most national level plans provide a low degree of detail and focus instead on general outlines of policies (see Figure 1.7). This corresponds to their predominant functions as policy guidelines or strategic plans that are shown in Figure 1.3. If plans contain a higher level of detail they tend to function as boundary plans. However, no national level plan contains the highest degree of detail. This implies that any boundary plan at the national level is complemented by a more detailed regional or local plan.

Figure 1.7. **Level of detail of national plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Regional and sub-regional plans

Sixty-six regional and 5 sub-regional plans have been identified across the OECD. Sub-regional plans are distinguished from regional plans by the fact that they cover only a part of an administrative region, but cannot be described as local or metropolitan plans because they cover larger territories. Given their small number and given that their characteristics do not otherwise differ systematically from regional plans, they are treated jointly with regional plans in the following analysis.

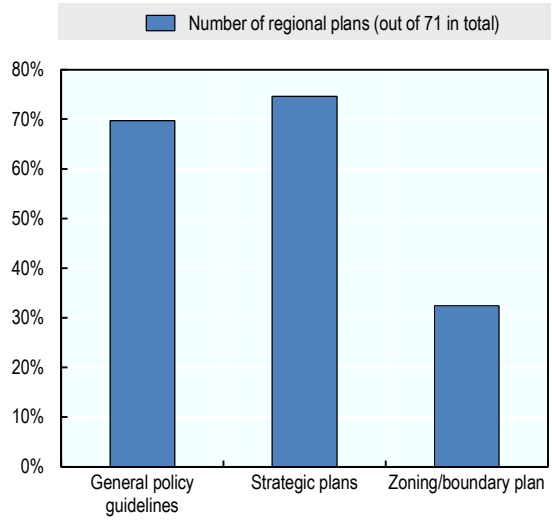
Figure 1.8 shows that – just as for national plans – a majority of regional plans contain general policy guidelines (70%) and elements of strategic plans (75%). Compared to national plans, they are somewhat more oriented to strategic planning than national plans. The share of plans that contain elements of boundary plans is 32%, which is higher than in the case of national plans. Nevertheless, this function is still relatively rare in regional plans, especially considering that many plans which contain boundary plans do so only to a limited degree.

Legally, regional plans tend to have a somewhat weaker status than national plans. The share of regional plans that are legally binding and allow few or no exceptions is 34% compared to 46% for national plans. Likewise, the share of plans that is neither legally binding nor incentivised is 28% at the regional level compared to 18% at the national level. Figure 1.9 provides a detailed breakdown of the share of regional plans according to their legal status.

Approximately three-quarters of all regional plans are approved by regional governments, whereas the remaining quarter is mostly approved by national governments. 38% of all regional plans for which this information could be collected are approved through the vote of an elected body, i.e. primarily through a vote of a regional parliament. This is considerably more than the share of national plans that are approved by national parliaments, which may indicate the greater importance of spatial and land-use planning as a policy area on the subnational level than on the national

level. However, as shown in Figure 1.10, a significant share of those plans is not legally binding for subordinate plans.

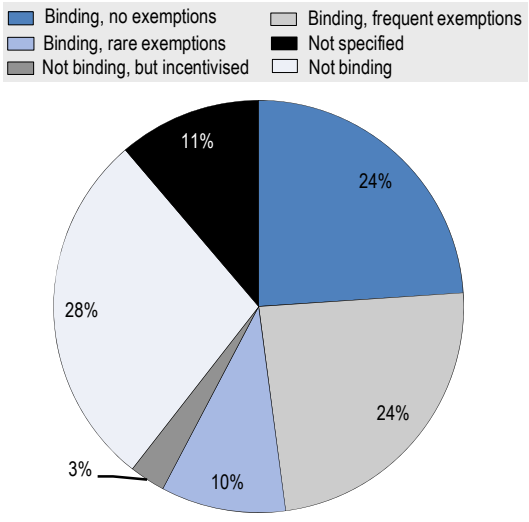
Figure 1.8. **Functions of regional plans**



Note: Percentages do not add up to 100 as plans may combine different functions.

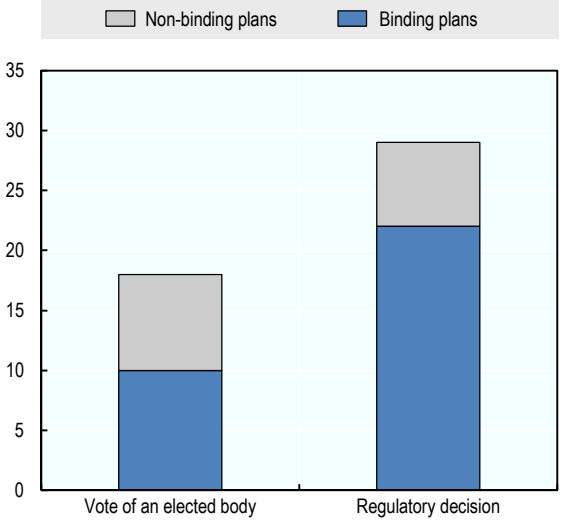
Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.9. **Legal status of regional plans**



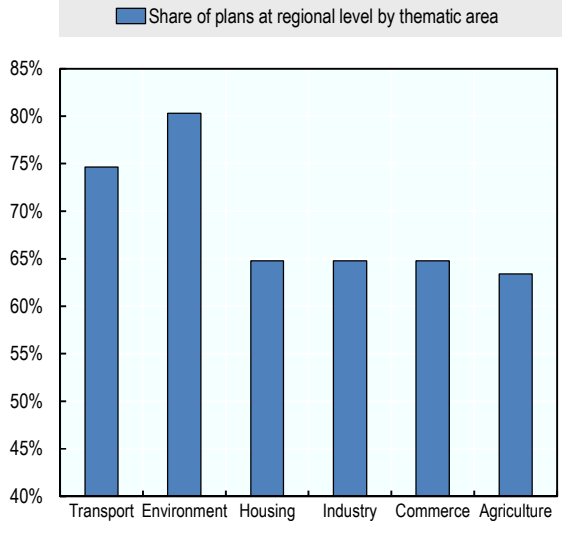
Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.10. **Approval processes of regional plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.11. **Thematic areas covered by regional plans**

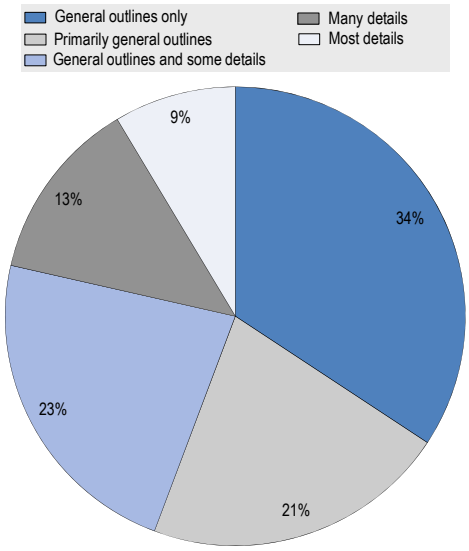


Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Concerning the thematic areas of regional plans, a picture emerges that is very similar to plans at the national level. An even larger majority of plans (69%) at the regional level are cross-sectoral plans that cover three or more thematic areas. As on the national level, transport and the environment are the most common thematic areas, but other policy fields are not far behind (see Figure 1.11).

However, important differences emerge between regional plans and national plans with respect to the level of detail that they provide (see Figure 1.12). First, the average level of detail of a regional plan is significantly higher than of a national plan. Only 34% of all regional plans provide general policy outlines without further details, whereas 59% of all national plans do. This may be expected given that many regional plans are hierarchically located below national plans. More importantly, 9% of all regional plans provide the most detailed representation of a thematic area through a spatial or land-use plan. Not surprisingly, all except one of these plans are legally binding.

Figure 1.12. **Level of detail of regional plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Metropolitan plans and inter-municipal plans

Dedicated metropolitan and inter-municipal plans are rare in the OECD. Only 11 types of such plans were identified. Some of the plans, such as the new Territorial Coherence Scheme (SCoT) in France and the Metropolitan Area Plan (광역도시계획) in Korea are prepared for every metropolitan area of the country. However, many others are unique plans that are prepared only for a single metropolitan area. In this category falls the Finger Plan for Copenhagen. It was developed in 1947 and is one of the oldest examples of planning for transport oriented development (Knowles, 2012). Other metropolitan plans for specific metropolitan areas include the Auckland Plan, the Budapest Priority Region Plan and the London Plan. Some of them are prepared and approved by the national government (Budapest, Copenhagen) and others (Auckland, London, Portland) by metropolitan authorities.

Not included in the 11 metropolitan and inter-municipal plans are regional or sub-regional plans that play the role of a dedicated metropolitan plan for some of the territories for which they are prepared, but are general regional plans in other territories. These plans can play an important role for policy co-ordination in metropolitan areas, but are formally similar to non-metropolitan plans. An example of such a plan is the Regional Plan Frankfurt-Rhine-Main in Germany (see OECD, 2015), which is part of the system of sub-regional plans that exist throughout Germany. In contrast to most other sub-regional plans in Germany, it focuses explicitly on a metropolitan area and is approved by an inter-municipal association rather than

the state-deconcentrated administration[4]. Beyond these aspects, however, it is similar to other German sub-regional plans of this type.

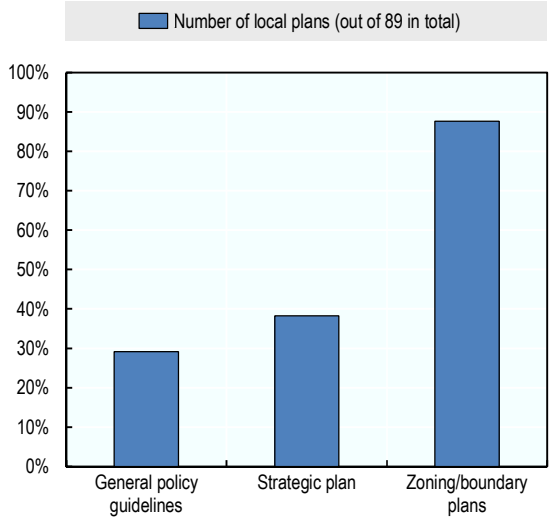
Most metropolitan plans fulfil several functions; 90% contain general policy guidelines, 70% include strategic plans and 50% contain detailed zoning or boundary plans.[5] Not surprisingly, those plans that contain map-based parts generally use small scale maps at a scale of 1:50 000 or 1:100 000. All metropolitan plans except one cover housing and transport. The exception is the draft of Transport Strategy for Dublin, which is prepared by the national government and is a sectoral plan focused entirely on transport.

More than three-quarters of all metropolitan and inter-municipal plans are binding for public authorities or the general public. This is somewhat higher than the share of binding regional plans and sub-regional plans (63%), but given the small number of metropolitan plans it is impossible to say if the difference is systematic or just the consequence of a statistical fluctuation due to the small sample.

Municipal and sub-municipal plans

A very large majority of plans at the local level include elements of boundary plans. Figure 1.13 shows the share of plans that serve each of the functions above. It presents a picture that is the reverse of the corresponding figures for national and regional plans. National and regional plans serve primarily as policy guidelines and strategic plans and less than a third of them contain boundary plans. In contrast, almost all local plans contain boundary plans and only around a third of them cover also general policy guidelines or strategic planning.

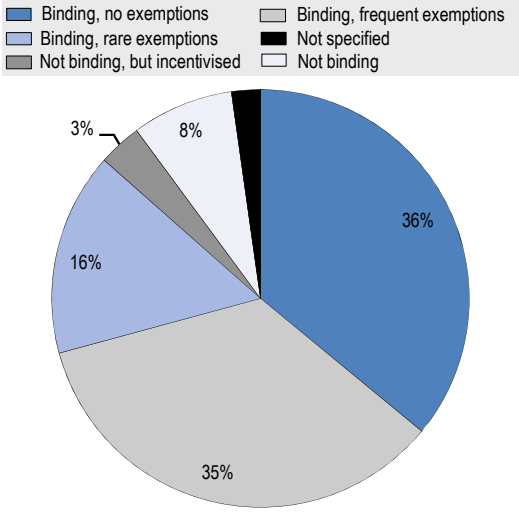
Figure 1.13. **Functions of local plans**



Note: Percentages do not add up to 100 as plans may combine different functions.

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.14. **Legal status of local plans**



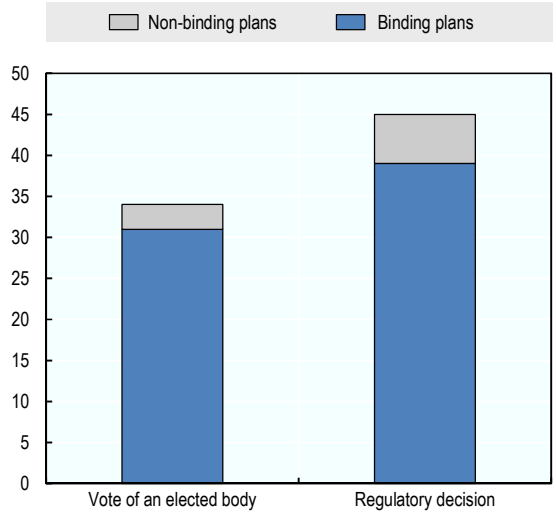
Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

The share of legally binding plans is the highest at the local level. As shown in Figure 1.14, 87% of all local plans are generally legally binding and 52% of them allow no or only rare exemptions. The relatively large share of strictly binding plans is a consequence of the regulatory role that local plans play in the planning process. Local plans are frequently the statutory instruments that determine permitted land uses and are relevant

for land owners. This may also explain the predominance of boundary plans among local plans. As discussed above, a precondition for enforcement of plans is the unambiguous nature of their content. Given the map based nature of boundary plans, ambiguity is less of an issue than in other plans.

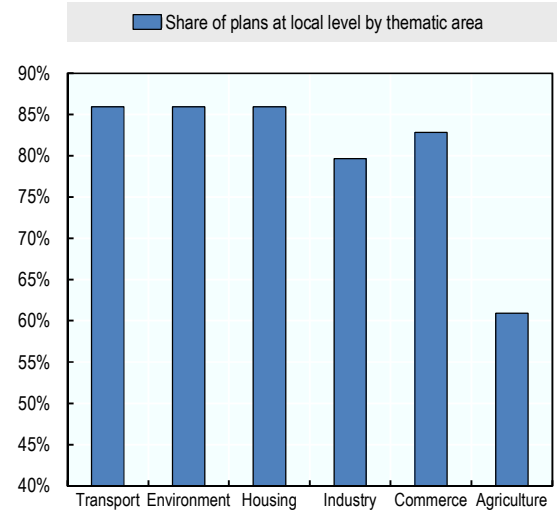
Compared to national and regional plans, local plans are more frequently approved through the vote of an elected body (e.g. the municipal assembly). A clear division is visible between those local plans covering the entire municipality or local government area and plans that cover only part of it. The former are often comprehensive plans that are frequently approved by the vote of an elected body, whereas the latter are detailed plans that are more commonly approved by regulatory decision.

Figure 1.15. **Approval processes of local plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.16. **Thematic areas covered by local plans**

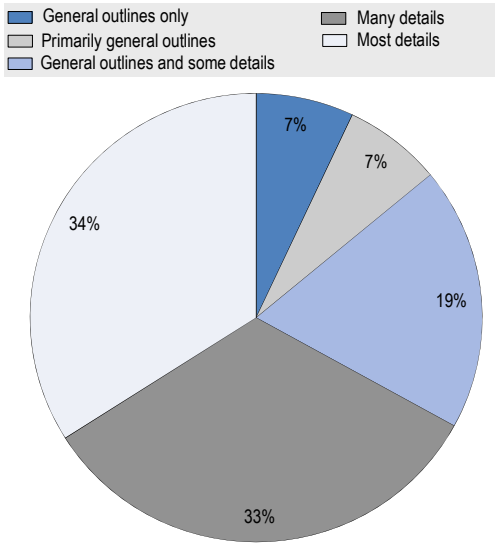


Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Among local plans, the cross-sectoral approach is even more pronounced than among national and regional plans. Virtually all plans cover transport, the environment, housing, industry and commerce. Only agriculture is not covered by approximately 39% of all plans. Given that almost all local plans are comprehensive plans or detailed plans based on comprehensive plans, the broad coverage of policy areas is not surprising. Furthermore, it can be interpreted as a consequence of the predominance of boundary plans at the local level. As boundary plans aim to indicate permitted uses, they have to include all typical land uses in the area that they cover.

Not surprisingly, local plans are the most detailed of all plans. 34% of them provide the most detailed regulations on land use that exist within their geographic and thematic domain. Another 33% contain a high level of detail. However, there are also 33% of local plans that contain no or only a few details. They are predominantly those plans that contain general policy guidelines and elements of strategic planning.

Figure 1.17. **Level of detail of local plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Other plans

Sixteen plans do not fit into the geographical classification used above. There are two reasons; first, some plans have a distinct geographical scope that can neither be described as national, regional, metropolitan or local. Turkey, for example has a coastal plan that covers its entire coastal area. Such a plan is neither a national plan (as it does not cover the entire country) nor a regional plan because it includes areas that belong to many different regions as they are typically defined. Similar cases are the German open pit lignite mining plan (which covers only areas where this particular form of resource extraction occurs) and the Czech water catchment area plan. Furthermore, several countries have environmental plans that refer only to environmentally protected areas.

Second, there are plans which may be prepared for very different geographical areas. This is the case for example with several plans in the Netherlands, such as the structure plans. These plans are prepared not only by every level of government, but they can concern a wide range of issues. Depending on what topic they cover, their geographical scope may vary strongly.

Most plans that do not fall into one of the defined geographical categories only have in common that they tend to concern a range of idiosyncratic issues. It is not possible to summarise them under a joint header. However, frequently these plans represent responses to very particular challenges and could therefore provide examples for countries facing similar challenges. More information on these plans can be found in the database published with this report.

Land-use governance in unitary vs. federal countries

In all federal countries, the distribution of responsibilities between national government and the federated states is constitutionally determined, either through an explicit allocation of powers in the constitution or implicitly through the principle that powers not allocated in the constitution are within the domain of the federated states. In all federal countries, the

federated states have significant constitutional powers regarding the structure of the planning system. In four of them (Austria, Germany, Spain and Switzerland), the constitution furthermore assigns an important role in planning to local governments.

Most federal countries differ from unitary countries insofar as state-level governments have the power to enact framework laws that structure planning systems. Of all federal countries, only Mexico and Switzerland enact binding framework laws for planning at the national level. In Germany, a national framework law exists, but federated states are not bound by it and can enact their own framework laws, which may deviate from it. In contrast, in unitary countries, the national government has the exclusive power to enact framework laws for planning. A notable exception to this rule is Italy, which, despite being a unitary country, has delegated the power to enact framework laws for planning systems to regional governments.

A second main difference between federal and unitary countries is the existence of general spatial plans made or approved by the national government. Table 1.2 shows whether countries have a general spatial plan or spatial guidelines at the national level. The classification does not consider sectoral plans such as national transport plans, which are important in influencing spatial development, but narrow in their focus. Only four (44%) of the nine federal countries in the OECD have plans prepared or approved by the national government. In contrast the national government is involved in the preparation and/or approval of spatial plans in 18 (78%) of the 23 unitary countries.[6] Furthermore, in one of the four federal countries (Austria) in which the national government prepares spatial plans, the national government's responsibility in the preparation of the plan is shared with other levels of government. In Switzerland and Germany, the guidelines for spatial development that are prepared by the national governments are non-binding documents. Mexico is the sole federal country in which the national government prepares legally binding cross-sectoral plans.

Given the greater degree of decentralisation in federal countries, it is perhaps not surprising that national level spatial plans are less common. It indicates that national governments of federal countries try less actively to steer spatial development through planning.

At the subnational level, the practical consequences resulting from the differences between unitary and federal countries are less important than at the national level. Just as most unitary countries delegate major powers for land-use planning to the local level, so do federal countries. The decentralisation to the local level is particularly strong in Anglo-Saxon countries, where the regional level has very little power regarding planning. In contrast, in other federal countries, the regional level takes a more active role in planning and has tools available to influence planning at the local level (see above).

It could be expected that federal countries have greater subnational differences in their planning systems than unitary countries because the responsibility for framework laws regarding planning lies with federated states instead of the national government. However, the collected data on planning systems does not support this hypothesis. No exceptionally large variation of formal planning systems exists within federal countries. If planning systems differ between regions, the differences concern predominantly soft factors such as the planning traditions and the interpretation of various laws and regulations.

Federated states within a federal country tend to adopt comparable planning systems even if in theory they could establish systems that vary strongly from each other. This might be due to common planning traditions or because other legal and institutional

settings provide implicit constraints on the practicability of planning systems. It might also be the case that it is beneficial for individual states to follow common approaches that are established in other federated states of the same country. For example, this could make it easier for businesses to operate across state borders.

Despite generally similar approaches to land-use governance within federal countries, differences between federated states within a country exist. However, they do not appear unusually large because many unitary countries have not chosen homogenous approaches to land-use governance, either. Frequently, unitary countries have enacted special planning procedures for specific territories, such as large metropolitan areas, coastal areas or areas of particular cultural significance. Compared to this diversity of planning systems, the differences between regions that can be found in federal countries do not appear exceptionally large.

For the character of a planning system, the degree of local autonomy seems to matter more than the degree of regional autonomy. Local governments have varying degrees of formal autonomy in making land-use decisions. Furthermore, the degree of supervision from higher levels of government may vary strongly independent from the degree of formal autonomy. In the collected data, there is little evidence that there are any systematic differences between unitary and federal countries in this respect.

Planning in the United States differs from most other OECD countries

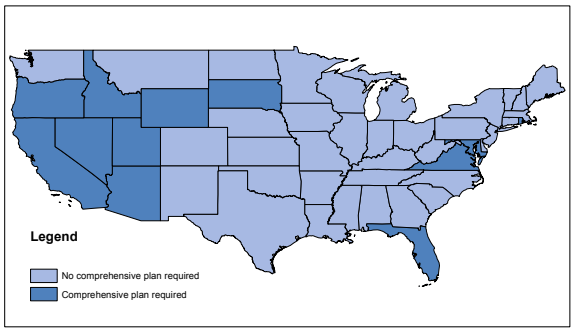
Planning in the United States differs from most OECD countries with respect to the degree of autonomy of local governments and the lack of involvement of higher levels of government in the planning process. The United States is a federal country and as in most other federal countries, the authority to create the framework legislation that structures the planning system resides with the federated states. However, states generally do not make use of this power to influence land use actively. Instead, most states have enacted limited framework legislation that allows local governments to adopt comprehensive plans and legally binding zoning ordinances, but do not take further measures to shape land use.

While all US states have framework legislation that authorises local governments to adopt comprehensive plans and zoning ordinances, only a few require them to do so (see Figures 1.18 and 1.19). In contrast to most other OECD countries, this creates the possibility for local governments to choose not to have any proactive land-use planning. In most states, local governments do not have to prepare any land-use plan nor impose any zoning regulation. If no land-use plans exist, only regulation that is not place specific, such as environmental regulation, steers development. Any development that complies with it is permitted.

The absence of national or state level requirements for local planning also implies that the differences between local approaches to planning may be significantly larger in the United States than in other OECD countries. This is exacerbated by the widespread absence of state-level or other supra-local plans. Only 13 US states prepare state-wide spatial plans and only a minority of them are legally binding for local governments.

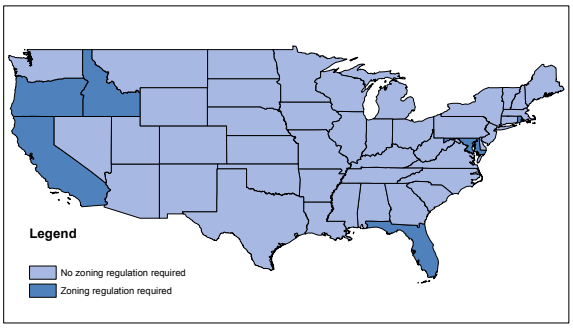
As a consequence, most local governments in the United States have a greater scope to determine their land-use policies than anywhere else in the OECD. The potential diversity in approaches makes it nearly impossible to provide a representative overview of the approaches to land-use governance that are used by the approximately 36 000 local governments in the United States.

Figure 1.18. **US states requiring local governments to adopt comprehensive plans**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.19. **US states requiring local governments to adopt zoning regulation**



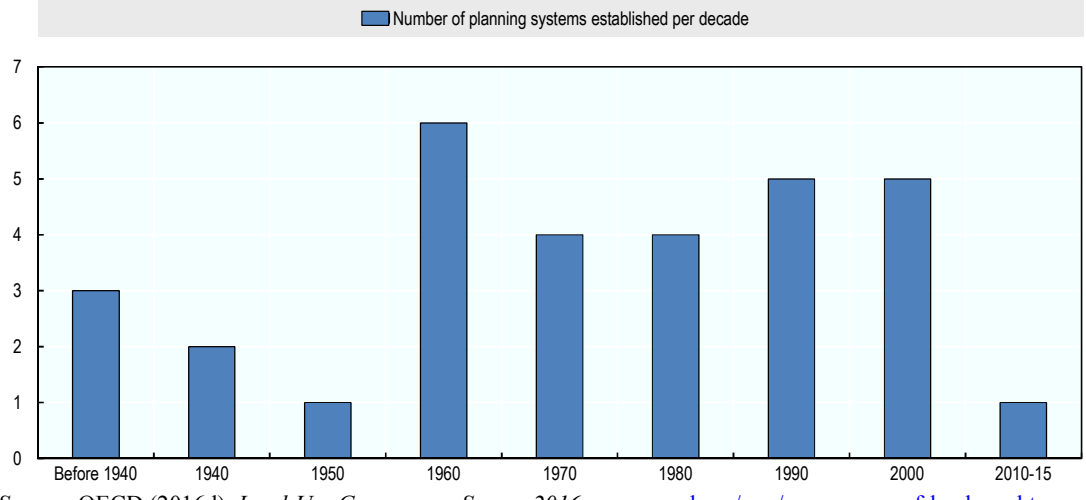
Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Reforms of the planning framework

Planning systems show a strong institutional persistence. As of 2016, the median age of the current system of land-use governance in its broad outlines is 37 years. This is based on expert responses to the question: "*Since when has the current system of land-use governance been in place? Please provide the year in which it has been established in its broad outlines, ignoring any more recent minor reforms*." An answer to this question inevitably involves a degree of subjectivity regarding what constitutes the "current system". However, in aggregate the answers provide a reasonable indication when planning systems were typically established. Furthermore, there is no indication that experts systematically differed in their judgement with respect to this question.

Figure 1.20 shows the number of current land-use governance systems that were established in each of the past eight decades. It becomes clear that major reforms to planning systems are rare, especially considering that many of the reforms that occurred in the 1990s and 2000s happened in eastern European countries as part of their transition from socialism to democratic market economies. Aside from those reforms, most land-use governance systems in the OECD were established before 1970.

Figure 1.20. **Decade of establishment of current systems of land-use governance**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

The persistence of formal planning systems contrasts to the fluidity with which planning practices can change. Many involved experts have remarked that planning practice in their country of expertise has changed considerably over the past decades. This suggests a considerable degree of flexibility in the current land-use governance systems. The same frameworks can accommodate considerable differences in planning practice if this is supported by the involved actors.

In contrast to major reforms that affect the land-use governance system in its broad outlines, reforms that concern specific elements of planning systems occur frequently. As discussed in the country pages in Chapter 2, reforms and reform attempts are on-going in many countries. Among them are the following; Chile is considering the introduction of regional land-use plans, but their eventual status has not been decided as of the time of writing. In France, an on-going reform introduces new regional plans (SRADDET) that integrate previously separate sectoral plans. The legal deadline for the adoption of such plans is the end of 2018. Greece is trying to simplify its complex planning system by replacing and abolishing existing plans. In Ireland a major reform at the regional level replaced eight Regional Authorities with three Regional Assemblies; as a consequence the old Regional Planning Guidelines are being replaced with Regional Spatial and Economic Strategies that are supposed to be more comprehensive spatial documents. In Israel, different national master plans are merged into a single plan. In Italy, ten provinces were given the status of metropolitan cities in 2015. These metropolitan cities are expected to adopt a newly introduced metropolitan plan. In Poland the Metropolitan Association Act of 2015 introduced a new planning instrument, the Framework Study for Metropolitan Areas, but no such plan has been yet approved. In Slovenia, reforms of the planning system are under discussion, but no decision regarding their scope and content had been made.

Horizontal co-ordination of policies across policy sectors

Co-ordination of spatial policies across sectors occurs at all levels of government in many OECD countries. However, the types of co-ordination activities vary between levels of government depending on the role of the respective level of government in the planning process.

At the national level, co-ordination is mostly conceptual, corresponding to the role that national governments tend to play in the planning process. Policy co-ordination at the local level is more concrete. As discussed above, most countries use comprehensive plans at the local level. They cover a wide array of policy areas that are under local control. However, even these plans frequently do not take the fiscal impact of land use into account or discuss how to use fiscal powers of local governments to steer land use (OECD, 2016a).

Across the OECD, consultation procedures within the public sector are common. They give public authorities and other relevant organisations the right to object to land-use plans. For example, in many countries public and private utility companies are specifically asked to comment on a land-use plan and have the right to object to it. However, these procedures tend to be focused at avoiding immediate conflicts over land use, for example that land required for utility networks is used otherwise. They do not commonly contribute to a pro-active strategic co-ordination of policies. Rather, they set out minimal requirements that have to be met for plans to be approved, but do not achieve a strategic consensus among the involved authorities how land should best be used in the future.

Furthermore, specific co-ordination arrangements exist that are either part of the regular planning process or dedicated to specific projects of high importance. In France, regional public policy conferences have been created. They assemble a variety of regional and local

actors under the chairmanship of the president of the regional council to discuss integrated strategies for regional and local planning policies. Portugal uses so-called government service conferences that have to take place at specified points in time during the planning process. For these conferences, representatives of different branches of government come together to discuss comments and objections to land-use plans under preparation. In Germany, special regional planning procedures exist to facilitate the co-ordination of planning of projects of particularly important spatial impact. They are used in the planning of projects with supra-local importance and assemble all stakeholders at an early stage in the planning process in order discuss and mediate any potential conflicts. While the outcomes of Regional Planning Procedures do not have legally binding status, they must be considered in the planning process.

Policies that are not directly related to planning are rarely assessed for their impact on spatial development and land use, even though they may have important consequences (OECD, 2016a). Where they exist, spatial strategies at the national level often provide the most general framework for integrating sectoral policies in a spatial framework. However, even broad spatial strategies only provide a limited discussion of the impact of other policy fields, such as tax policies, on land use.

None of the contributing experts to the OECD Land-Use Governance Survey has provided any indication that policies outside the domain of planning and environmental policy are regularly assessed in terms of their impact on land use. Given that contributing experts and corresponding literature frequently mention the failure of spatial plans to achieve the desired forms of spatial development, such an assessment could help to better steer spatial development. Most importantly, fiscal frameworks (i.e. taxes, subsidies, inter-governmental transfers, etc.) provide strong incentives for particular forms of spatial developments as discussed in Chapter 3 of OECD (2017a). Taking incentives into account and potentially optimising them with respect to desired spatial impacts could help to better steer land use without requiring more restrictive planning.

Co-ordination of policies between subnational and national government

Some form of co-ordination mechanisms between levels of government exist in all OECD countries. However, often they are limited in their scope. At a very basic level, co-ordination is provided by a governance framework that clearly defines roles and responsibilities for each level of government and avoids unclear and overlapping responsibilities. However, while clearly established roles and responsibilities help to achieve co-ordination, it is not sufficient if policies at different levels of government are interdependent. A policy at one level of government may affect policies of another level of government and vice versa. Thus, pro-active co-ordination mechanisms are needed that can help to align interdependent policies at different levels of government.

With respect to planning systems, the most common co-ordination mechanism is the hierarchical nature of most planning systems. Twenty-one (66%) of the 32 analysed countries have planning systems that can be defined as formally hierarchical in the sense of the definition in Box 1.2. In such systems, lower level plans need to comply with higher level ones. However, great differences exist among countries with formally hierarchical planning systems regarding the degree of influence of higher levels of government on the planning decisions of lower levels of government. While in a few formally hierarchical planning systems, national and regional levels exert strong oversight over local planning decisions, in others local governments have a high degree of autonomy in practice. The OECD land-use case studies of Israel (OECD, 2017b) and of Poland (OECD, 2016a) provide descriptions of two formally hierarchical systems of planning, but show the great

diversity that can exist between them. Whereas in Israel, the national government retains great influence over the planning process, it has very little control in Poland.

Box 1.2. **Definition of formally hierarchical planning systems**

A planning system is defined as formally hierarchical if every level of government that is involved prepares at least one such plan that provides legally binding regulations for lower levels of government. In other words, a planning system is formally hierarchical if every level of government that is involved in the preparation of plans has the power to issue binding guidelines or regulations to lower level of governments.

Notwithstanding this definition, important differences among formally hierarchical planning systems exist. While some formally hierarchical systems such as Israel's are very restrictive and give local and intermediate levels of governments little freedom (OECD, 2017b), others are much more flexible. They may create explicit possibilities for lower levels of government to influence the plans of higher levels of governments, such as the "counter flow principle" in the German planning system that foresees bottom-up input in higher level plans. Alternatively, higher level plans in a formally hierarchical planning system may not contain many elements that provide binding restrictions on lower levels plan. Such a case is for example described in the OECD (2016) Land-use Case Study of Lodz. Lastly, formally hierarchical planning systems may not be restrictive for lower levels of government because higher levels of plans are weakly enforced.

Similarly, planning systems that are not formally hierarchical may differ greatly in the degree to which higher levels of governments influence the planning decisions of lower levels of government. Local governments in the United States are largely free from the influence of higher levels of government when drawing their land-use plans. In contrast, national and provincial governments in the Netherlands may exert considerable influence on local plans and have the power to override them if it is considered necessary to in order to pursue national or provincial policies.

Source: OECD (2016a), *Governance of Land Use in Poland: The Case of Lodz*, http://dx.doi.org/10.1787/9789264260597-en; OECD (2017b), *Spatial Planning and Policy in Israel – The cases of Netanya and Umm al-Fahm,* (forthcoming).

Table 1.3. **Countries with formally hierarchical planning systems**

Formally hierarchical planning system	No formally hierarchical planning system
Canada	Australia
Czech Republic	Austria
Denmark	Belgium
Estonia	Chile
Finland	France
Germany	Japan
Greece	Netherlands
Hungary	Norway
Ireland	Sweden
Israel	United Kingdom
Italy	United States
Korea	
Mexico	
New Zealand	
Poland	
Portugal	
Slovak Republic	
Slovenia	
Spain	
Switzerland	
Turkey	

Note: The table distinguishes countries with formally hierarchical planning systems from those that do not have formally hierarchical planning systems. See Box 1.2 for a definition of formally hierarchical planning systems.

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Many countries have consultation requirements, which specify that other levels of government need to be informed and given the opportunity to provide comments on plans. In their most basic form, these consultation requirements are similar to other stakeholder involvement processes, with other levels of government being among many consulted actors (see also subsequent section on stakeholder involvement).

Going beyond consultation requirements, some countries require the approval of land-use plans by higher levels of government. Such approval requirements are independent of whether or not a country has a formally hierarchical system of planning as defined above. If approval requirements exist, they may be related to a plan's conformity with higher level plans, but also with other laws and regulations. A few countries have dedicated authorities that are responsible for this task (e.g. planning inspectors in the United Kingdom).

In countries that have de-concentrated administrations, the de-concentrated branches of the national government in regions are frequently involved in the co-ordination of spatial policies across levels of government. This is not surprising as policy co-ordination between levels of government is often a key function of de-concentrated administrations (they are branches of the national administration that operate within regions). More generally, the national ministry responsible for spatial planning often plays a more or less formalised co-ordinating role between levels of government even if it is not acting through a de-concentrated administration.

Special bodies dedicated to policy co-ordination across levels of government are rare. The Austrian Conference on Spatial Planning is an example of such a body and is described in Box 1.3.

Box 1.3. **Austrian Conference on Spatial Planning**

The Austrian Conference on Spatial Planning (ÖROK, *Österreichische Raumordungskonferenz*) is an organisation dedicated to co-ordinating spatial planning policies between the three levels of government in Austria (the national level, the state level and the municipal level). Its decision-making body is chaired by the Federal Chancellor and its members includes all federal ministers, the heads of all federated states and representatives of associations of local governments. Furthermore, business and labour organisations are represented on the body as consulting members. The work of the decision-making body is supported by a permanent secretariat with a staff of approximately 25-30.

One of the central tasks of the ÖROK is the preparation of the Austrian Spatial Development Concept, which covers a planning period of approximately 10 years and provides a vision and guidelines for spatial development that is shared by all levels of government. Beyond the preparation of the Spatial Development Concept, the ÖROK also monitors spatial development across Austria. It has developed an online tool that provides a mapping function of a variety of important indicators at the municipal and regional level and releases a report on the state of spatial development every three years.

The ÖROK is also the co-ordinating body for structural funds provided by the European Union. It manages the integration of structural funds into broader spatial strategies and was directly responsible for the programming work related to one of the 11 Thematic Objectives of the programming period 2014-2020. The ÖROK also serves as the National Contact Point within the framework of European Territorial Cooperation.

Source: ÖROK (2015), "Österreichische Raumordnungskonferenz / Austrian Conference on Spatial Planning", www.oerok.gv.at/fileadmin/Bilder/1.Reiter-Uber_die_Oerok/OEROK-Geschaefststelle/OEROK_Folder.pdf (accessed 1 June 2016).

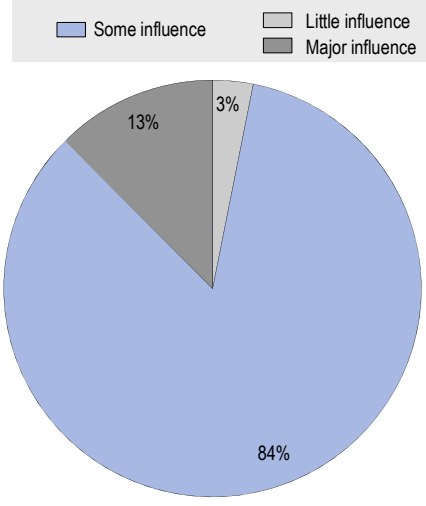
Stakeholder involvement

Formally, stakeholder involvement in land-use planning processes is structured similarly across most OECD countries. Statutory requirements to display a plan prior to approval in order to allow the public to comment exist in all surveyed OECD member countries. Generally, no restrictions exist on who is allowed to comment on a plan, but countries vary regarding how prominently new plans are announced. In some countries, draft plans only need to be available for examination in the premises of the planning authorities, whereas in other countries they are published online and announced in local newspapers etc. Common display periods of new plans range from two weeks (e.g. Ireland) to eight weeks (e.g. Denmark). In many countries, there are also requirements for public hearings about new plans.

Beyond the standard public participation processes, many countries have ad-hoc public engagement mechanisms for projects of particular importance or political sensitivity. While they are often not required by law, they may be initiated by public authorities or developers in order to find solutions to complicated planning problems or to increase the chances of success for controversial projects.

When provided with a choice of four options to evaluate the influence that stakeholders have on the planning process, the experts participating in this report showed a high degree of agreement. In 27 out of 32 countries, stakeholders are judged to have "some influence" on the planning process (see Figure 1.21).

Figure 1.21. **Stakeholder influence on the planning process**



Note: The figure shows the share of countries in which stakeholders have the indicated degree of influence on the planning process (according to the involved experts).

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

In their comments, several experts emphasised the role of the judicial review process as a second possibility for the public to intervene in land-use planning. This option is especially common as a means to prevent undesired planning decisions. Due to the potentially high costs of court proceedings in many countries, however, it is open only to individuals and organisations that possess sufficient financial resources. Furthermore, whereas the regular public participation process is generally open to all individuals,

several countries limit the right to appeals to parties that are interested in the plan in a legal sense.

It is important to note that despite the formal similarities of stakeholder involvement processes across the OECD, important differences in their practical implementation exist between member countries. Some of these differences have been highlighted in the related OECD Land-Use Case Studies (OECD 2016a, 2017b, 2017c, and 2017d). They illustrate the importance of institutional cultures and political traditions for effective public participation processes. Furthermore, they show that a suitable legislative framework is a necessary but not a sufficient condition for successful stakeholder involvement.

All countries face the challenge to find a balance between giving stakeholders a voice and influence on the planning process, while at the same time avoiding that the process is captured by interest groups. On the one hand, public participation and influence on planning improve the quality of planning and ensure a greater acceptance of planning decisions. On the other hand, it creates risks that special interest groups and local coalitions capture the planning process for their own interests. This can result in planning decision that benefit small groups at the expense of the greater public and foster the emergence of so-called not-in-my-back-yard policies (NIMBY).

Value capture

Land value capture (or value capture in short) refers to fiscal instruments through which public authorities can capture increases in property values that are unrelated to actions of land owners. Usually, it is targeted at capturing value increases that are caused by public policies, especially those due to public investment and those stemming from rezoning decisions. In the first case, the argument for value capture is based on recouping the costs of public investments, which benefit primarily particular land owners rather than the general public. In the second case, the argument is based on the fact that land price increases from rezoning decisions are windfall gains for private owners that are not caused through productive activities. Since they are the result of public policies, the resulting gains should also benefit the public.

Some form of value capture mechanism exists in the large majority of OECD countries. Typically, they aim at capturing either the windfall gain to land owners that can occur through zoning decisions or the increase in land values that occur through public investment (for example into infrastructure). While value capture mechanisms are common in principle, little is known about the degree to which they contribute to public budgets. However, anecdotal evidence suggests that their contribution is small. For the OECD Land-Use Governance Survey, 11 experts were able to provide ad-hoc estimates of what share of infrastructure costs could be funded through value capture instruments. Eight out of the 11 experts estimated that less than half of the costs of infrastructure for new developments can be recaptured. Often, only a few percent can be recouped.

The involved experts could not provide systematic estimates concerning the magnitude of value capture related to the costs of new infrastructure for already developed land. In any case, it is significantly lower than value capture for new developments, because many of the value capture tools that are commonly used do not affect existing developments. They are either by design not applicable to existing developments or subject to legal restrictions that exclude existing developments from being affected.

The most common value capture mechanism in OECD countries is “impact fees”, which are used in 17 of the 32 surveyed countries that are listed in Column 1 of Table 1.4. Typically, impact fees have to be paid by land owners for the construction of

infrastructure, which directly services their plots. They are often charged when land is initially developed, but may also be due when infrastructure is upgraded or significantly rehabilitated. Compared to other value capture they are relatively simple instruments. Especially for infrastructure in the immediate vicinity of a plot it is easy to calculate the costs and link them to the plot. Furthermore, as the fee is directly linked to the provision of a public service political acceptability might be higher than for other value capture mechanisms (see Rosenberg, 2006, for a discussion of impact fees in a US context).

"Joint developments" are the second most common form of land value capture mechanism. The term describes arrangements between public authorities and private developers to develop land jointly and share the resulting profits. Through them, public authorities can capture some of the value gains to land that result from rezoning decisions and/or the provision of infrastructure. Furthermore, joint developments potentially allow public authorities to exert more direct control over the characteristics of a development project than would be possible using only land-use planning tools.

Compared to other value capture methods, the fiscal effects of joint developments are highly uncertain. While successful projects can lead to considerable profits for public authorities, they also run the risk of incurring significant losses if the project fails, is more expensive than planned or property prices decline unexpectedly before it is completed. Joint developments are public-private partnerships and as such require specific capacity in the public sector to ensure that any contract that a local government enters is advantageous to the public. The OECD Principles for Public Governance of Public-Private Partnerships provide a further elaboration of these issues (OECD, 2012).

"Property or land value taxes" may be another value capture mechanism. Whether or not they fulfil this function depends on how they are structured and in particular how their tax base is assessed. They automatically capture a share of the increase in property values as long as the assessed property price on which they are based is regularly updated to reflect market values. However, if the tax base is rarely updated or updated according to an index that does not reflect the value of an individual property they do no serve as effective value capture mechanisms. In this case, the tax would not be affected by increasing property prices and thus, would not capture increasing land values. Since effective property tax rates are rarely higher than low single digit figures, property taxes capture only a small percentage of the value increase annually. As they are charged annually, they may capture a significant percentage of the value increase in the long run.[7]

While property taxes are common in all OECD countries, only some countries calculate its tax base in such a way that it serves as a value capture instrument. In the majority of a countries, it is only infrequently updated (every 10 years or less), which means that an increase in property values is on average only years later reflected in a higher tax. Furthermore, some countries update the tax base regularly, but base the updates on a general index such as a house price index or the GDP deflator. In these cases, local value increases to property are not captured by the tax, as the valuation methods only consider economy-wide changes to property prices. Column 3 in Table 1.4 lists only those countries where property tax bases are updated more frequently than every 10 years and where updates are not based on an index.

Beyond its tax base, several other characteristics of a land value or property tax are important in determining if and to what degree it functions as a value capture method. They go beyond the scope of this report and are discussed in further detail in Fensham and Gleeson (2003).

"Land banking" is the practice of assembling plots of undeveloped or underdeveloped for further development or sale. Often, land banks buy small adjacent plots in order to combine them into larger plots, which can be more effectively used (van Dijk and Kopeva, 2006). Land banks make profits by reselling land at higher prices than they bought it. When land banking is used by public authorities, it is often a dedicated publicly owned corporation that is responsible for assembling land.

Publicly owned land banks are particularly effective in capturing land value gains if mechanisms exist to ensure that they capture the increase in land value that occurs through the rezoning of land for development. This may be ensured by land-use plans that zone primarily those greenfield sites for development that are owned by publicly controlled land banks. Alternatively, specific legal mechanisms such as pre-emptive purchase rights for land banks may be used. They can ensure that land owners must sell land to land banks at a price that corresponds to the valuation of the greenfield site in case it had no prospect for development. In Germany, for example, land owners can be obliged to sell land to municipal development corporations that operate as land banks for large developments. The sales price must correspond to the valuation that the land had without the prospect of the planned development. The only exceptions to this rule are cases in which land owners are willing and able to undertake the planned development themselves. In these cases, land owners need to pay compensations to public authorities that correspond to the increases in land values caused by the foreseen development.[8]

"Tax increment financing" is an accounting technique through which investments are financed by borrowing against expected increases in future tax revenues. Even though it is frequently discussed in the context of value capture instruments (for example in Levinson and Istrate, 2011, and Medda and Modelewska, 2011) it does not create any additional revenues for public authorities and it is debatable if it should be considered a value capture instrument. Tax increment financing works by calculating the difference in future tax revenues that accrue depending on whether or not an investment project is undertaken. This difference (i.e. the tax increment) is dedicated to paying down a loan that is used to finance the investment project. However, in contrast to other land value capture methods, it does not itself involve the levying of any dedicated taxes. Whether a project is financed through tax increment financing or through other financing methods (for example out of the general budget of a government) has no effect on current or future tax revenues. In contrast, all other value capture methods that are discussed in this section are sources of revenue in their own right.

Although it does not raise revenues in itself, tax increment financing may be a useful technique for several reasons. Since it requires the calculation of a tax increment, it ensures that at least a partial cost-benefit analysis is undertaken before a project is approved. Furthermore, depending on the fiscal and legal framework, it may allow local governments or other public authorities to finance beneficial infrastructure investments that otherwise they may have been unable to finance.

"Betterment levies" (sometimes called "special assessments") are charged to capture the increase in property values due to a public action, such as the rezoning of land or the provision of infrastructure. In contrast to impact fees, which are generally related to the provision of infrastructure that services a particular property, betterment levies are more broadly defined and can also capture the windfall gain that occurs from the rezoning of a plot or the provision of a public service to an area. Furthermore, they can be charged over larger areas to capture the increase in property values in an entire neighbourhood that benefits from a new public transport connection. Whereas impact fees are charged at the

time development occurs, betterment levies can be charged at any point in time at which a public action causes an increase in property values. Despite the differences between impact fees and betterment levies, in practice they may not be clearly distinguishable. In Germany, impact fees can for example be charged to entire neighbourhoods that benefited from rehabilitation measures that are not necessarily related to particular plots. As such, these fees have characteristics that are in many respects similar to betterment levies.

Table 1.4. **Land value capture mechanisms**

Impact fees	Joint developments	Property tax (only countries that update tax-base regularly)	Land banking/ pre-emptive purchase rights at unimproved valuations	Tax increment financing	Betterment levy	No value capture
Australia	Austria	Australia	Austria	Canada	Israel	Belgium
Austria	Czech Republic	Chile	Finland	Finland	Poland	Hungary
Estonia	Denmark	Denmark	Germany	France	United States	Ireland
Finland	Estonia	Finland	Japan	Korea		Slovenia
France	Finland	Japan	Korea	Spain		United Kingdom
Germany	Israel	Korea	Norway	United States		
Greece	Japan	Mexico	Spain			
Israel	Korea	New Zealand	United States			
Italy	Mexico	Portugal				
Japan	Netherlands	Turkey				
Korea	New Zealand	United States				
Netherlands	Norway					
New Zealand	Slovak Republic					
Slovak Republic	Switzerland					
Sweden	United States					
Switzerland						
United States						
17	15	11	8	6	2	5

Note: Column 3 lists only those countries whose property taxes have characteristics that make them effective value capture instruments. Due to the high degree of fiscal decentralisation in federal countries, the availability of any of these instruments may vary significantly from state to state.

Source: Column 3 on property taxes is based on data from the OECD (2015), OECD Fiscal Decentralisation Database (database), www.oecd.org/ctp/federalism/oecdfiscaldecentralisationdatabase.htm (accessed 2 June 2016), all other columns are based on OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Aside from the listed land value capture instruments, "development agreements" (sometimes also called "negotiated exactions") between local governments and developers are common in many countries and were mentioned by several experts. They are agreements through which developers agree to provide in-kind or financial contributions in return for obtaining planning/building permissions. They may concern the construction of infrastructure or the provision of public spaces in a development project, but are not limited to them. In some countries, local governments can attach financial conditions to a development permit (e.g. Netherlands), which require developers to make direct payments to them.

Several experts have emphasised the importance of development agreements, but have argued that they are lightly regulated and negotiated on a case-by-case basis. Therefore, they can include a variety of other arrangements that go beyond the examples provided. A clear delineation of what constitutes a development agreement is difficult.

Wegner (1986) emphasises the contractual nature of development agreements as a defining characteristic. However, from a practitioner's perspective, a broader definition may be more useful. It could include any negotiated solution through which a developer provides a contribution that would not have been made solely based on the business case in return for obtaining the right to develop. This would include contracts between the developer and the planning authority, but also informal agreements.

Development agreements in a broad sense have the advantage that they are very flexible instruments that allow public authorities and developers to find specific solutions to specific problems. However, the same flexibility also increases the risk that they are used inconsistently across different development projects and that politically well-connected developers may receive more lenient agreements than others. For the same reasons, they may also increase the risk of corruption. Given that development agreements are frequently unregulated and used on an ad-hoc basis, it is difficult to estimate their importance for any particular country, let alone for the entire OECD. Comments by experts and insights gained in OECD land-use case studies suggest that they are a major channel through which developers contribute to public purposes.

Beyond the listed instruments, other value capture mechanisms exist that are often applicable only in specific settings. Evidence on them comes primarily from individual cases and little information exists about how systematically they are used and what revenues they create. Among the specific instruments, Levinson and Istrate (2011) discuss "air rights" as a possibility to raise revenues by valorising unused air space over infrastructure, e.g. selling the right to build over rail or road corridors. In a different setting, air rights might be revenue generating if building heights are restricted by planning regulations but developers have the possibility to buy the right to add additional floors to a building from public authorities. Another specific value capture instrument is "transport utility fees". They are calculated based on the estimated number of trips that are generated by a property and may be charged as a one-off fee or on a recurring basis (see Medda and Modelewska, 2011).

Penalties for underdeveloped land

Financial penalties for underdeveloped land (i.e. land that is zoned for development but remains undeveloped or not developed to the densities it is zoned for) are rare in OECD countries.[9] Chile charges a systematically higher property tax on undeveloped land in urban areas in order to prevent leapfrogging development and vacant sites within city centres. In the Slovak Republic, owners of underdeveloped urban plots may face penalties if their plots have negative impacts on neighbours. In Estonia, local governments have unsuccessfully tried to impose financial penalties on owners of underdeveloped land. In Portugal, several local governments are attempting to increase property taxes on vacant land.

The most common penalty for underdeveloped land is the expiration of planning/building permission (for example in Denmark, Finland, Italy and the United Kingdom). Planning/building permissions might expire automatically or can be revoked by the authority that granted them if construction on the project for which they were granted does not start within a certain time frame (typically between one and ten years).

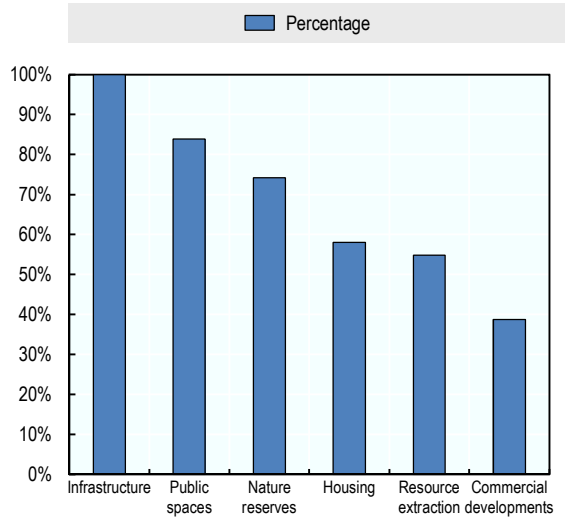
As a measure of last resort, the possibility to initiate expropriation procedures against land owners who fail to develop a plot according to a plan exists in many countries.

However, this requires that strict legal conditions for expropriations are met and is consequently rare in practice (see subsequent section for details).

Expropriations

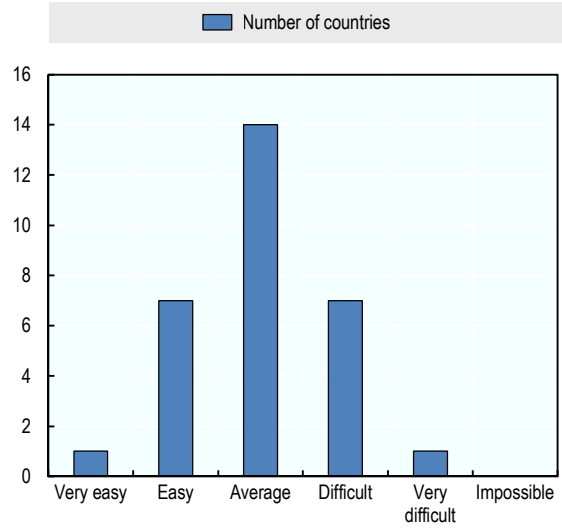
The expropriation of land is possible in all OECD countries, but the reasons for which land can be expropriated vary. While in some countries (e.g. Israel, Japan, and Norway) reasons for expropriation are precisely listed in the relevant law, in others the criteria are more general. In all countries, expropriations are possible for the construction of infrastructure, such as roads, railways, and electricity grids. The provision of other public spaces, such as parks, is a reason for expropriation in 84% of all analysed countries and the establishment of nature reserves may justify expropriations in 74% of them. In 58% of the cases, the construction of housing is a cause for expropriations and in 55% it may be mining and other resource extraction. General commercial developments, such as the construction of a factory or a shopping centre may justify expropriations in 39% of all countries (see Figure 1.22).

Figure 1.22. **Percentage of countries that allow land expropriations for specified purposes**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

Figure 1.23. **Ease of the land expropriation process according to academic planning experts**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

In general, a precondition for expropriations is that the proposed development is in the public interest and that it cannot be realised without the expropriation. This implies that the project must not be feasible using a lesser measure (for example an easement on the land) and that a reasonable attempt to buy the land amicably must have been made before expropriation procedures can be started. Land owners are entitled to compensation, which is often oriented on the market value of the property, but may differ. Japan, for example, requires a "fair" compensation to be paid to land owners, which includes not only the market price, but also financial compensation for moving costs, the offer of a new home if the old one was expropriated and, in the case of expropriated farmland, a guaranteed offer of new farmland to continue agricultural businesses.

In all surveyed countries, expropriation procedures can be initiated by public authorities, although the process may require the approval of the responsible minister in the national government. Some countries (e.g. Korea and New Zealand) also allow utility companies and similar organisations to initiate expropriation procedures.

Countries vary regarding the possibility of expropriation of land for private uses (e.g. commercial developments). While in some countries, the sole criterion for expropriation is the question whether a proposed development is in the public interest (e.g. Germany, Greece, Netherlands, Turkey and United States) in others (e.g. Australia, Belgium, Chile, Hungary, Ireland, Poland, and Slovenia) it is limited to developments that are publicly used. In other words, in the first set of countries, land may expropriated for the purpose of building an office park that creates jobs and raises the tax base of a community, whereas in the second set of countries, this would be impossible. In other countries (e.g. Finland and Italy), expropriation for private purposes is theoretically possible, but very rare due to political and legal constraints. Even countries that do not allow the expropriation of land for private purposes allow other restrictions, such as easements (i.e. the granting of right-of-way), on private property for the benefit of other private actors.

Most experts judged the ease with which land can be expropriated as average (see Figure 1.23). When expropriation was judged to be difficult, this was generally explained by political difficulties rather than legal or administrative problems. If legal disputes were mentioned, they concerned the amount of the compensation rather than the question whether the expropriation decision in itself was lawful. Experts from three countries noted that despite mostly unchanged regulations, the frequency and scope of expropriations has declined in recent decades. This was argued to be due to a changing political climate, which has reduced the public's acceptance for expropriation.

Land readjustment

Aside from expropriations, a related set of procedures is summarised under the term "land readjustment". In contrast to expropriations, the objective of land readjustments is not the transfer of property rights from one owner to another, but the reshaping of existing plots in order to allow for more efficient use. Generally, it is applied to an area consisting of several plots that have inefficient shapes for the foreseen use. The land in the area is pooled and more efficiently shaped plots are drawn. These plots are redistributed to owners of the former plots such that the value and/or the size of a new plot corresponds to that of the former plot. Potentially, land for public infrastructure and facilities is reserved in the process. In this case, the size of the readjusted plots is reduced proportionally to their original size (Hong, 2007). However, since readjustment tends to be a prerequisite for an efficient use of land and increases land values the reduction in plot size does not usually lead to financial losses for property owners. In contrast, it is frequently associated with value increases. To capture any potential gain through land readjustment, it may be used in conjunction with value capture mechanisms (for example in Germany).

As land readjustment is generally not considered expropriation, legal requirements are lighter than for expropriations and the process is easier to facilitate. However, in contrast to expropriations that are possible in all OECD countries, land readjustment mechanisms exist only in some OECD countries (e.g. France, Germany, Israel, and Japan). Land readjustment mechanisms may be used in urban and in rural contexts. In the former setting, its primary goal is to improve possibilities for development, whereas in the latter context it aims at creating plots that are better suited for modern agricultural

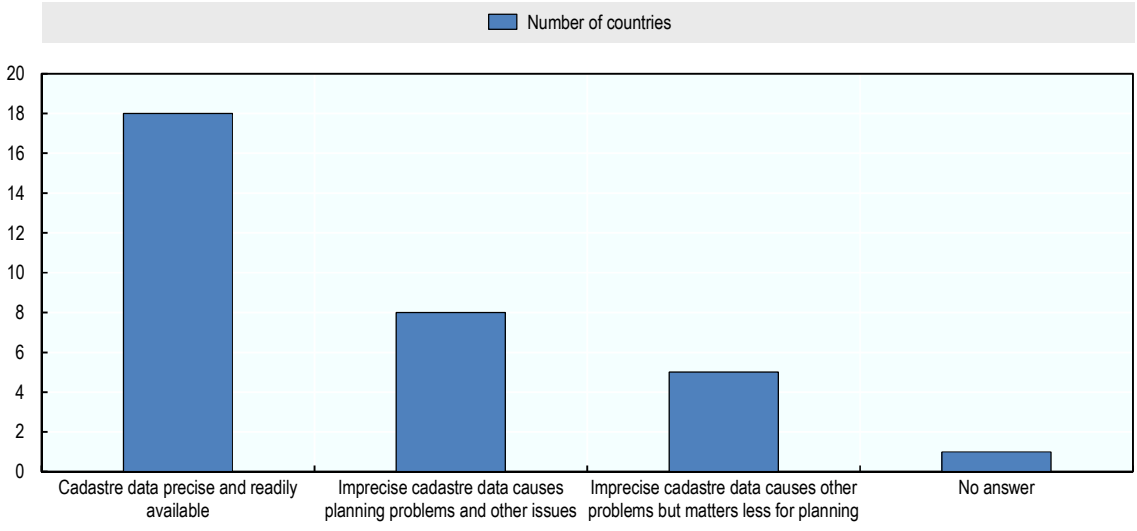
techniques or to facilitate soil improvement measures, such as drainage. For an in-depth discussion of land readjustment, see Hong and Needham (2007).

Cadastre data

The quality of cadastre data varies strongly across OECD countries. The majority of countries has precise and up-to-date cadastre maps in digital format that are often available online. However, in 13 countries experts judged the quality of cadastre as insufficient. Often, this concerns predominantly rural areas. As Figure 1.24 shows, in 8 of the 13 countries, experts deemed this to affect land-use planning whereas in 5 it primarily affected other areas. Several experts remarked that countries, which have quality issues with their cadastre data, are working on initiatives to improve its precision and digitise it.

The degree to which imprecise cadastre data poses a problem for land-use planning varies between countries and depends on the severity of the issues and also on the role that cadastre data plays in the planning process. In some countries, land-use plans are prepared directly on the basis of cadastral maps, whereas in other countries different sources are used. While cadastre data is often most important for the preparation of detailed plans, the limited geographical scope of many detailed plans makes land surveying feasible if inaccurate cadastre data causes problems in their preparation.

Figure 1.24. **Quality of cadastre data in OECD countries**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

A lack of precise, up-to-date or digitally available cadastre data may create a variety of other challenges that affect land management. Among them are title disputes, problems concerning the enforcement of planning decisions, problems in the collection of property taxes and in the planning of infrastructure, such as water and sewage pipes and electricity and telecommunication lines. A detailed discussion of these issues is beyond the scope of this report. Further information on issues related to land administration and land management can be found in UNECE (2014) and other publications of the UNECE Committee on Housing and Land Management.

Enforcement of planning decisions

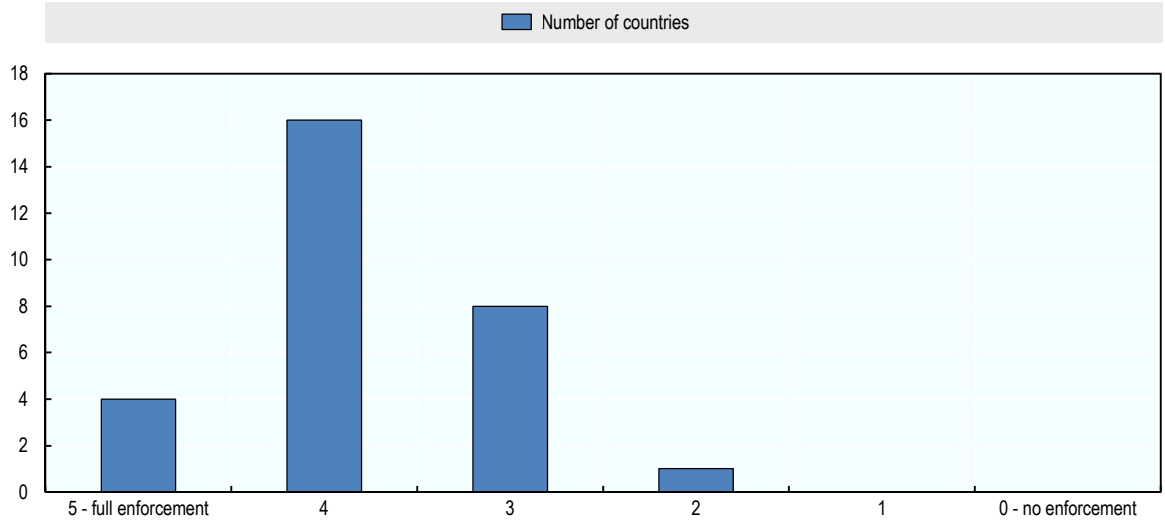
Many experts contributing to this project argued that patterns of spatial development frequently deviate from those that are foreseen by plans. However, in most countries, this is not due to the enforcement of legal regulations. On a scale from 0 (no enforcement) to 5 (full enforcement), experts from 21 countries rank the enforcement in their countries as either 4 or 5. In eight countries it has been ranked as 3, indicating that severe enforcement issues exist and only in one country it has been ranked as 2 (see Figure 1.25). Even in OECD countries where land-use regulations are not fully enforced, several experts argued that the amount of illegal construction has declined over the past decades or at least that public awareness of the issue has increased.

In many countries, possibilities for retroactive legalisation of buildings that contravened existing land-use plans at the time of their construction exist. It may require changes to the building to bring it back to a legal state or involves the payment of a fine. While this can be a solution to deal with inadvertent breaches of planning laws, it may be problematic if it is used too regularly. In this case, land owners might expect that illegally constructed buildings will be legalised and behave accordingly. In these cases, it encourages further illegal construction unless the fines that have to be paid are high enough to act as an effective deterrent.

In several countries (e.g. Israel, Japan, Korea, and Slovak Republic) illegal construction is a criminal offence that – in severe cases – is punishable by prison.

Especially countries that face challenges in enforcing land-use regulations benefit from establishing a fiscal framework that provides incentives to comply with land-use regulations. As discussed in more detail in Chapter 3 of OECD (2017a), taxes and subsidies create strong incentives to develop land in particular ways. If they are aligned with the objectives of land-use regulations, businesses and individuals are less likely to seek to develop land in ways that conflict with the spirit or the law of land-use regulations. Through this mechanism, the fiscal system can contribute to the enforcement of land-use regulations.

Figure 1.25. **Degree of enforcement of planning regulations**



Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

It has to be emphasised that even perfect enforcement does not guarantee that actual patterns of development correspond to those envisioned in plans. Many countries have special permitting processes that can allow developments even if they do not correspond to existing plans. These processes have often been introduced as a response to the rigidity of the regular planning processes. As discussed in OECD (2017a), they are supposed to give authorities the possibility to respond to fast-changing circumstances and introduce more flexibility into the planning system. However, they also contribute to isolated land-use decisions that lack the strategic dimension that the regular planning system can often provide. In many countries, planning authorities also have considerable discretion in approving or rejecting planning applications, irrespective of existing plans.

Furthermore, many plans, especially those of a strategic nature, are flexible by design in order to avoid the pitfalls associated with excessive rigidity of plans (see OECD, 2017b). Instead, they are based on the principle that planning or building permissions are granted only if they are in line with the spirit of the plan without providing unambiguous legal criteria when to do so. In many cases, arguments exist to allow developments despite their conflicts with plans. Thus, it is not surprising that such plans tend to be only successfully implemented if a strong commitment by all relevant actors at the administrative and political level exists to follow their guidelines (see OECD, 2016a, for a successful example).

Common challenges related to land use

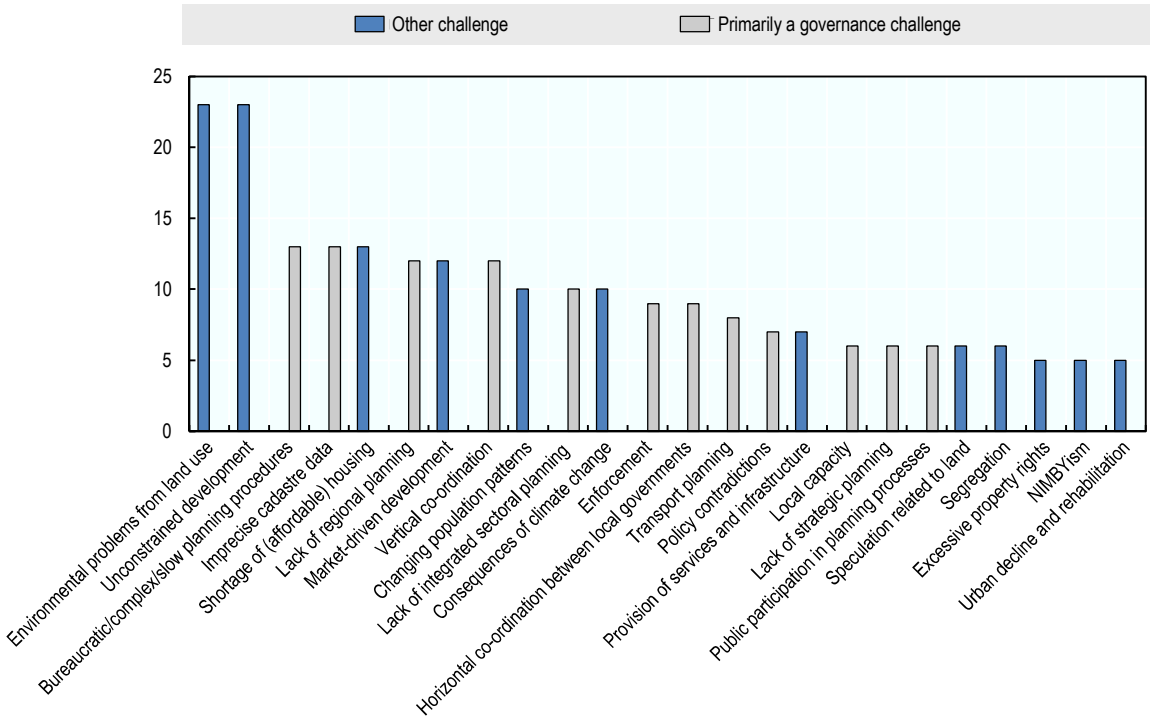
Although land use and land-use policies in each OECD member country are distinct, common challenges emerge that are present in many countries. This section provides a snapshot of common challenges that member countries face according to the experts from the 32 countries that contributed to the data collection for this report. Experts were asked to describe any "major challenges related to land use" that they considered important for their country. 140 challenges have been mentioned that can be grouped into 40 categories. The response to such a question inevitably involves a degree of subjectivity and the OECD has not been able to verify and harmonise all provided answers. Therefore, no country-specific details are provided and the underlying data will not be released. Instead, the aggregate overview in this section is supposed to reflect the views of academic researchers and experts on land-use planning concerning the frequency of specific challenges across the OECD.

Two caveats need to be kept in mind when interpreting the results in this section. First, they are only informative regarding how common a particular challenge is, but cannot provide any insights regarding its severity. Second, they provide the perspective of academic researchers in the field of land-use planning. Thus, the results may not necessarily correspond to the judgement of policy makers or to that of experts from other disciplines.

No instructions were provided to mention any particular challenge, except that it should be related to land use. Nevertheless, most of the challenges listed by experts can be divided into two general categories. On the one hand, there are governance challenges, i.e. those issues that concern the functioning of the policy-making process in general and of the land-use planning process in particular. On the other hand, there are challenges that are related to patterns of spatial development and other external conditions. Some of those are a consequence of land-use planning, whereas others are processes to which land-use planning has to adapt and respond.

Figure 1.26 shows the number of countries for which a particular challenge has been mentioned as important. It distinguishes governance challenges from those not necessarily related to governance. In total, there are 21 challenges that have been mentioned in more than 5 countries. 12 of them are governance challenges and 9 are other challenges related to land use, primarily those that are related to patterns of spatial development. Governance challenges do not concern actual land use but are related to shortcomings in the planning process itself. As such, they are likely to contribute to those challenges that are related to land use and patterns of spatial development.

Figure 1.26. **Challenges related to land use according to academic planning experts**



Note: The figure shows the most common challenges related to land use that member countries face according to the experts that contributed to this project. The vertical axis shows the number of countries that face a particular challenge.

Source: OECD (2016d), *Land-Use Governance Survey 2016*, www.oecd.org/gov/governance-of-land-use.htm.

The two most common challenges are closely related; "environmental problems" related to land use and "unconstrained development" are each listed as challenges in 23 countries. By far the most common environmental problem that has been mentioned by experts is the development in environmentally valuable areas and an associated loss of biodiversity. The challenge of unconstrained development is related to environmental issues, but not necessarily identical since unconstrained development may create problems even if it has no environmental impact. Nevertheless, both challenges can be described as development that occurs where it should not occur from a planner's perspective.

This is partially backed up by the land cover data described in Chapter 4 of OECD (2017a). In all 26 countries for which land cover data was available, the share of developed land has increased in the first decade of the new millennium. The smallest increase in developed land was recorded in Switzerland (+0.6%) and the largest increase occurred in Spain (+21.6%). However, it should be noted that in 12 out of the 26 countries, the rate of increase in developed land was lower than the population growth rate, which implies that land use on a per capita basis has become more efficient.

Six more challenges have been mentioned in more than a third of the analysed countries. Four of them are primarily governance challenges. "Imprecise cadastre data"[10] and "bureaucratic, slow or complex planning procedures" have been mentioned as a challenge in 13 countries (not necessarily in the same countries). A "lack of regional planning" and problems concerning "vertical co-ordination between levels of government" have each been mentioned for 12 countries.

The next four most common challenges not directly related to governance are the "shortages of (affordable) housing", "market-driven development", "changing population patterns", and "consequences of climate change". All of them are mentioned in 10 or more OECD countries according to the surveyed experts. They have in common that they concern external developments, which are not directly under control of land-use planners but to which land-use planning has to adapt. Their frequent mention as challenges suggests that many planning systems have problems to adapt to a changing environment. This hypothesis is supported by the fact that the presence of each of the four challenges is strongly correlated to the presence of the challenge *bureaucratic, slow or complex planning procedures*. In other words, countries where bureaucratic or slow planning procedures are a problem are also more likely to face difficulties adapting to external developments. This can be seen as further evidence for the need to establish flexible and responsive planning systems.

Notes

1 . Different levels of regional governments or other regional authorities are summarised under the term regional government. If countries have two levels of regional government between local and national level it is generally only one level that is systematically involved in land use decisions.

2. National and regional plans are generally only legally binding documents for other public authorities, even though they may also address the general public.

3. The remaining 10 plans refer either to other policy areas such as water or waste, or it has not been possible to collect detailed information on their content.

4. State-deconcentrated administrations are regional or local branches of the administration of higher levels of governments.

5. No information could be collected on one metropolitan plan.

6. The difference is statistically significant at the 90% confidence level.

7. If property taxes were equal to the annual return on land, they would capture all land value and land had a price of 0. In a hypothetical case where land has a net return of 5% annually and effective property taxes are 1%, property taxes would capture 20% of the value increase in the long run. If effective property tax rates were 0.1%, they would capture 2% of the value increase in the long run.

8. See *Baugesetzbuch* (German Building Law), 169(4).

9. This section refers only to unitary countries. In federal countries, the fiscal arrangements may differ from state to state, which made it impossible to collect the required information.

10. In contrast to the other challenges that are listed, information on the quality of cadastre data was explicitly requested by the questionnaire. Thus, it is possible that the issue of cadastre data was mentioned more frequently than it would have been otherwise.

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Chapter 2

Country fact sheets

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Australia

The planning system

Levels of government and their responsibilities

Australia is a federal country divided into six states and two self-governing territories (henceforth included under the term states). Below the state level, 571 municipalities exist. As land use is not explicitly discussed in the constitution, states have most responsibility for land-use planning (based on the principle that powers not assigned to the federal government by the constitution reside with the states). The national government has limited responsibilities related to land-use planning. Most importantly, it can influence land use through environmental regulations. Furthermore, it directly controls land use in selected areas, such as national parks.

Formally, the most powerful actors with respect to land use are the states as they enact the framework legislation that structures the planning system. Each state has created enabling laws that specify how land use is regulated. In practice, states delegate land-use planning to local authorities and municipal plans are the main planning instruments in all states except for the sparsely populated Northern Territory, where a land-use plan for the entire state exists.

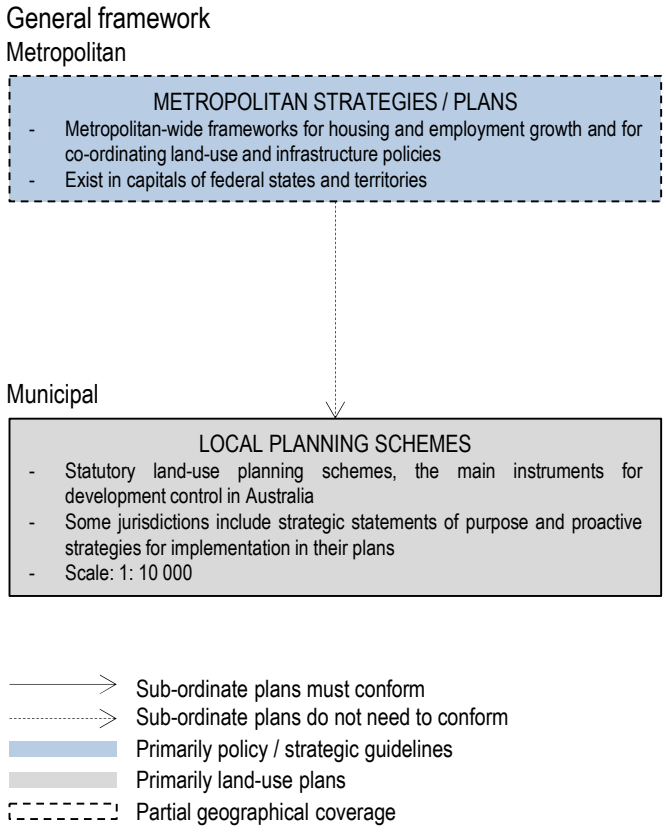
Local Government Authorities are the most important actors involved in land-use decisions due to the responsibilities that are given to them by the states. They are primarily responsible for drawing up and approving local land-use plans that determine permitted development. Furthermore, they prepare related zoning regulation and can issue other ordinances to influence the built environment within their jurisdictions.

Spatial and land-use plans

The most important type of plan and the only one that exists across most of Australia are *Local Planning Schemes.* While they differ somewhat from state to state, they generally provide both general objectives for the spatial development of a municipality and detailed descriptions of permitted land use (including regulation on floor space, site setbacks, etc.). While the scale of Local Planning Schemes varies from state to state, it is typically in the range of 1: 10 000.

Metropolitan Plans exist in all metropolitan areas in Australia. They provide a metropolitan-wide framework on how to accommodate housing and employment growth, and for co-ordinating land use and infrastructure. They often contain targets for how the projected need for new housing is distributed between the different Local Government Authorities and to identify strategic sites for urban development. Metropolitan plans are not legally binding for Local Government Authorities, but there is a general expectation that they will be given statutory effect (i.e. be implemented) through Local Planning Schemes. These should, for instance, reflect the expectations of Metropolitan Plans with respect to residential and industrial zoning.

Organisation of spatial and land-use planning in Australia



In addition to the above-mentioned plans, a number of other plans exist in most Australian states. These are typically *Coastal Management Plans*, *Threatened Species Recovery Plans*, *Development Control Plans* (that guide development at the neighbourhood level) and *Development Contribution Plans* that provide frameworks for the required contributions from developers.

Major laws and regulations

Most laws and regulations affect land use on the state level. Four relevant types of laws are under the responsibility of states but are common across all of Australia. First, each state has enacted framework legislations that establish the planning system and govern planning processes. Second, environmental protection laws regulate water, noise, air pollution and similar issues at the state level. Third, state laws establish national parks and protect native species. Fourth, heritage laws at the state level protect man-made items of particular value.

Co-ordination mechanisms

On the national level, several national ministerial council and inter-governmental committees exist to co-ordinate land-use related policies in Australia. The *Council of Australian Governments* is comprised of the prime minister, the state premiers, the territory chief ministers and the President of the Australian Local Government Association. It provides both vertical co-ordination between the federal government and

the state governments and horizontal co-ordination between different policy fields. Since its creation in 1992, it has addressed important land-use related topics such as water reform and reforms of environmental regulation.

Several other subject-oriented *Ministerial Councils* exist to provide vertical co-ordination between levels of government. Policy areas in which ministerial councils exist include for example local government and planning, environmental protection and heritage, energy and natural resources. They are generally comprised of ministers from the federal and state level and in several instances also include the responsible minister from New Zealand. The *Local Government and Planning Ministers' Council* is furthermore supported by committees made up of senior civil servants from the local level.

On the local level, metropolitan plans are the co-ordinating instrument used by most states. Although they are typically not binding for local governments, it is expected that local governments take them into account when making their own land-use plans. Any further co-ordination on the regional and local level generally occurs on an ad-hoc basis.

Expropriations

Expropriations are possible in Australia for the construction of transport infrastructure and for the establishment of nature reserves. In both cases, compensation has to be paid to expropriated owners.

Recent and planned reforms to the system of land-use planning

As land-use planning is the domain of states, no single date for major recent reforms exists. Dedicated land-use planning and environmental laws started to emerge in the 1970s. Since then, there have been continuous reforms in individual states.

Austria

The planning system

Levels of government and their responsibilities

Austria is a federal state with three levels of government; the national level, nine federated states and 2 100 municipalities. The federal constitution assigns responsibility for local planning to municipalities. As it does not mention other aspects of planning, those remain within the responsibility of the federated states.

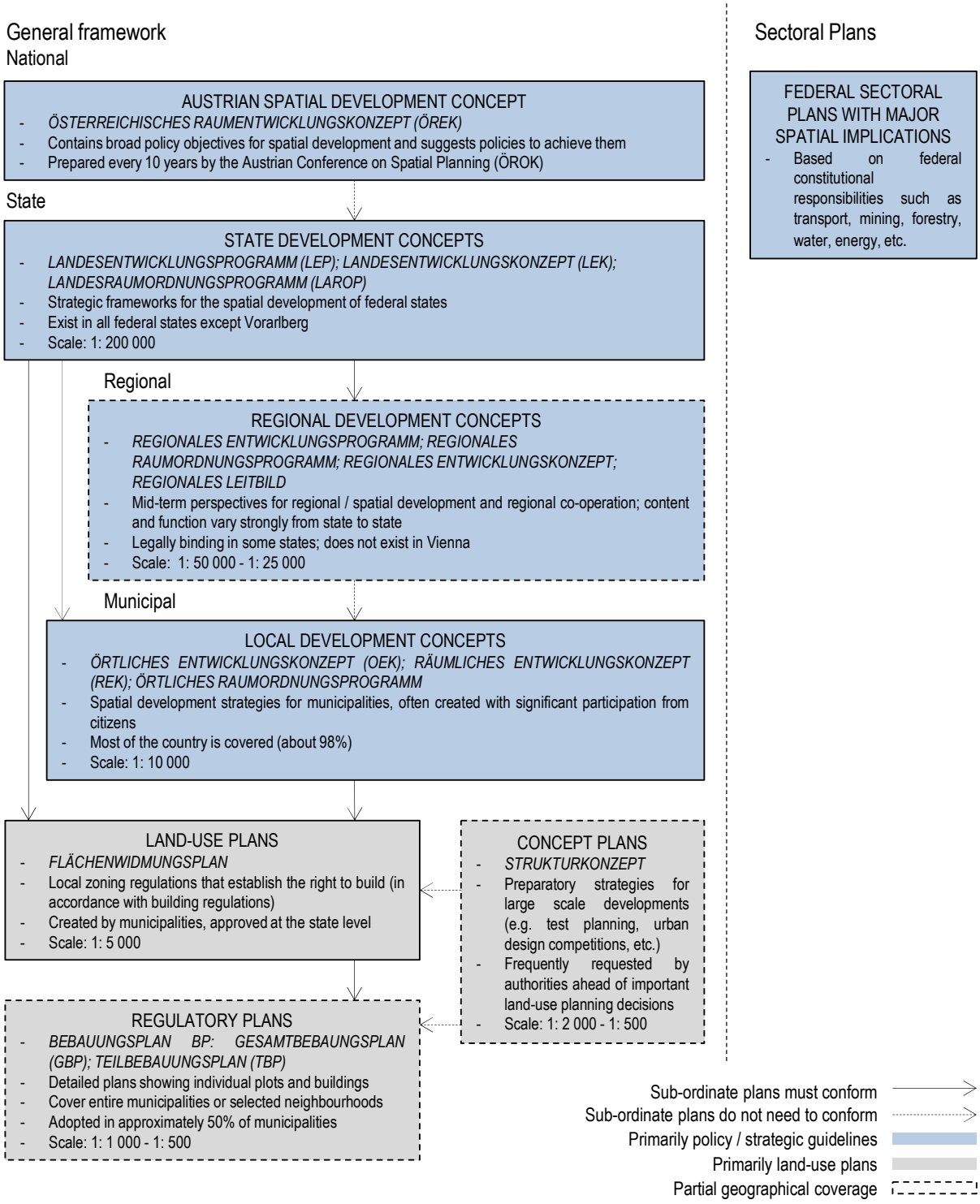
Despite the lack of responsibilities for formal planning, the national government has important tools to influence the spatial structure of the country. It plans and finances major infrastructure projects such as national road, railways and main energy transmission lines. Furthermore, it enacts some environmental and heritage protection legislation that restricts and steers the possibilities to develop land. The national government is also an important actor in the *Austrian Conference on Spatial Planning* (an important institution aimed at co-ordinating planning across levels of government; see below) and hosts its secretariat.

States hold most powers related to planning and pass their own framework legislation to organise spatial and land-use planning. Despite this, most states have structured their planning systems in comparable ways. All federated states except for one (Vorarlberg) have state spatial plans and most states also plan at a regional (i.e. sub-state) scale. Nevertheless, important differences between states remain. They are related to aspects such as the formal process and the practice of regional and intercommunal planning; the permitting practices related to retail developments; the culture of informal co-operation between municipalities; the use of financial instruments to actively influence developments; and the intensity with which state governments try to influence land-use policies of local governments. Besides their direct responsibilities for planning, states can also shape their spatial structure through their responsibility for environmental legislation, housing, economic development and infrastructure of state-wide importance.

Municipalities in Austria are among the smallest within the OECD with an average population 4 000 inhabitants. Nevertheless, they hold considerable responsibilities for the strategic spatial planning within their territories as well as for the preparation of land-use plans. Some states (e.g. Salzburg) encourage or oblige municipalities to form municipal associations that prepare regional spatial plans.

All three levels of government work together in the Austrian Conference for Spatial Planning, which is a dedicated multi-level governance body to co-ordinate spatial policies between national regional and local levels (see below for further details).

Organisation of spatial and land-use planning in Austria



Spatial and land-use plans

At the national level, the *Austrian Spatial Development Concept* is the most important strategic planning document. It contains broad policy objectives for spatial development and suggests policies and how to achieve them. It also mentions the relevant actors that should be

involved in the implementation of the proposed policies. *State Development Concepts* exist in eight out of the nine federated states. They are mid-term to long-term strategic documents that are renewed approximately every 10 to 20 years. They describe the main objectives related to spatial development and provide guidance on planning procedures and the involvement of different sectoral policies and regional and local actors. They are not primarily land-use plans, but may contain small scale land-use maps of specific areas. Furthermore, the national government prepares a variety of sectoral plans for policy fields under its responsibility, which may or may not have important spatial implications.

Below *State Development Concepts*, *Regional Development Concepts* exist in most states, but are often prepared only for parts of a state. The nature of regional planning at the sub-state level is one of the characteristics that varies the most between states. Accordingly, the content of *Regional Development Concepts* differs significantly. In some states they are prepared only for special areas, such as alpine ski resorts. In other states they contain long-term visions and again in others, they contain detailed land-use plans which are binding for subordinate plans. Many *Regional Development Concepts* have in common that they focus on governance aspects and describe issues such as inter-municipal co-ordination, and citizen involvement. Furthermore, they are used as communication tools and address all spatially relevant actors.

Local Development Concepts are the main strategic plans of municipalities that outline spatial development objectives for the short-term, medium-term and long-term. They exist in virtually every municipality in Austria. Sometimes, they are prepared in collaboration with neighbouring municipalities. They are binding for subordinate plans. As all other local plans, they are approved by a vote of the municipal council and confirmed by the government of the responsible federated state. Below *Local Development Concepts*, two different local plans exist that are both legally binding for land owners. All municipalities prepare *Land Use Plans*, which contain general zoning regulation that shows the permitted types of land use typically at a scale of 1: 5 000. As no value capture tools exist, zoning decisions in municipal *Land Use Plans* have strong financial consequences for land owners. The second type of binding plans for land owners are *Regulatory Plans* that specify details of permitted developments, such as building heights and architectural elements. They have scales between 1: 1 000 and 1: 500 and exist in two different versions that either cover an entire municipality or parts of it. They are prepared only by some municipalities and typically only for areas that are either important or subject to large-scale development projects. As an exception, the *Regulatory Plan* and the *Land Use Plan* are combined into a single document in the capital Vienna. Lastly, municipalities frequently prepare *Concept Plans* for important development projects. These plans are not binding, but are supposed to inform the public and test concepts at an early stage of the planning process.

Major laws and regulations

Most important laws and regulations related to land use are state laws (including the framework legislation describing the planning systems). Usually, a *Spatial Planning Act* and a *Building Act* structure the land-use planning system. They are complemented by laws and regulation on the environment, state roads, agriculture, economic development and housing and housing subsidies.

Co-ordination mechanisms

The *Austrian Conference on Spatial Planning* is a collaborative effort of the national government, state governments, local governments, business associations, and civil society associations. It aims to provide high-level co-ordination of spatially relevant policies across

the country and assemble relevant stakeholders from the political and administrative level. Furthermore, two types of formalised vertical co-ordination mechanisms between state and local governments exist. State governments and municipalities enter co-operation agreements regarding specific aspects of their spatial policies on a voluntary basis. Moreover, state governments act as supervisory authorities that monitor the compliance of local plans with state plans.

Expropriations

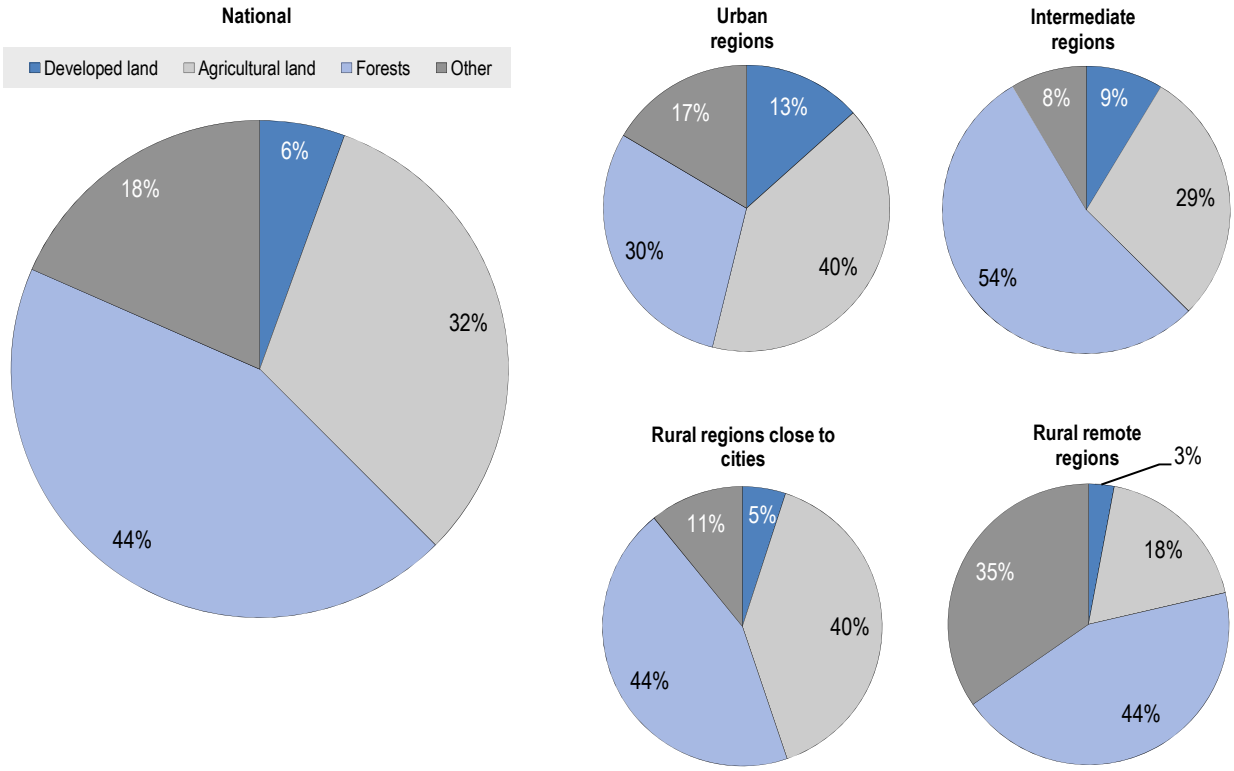
Expropriation is possible for a variety of reasons as long as they are in the public interest. While expropriations for transport infrastructure projects are comparatively easy, the legal difficulties to expropriate land for other types of development are considerably higher.

Recent and planned reforms to the system of land-use planning

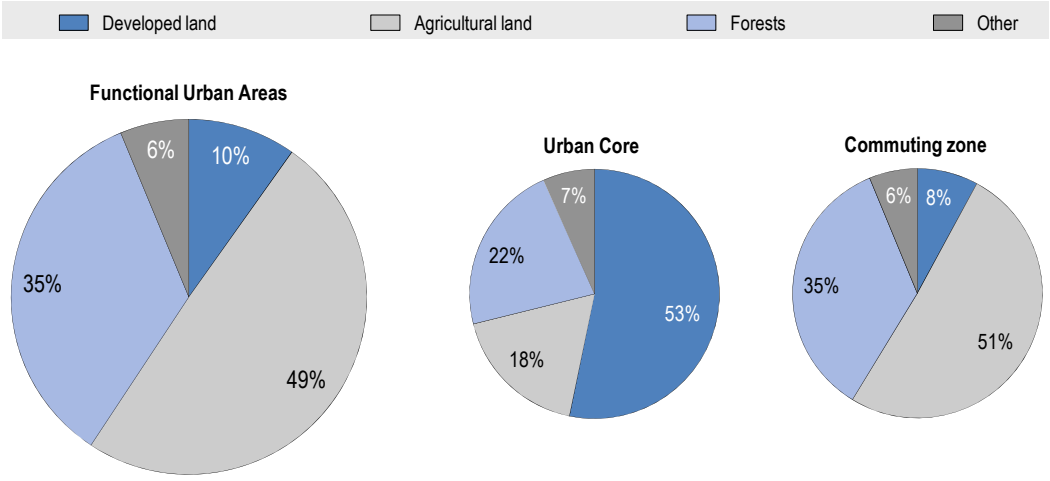
Generally, the responsibility of the federated states for spatial planning was established in 1920 when the constitution was approved. Most of the relevant legislative changes since then have occurred on the level of the federated states. More recent changes on the national level occurred primarily through the approval of subsequent versions of the *Austrian Spatial Development Concepts* in 1981, 1991, 2001 and 2011. The most recent version places a strong emphasis on the implementation of plans through thematic partnerships ("ÖROK-partnerships"), regional governance and integrated planning for urban agglomerations.

Land cover in Austria

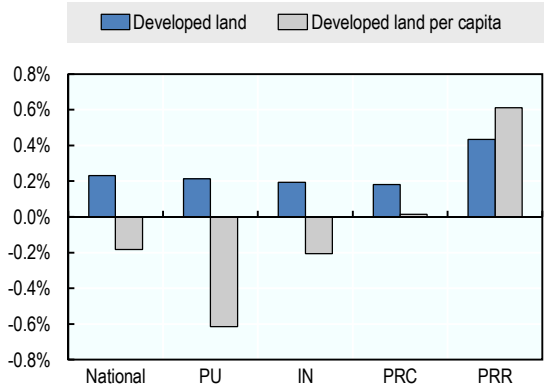
Land cover at the national level



Land cover in functional urban areas (FUAs)

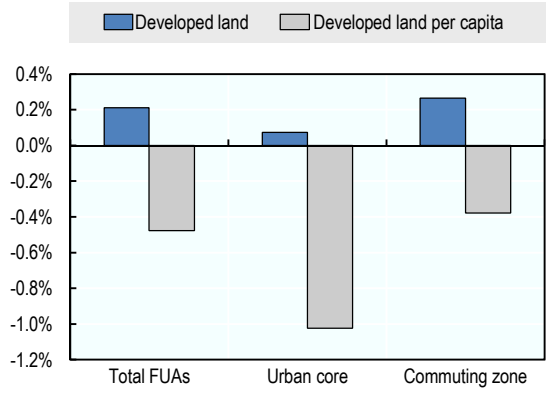


Annual change in developed land from 2000 to 2012



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities., PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Austria

Austria has above-average land consumption, but a below-average growth in developed land. In urban and intermediate regions, the level of growth in developed land has been below population growth, whereas in rural regions the growth of developed land was faster than population growth, resulting in increased per capita land consumption in those areas. Especially the core parts of metropolitan areas experienced strong population growth without a corresponding increase in developed land. In contrast, commuting zones of metropolitan areas saw smaller increases in population, and somewhat higher rates of growth of developed land.

Source: OECD calculations based on European Environment Agency (2012), *Corine Land Cover (CLC) 2012, Version 18.5.1* (database), hereafter "*Corine Land Cover dataset*".

Land cover at the national level in Austria

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	83 861	7 425	9 977	40 604	25 855
Total developed land	4 652	993	865	2 033	761
Percentage of total	5.5%	13.4%	8.7%	5.0%	2.9%
Annual change in developed land, 2000-12	10.6	2.1	1.6	3.6	3.2
Annual percentage change in developed land, 2000-12	0.23%	0.21%	0.19%	0.18%	0.43%
Agricultural land	26 804	3 005	2 869	16 164	4 766
Percentage of total	32.0%	40.5%	28.8%	39.8%	18.4%
Annual change in agricultural land, 2000-12	-6.2	-1.9	-1.3	-2.3	-0.8
Annual percentage change in agricultural land, 2000-12	-0.02%	-0.06%	-0.05%	-0.01%	-0.02%
Forests	36 950	2 202	5 386	17 987	11 375
Percentage of total	44.1%	29.7%	54.0%	44.3%	44.0%
Annual change in forests, 2000-12	-40.5	-0.7	-5.0	-12.2	-22.5
Annual percentage change in forests, 2000-12	-0.11%	-0.03%	-0.09%	-0.07%	-0.20%
Land cover per capita (m²)					
Total developed land per capita	553	340	496	705	882
Annual percentage change in developed land per capita, 2000-12	-0.18%	-0.61%	-0.21%	0.01%	0.61%
Agricultural land per capita	3 188	1 030	1 644	5 605	5 524
Annual percentage change in agricultural land per capita, 2000-12	-0.43%	-0.89%	-0.44%	-0.18%	0.16%
Forests per capita	4 395	755	3 086	6 237	13 185
Annual percentage change in forests per capita, 2000-12	-0.52%	-0.85%	-0.49%	-0.23%	-0.02%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	21 344	926	20 418
Total developed land	2 101	493	1 608
Percentage of total	9.8%	53.2%	7.9%
Annual change in developed land, 2000-12	4.4	0.3	4.1
Annual percentage change in developed land, 2000-12	0.21%	0.06%	0.26%
Agricultural land	10 551	166	10 386
Percentage of total	49.4%	17.9%	50.9%
Annual change in agricultural land, 2000-12	-4.0	-0.3	-3.7
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.18%	-0.04%
Forests	7 354	205	7 149
Percentage of total	34.5%	22.1%	35.0%
Annual change in forests, 2000-12	-2.9	-0.03	-2.9
Annual percentage change in forests, 2000-12	-0.04%	-0.01%	-0.04%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	434	178	746
Annual percentage change in developed land per capita, 2000-12	-0.48%	-1.02%	-0.38%
Agricultural land per capita	2 181	46	5 076
Annual percentage change in agricultural land per capita, 2000-12	-0.72%	-1.38%	-0.68%
Forests per capita	1 520	55	2 587
Annual percentage change in forests per capita, 2000-12	-0.73%	-1.09%	-0.69%

Source: All land cover statistics for Austria are based on OECD calculations based on *Corine Land Cover dataset*.

Belgium

The planning system

Levels of government and their responsibilities

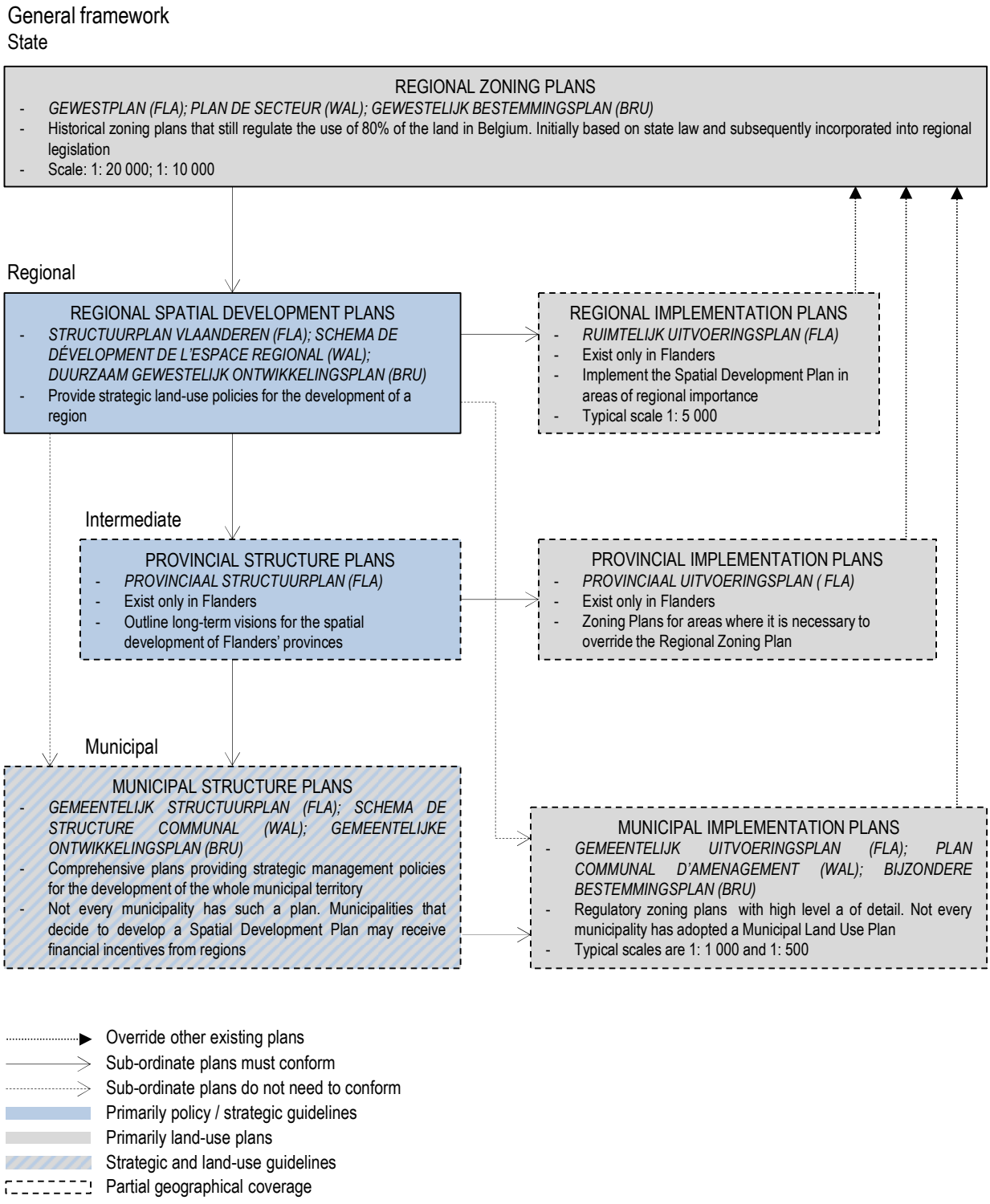
Belgium is a federal country with 4 levels of government; the national level, 3 regions (Flanders, Brussels and Wallonia), 10 provinces and 589 municipalities. The division of tasks with respect to land-use policies is determined by the constitution and regions have almost complete autonomy in land-use decisions. The federal government affects land use only through national legislation, such as the *Civil Code*, which contains elements related to building activities. However, the strict decentralisation of land-use planning to the regions occurred only in the last two decades of the 20th century. The regional land-use plans that were prepared based on national legislation of the 1962 Act have been incorporated into current regional law in all three regions and continue to regulate land use in large parts of the country.

Regions enact the framework legislation that structures planning, but they delegate many tasks to lower levels of government. Directly, they influence land use by preparing *Regional Spatial Development Plans*. Furthermore, they are responsible for important related policy fields, such as environmental legislation, energy and building code regulations. In Flanders, the regional government can also prepare *Implementation Plans (Ruimtelijke uitvoeringsplannen)*, i.e. zoning plans for specific areas or development projects.

Provinces are the intermediate level of government in Flanders and Wallonia and are active in policy fields that require inter-municipal co-ordination. In Flanders, provinces are responsible for the preparation of the *Provincial Structure Plan* and the *Provincial Implementation Plan*, whereas in Wallonia no plans at the provincial level exist. There, provinces can affect land use only indirectly, for example through their responsibility for provincial infrastructure and housing.

All regions delegate significant authority to municipalities. In all of Belgium, municipalities may prepare *Municipal Structure Plans* and detailed *Municipal Implementation Plans*. Especially in the Flanders region, local responsibility for land-use decisions has been strengthened in recent years. In contrast, in the Wallonia region, less emphasis is placed on local autonomy. Instead, integrated planning for functional areas plays a more important role.

Organisation of spatial and land-use planning in Belgium



Spatial and land-use plans

No spatial plan exists at the national level in Belgium. At the sub-regional level, *Regional Zoning Plans* provide binding land-use regulations at a scale of 1: 10 000 for most of the territories in all three regions. They were created in the 1970s and 1980s based on the national act of 1962. When responsibilities for land-use planning were transferred to regions, the existing plans were incorporated into the new regional planning systems. In areas where they have become obsolete, their land-use regulations are replaced by other plans. Nevertheless, *Regional Zoning Plans* still regulate land use of approximately 80% of the Belgian territory.

In addition to the old *Regional Zoning Plans*, all three regions use *Regional Spatial Development Plans*. They contain strategies for the spatial development of the regions and provide strategic guidelines for land-use policies. All *Regional Spatial Development Plans* provide a frame with which lower levels of plan must comply. In the Flanders region, the current plan was prepared 1997, whereas in Wallonia and in Brussels, the most recent plan dates from 2013.

In Flanders, *Regional Spatial Development Plans* are complemented by similar plans at the provincial level. Furthermore, in the Flanders region, the provinces and the municipalities in the region have the possibility to adopt *Implementation Plans*. These are land-use plans that can override land-use regulations of the old *Regional Zoning Plan*. Similar to the system in the Netherlands, they are not hierarchical in the sense that they are not meant primarily to guide the actions of lower levels of government, but rather to implement zoning changes that are stipulated by *Structure Plans*. The regional *Structure Plan* also sets out which level of government is responsible for which task (e.g. the Flemish government is responsible for *Implementation Plans* relating to airports and ports whereas municipalities are responsible for *Implementation Plans* for business parks).

At the local level, the system of plans is comparable in all Belgian regions. Municipalities may prepare a *Municipal Structure Plan*. Furthermore, they prepare detailed *Municipal Implementation Plans*, typically at scales between 1: 1 000 and 1: 500. These plans override the old *Regional Zoning Plans* or *Municipal Zoning Plans*.

Major laws and regulations

The only major national law that influences land use directly is the *Civil Code*, which regulates specific aspects of building activity, for example related to common walls.

In Flanders, the framework legislation on the land-use planning system is contained in the *Decree on Land Policy*, in Wallonia it is provided by the *Codex on Spatial Planning, Housing, Heritage and Energy* and in Brussels it is found in the *Brussels' Law on Spatial Planning*. Furthermore, all regions provide environmental regulation that has direct consequences on land-use patterns.

Co-ordination mechanisms

Planning procedures generally require the consultation of other levels of government in order to ensure vertical co-ordination. Depending on the nature of a plan, sometimes also the consultation of local governments of neighbouring jurisdictions is required. However, little co-ordination occurs across the three different Belgian regions. Co-ordination between sectors is provided by similar consultation processes between involved authorities. In some cases, the consent of actors from other sectors is required for the approval of a plan.

Expropriations

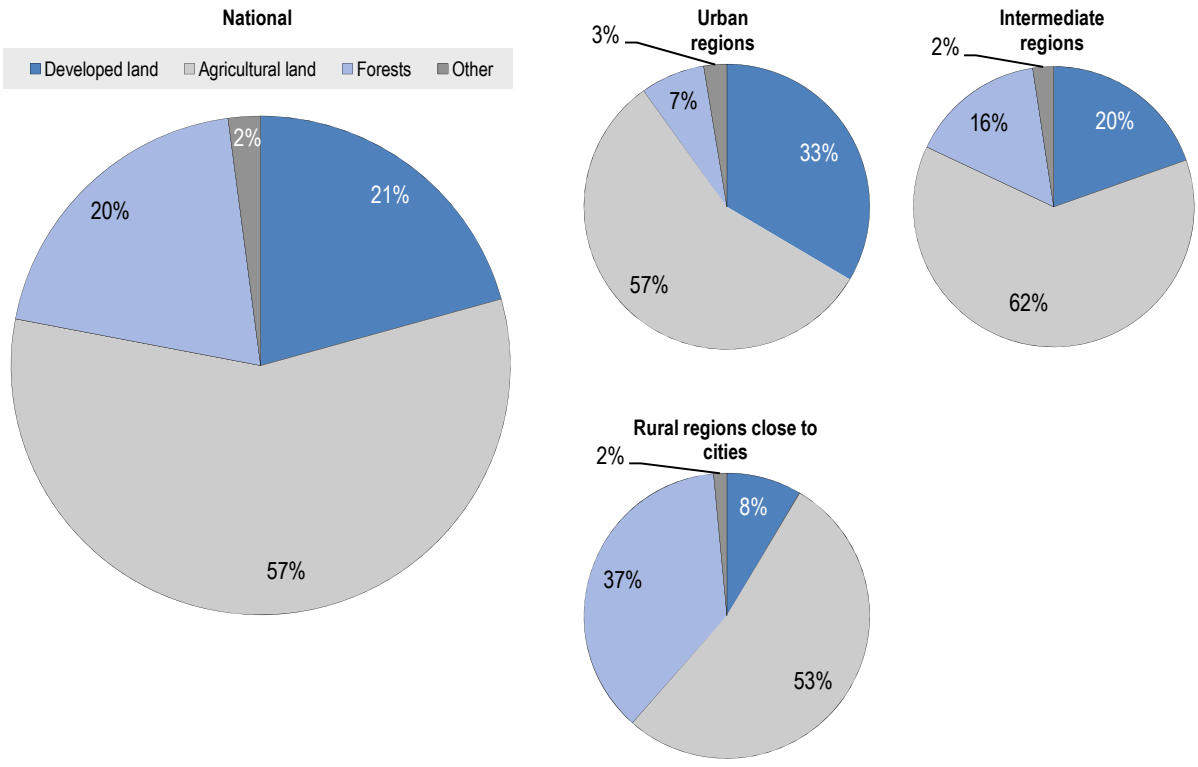
Expropriation is possible for a variety of reasons, such as infrastructure construction and the establishment of nature reserves, but expropriation is politically and legally difficult in practice and not frequently used.

Recent and planned reforms to the system of land-use planning

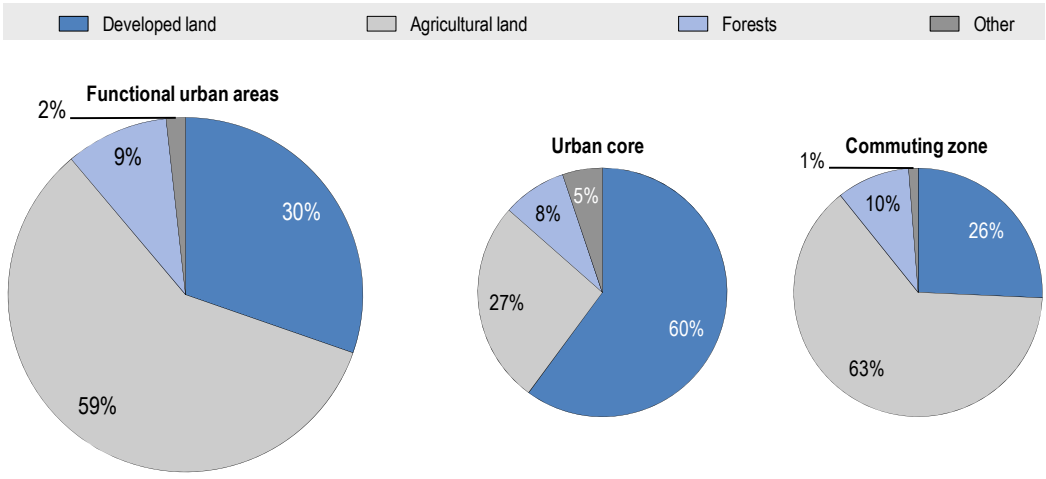
In 1962, the *Belgian Act* established a national system of spatial planning that assigned significant responsibilities to the national government. In 1980, a major reform transferred them to the regions and since then the system has been undergoing further decentralisation, for example with the transfer of the *Law on Retail Locations* into regional responsibility in 2014. Furthermore, individual reforms within the regions have altered their planning systems at various points in time.

Land cover in Belgium

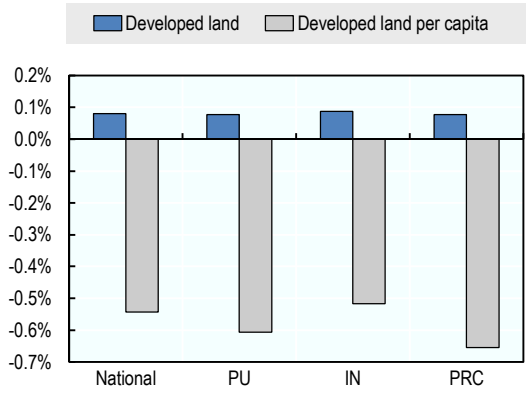
Land cover at the national level



Land cover in functional urban areas (FUAs)

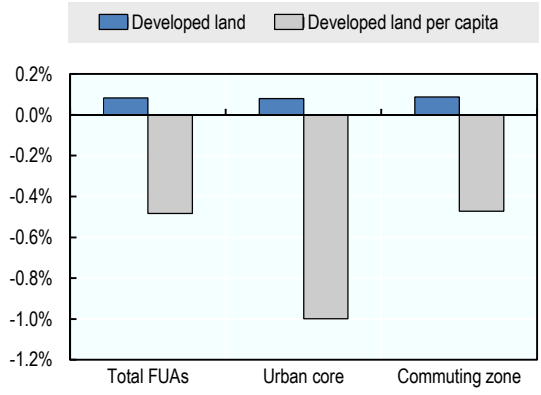


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities. Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Belgium

Belgium has the highest shares of developed land among all analysed OECD countries. This is due to its generally high population density in combination with high per capita land consumption. In contrast, the trend points towards a more efficient use of developed land. At least as far as can be observed with the available data, very little land has been converted from undeveloped into developed states between 2000 and 2012. As the population has grown steadily over the same time period, the amount of developed land per capita decreased by approximately 0.5% annually.

Source: OECD calculations based on *Corine Land Cover dataset.*

Land cover at the national level in Belgium

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	30 664	10 665	9 755	10 244	
Total developed land	6 352	3 570	1 916	866	
Percentage of total	20.7%	33.5%	19.6%	8.5%	
Annual change in developed land, 2000-12	5.1	2.7	1.7	0.7	
Annual percentage change in developed land, 2000-12	0.08%	0.08%	0.09%	0.08%	
Agricultural land	17 555	6 038	6 088	5 429	
Percentage of total	57.3%	56.6%	62.4%	53.0%	
Annual change in agricultural land, 2000-12	-4.9	-2.7	-1.7	-0.5	
Annual percentage change in agricultural land, 2000-12	-0.03%	-0.04%	-0.03%	-0.01%	
Forests	6 097	783	1 521	3 794	
Percentage of total	19.9%	7.3%	15.6%	37.0%	
Annual change in forests, 2000-12	-9.1	-0.4	-2.1	-6.6	
Annual percentage change in forests, 2000-12	-0.15%	-0.05%	-0.14%	-0.17%	
Land cover per capita (m²)					
Total developed land per capita	576	475	724	900	
Annual percentage change in developed land per capita, 2000-12	-0.54%	-0.61%	-0.52%	-0.65%	
Agricultural land per capita	1 591	804	2 329	5 757	
Annual percentage change in agricultural land per capita, 2000-12	-0.65%	-0.73%	-0.63%	-0.74%	
Forests per capita	553	104	435	3 911	
Annual percentage change in forests per capita, 2000-12	-0.77%	-0.73%	-0.68%	-0.90%	

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	10 634	1 429	9 205
Total developed land	3 225	859	2 366
Percentage of total	30.3%	60.1%	25.7%
Annual change in developed land, 2000-12	2.6	0.7	1.9
Annual percentage change in developed land, 2000-12	0.08%	0.08%	0.08%
Agricultural land	6 227	377	5 849
Percentage of total	58.6%	26.4%	63.5%
Annual change in agricultural land, 2000-12	-2.5	-0.5	-2.0
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.14%	-0.03%
Forests	998	119	879
Percentage of total	9.4%	8.3%	9.6%
Annual change in forests, 2000-12	-0.2	0.02	-0.2
Annual percentage change in forests, 2000-12	-0.02%	0.01%	-0.02%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	495	220	656
Annual percentage change in developed land per capita, 2000-12	-0.48%	-1.00%	-0.47%
Agricultural land per capita	957	45	1 447
Annual percentage change in agricultural land per capita, 2000-12	-0.60%	-1.35%	-0.60%
Forests per capita	153	18	186
Annual percentage change in forests per capita, 2000-12	-0.58%	-1.08%	-0.62%

Note: Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Source: All land cover statistics for Belgium are based on OECD calculations based on *Corine Land Cover dataset*.

Canada

The planning system

Levels of government and their responsibilities

Canada is a federal state with three levels of government; the national government, 10 provinces and 3 territorial governments, and 3 805 local authorities, out of which 1 233 are general local governments and the remaining 2 572 are special purpose authorities, such as school districts. The division of powers between the federal government and the provinces is constitutionally defined, and provinces have full autonomy over land-use planning. However, the federal government plans for land uses under its direct control (e.g. federal lands in the National Capital Region, national waterways and parks). It can also influence land-use planning at the provincial and municipal levels through targeted programme and financial support – e.g. urban infrastructure programmes.

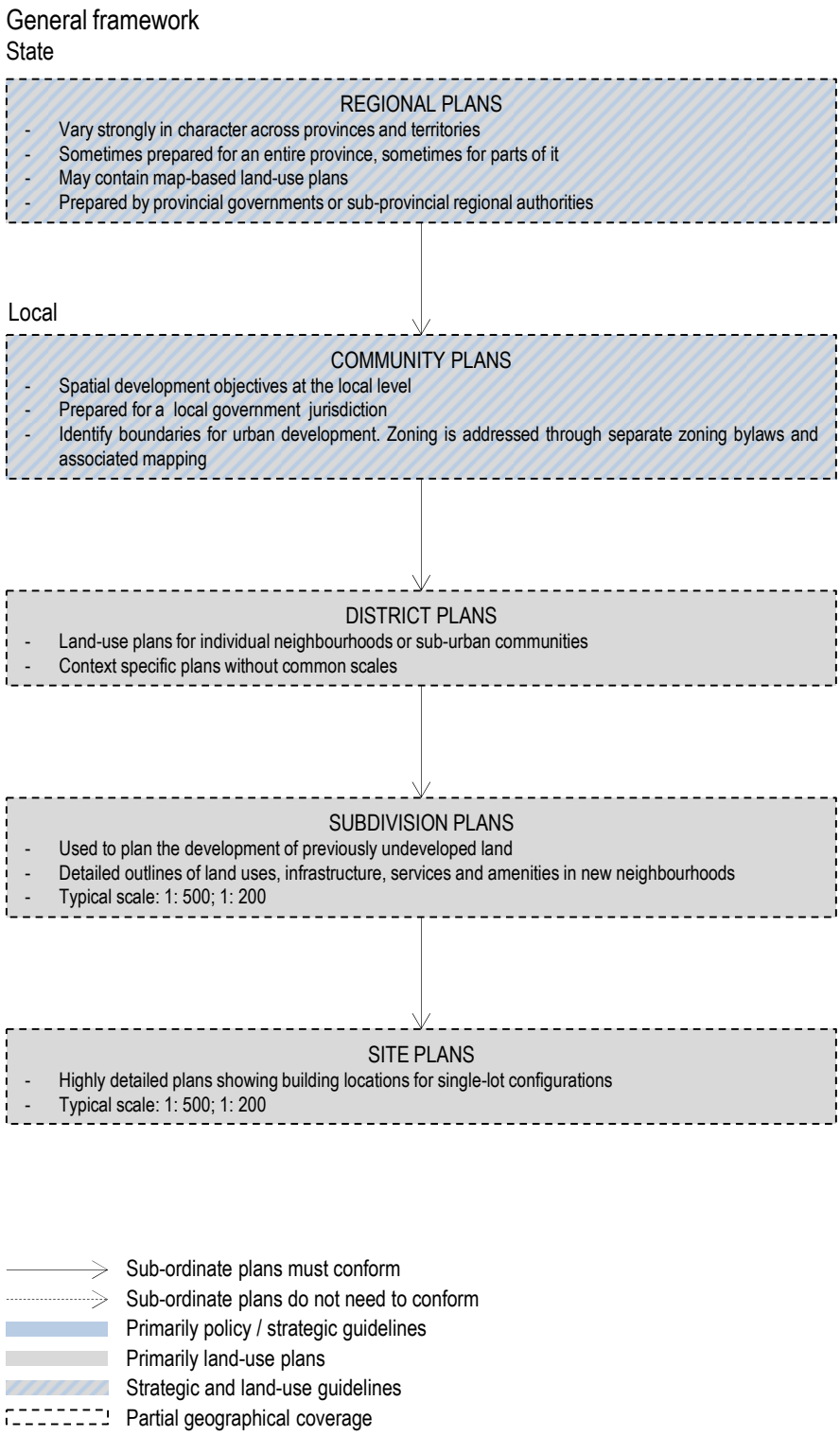
Provinces have full autonomy to create their own framework legislation to structure their planning systems. The resulting systems of land-use planning are broadly comparable across all provinces and territories, but nevertheless important differences exist. Provinces and territories with few inhabitants tend to centralise land-use planning. In contrast, provinces and territories with a large number of inhabitants tend to delegate more power to local governments. This is only partly due to a different legislative framework. Another factor is differences in administrative capacity at the local level, reflecting the varying population sizes and resources available in provinces. For example, in the Province of Ontario, approximately 4 300 professional planners are employed by public authorities and consulting firms; the corresponding figure for the Province of Prince Edward Island is approximately 10-15 professional planners.

Formally, municipalities in all provinces have similar powers. They can prepare and adopt different types of land-use plans as by-laws and use them to regulate development on their territory. Furthermore, they are responsible for issuing planning permissions and building permits. However, as mentioned above, important differences between the provinces exist on how powers are exercised.

Spatial and land-use plans

No national level plan exists in Canada, but all provinces and territories have one or more *Regional Plans*. Typically, they contain high-level objectives and policies for regional-scale land use, growth management, environmental protection, regional-scale infrastructure and economic development. Beyond these commonalities, *Regional Plans* vary considerably across provinces and territories. Some contain map based land-use plans, whereas others contain only strategic guidelines. In some instances, *Regional Plans* cover the entire province (e.g. British Columbia and Alberta) and in others they are prepared only for specific areas. In Ontario, for example, a *Regional Plan* has been prepared for the Greater Toronto and Hamilton Area (GTAH) by the Province of Ontario.

Organisation of spatial and land-use planning in Canada



Community Plans are the highest-level plans in a hierarchy of local plans. They are designed to provide an over-arching vision and policy-framework for finer-detailed plans. While *Community Plans* are land-use plans, they also provide a vision for the future development of a community and lay out strategies and tools to realise this vision. They are prepared with extensive public consultation and are the main instruments for stakeholder engagement in land-use planning. *Community Plans* are called different things in different provinces (e.g. *Official Plan, Official Community Plan, Development Plan, Municipal Plan, Plan d'Urbanisme*) and can vary in content. Typically, they are prepared for the entire administrative territory of a municipality.

District Plans are plans for specific parts of cities and towns and provide more detail than *Community Plans*. They are used to guide new developments or the redevelopment of existing neighbourhoods, but they generally do not provide details at the plot level. They may also be created for special-purpose areas such as downtowns, educational nodes, recreational land or significant parts of the transport network. Depending on the province, the official names of *District Plans* vary (e.g. *Secondary Plan*, *Secondary Planning Strategy*, *Area Structure Plan*, *Programme Particulier d'Urbanisme*).

Subdivision Plans are detailed plans that contain property boundaries, street locations and dimensions, topography, environmental constraints and considerations of urban design and aesthetics. They are used to determine the impact of developments on infrastructure, services and the environment. *Subdivision Plans* are typically drawn at scales of 1: 500-1: 200. Draft plans are circulated to agencies and public authorities with an interest in the concerned area, and who can provide conditions for approval. Once all conditions are met, the plans are approved by the responsible local government and the provincial or territorial authority. The official names of *Subdivision Plans* may be *Proposed Plan/Plan of Subdivision, Proposed/Registered Plan of Subdivision, Draft/Registered Plan of Subdivision,* or *Règlement de Lotissement*.

Site Plans are the lowest-level plans. They provide a very high degree of detail, for example the location of the building on the plot. Their scale depends on the size of the property under consideration. Once a *Site Plan* has been approved, a building permit may be issued.

Major laws and regulations

All provinces and territories have framework legislation that structures the planning system. In most provinces and territories, it concerns primarily the planning system, whereas in others, it structures the powers and responsibilities of local governments more generally. The framework legislation also governs the use of zoning by-laws, which municipalities use to regulate land use. Furthermore, provinces are responsible for environmental legislation and can adopt *Environmental Acts* that structure and restrict municipal land use. They also adopt *Building Codes*, which are modelled on the *National Building Code*.

Co-ordination mechanisms

Co-ordination of policies between levels of government occurs primarily through legislative frameworks that assign each level of government a clearly defined task. Co-ordination between policy fields at the local level is assured through *Community Plans*, which cover a wide range of sectoral policies. At the provincial level, co-ordination mechanisms vary. While responsibilities for various aspects of land-use planning are

generally fragmented among different provincial ministries, some provinces have initiated policies that require ministries to co-ordinate planning policies and programmes.

Expropriations

Expropriation is possible for public and private use of land if a development is in the public interest, such as the construction of infrastructure and public buildings, mining, and for the establishment of nature reserves. However, expropriation is politically and legally difficult, often expensive, and comparatively rare.

Recent and planned reforms to the system of land-use planning

The provinces' and territories' responsibility for land-use planning is based on the *British North America Act* of 1867 and reaffirmed in the Constitution Act of 1982. Four provinces established *Planning Acts* or comparable legislation in 1912. Since then, reforms and legislative changes have occurred at different times at the provincial level. Changes to policy on the national level were mostly related to factors such as how the national government uses financial incentives to affect land use.

Chile

The planning system

Levels of government and their responsibilities

Chile is a unitary country with 3 levels of government; the national government, 15 regions and 345 municipalities. The national government is directly and indirectly involved in land-use policy. The Ministry of Housing and Urbanism formulates the *National Urban Development Policy* (in accordance with the *General Law on Urbanism and Construction* and the *General Ordinance of Urbanism and Construction*) which guides planning by lower levels of government. The Ministry of Public Works plans infrastructure construction (main roads, airports, ports and water related infrastructure) and co-ordinates infrastructure planning with urban planning. Several other ministries assign areas of special relevance for tourism and environmental protection, which are subject to specific regulations. Furthermore, the Ministry of Housing and Urbanism – through its regional secretaries – is also responsible for formulating *Regional Plans for Urban Development*, *Inter-municipal Land Use Plans* and the *Local Land Use Plans* which are subsequently approved by regional governments.

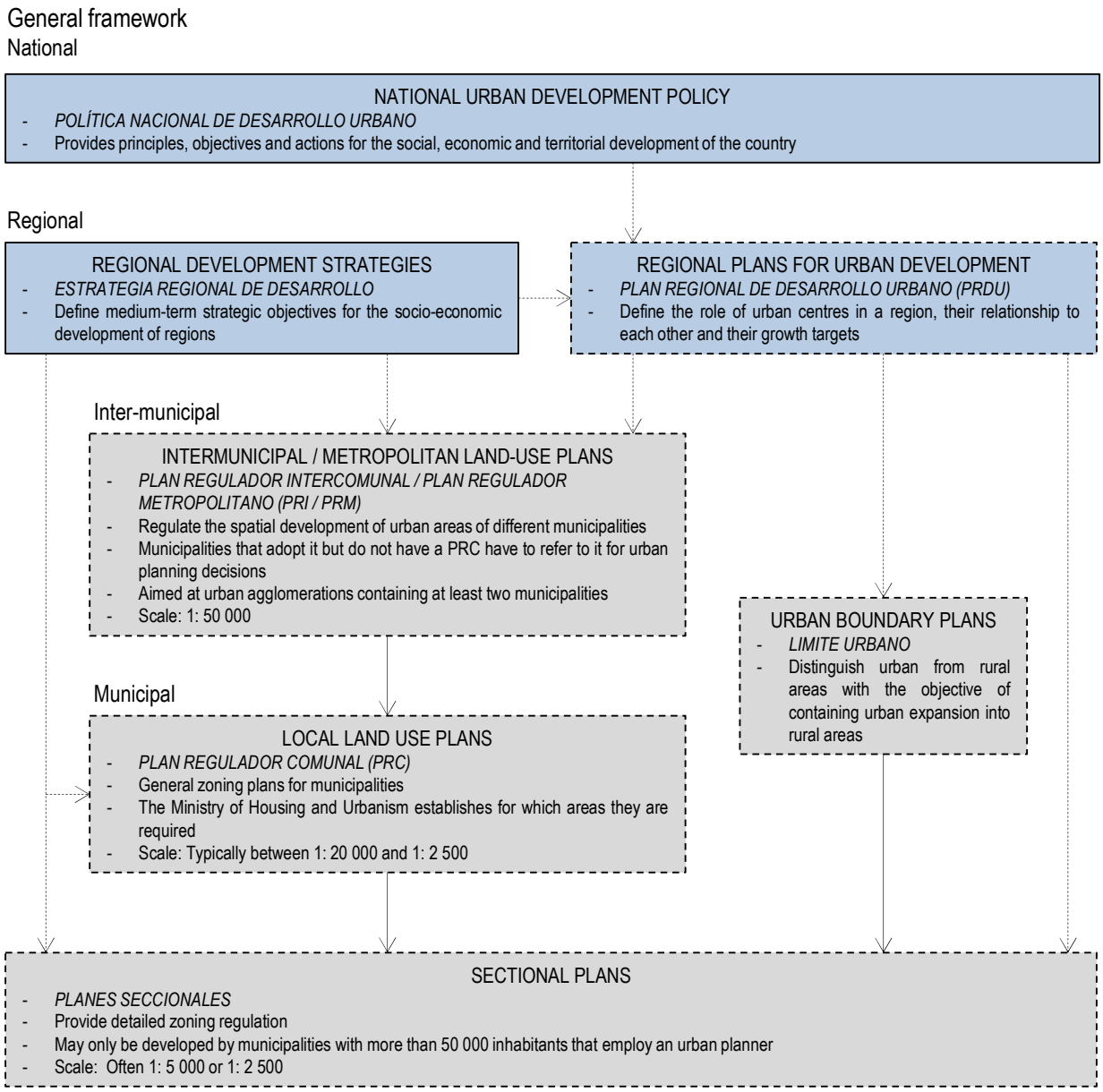
The *National Commission for Land Use of the Coastline* has the task of developing and implementing policies for the maritime coastline. It is comprised of members for the Ministry of Defence and other ministries and chaired by the Ministry of Defence.

CONAF is a corporation controlled by the Ministry of Agriculture that has the task of managing national parks, protecting native forests and biodiversity.

The regional level is primarily involved in land-use policies through the preparation of two strategic plans; the above-mentioned *Regional Plans for Urban Development* and the *Regional Development Strategies* that focus on socio-economic aspects. Furthermore, it must approve *Inter-municipal Land Use Plans* and *Local Land Use Plans* created at the local level.

Municipalities are responsible for determining urban boundaries (in co-operation with the regional secretaries of the Ministry of Housing and Urbanism). They also create the *Local Land Use Plans* and participate in the creation of *Inter-municipal Land Use Plans*. Furthermore, municipalities can approve requests for small- to mid-sized residential and commercial developments outside urban growth boundaries. Large developments outside urban growth boundaries also need the approval by regional secretaries of the Ministry of Housing and Urbanism and the Ministry of Agriculture.

Organisation of spatial and land-use planning in Chile



Sub-ordinate plans must conform
Sub-ordinate plans do not need to conform
Primarily policy / strategic guidelines
Primarily land-use plans
Partial geographical coverage

Note:
An on-going reform aims at introducing regional land-use plans *(PLAN REGIONAL DE ORDENAMIENTO TERRITORIAL)*. While some regions have already started to prepare such a plan, the corresponding national legislation has not been passed (as of early 2016) and there is uncertainty about the eventual status of the plans.

Spatial and land-use plans

At the regional level, two strategic spatial plans exist. *Regional Development Strategies* define broad socio-economic objectives. Only some of them have spatial dimensions. *Regional Urban Development Plans* describe the urban centres in a region and provide growth targets for each of them. While neither of the regional plans is legally binding for subordinate land use plans, in particular the growth targets of the Regional Urban Development Plan are expected to be incorporated into local land-use plans.

On the local level, several partly overlapping land-use plans exist, but large parts of the Chile are not covered by any of them. First, *Inter-municipal Land Use Plans* co-ordinate local land-use decisions in urban agglomerations comprising of more than one municipality. They are prepared by the regional secretaries of the *Ministry of Housing and Urbanism* and are legally binding for zoning plans created by municipalities. If no local land-use plans exist, inter-municipal land-use plans must be used to guide urban planning decisions. Second, *Local Land Use Plans* have to be prepared by municipalities with urban centres of more than 7 000 inhabitants or by those that face major redevelopments. Third, *Urban Boundaries* specify growth boundaries for urban areas with the goal of restricting development outside of them. They are legally binding, but municipalities can grant exemptions for a variety of developments such as industrial buildings, developments related to tourism and agriculture and housing. As a consequence, they are not strictly enforced in many cases. *Urban Boundaries* are defined in *Intermunicipal Land Use Plans* and *Local Land Use Plans*. If those plans do not exist they may be defined independently. Fourth, detailed neighbourhood level *Sectional Plans* (*Planes Seccionales*) have to be drawn up by municipalities with more than 50 000 inhabitants if they employ an urban planner. Where they exist, they form statutory land-use plans and tend to be strictly enforced.

Major laws and regulations

Compared to other OECD member countries, an exceptionally large number of laws, regulations and other legal instruments governs land use and land-use planning. Due to the associated complexity, no comprehensive overview of the most relevant laws and regulations can be provided. In some instances, the multitude of instruments can lead to laws and regulations with overlapping or contradicting objectives.

Co-ordination mechanisms

Most powers with respect to land-use planning are held by the *Ministry of Housing and Urbanism*. It prepares all local land-use plans through its regional secretaries. Vertical integration of the different plans is one of the criteria for their approval.

Non-permanent mechanisms for horizontal policy co-ordination across policy fields exist, for instance commissions dedicated to specific policies or projects. As these commissions have no formal responsibilities, their effectiveness can vary and depend on the involved actor's inclination to co-operate.

Expropriations

Expropriation of land is possible for the construction of public infrastructure, but not for other purposes. Appropriate compensation has to be paid to the land owner. The expropriation process is straightforward and does not present any difficulties to the state, but often takes a long time to be completed.

Recent and planned reforms to the system of land-use planning

The most important reform of the Chilean land-use planning system occurred in 1979 with the elimination of the urban boundaries, which had previously set limits to urban expansion. While urban boundaries were re-established in 1985, they have never again reached the practical relevance they had before the reform. In 1997, rules for large scale housing developments for more than 30 000 inhabitants outside the urban growth boundaries were established. As of the time of writing, a major reform – the implementation of *Regional Land Use Plans* into the planning system – is ongoing. The reform will eventually replace the *Regional Plans for Urban Development* and will imply a transfer of responsibility from the Ministry of Housing and Urban Development to regional governments.

Czech Republic

The planning system

Levels of government and their responsibilities

The Czech Republic is a unitary state with 3 levels of government: the national level, 14 regions and 6 258 municipalities. The planning system integrates other important policy fields related to land use such as environmental policy, agricultural policy and transport infrastructure. The national government, through its *Ministry for Regional Development*, is responsible for the legislative framework that defines the planning system. The *Ministry for Regional Development* supervises the planning of other levels of government and keeps records of their activities. Furthermore, it is responsible for the preparation of the *Spatial Development Policy* which guides lower level planning. The national government also prepares *Regulatory Plans* in areas under military control.

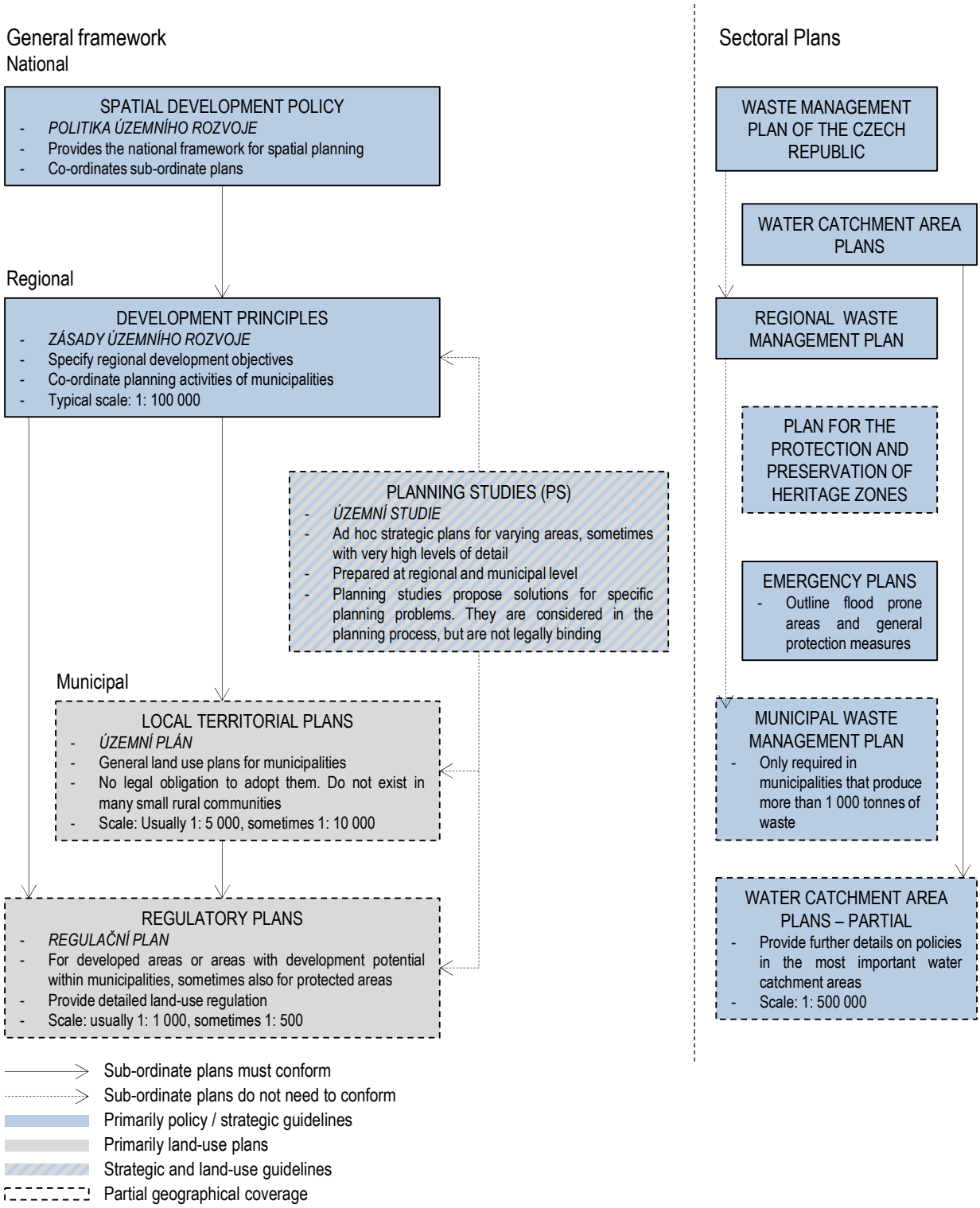
Regional offices of the national government (i.e. deconcentrated state administrations) procure the regional *Development Principles* and also some *Regulatory Plans* for areas of supra-local importance within their territory. They also issue planning permissions for developments that affect several municipalities with extended powers (see below for details) or that are planned under special regulations. *Regional councils* (i.e. elected regional assemblies) approve the regional *Development Principles* as well as the *Regulatory plans* prepared by regional offices.

With an average of only 1 640 inhabitants, municipalities in the Czech Republic are smaller than in any other OECD country. Administratively, they are divided into two types; those with extended powers and those without. Municipalities without extended powers are assigned to a municipality with extended power that fulfils several administrative functions for them and in particular serves as their planning authority. They also procure *Local Territorial Plans*, *Regulatory Plans* and *Planning Studies* for their own territory and for that of adjunct municipalities without extended powers. However, these plans have to be approved by the local council of the affected municipality (no matter whether with or without extended powers). The local councils can also comment and object to regional *Development Principles* and to plans of neighbouring municipalities. *Building Offices* located in larger municipalities issue planning permissions.

Spatial and land-use plans

The Czech Republic uses a hierarchical system of plans with plans at the national, regional and local level. Lower level plans generally need to comply with higher level ones. The *National Development Policy* is a policy document that contains general guidelines for planning at the regional and local level. In particular, it specifies the requirements for sustainable development. Furthermore, it outlines the key spatial relations within the country and the objectives of the national government related to them. The *National Development Policy* is enacted by regulatory decision and is updated or replaced every four years.

Organisation of spatial and land-use planning in Czech Republic



At the regional level, *Development Principles* play a similar role as the *National Development Policy* at the national level, but provide more details for specific policy areas (such as roads) or for territories of particular importance. In addition to showing the spatial development priorities of regions, they also co-ordinate the planning activities of municipalities.

At the municipal level, three types of plans exist, two of which provide legally binding regulation for land owners. First, the *Local Territorial Plan* is a land-use plan that shows permitted land uses at a scale of 1: 10 000 to 1: 5 000 and covers the entire territory of a municipality. It is usually reviewed every four years, but only updated or replaced when a need arises. While *Local Territorial Plans* are strictly enforced, they are frequently updated to fit the need of developers. In many instances, they also leave scope for discretion by the *Building Office* responsible for issuing planning permission. Second, *Regulatory Plans* are only prepared for specific areas, such as redevelopment zones, and only small parts of municipalities are covered by them. They provide further regulations regarding the details of permitted developments, such as architectural specifications, and have scales of 1: 1 000 to 1: 500. Public authorities do not always prepare *Regulatory Plans* themselves, but procure them from the private sector. The *Regulatory Plans* procured privately are valid for three years after having been approved, but must be revised if the *Local Territorial Plan* on which they are based is changed. Third, *Planning Studies* are ad-hoc documents that can be procured by regional and local authorities to develop solutions to particular planning problems. They are non-statutory and have no legally binding consequences on either land owners or public authorities. *Planning Studies* do not have clearly defined contents and can range from broad strategic documents to precise land-use plans.

Planning analytical materials serve as a GIS-based database for spatial planning. They are elaborated and continuously updated for all regions and jurisdiction areas of the municipalities with extended powers. They contain an assessment of the state and development of the area and its values, limitations to the changes in the area due to protection of public priorities, as well as an analysis of the area for sustainable development.

Major laws and regulations

Besides the *Building Act* that outlines the spatial planning system in the Czech Republic, several further laws have important impact on the planning system. Four different environmental laws (*Act 17/1992*, *Act 114/1992*, *Act 254/2001* and *Act 201/2012*) serve to protect air, water, landscapes and other environmental aspects. *Act 13/1997* deals with issues of road construction and management and *Act 266/1994* with railways. *Act 20/1987* provides laws relating to the protection of heritage sites.

Co-ordination mechanisms

Vertical co-ordination between levels of government occurs primarily through the hierarchical nature of the planning system. Local governments must follow the guidelines of higher level plans. In practice local governments are not tightly constrained by higher level plans, since higher level plans lack the specificity to be strictly enforced. Formal horizontal co-ordination between municipalities occurs through the involvement of neighbouring municipalities in the planning process and through the possibility to provide comments and raise formal objections. Co-ordination across policy fields is ensured through a system that requires sectoral authorities (mostly regional agencies of relevant ministries) to provide an assessment of all new plans before their approval.

Expropriations

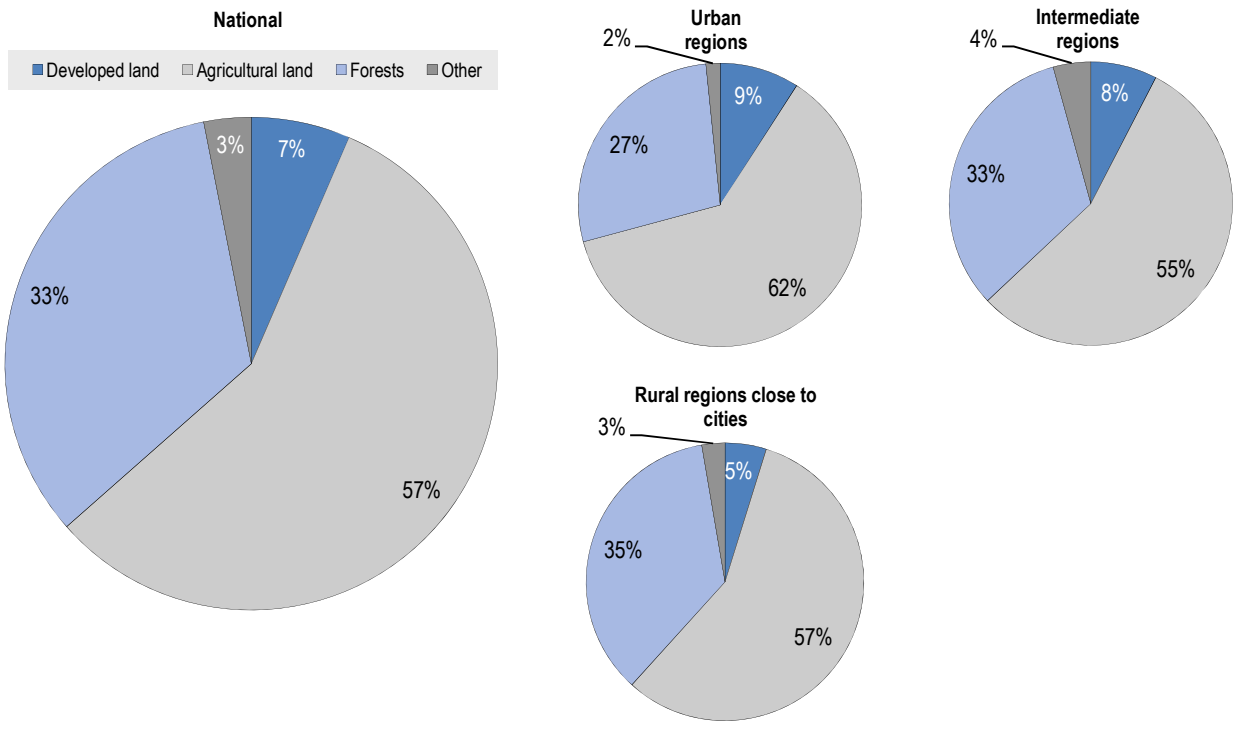
Expropriation is possible for developments in the public interest if attempts to acquire the required land amicably have failed. Reasons for expropriation are infrastructure construction, public utility developments, urban renewal projects, flood protection, national defence and nature reserves. For private purposes, land may only be expropriated in order to provide access to a plot. In practice, land is rarely expropriated, because the threat of expropriation suffices to make land owners sell their land voluntarily.

Recent and planned reforms to the system of land-use planning

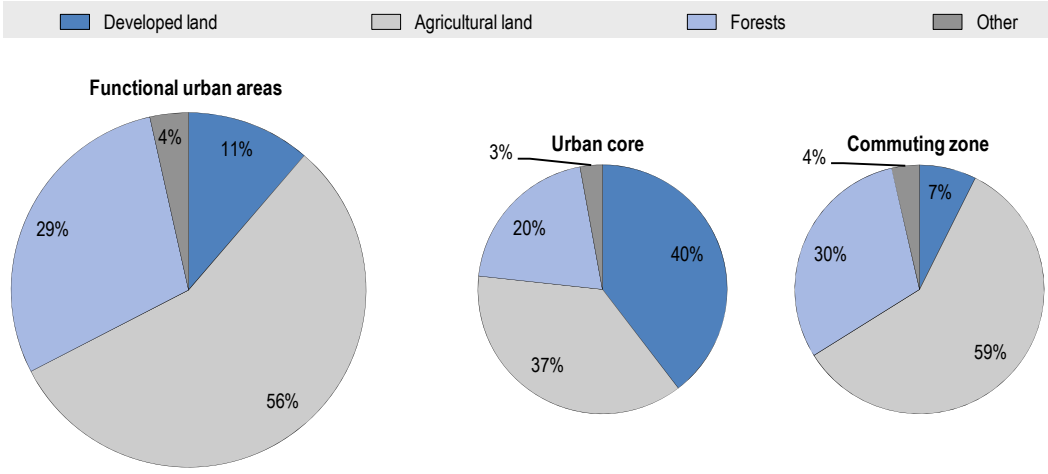
Following the transition to democracy and market economy, several reforms to strengthen property rights and manage land were made. A new *Building Act* that defines the spatial planning system was introduced in 2007, replacing the old act from 1976 that had been amended many times. The new act introduced the *Development Principles* as an instrument for planning at the regional level. Furthermore, the *Planning Consent* (a simplified version of the planning permission) was introduced as well as compensation for planning alterations that reduce the value of property. Other important reforms included a territorial reform in 2000 that reintroduced a regional level of government and a reform in the same year that introduced conditions for the granting of state aid to regions in accordance with EU regulations. In 2001, environmental assessment regulations were introduced in the planning process.

Land cover in Czech Republic

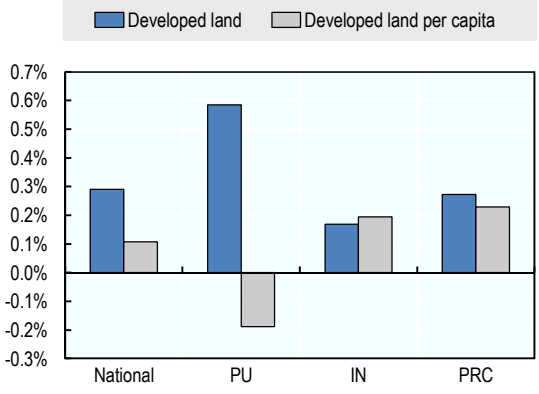
Land cover at the national level



Land cover in functional urban areas (FUAs)

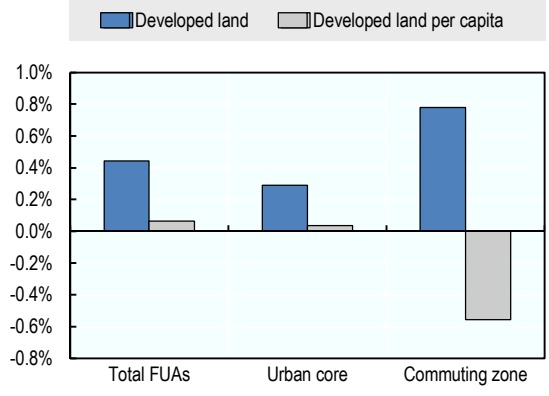


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Czech Republic

Developed land in the Czech Republic grew slowly to moderately in urban, rural and intermediate regions. Urban regions experienced the strongest growth of developed land, but the per capita area of developed land declined slightly, as the growth in developed land was outweighed by a stronger population growth. In contrast, the growth of developed land in intermediate and rural regions did not occur in parallel with population growth and developed land per capita increased in those regions. Within urban areas a pattern of suburbanisation emerged, as population in commuting zones increased disproportionally relative to the urban cores.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Czech Republic

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	78 906	1 1532	2 9167	3 8207	
Total developed land	5 092	1 044	2 205	1 843	
Percentage of total	6.5%	9.1%	7.6%	4.8%	
Annual change in developed land, 2000-12	14.5	5.9	3.7	4.9	
Annual percentage change in developed land, 2000-12	0.29%	0.58%	0.17%	0.27%	
Agricultural land	45 007	7 113	16 155	21 740	
Percentage of total	57.0%	61.7%	55.4%	56.9%	
Annual change in agricultural land, 2000-12	-19.5	-6.9	-6.0	-6.5	
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.10%	-0.04%	-0.03%	
Forests	26 331	3 182	9 533	13 616	
Percentage of total	33.4%	27.6%	32.7%	35.6%	
Annual change in forests, 2000-12	18.2	0.5	15.8	1.9	
Annual percentage change in forests, 2000-12	0.07%	0.02%	0.17%	0.01%	
Land cover per capita (m²)					
Total developed land per capita	485	414	488	532	
Annual percentage change in developed land per capita, 2000-12	0.11%	-0.19%	0.19%	0.23%	
Agricultural land per capita	4 284	2 821	3 574	6 276	
Annual percentage change in agricultural land per capita, 2000-12	-0.23%	-0.86%	-0.01%	-0.07%	
Forests per capita	2 506	1 262	2 109	3 931	
Annual percentage change in forests per capita, 2000-12	-0.11%	-0.75%	0.19%	-0.03%	

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	17 648	2 130	15 518
Total developed land	1 999	843	1 155
Percentage of total	11.3%	39.6%	7.4%
Annual change in developed land, 2000-12	8.6	1.4	7.2
Annual percentage change in developed land, 2000-12	0.44%	0.17%	0.65%
Agricultural land	9 900	790	9 111
Percentage of total	56.1%	37.1%	58.7%
Annual change in agricultural land, 2000-12	-9.9	-1.7	-8.2
Annual percentage change in agricultural land, 2000-12	-0.10%	-0.21%	-0.09%
Forests	5 131	434	4 697
Percentage of total	29.1%	20.4%	30.3%
Annual change in forests, 2000-12	6.9	0.7	6.1
Annual percentage change in forests, 2000-12	0.14%	0.17%	0.13%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	406	238	613
Annual percentage change in developed land per capita, 2000-12	0.06%	0.04%	-0.56%
Agricultural land per capita	2 010	163	3 817
Annual percentage change in agricultural land per capita, 2000-12	-0.48%	-0.65%	-1.45%
Forests per capita	1 042	71	1 709
Annual percentage change in forests per capita, 2000-12	-0.24%	-0.31%	-1.21%

Source: All land cover statistics for the Czech Republic are based on OECD calculations based on *Corine Land Cover dataset*.

Denmark

The planning system

Levels of government and their responsibilities

Denmark has three levels of government: the national government, 5 regional governments and 98 local governments. On the national level, the Ministry for Business and Growth prepares a national planning report after each parliamentary election. The report presents the government's long-term considerations on the spatial development in Denmark and provides overall guidelines for spatial planning in Denmark. Furthermore, the ministry is responsible for safeguarding national interests in physical planning and releases a report on *National Interests in Municipal Planning* (every four years). The ministry also provides a national planning directive for overall planning in the greater Copenhagen metropolitan area. More generally, it has the power to issue national planning directives related to areas that are of importance for the broader society, such as infrastructure construction. Lastly, the ministry can establish special rules for the planning of certain activities, such as the construction of wind turbines.

Regional governments are primarily responsible for strategic development planning with a focus on regional economic development. They create *Regional Growth and Development Strategies* that are supposed to align different stakeholders behind a common vision for the region. Furthermore, they prepare the *Regional Raw Materials Plan*.

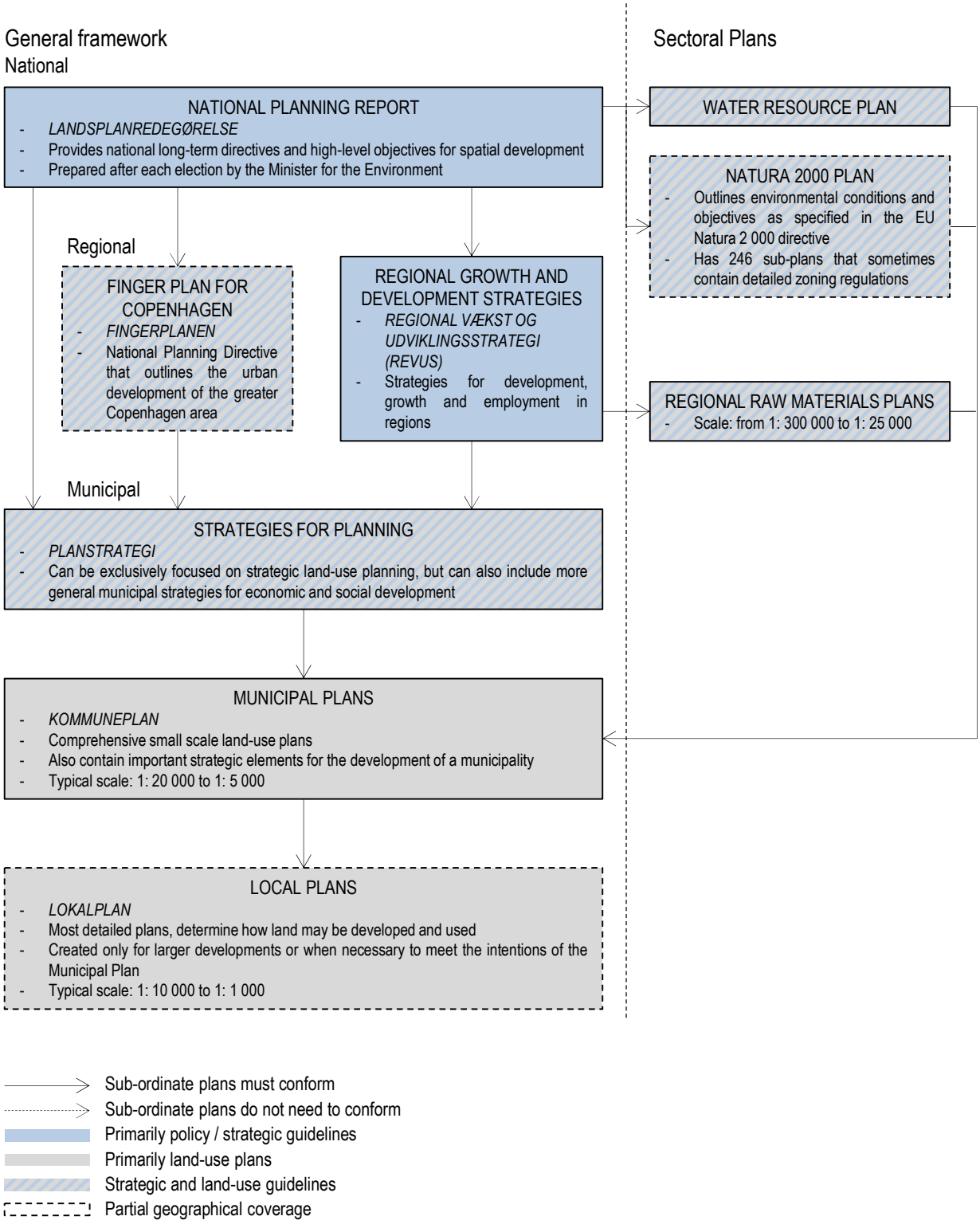
Municipalities are the most important actors in land-use planning. They conduct extensive forward-looking strategic planning for their territory and prepare detailed municipal and local plans that steer land use (unless being overridden by a national planning directive).

Spatial and land-use plans

Denmark uses a hierarchical spatial planning framework that can be characterised as a three-tier system of development plans and strategies and a two-tier system of land-use plans. Each level of government prepares a strategic plan. The *National Planning Report* provides a vision for spatial development in Denmark. *Regional Growth and Development Strategies* focus on economic development with an emphasis on the inclusion of relevant stakeholders. Municipal *Strategies for Planning* vary in their characteristics. Some are strictly focused on land use, but more and more municipalities use them to prepare broader local development strategies.

Two types of land-use plans are prepared by the municipal level. The *Municipal Plan* is the most complex plan in the Danish planning system. It has the role of integrating the different objectives of higher level strategic plans into a comprehensive policy document that specifies overall objectives for development, includes guidelines for land use and provides a general land-use framework for the municipality. *Local Plans* are the second type of land-use plans in Denmark. They provide detailed land-use regulations on varying topics at scales mostly from 1: 10 000 to 1: 1 000. Local plans have to be created for every major development project.

Organisation of spatial and land-use planning in Denmark



Three main types of sectoral plans exist in the addition to the above-mentioned plans. The *Water Resources Plan*, the *Natura 2000 Plan* and *Regional Raw Materials Plans*. Each of the types of plan contains strategic objectives but also zoning regulations for selected areas.

An important addition to the system of plans is the *Finger Plan 2007 and 2013*. It is a legally binding *National Planning Directive* for greater Copenhagen that contains a strategy for the growth and urban development of the metropolitan area. Planning in the Greater Copenhagen area must not conflict with the Finger Plan or other national planning directives for the area. Municipal planning in the Finger Plan area must ensure that urban development is planned with respect to a core urban region ("the palm of the hand"), the peripheral urban region ("the city fingers"), the green wedges ("between the fingers") and the rest of the Greater Copenhagen area. Special attention is given to opportunities for strengthening public transport services and to avoiding urban growth in the green wedges.

Major laws and regulations

The framework legislation that defines the planning system in Denmark is contained in the *Planning Act*. Further important details regarding planning and development are contained in the *Building Act* that specifies requirements for building permits. Other important acts are the *Nature Protection Act* (the main environmental law) and the *Land Registration Act* that contains regulations on property ownership and registration and also specifies that a local plan must be registered in the land registry for each individual property. From a fiscal perspective, the *Valuation Act* is important for land use because it determines how property is valued and taxed.

Co-ordination mechanisms

Vertical co-ordination occurs through the legal requirement that lower level plans follow the guidelines in higher level plans. In particular, municipalities are required to align their planning documents with the above-mentioned national planning directives, water resource planning, Natura 2000 planning and raw materials planning. Also, municipal plans may not contradict the visions for spatial development in the *Regional Growth and Development Strategies.* However, enforcement of the latter is limited because of a lack of enforceable specific land-use regulation in regional strategic planning documents.

Horizontal co-ordination is explicitly required by the *Planning Act*. Municipal plans must take a number of themes and policy sectors into account in a comprehensive manner. There are no formal provisions how this is achieved in the planning process.

Expropriations

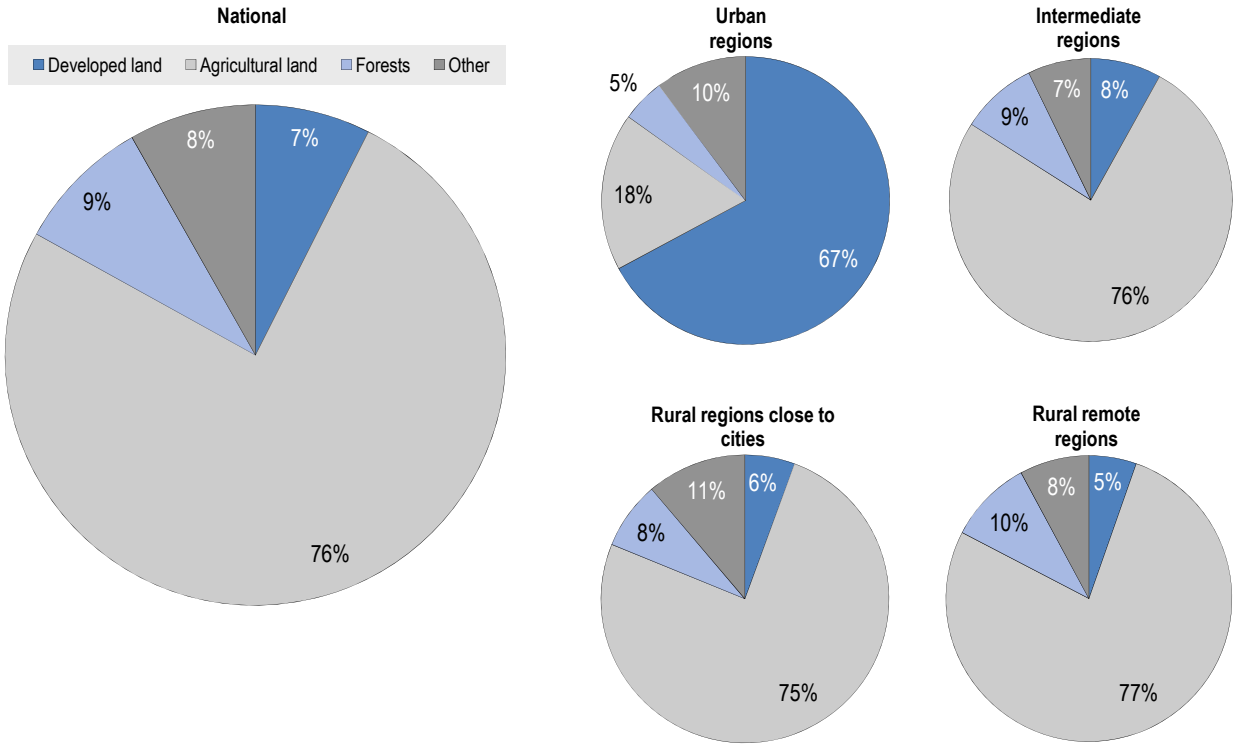
Expropriations for the common good are possible under strict conditions and with full compensation of the land owner. Land can be permanently expropriated or for a limited period of time. Alternatively, limitations to uses of land through easements are possible. Typically land is expropriated for infrastructure construction by the national or by local governments. Expropriations for private uses of land are not possible.

Recent and planned reforms to the system of land-use planning

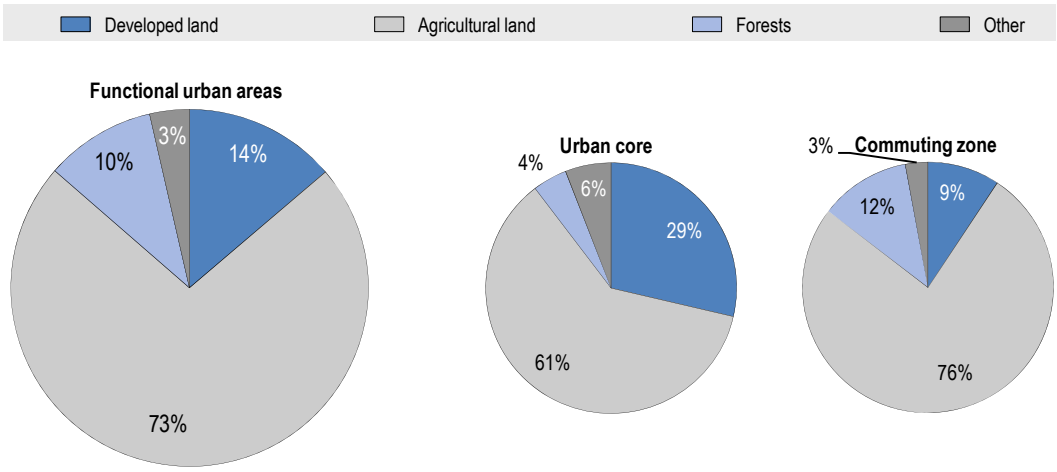
A major reform to the planning system occurred in 2007 in parallel with the amalgamation of formerly 271 municipalities into 98. As part of the reform, regional land-use planning was almost completely abolished and municipalities were given the primary responsibility for land-use planning.

Land cover in Denmark

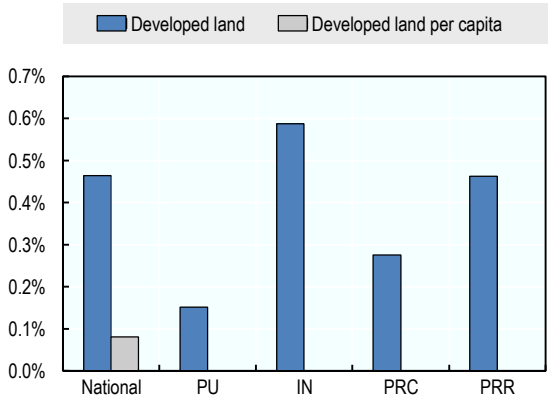
Land cover at the national level



Land cover in functional urban areas (FUAs)

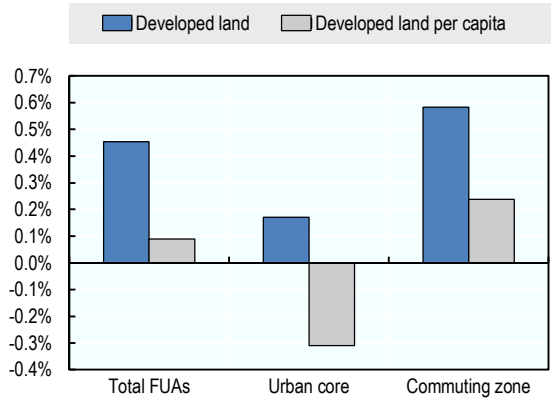


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Denmark

Land cover in Denmark is dominated by agricultural land. With 76% of the total land mass, the share of agricultural land is higher than in any other of the 28 analysed OECD countries. In terms of per capita use of developed land, Denmark ranks somewhat above OECD average. Between 2000 and 2012, its developed land has increased by approximately 5.7%, which is slightly above the population growth rate. In urban areas, population has been growing especially strongly in municipalities in the urban core, but this is not reflected in the growth of developed land, which has occurred predominantly in the commuting zone of urban areas.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Denmark

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	43 116	531	20 289	7 961	14 335
Total developed land	3 212	357	1 639	446	770
Percentage of total	7.4%	67.2%	8.1%	5.6%	5.4%
Annual change in developed land, 2000-12	14.5	0.5	9.3	1.2	3.5
Annual percentage change in developed land, 2000-12	0.46%	0.15%	0.59%	0.28%	0.46%
Agricultural land	32 590	94	15 403	6 016	11 078
Percentage of total	75.6%	17.7%	75.9%	75.6%	77.3%
Annual change in agricultural land, 2000-12	-16.9	-0.4	-11.0	-1.6	-3.8
Annual percentage change in agricultural land, 2000-12	-0.05%	-0.44%	-0.07%	-0.03%	-0.03%
Forests	3 775	26	1 782	607	1 360
Percentage of total	8.8%	4.8%	8.8%	7.6%	9.5%
Annual change in forests, 2000-12	-3.5	0.1	1.6	-2.3	-2.9
Annual percentage change in forests, 2000-12	-0.09%	0.42%	0.09%	-0.38%	-0.21%
Land cover per capita (m²)					
Total developed land per capita	576	291	601	769	733
Annual percentage change in developed land per capita, 2000-12	0.08%				
Agricultural land per capita	5 840	77	5 651	10 372	10 552
Annual percentage change in agricultural land per capita, 2000-12	-0.43%				
Forests per capita	677	21	654	1 047	1 295
Annual percentage change in forests per capita, 2000-12	-0.47%				

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	10 540	2 429	8 111
Total developed land	1 450	696	754
Percentage of total	13.8%	28.6%	9.3%
Annual change in developed land, 2000-12	6.4	2.2	4.2
Annual percentage change in developed land, 2000-12	0.45%	0.33%	0.57%
Agricultural land	7 656	1 482	6 174
Percentage of total	72.6%	61.0%	76.1%
Annual change in agricultural land, 2000-12	-6.8	-2.5	-4.3
Annual percentage change in agricultural land, 2000-12	-0.09%	-0.17%	-0.07%
Forests	1 055	107	948
Percentage of total	10.0%	4.4%	11.7%
Annual change in forests, 2000-12	-1.1	-0.1	-1.0
Annual percentage change in forests, 2000-12	-0.10%	-0.06%	-0.11%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	477	294	611
Annual percentage change in developed land per capita, 2000-12	0.09%	-0.31%	0.24%
Agricultural land per capita	2 517	75	3 115
Annual percentage change in agricultural land per capita, 2000-12	-0.45%	-0.94%	-0.45%
Forests per capita	347	21	613
Annual percentage change in forests per capita, 2000-12	-0.47%	-0.07%	-0.39%

Source: All land cover statistics for Denmark are based on OECD calculations based on *Corine Land Cover dataset*.

Estonia

The planning system

Levels of government and their responsibilities

Estonia has two levels of government; the national government and 213 municipalities. In between, counties – deconcentrated branches of the national administration – play an important role in co-ordinating policies at the regional level.

The national government influences spatial and land-use policies directly through the *National Spatial Plan* and indirectly through a variety of sectoral agencies, such as the *Road Administration*, the *Environmental Board*, the *Land Board* (responsible for the 42% of Estonian land that is state owned), and the *Heritage Board*. Each of the agencies must approve plans within its area of responsibility (for example any construction within 50 metres of a main road and 30 metres of a minor road in the case of the *Road Administration*).

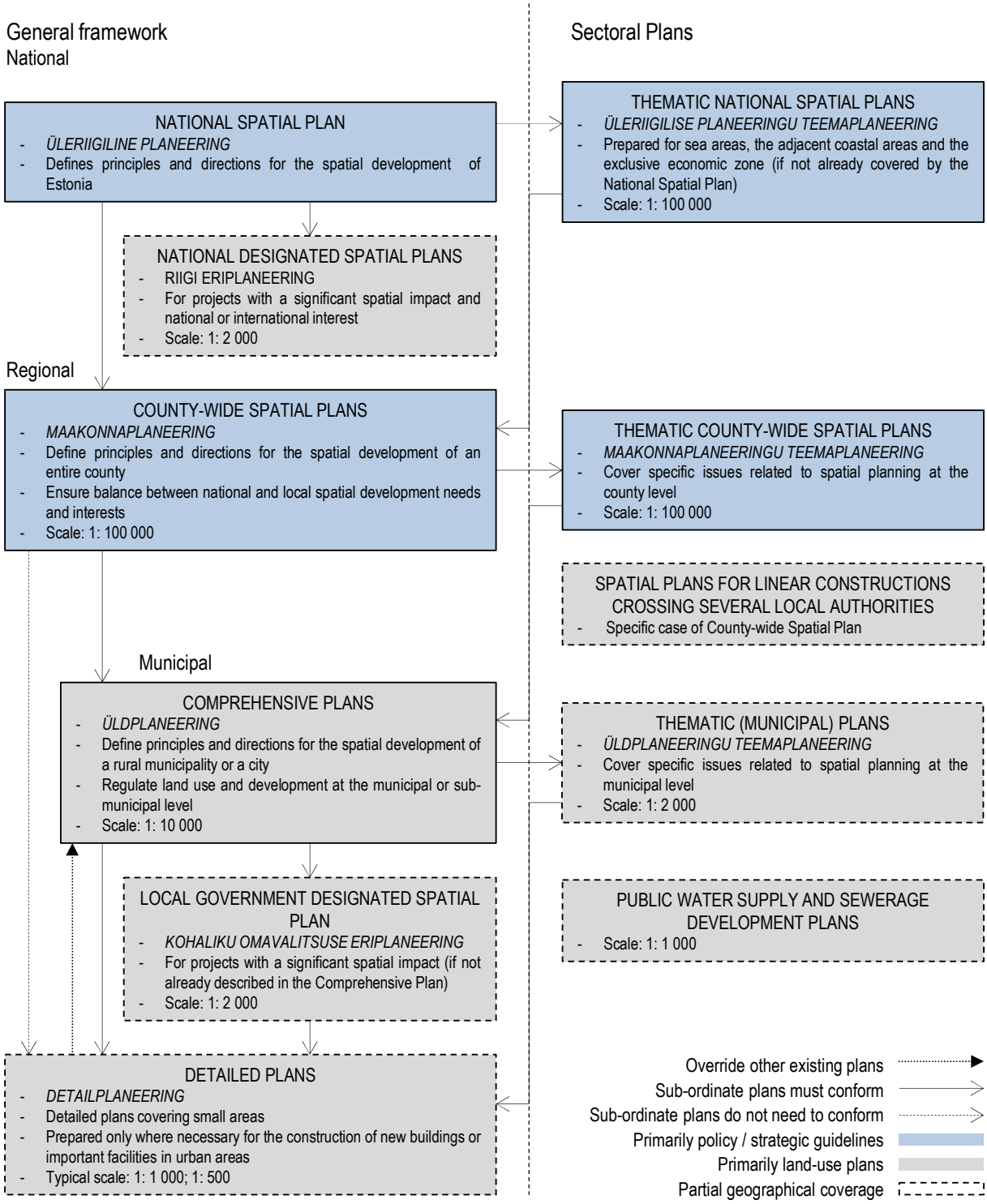
Counties play a co-ordinating role in land-use planning on the regional level. They have two main powers; first they adopt *County-wide Spatial Plans*, which counties either prepare themselves or procure from private consultants. Second, they ratify *Comprehensive Plans* and those *Detailed Plans* that conflict with existing *Comprehensive Plans*.

Urban and rural municipalities are the main actors in land-use planning in Estonia. Their influence stems from their responsibility for the *Comprehensive Plan*, the associated *Thematic Plans* and the *Detailed Plans*, which are the main statutory land-use planning instruments. While municipalities are politically and legally responsible for the content of these plans, their actual preparation is usually outsourced to private consultants. Furthermore, municipalities may complement the national *Building Code* by issuing local *Building Ordinances* and issue building permits to developers.

Spatial and land-use plans

The Estonian planning system broadly follows the approach of Scandinavian countries. On the national level, the *National Spatial Plan* provides the broad outlines of spatial policy. These outlines form the basis for *County-wide Spatial Plans* that are strategic spatial plans and contain land-use plans at a scale of 1: 100 000. They cover a single county with an average size of 3 000 square kilometres and incorporate a wide range of policy areas. *County-wide Spatial Plans* may be supplemented by *Thematic County-wide Spatial Plans* that have a focus on a particular policy area. Most commonly, *Thematic County-wide Spatial Plans* exist in the fields of transport policy, environmental policy and distribution of social infrastructure.

Organisation of spatial and land-use planning in Estonia



The main land-use planning instrument in Estonia is the *Comprehensive Plan*, a detailed land-use plan at a scale of 1: 2 000 to 1: 20 000. It exists in 209 of the 213 Estonian municipalities (the remaining four municipalities have not drawn up a *Comprehensive Plan* but are legally required to do so). Similar to *County-wide Spatial*

Plans, Comprehensive Plans may be complemented by *Thematic Plans*, which typically have a scale of 1: 2 000 to 1: 20 000. Lastly, *Detailed Plans* are created for new buildings or important facilities primarily in urban areas and have a scale of 1: 500 to 1: 5 000. They do not need to be prepared for new buildings that fit into their existing surroundings and that are in accordance with the use designated to the plot in the *Comprehensive Plan*. All municipal plans are legally binding for land owners.

Major laws and regulations

The most important laws related to urban development are the *Planning Act*, which outlines the planning process and the content of plans, and the *Building Code* (contained in several acts), which provides building regulations and specifies rules for construction close to roads and technical infrastructure. The *Building Code* may be complemented by *Building Ordinances* that can further regulate building procedures at the local level in accordance with national regulation. Another important law is the *Nature Protection Act*, which regulates construction in nature protection zones, areas close to rivers and lakes and on the coast. The *Heritage Act* regulates building activity in conservation sites.

Co-ordination mechanisms

Horizontal co-ordination occurs primarily through the involvement of the different national sectoral agencies in the planning process on all levels of government. A department of the *Ministry of Finance* is responsible for the implementation of the *Planning Act* and for the preparation and implementation of the *National Spatial Plan*. Vertical co-ordination is a task of county administrations, which apply national spatial strategies to the regional level and ensure that municipal plans adhere to national goals as outlined in the *County-wide Spatial Plans*. Co-ordination occurs generally on an ad-hoc basis. No governmental body is explicitly dedicated to either horizontal or vertical co-ordination, although the *Ministry of Finance* may mediate in case of planning conflicts between counties or in case of conflicting national interests.

Expropriations

Expropriations are only possible under strict conditions in Estonia and only for the construction of public infrastructure (e.g. ports, power plants, roads, etc.). Expropriation decisions are made by the national government in accordance with the *Property Expropriation Act*. Expropriations for private uses of land are not possible unless the above-mentioned projects are undertaken by private companies. Furthermore, land owners can be required to grant access rights required to reach other plots and in some cases to tolerate utility networks on their land. Generally, no penalties for underdevelopment of land exist, although some municipalities attempted to introduce them. However, these attempts have been unsuccessful.

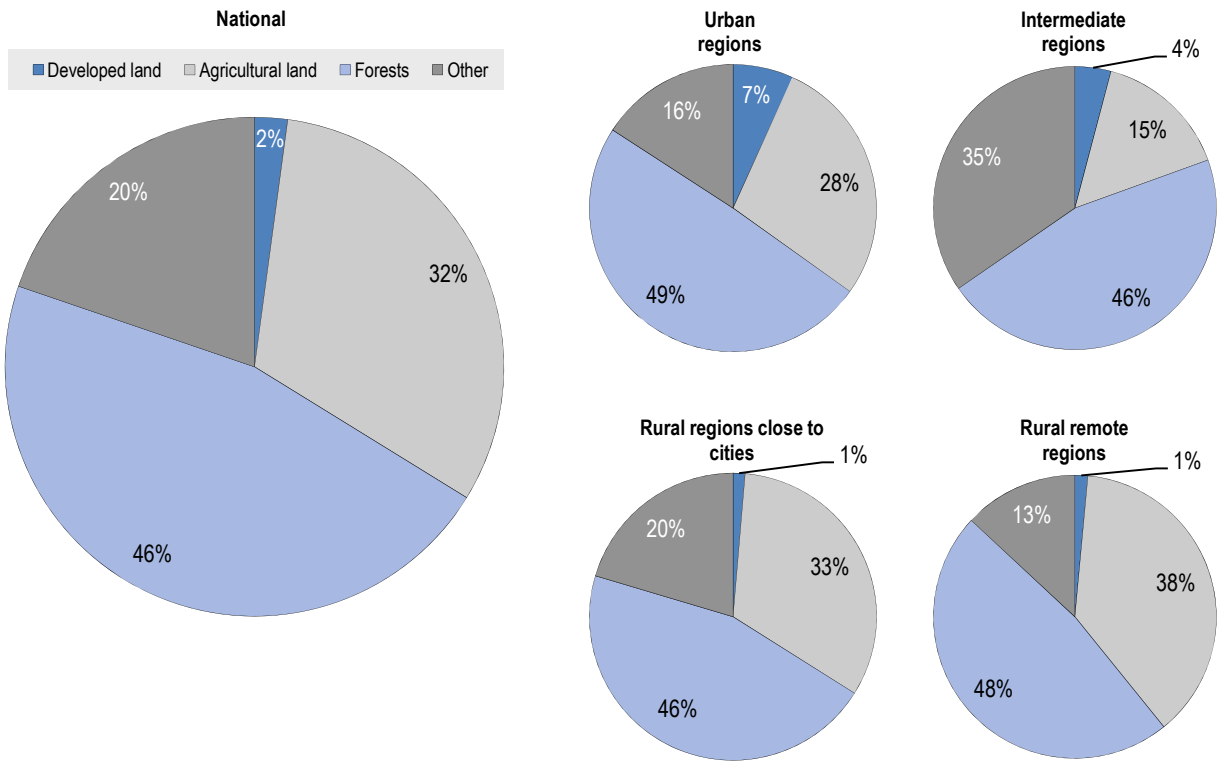
Recent and planned reforms to the system of land-use planning

After regaining independence in 1991, the Estonian system of land-use planning was completely overhauled. Restitution of land occurred according to pre-World War II ownership, leaving in particular municipalities with little land ownership. The first Planning and Building Act in 1995 created a system that follows largely the Scandinavian model of land-use planning. In 2002, a reform of the law separated planning acts from building permission acts. In 2015 an entirely new *Planning Act* was approved. The act specifies planning principles, functions and procedures. It aims at increasing the

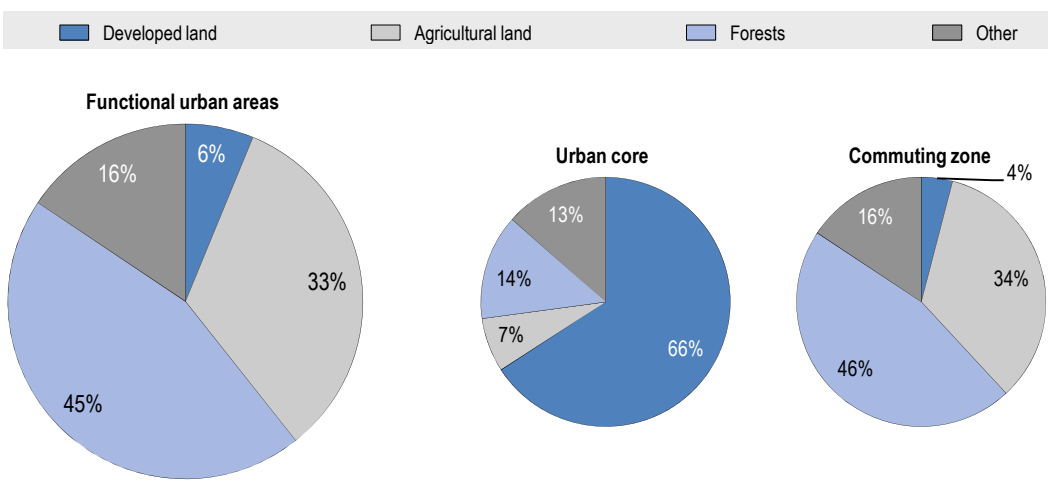
efficiency of planning and building procedures and introduces new types of spatial plans. However, it has not changed the main outlines of the planning system.

Land cover in Estonia

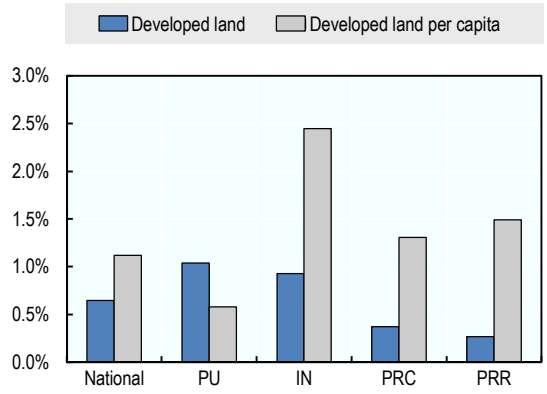
Land cover at the national level



Land cover in functional urban areas (FUAs)

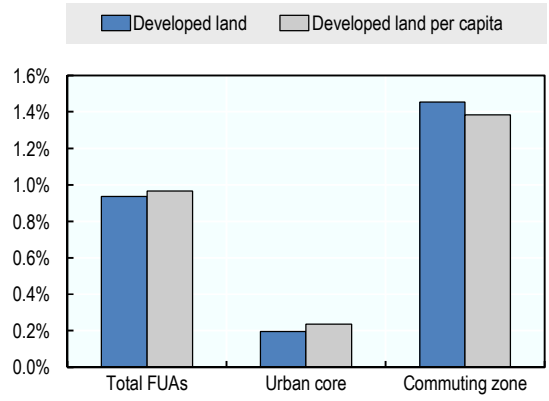


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Estonia

Estonia experienced a strong increase in the area of developed land since 2000, while population declined significantly over the same time period. As a consequence, the country had the highest growth rate of developed land per capita of all 28 analysed OECD countries. This disparity between population decline and growth in developed land was especially strong in intermediate regions, where developed land per capita grew by approximately 33% between 2000 and 2012. In light of the strong increase in per capita land consumption, it is not surprising that the country has one of the highest levels of developed land per capita of all OECD countries. However, it has a low population density, only 2% of its total surface is developed.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Estonia

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	45 379	4 323	4 018	27 947	9 091
Total developed land	968	294	166	375	134
Percentage of total	2.1%	6.8%	4.1%	1.3%	1.5%
Annual change in developed land, 2000-12	6.0	2.9	1.4	1.4	0.4
Annual percentage change in developed land, 2000-12	0.65%	1.04%	0.93%	0.37%	0.27%
Agricultural land	14 366	1 213	617	9 109	3 427
Percentage of total	31.7%	28.1%	15.4%	32.6%	37.7%
Annual change in agricultural land, 2000-12	-7.8	-1.8	-1.0	-4.4	-0.6
Annual percentage change in agricultural land, 2000-12	-0.05%	-0.15%	-0.16%	-0.05%	-0.02%
Forests	21078	2132	1845	12762	4340
Percentage of total	46.4%	49.3%	45.9%	45.7%	47.7%
Annual change in forests, 2000-12	-19.5	-0.4	-1.0	-10.9	-7.3
Annual percentage change in forests, 2000-12	-0.09%	-0.02%	-0.05%	-0.08%	-0.17%
Land cover per capita (m²)					
Total developed land per capita	730	518	1 078	786	1 048
Annual percentage change in developed land per capita, 2000-12	1.12%	0.58%	2.45%	1.31%	1.49%
Agricultural land per capita	10 840	2 140	4 012	19 100	26 803
Annual percentage change in agricultural land per capita, 2000-12	0.41%	-0.60%	1.34%	0.88%	1.20%
Forests per capita	15 905	3 761	12 002	26 760	33 942
Annual percentage change in forests per capita, 2000-12	0.37%	-0.47%	1.45%	0.85%	1.05%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	7 257	255	7 002
Total developed land	451	168	283
Percentage of total	6.2%	65.8%	4.0%
Annual change in developed land, 2000-12	4.0	0.3	3.7
Annual percentage change in developed land, 2000-12	0.94%	0.19%	1.42%
Agricultural land	2 403	18	2 385
Percentage of total	33.1%	7.0%	34.1%
Annual change in agricultural land, 2000-12	-2.7	-0.1	-2.5
Annual percentage change in agricultural land, 2000-12	-0.11%	-0.79%	-0.11%
Forests	3 271	35	3 236
Percentage of total	45.1%	13.7%	46.2%
Annual change in forests, 2000-12	-1.1	0.1	-1.1
Annual percentage change in forests, 2000-12	-0.03%	0.19%	-0.04%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	607	280	1507
Annual percentage change in developed land per capita, 2000-12	0.97%	0.24%	1.38%
Agricultural land per capita	3 234	14.9	9 695
Annual percentage change in agricultural land per capita, 2000-12	-0.08%	-1.43%	-0.20%
Forests per capita	4 402	48.1	15 833
Annual percentage change in forests per capita, 2000-12	-0.003%	0.05%	-0.09%

Source: All land cover statistics for Estonia are based on OECD calculations based on *Corine Land Cover dataset*.

Finland

The planning system

Levels of government and their responsibilities

Finland is a unitary country with 313 municipalities. At an intermediate administrative level are the regional councils, but only the regional council of the island of Åland has the status of an autonomous regional government. The other 18 regional councils are statutory joint municipal boards. As of the time of writing, an on-going reform aims at reforming the regional structure and at establishing full regional governments.

The national government adopts the framework legislation that structures the planning system and other relevant legislation, such as environmental laws. Furthermore, the national government may adopt national objectives regarding land use and the regional spatial structure. The Ministry of Environment is in charge of drafting national land-use objectives. It also provides guidance on the land-use planning process and the regulation of building activities. The national government also influences spatial policy indirectly through its *Centres for Economic Development, Transport and the Environment (ELY Centres)*, which are deconcentrated branches of the national administration. They are responsible for economic development, transport and environmental issues and also issue planning permissions in exceptional cases.

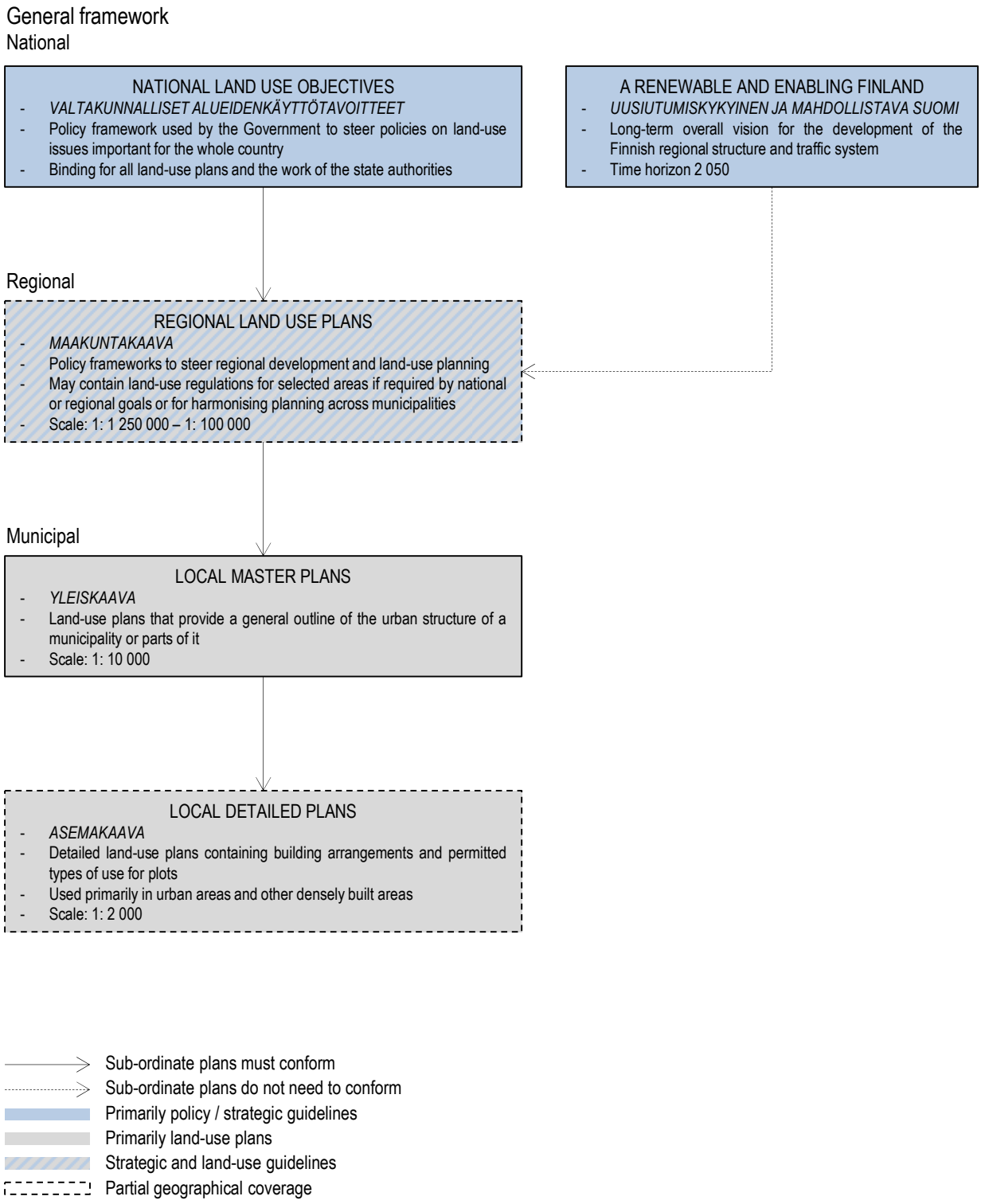
Regional councils have two main functions; the promotion of regional development and regional land-use planning, which occurs primarily through the preparation of *Regional Plans*. Furthermore, regional councils are mainly responsible for implementing programmes supported by EU structural funds and can use them to affect the spatial structure of the region.

Local self-government is ensured by the Finnish constitution. With respect to land-use planning, municipalities meet this responsibility by preparing *Local Master Plans* and *Local Detailed Plans*. Furthermore, they are responsible for issuing planning permissions and building permits.

Spatial and land-use plans

Finland uses a hierarchical system of plans. No spatial plan exists at the national level, but the government develops national land-use objectives to steer policy on land use and regional spatial structures that are important for the whole country. Lower levels of government are required to take them into account in their planning process. Furthermore, the *Ministry of the Environment* in co-operation with other ministries has developed a non-binding vision for the regional structure and the transport system of Finland in 2050 (named "*A renewable and enabling Finland*"). It envisions a polycentric regional structure for the country.

Organisation of spatial and land-use planning in Finland



Regional Plans are the highest-level plans. They set out principles for land use and community structure, and designate areas that are needed for regional development. Such a designation occurs only if required by national or regional land-use objectives or in order to harmonise land use in several municipalities.

Municipalities prepare two types of plans. *Local Master Plans* contain a description of the urban structure of the municipality and contain general objectives for community development. They contain zoning regulation for the entire territory of a municipality (typically at a scale of 1: 10 000) and specify the areas for which *Local Detailed Plans* are required. *Local Master Plans* exist in all municipalities.

Local Detailed Plans are drawn up to guide development in particularly important or sensitive areas. They include detailed regulations on permitted development for individual plots. Maps are typically drawn at a scale of 1: 2 000. *Local Detailed Plans* must not impose unreasonable restrictions on land owners that could be avoided without disregarding the objectives of the plan and must ensure that they do not substantially reduce the quality of anybody's living environment unless necessary to meet the objectives of the plan.

Major laws and regulations

The *Land Use and Building Act* structures the land-use planning system and contains provisions to ensure the environmental, economic, social and cultural sustainability of planning. Together with the *Local Government Act*, which outlines the responsibilities of municipalities, it forms the framework legislation for land-use planning. Further provisions regarding the planning process are provided by decree, ministerial decision and local building ordinances. Important restrictions on land use are also contained in the *Nature Conservation Act* and in the *Environmental Protection Act*.

Co-ordination mechanisms

Vertical co-ordination of land-use policies is one of the tasks of the above-mentioned *Centres for Economic Development, Transport and the Environment*. They monitor regional and local land-use policies to ensure that national objectives with respect to land use and building activity are taken into account. Horizontal co-ordination across policy fields is the responsibility of the *Ministry of Environment*, which harmonises regulations concerning building activities that are issued by other government authorities.

Expropriations

Land can be expropriated for a variety of reasons, such as the provision of public infrastructure and housing, the establishment of nature protection areas and for mining activities. When local plans zone areas in a way that make it impossible for a private land owner to generate a reasonable return from it, the state can be obliged to expropriate the area and pay compensation for it. However, the requirement to compensate land owners does not cover areas used for the construction of roads. Expropriation for private land uses is not possible, but the state can expropriate land and sell it to private developer. While legally possible, such a procedure would face increased political challenges and legal scrutiny.

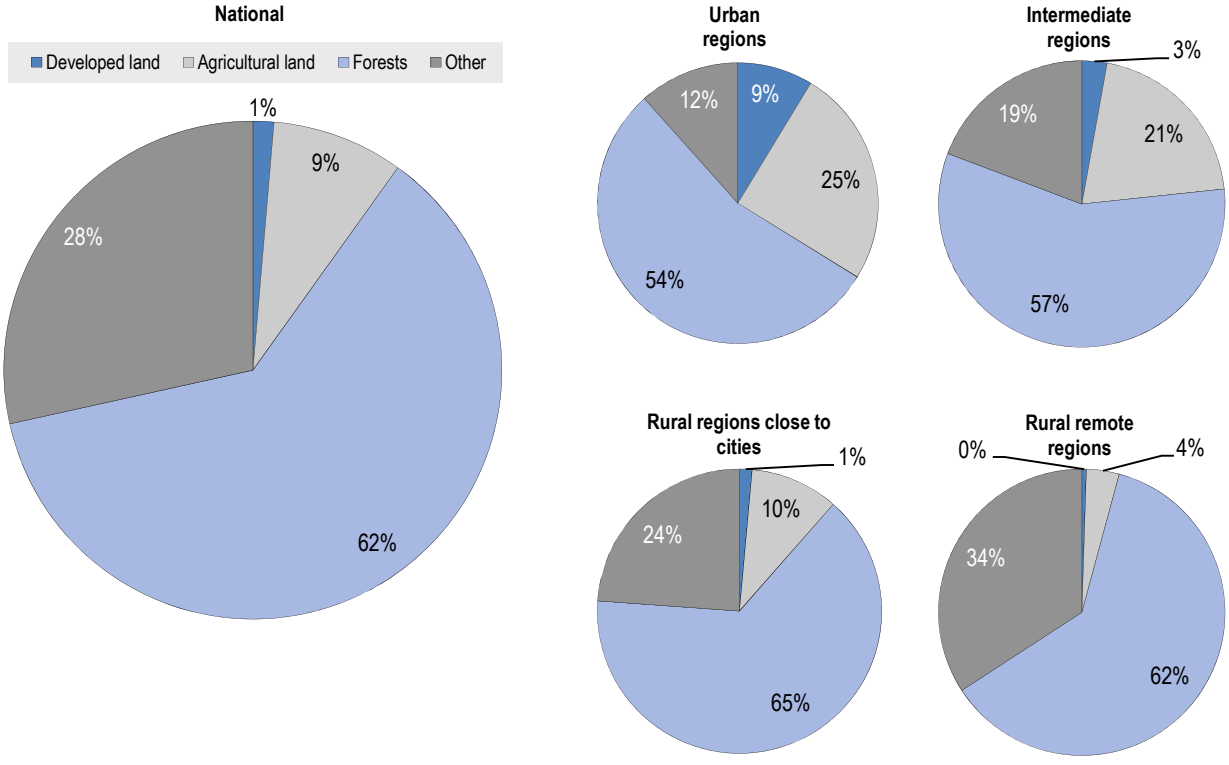
Recent and planned reforms to the system of land-use planning

Systematic land-use planning in Finland was established in the 1930s and concerned only cities and towns. The current system in its broad outlines was established in 1956 and underwent a major reform in 1999. The main change during the reform of 1999 was the introduction of a meaningful and mandatory participatory process that strengthened stakeholder involvement in the planning process. Smaller reforms occurred in 2004 and 2015 and introduced the objective to foster economic competitiveness through land-use planning.

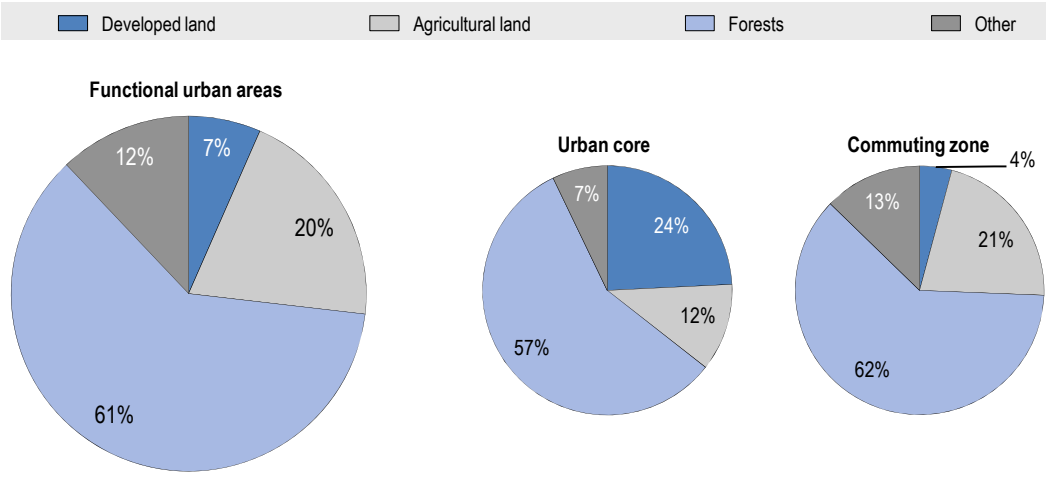
Planned reforms related to land-use governance aim at easing planning restrictions and at increasing regional and local autonomy. The *Land Use and Building Act* will be amended to increase opportunities for construction and simplify decision-making processes. Construction in densely populated areas will be facilitated, for example by easing regulations on areas that require planning. The national land-use objectives will be updated and will be more strongly restricted to areas of national importance. Furthermore, regional land-use plans will not require approval from the national government anymore.

Land cover in Finland

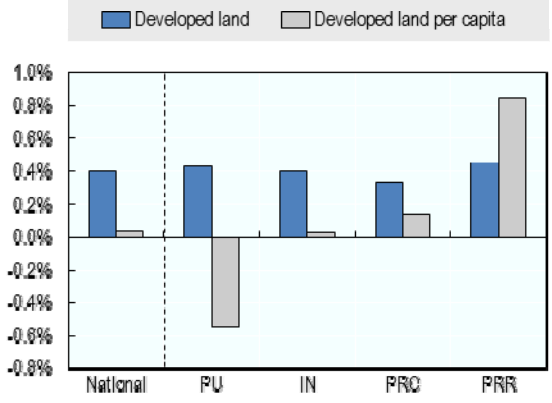
Land cover at the national level



Land cover in functional urban areas (FUAs)

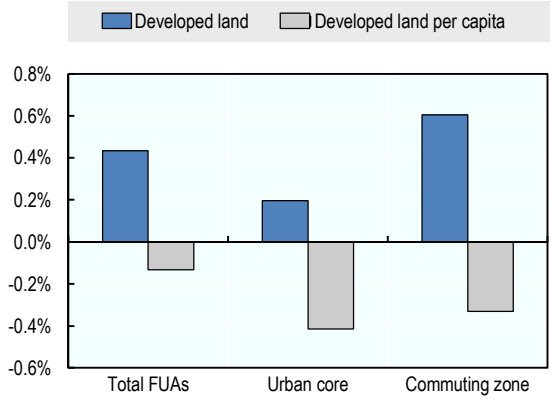


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Finland

As in many other sparsely populated countries, Finland also has a very high use of developed land per capita, even though only a very small share (1%) of its total surface is developed. Since 2000, the area of developed land increased by approximately 0.4% annually in urban, rural and intermediate regions, despite diverging demographic developments. Whereas urban regions experienced population growth that was much stronger than the increase in developed land, rural remote regions experienced population declines. Of all analysed countries, Finland has the second highest share of forested land after Japan.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Finland

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	33 7414	9 468	49 851	93 824	184 272
Total developed land	4 551	823	1 412	1 342	973
Percentage of total	1.3%	8.7%	2.8%	1.4%	0.5%
Annual change in developed land, 2000-12	17.7	3.4	5.5	4.6	4.3
Annual percentage change in developed land, 2000-12	0.40%	0.43%	0.40%	0.35%	0.46%
Agricultural land	28 840	2 379	10 229	9 418	6 815
Percentage of total	8.5%	25.1%	20.5%	10.0%	3.7%
Annual change in agricultural land, 2000-12	32.0	-1.0	0.2	20.3	12.5
Annual percentage change in agricultural land, 2000-12	0.11%	-0.04%	0.002%	0.22%	0.18%
Forests	20 7960	5 167	28 602	60 708	113 483
Percentage of total	61.6%	54.6%	57.4%	64.7%	61.6%
Annual change in forests, 2000-12	-187.1	-5.7	-38.9	-72.7	-69.7
Annual percentage change in forests, 2000-12	-0.09%	-0.11%	-0.13%	-0.12%	-0.06%
Land cover per capita (m²)					
Total developed land per capita	843	531	855	1 013	1 111
Annual percentage change in developed land per capita, 2000-12	0.04%	-0.54%	0.03%	0.15%	0.84%
Agricultural land per capita	5 340	1 536	6 192	7 109	7 783
Annual percentage change in agricultural land per capita, 2000-12	-0.25%	-1.00%	-0.36%	0.02%	0.57%
Forests per capita	38 502	3 335	17 316	45 824	12 9602
Annual percentage change in forests per capita, 2000-12	-0.45%	-1.07%	-0.50%	-0.31%	0.32%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	27 169	3 275	23 894
Total developed land	1 787	794	993
Percentage of total	6.6%	24.2%	4.2%
Annual change in developed land, 2000-12	7.6	2.1	5.4
Annual percentage change in developed land, 2000-12	0.43%	0.27%	0.57%
Agricultural land	5 502	372	5 130
Percentage of total	20.3%	11.3%	21.5%
Annual change in agricultural land, 2000-12	0.4	-0.5	0.9
Annual percentage change in agricultural land, 2000-12	0.01%	-0.14%	0.02%
Forests	16 600	1 875	14 725
Percentage of total	61.1%	57.3%	61.6%
Annual change in forests, 2000-12	-13.2	-2.0	-11.2
Annual percentage change in forests, 2000-12	-0.08%	-0.10%	-0.08%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	636	373	886
Annual percentage change in developed land per capita, 2000-12	-0.13%	-0.41%	-0.33%
Agricultural land per capita	1 958	85	3 597
Annual percentage change in agricultural land per capita, 2000-12	-0.56%	-0.87%	-0.97%
Forests per capita	5907	249	7107
Annual percentage change in forests per capita, 2000-12	-0.64%	-0.75%	-1.08%

Source: All land cover statistics for Finland are based on OECD calculations based on *Corine Land Cover dataset*.

France

The planning system

Levels of government and their responsibilities

France has four levels of government; the national government, 18 regions, 101 departments, and 35 885 municipalities. The national government is active in land-use governance primarily through its responsibility for the legal framework concerning land-use planning, environmental policy and other policy fields. Furthermore, it plans and finances infrastructure projects of national importance such as motorways and railways as well as facilities such as universities. No national level spatial plan exists in France.

The influence of regions on land use comes primarily through their involvement in the planning and financing of large scale infrastructure projects. Furthermore, regions prepare a general strategic plan that outlines their policy priorities and develops a spatial vision for the region (see below for more information).

The intermediate level of government between regions and municipalities (the *departments)* does not have any formal responsibilities in the field of land-use planning. It has limited influence on land use through its responsibilities for other policy fields, such as the construction of schools and departmental roads.

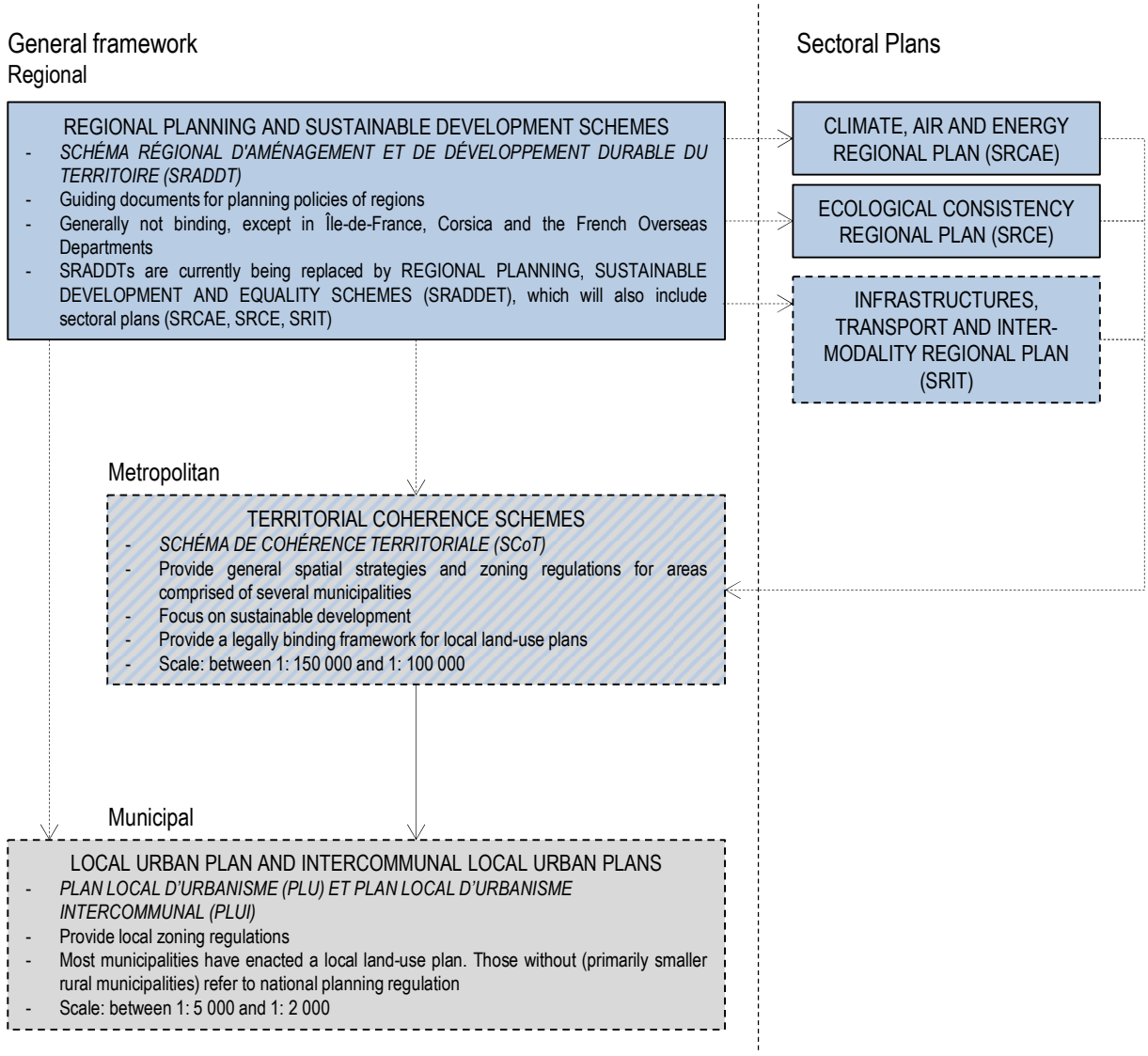
Several different types of inter-municipal authorities exist in France, depending on the population size of urban agglomerations. Especially inter-municipal associations in larger urban areas play an important role in the French planning system. They are responsible for creating strategic plans that focus on providing a coherent strategy for the entire urban agglomeration. These plans are legally binding for local land-use plans.

Municipalities are responsible for creating local land-use plans and for issuing building permits. With an average number of 1 735 inhabitants, municipalities in France are among the smallest within the OECD. While they can form inter-municipal associations to create local land-use plans (*PLUI*), the responsibility for issuing building permits always rests with an individual municipality. Subject to the approval of the national government, municipalities can also create dedicated urban planning agencies that provide advice on urban planning and land management issues and draft local and inter-municipal plans. Currently, 51 of those agencies exist in France.

Spatial and land-use plans

France has three levels of spatial plans. Regional plans (*SRADDT*) are guiding documents for regional spatial policies and can show political investment priorities. In most parts of the country, they are not binding for lower level plans. However, Île-de-France (i.e. the greater Paris region), Corsica and the French overseas territories have slightly different regional plans. These plans are more detailed, contain limited zoning regulations and provide binding frameworks for lower level plans. Currently, regional plans are supplemented by three additional plans; a *Climate, Air and Energy Regional Plan* (*SRCAE*), an *Ecological Consistency Regional Plan* (*SRCE*) and an *Infrastructures, Transportations and Inter-modality Regional Plan* (*SRIT*). In the future, these plans will be combined into a single regional plan.

Organisation of spatial and land-use planning in France



Sub-ordinate plans must conform
Sub-ordinate plans do not need to conform
Primarily policy / strategic guidelines
Primarily land-use plans
Strategic and land-use guidelines
Partial geographical coverage

Note:
SRADDT, SRCAE, SRCE and SRIT are being replaced by the REGIONAL PLANNING, SUSTAINABLE DEVELOPMENT AND EQUALITY SCHEME (*SCHÉMA RÉGIONAL D'AMÉNAGEMENT, DE DÉVELOPPEMENT DURABLE ET D'EGALITÉ DU TERRITOIRE [SRADDET*]), which will be legally binding for subordinate plans.
The deadline for regions to adopt a SRADDET is 31 December 2018.

At an intermediate level, the *SCoT* is a type of plan located between regional plans and local land-use plans. They are prepared by inter-municipal associations and aim to guide local land-use plans. They provide strategic spatial development guidelines connecting the issues of housing, transport and urban planning. Furthermore, they contain small scale land-use plans (often at a scale of 1: 100 000) to steer local plans. *SCoT*s are legally binding for local plans. While it is not mandatory for municipalities to adopt a *SCoT*, municipalities without it are not allowed to approve development in undeveloped areas. Thus, especially municipalities in large urban areas have strong incentives to adopt a *SCoT* and most have done so.

At the local level, local land-use plans (*PLU* or *PLUI*) provide detailed zoning regulations at scales that typically range from 1: 5 000 to 1: 2 000. They are prepared either by a single municipality or jointly by inter-municipal associations. As of 2017, a new law mandates the preparation of inter-municipal plans instead of plans for single municipalities unless more than 25% of the municipalities accounting for at least 20% of the population of an inter-municipal association veto the preparation of a joint plan. While a large majority of municipalities in France are covered by a local land-use plan, a few mainly smaller ones in rural areas are not. Those municipalities refer to national planning regulations for land-use decisions.

Major laws and regulations

Four particularly important laws concerning land use exist in France. The law on solidarity and urban regeneration establishes metropolitan plans (*SCoT*) and local land-use plans (*PLU*). It aims at co-ordinating urban planning, housing and transport policies and sets the objective that cities of more than 50 000 inhabitants should have at least 20% social housing. In 2014, a new law introduced flexible rent ceilings and abolished previous legislation preventing the construction of small housing units. Two laws concern mountainous and coastal areas, respectively. They specify particular environmental protection standards for the covered areas and measures to stimulate tourism and other economic activity related to the specific landscapes.

Co-ordination mechanisms

Formal vertical co-ordination mechanisms between levels of government are limited and are primarily related to the hierarchical structure of the planning system, in which lower levels of government must align their plans to higher level plans. Plans at the same hierarchical level must take each other into consideration, which is less demanding and implies only that one plan does not block the measures foreseen in another plan. Horizontal co-ordination is provided by the newly created *Public Action Territorial Conferences*. These meetings assemble all regional and local authorities under the chairmanship of the regional council president and are supposed to facilitate an integrated and cross-disciplinary planning process.

Expropriations

Land can be expropriated by all levels of government as well as by public utilities. Expropriations for private uses of land are not possible. Reasons for expropriations are the construction of infrastructure, public buildings, and housing developments as well as the establishment of nature reserves. In urban areas, land can

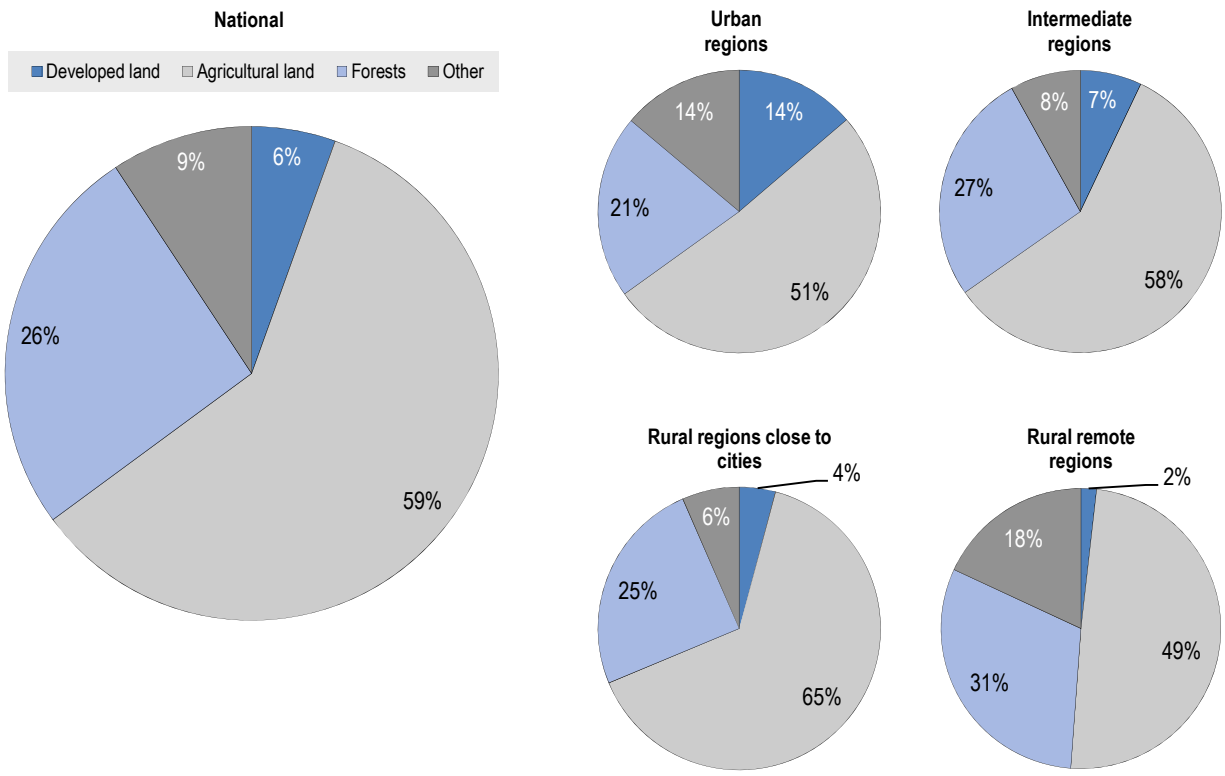
furthermore be expropriated in designated urban renewal zones in order to facilitate urban renewal projects.

Recent and planned reforms to the system of land-use planning

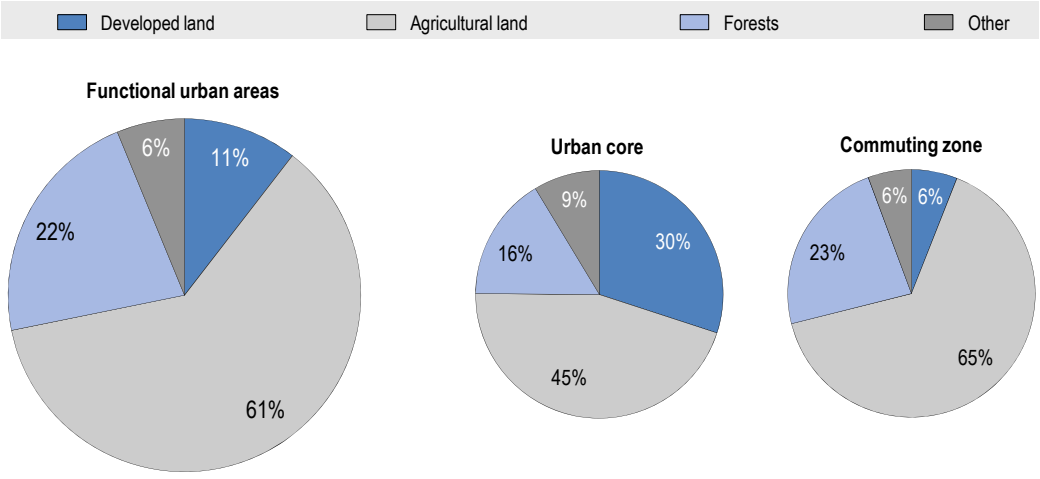
The general system of land-use planning in its current outlines has been in place since 1967, but has been frequently modified since then. Current reforms aim at establishing a two/three tier hierarchical planning system by introducing new regional plans that are legally binding for metropolitan and local plans. The deadline for the adoption of such plans is the end of 2018. Furthermore, a change in emphasis from land-use planning at the very local level to an intermediate level is taking place. Since 2014, the law foresees joint land-use plans created by groups of municipalities as the default option and sets criteria for municipalities to opt out of the joint planning process.

Land cover in France

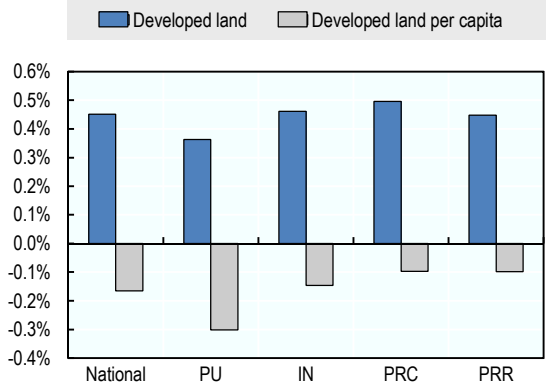
Land cover at the national level



Land cover in functional urban areas (FUAs)

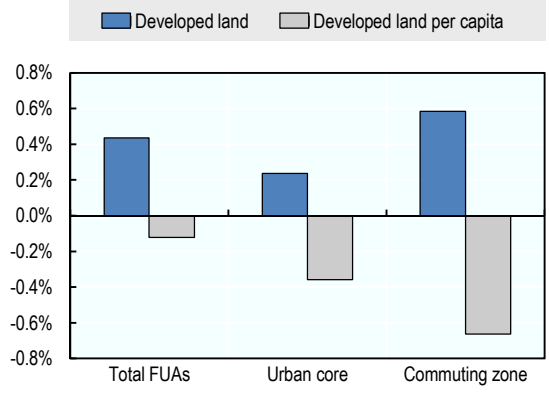


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in France

France has seen a consistent growth of developed land across all four types of regions within the OECD urban-rural classification. However, the growth rate of developed land has generally been below the population growth rate. As a consequence, the per capita efficiency of land consumption has improved. While large urban areas have experienced a suburbanisation trend regarding population movements, this pattern is only partially reflected in the development of land and the per capita land consumption has declined especially strongly in commuting zones.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in France

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	549 197	48 127	159 331	263 484	78 255
Total developed land	30 184	6 623	11 251	10 907	1 403
Percentage of total	5.5%	13.8%	7.1%	4.1%	1.8%
Annual change in developed land, 2000-12	132.4	23.5	50.4	52.4	6.1
Annual percentage change in developed land, 2000-12	0.45%	0.36%	0.46%	0.50%	0.45%
Agricultural land	326 284	24 709	92 774	170 172	38 629
Percentage of total	59.4%	51.3%	58.2%	64.6%	49.4%
Annual change in agricultural land, 2000-12	-120.7	-20.3	-46.8	-47.8	-5.8
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.08%	-0.05%	-0.03%	-0.02%
Forests	141 706	10 115	42 415	65 119	24 057
Percentage of total	25.8%	21.0%	26.6%	24.7%	30.7%
Annual change in forests, 2000-12	-225.6	-25.3	-28.0	-156.2	-16.1
Annual percentage change in forests, 2000-12	-0.16%	-0.25%	-0.07%	-0.24%	-0.07%
Land cover per capita (m²)					
Total developed land per capita	476	301	515	640	564
Annual percentage change in developed land per capita, 2000-12	-0.17%	-0.30%	-0.15%	-0.10%	-0.10%
Agricultural land per capita	5 148	1 122	4 244	9 989	15 528
Annual percentage change in agricultural land per capita, 2000-12	-0.65%	-0.74%	-0.66%	-0.62%	-0.56%
Forests per capita	2 236	459	1 940	3 822	9 670
Annual percentage change in forests per capita, 2000-12	-0.77%	-0.91%	-0.67%	-0.83%	-0.61%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	151 813	28 237	123 576
Total developed land	15 894	8 483	7 411
Percentage of total	10.5%	30.0%	6.0%
Annual change in developed land, 2000-12	67.3	28.3	39.1
Annual percentage change in developed land, 2000-12	0.44%	0.34%	0.55%
Agricultural land	93 135	12 726	80 409
Percentage of total	61.3%	45.1%	65.1%
Annual change in agricultural land, 2000-12	-62.3	-26.6	-35.8
Annual percentage change in agricultural land, 2000-12	-0.07%	-0.21%	-0.04%
Forests	33 344	4 588	28 756
Percentage of total	22.0%	16.2%	23.3%
Annual change in forests, 2000-12	-34.8	-1.8	-33.1
Annual percentage change in forests, 2000-12	-0.10%	-0.04%	-0.11%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	386	226	533
Annual percentage change in developed land per capita, 2000-12	-0.12%	-0.36%	-0.66%
Agricultural land per capita	2264	177	3898
Annual percentage change in agricultural land per capita, 2000-12	-0.62%	-0.87%	-1.30%
Forests per capita	811	100	1660
Annual percentage change in forests per capita, 2000-12	-0.66%	-0.71%	-1.49%

Source: All land cover statistics for France are based on OECD calculations based on *Corine Land Cover dataset*.

Germany

The planning system

Levels of government and their responsibilities

Germany is a federal country with four levels of government. Below the national government, 16 federal states exist. At an intermediate level, there are 402 administrative districts and at the local level 11 092 municipalities. For historical reasons three of the federal states – Berlin, Hamburg, and Bremen – cover only the territory of individual large cities and combine the functions of states and the municipal level. While smaller municipalities usually belong to a district, larger ones with roughly 100 000 or more inhabitants are independent of districts and combine the functions of municipal and district administration.

According to the constitution, federal and state governments have overlapping legislative authority in spatial planning matters. The federal government can pass laws related to spatial planning (*Raumordnung*), but states may do so too. If both levels of government adopt spatial planning laws, the latest enacted law (either federal or state law) takes precedence.

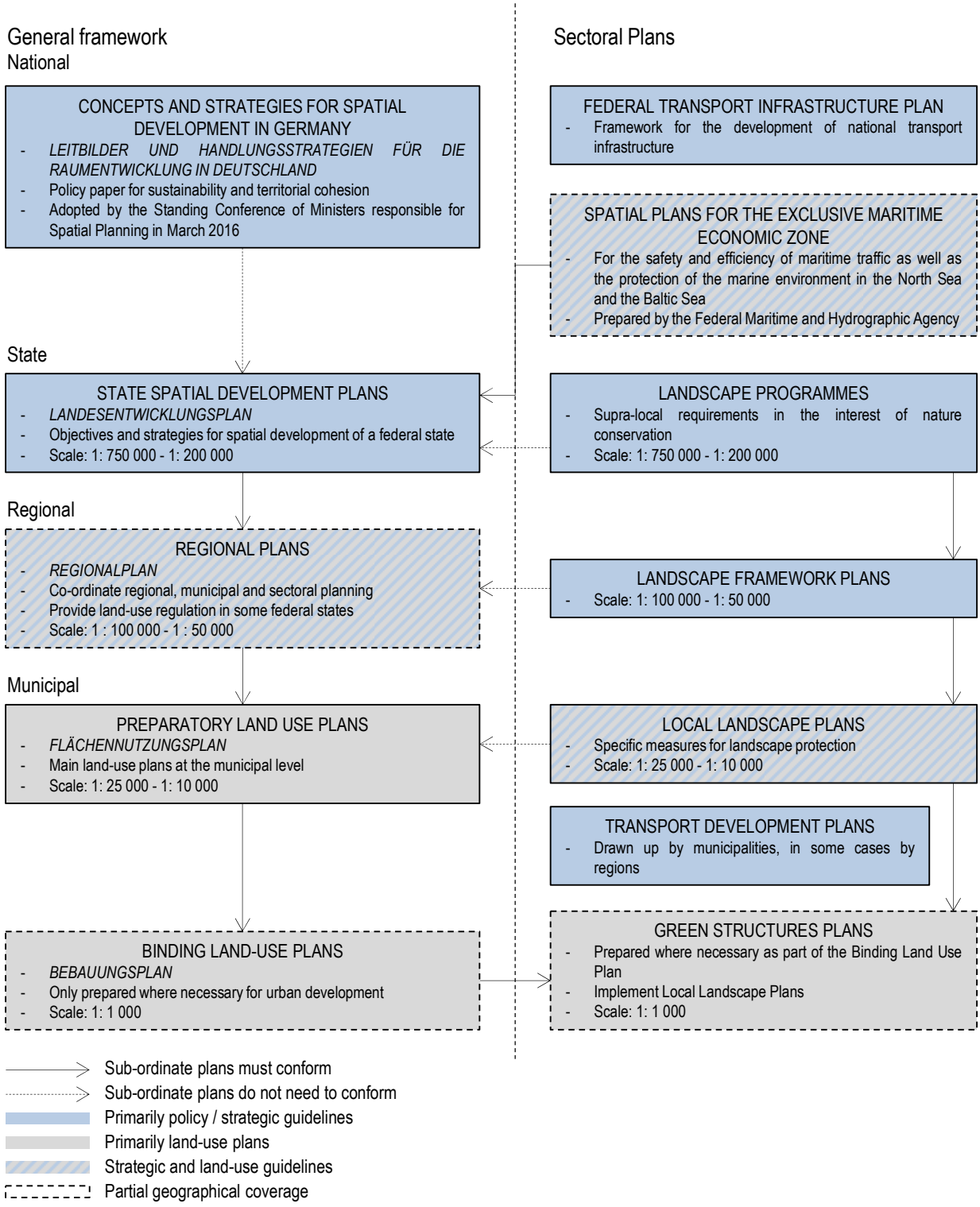
States largely follow federal legislation, but frequently pass laws that deviate in parts. This leads to a system that is broadly comparable in all German states, but contains a lot of variation in the details. The system follows the so-called "counter flow principle", where decision-making mechanisms contain a mix of top-down and bottom-up elements. States generally develop spatial development plans for their territory that, depending on the state, impose more or less restrictive guidelines on lower levels of government. Often, deconcentrated parts of the state administration also create regional plans that are binding for local land-use plans.

In most states, districts have only limited powers related to spatial planning, with the exception of Niedersachsen, where they are responsible for the preparation of regional plans. The constitution allocates considerable powers related to land-use decisions to municipalities. In all states, they are responsible for the preparation of local land-use plans and other detailed urban planning instruments.

Spatial and land-use plans

No comprehensive spatial plan exists at the national level in Germany, but the Standing Conference of Ministers responsible for Spatial Development in Germany prepared a policy document. The paper adopted in 2016 highlights four strategic concepts: enhancing competitiveness, ensuring the provision of public services, controlling and developing land use sustainably and adapting spatial structures to the effects of climate change and the increasing use of renewable energy. Additionally, there is the specific case of *spatial plans for the exclusive maritime economic zone*, which are within the responsibility of the Federal government. At the subnational level, common types of plans exist in all federal states, but they might differ in important details from each other. States prepare *State Spatial Development Plans* that formulate the spatial goals and strategies for the state. They are used to co-ordinate spatially relevant aspects of sectoral planning at the state level and to provide legally binding guidelines for spatial development to lower levels of government.

Organisation of spatial and land-use planning in Germany



More detailed *Regional Plans* are created for so-called planning regions, each of which covers typically between 10% and 30% of a state. They are the central instrument for co-ordination between the top-down planning of the federal and state level and the bottom-up planning from the local level. The level of detail that is contained in *Regional Plans* and their restrictiveness can vary considerably. According to the *Federal Spatial Planning Act* (Raumordnungsgesetz), regional plans should contain specifications concerning the spatial structure (of settlements and open spaces). They may designate growth areas, indicate important community functions and safeguard the extraction of location-specific raw materials. Furthermore, they can show planned infrastructure, for example for transport and public utilities.

Regional plans are typically drawn at a scale of 1: 100 000 or 1: 50 000. Depending on the state, Regional Plans are drawn-up by deconcentrated parts of the state administrations, by districts or by regional associations of local governments or by specially created organisations such as metropolitan authorities.

Municipalities exercise their constitutional right to planning through the preparation of a two-tier system of land-use plans. The *Preparatory Land Use Plan* covers the territory of the entire municipality and outlines the type of land use from intended urban development. It is typically drawn at a scale between 1: 25 000 and 1: 10 000 and provides legally binding guidelines for the preparation of the *Binding Land Use Plan*. This plan determines which developments are permitted at a certain location. It is usually drawn at a scale of 1: 1 000. The existence of a *Binding Land Use Plan* is not mandatory and often only parts of a municipality are covered by it. The *Binding Land Use Plan* is the only plan which gives landowners the right to development (construction or alteration of land use); higher level plans provide legally binding guidance to the municipality in setting up this plan. If no *Binding Land Use Plan* exists, new developments must be approved by local authorities if they fit into their immediate surroundings.

In addition to the plans listed above, a number of sectoral plans exist. In particular, *Landscape Plans* mirror the structure of the general spatial plans and focus on environmental protection and conservation. In addition, some states create further sectoral plans as required.

Major laws and regulations

Two federal laws provide the main framework for spatial planning; the *Federal Spatial Planning Act* and the *Federal Building Code*. Further important details are provided in the *Federal Land Utilisation Ordinance*, which defines and regulates the different types of land uses (for example with respect to maximum densities). Aside from those laws and regulations, especially laws on the federal road and rail network and the *Federal Nature Conservation Act* have strong effects on land use.

Co-ordination mechanisms

Co-ordination between levels of government occurs through the above-mentioned counter flow principle, in which lower levels of government have to adapt their plans to plans at higher levels, while at the same time providing input and shaping those higher level plans. A special instrument for the co-ordination of important development projects is the *Spatial Planning Procedure*. It is a structured process at an early stage of the planning procedure that assesses the different regional and local impacts of a planned development. It involves regional and local actors and aims at identifying and mediating potential conflicts over land use. While the outcome of the *Spatial Planning Procedure* has no direct legal force, it must be considered in subsequent planning decisions by public authorities.

Expropriations

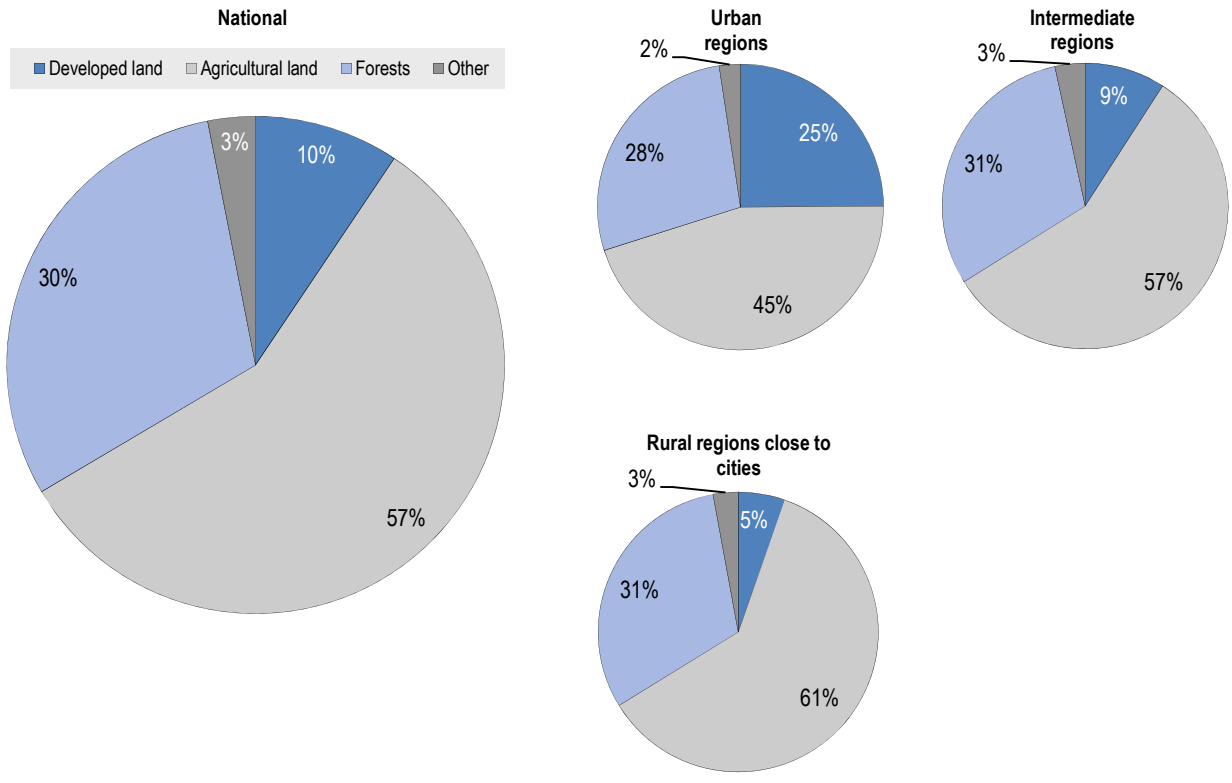
Expropriation of land is only possible if it is in the public interest. It is a measure of last resort and is only allowed if all possibilities for an amicable arrangement have been exhausted. Main reasons for expropriation are making land available for use according to the regulations of the binding land-use plan, developing empty or lightly developed plots in urban areas and urban renewal projects. As long as a project is in the public interest, no distinction between private and public use is made by the law.

Recent and planned reforms to the system of land-use planning

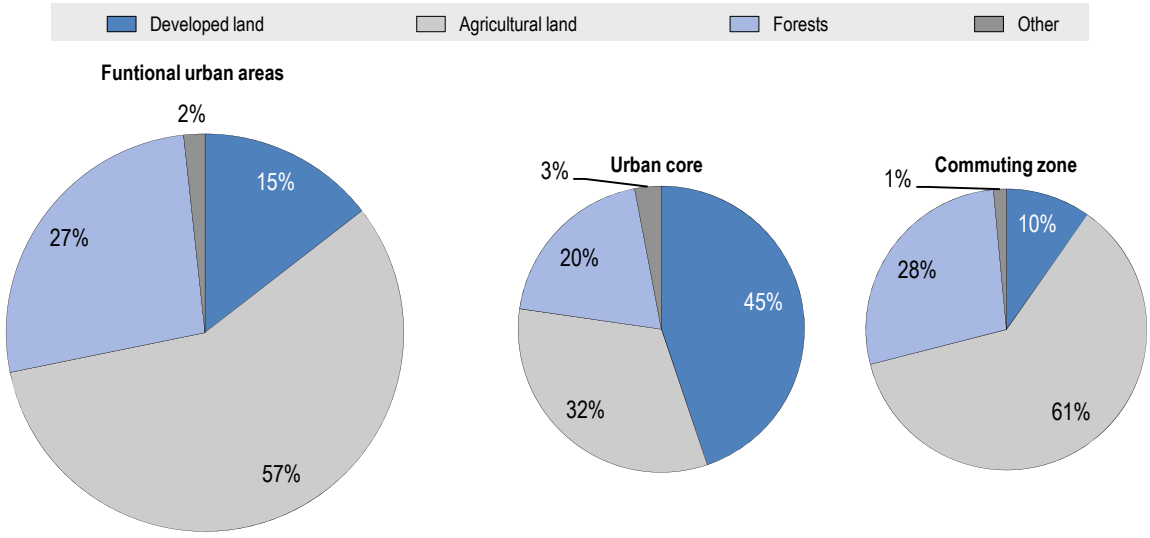
The current system in its broad outlines was created in the 1960s with the implementation of the Federal Building Code in 1960 and the Federal Spatial Planning Act in 1965. Since then, frequent reforms have been made, but the formal planning system for new developments remains broadly similar to the one that was created in the 1960s. A series of reforms beginning in the 1970s implemented provisions for urban renewal and strengthened public participation. Later, European legislation, especially in the field of environmental policy, was integrated into the planning system. After German reunification in 1990, the West German planning system was introduced in the eastern parts of the country.

Land cover in Germany

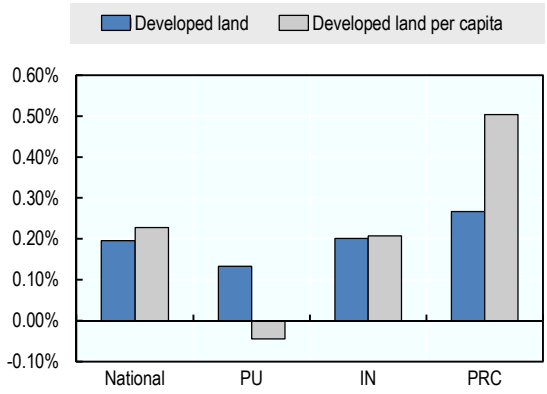
Land cover at the national level



Land cover in functional urban areas (FUAs)

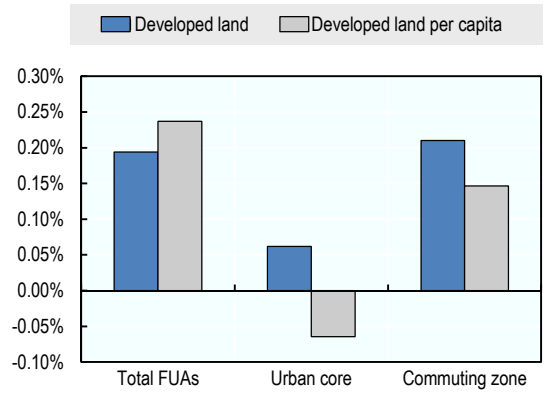


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities. Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Germany

Germany is one of the most densely populated OECD countries and approximately 10%, a relatively large share, of its land mass is covered by developed land. On a per capita basis, its land consumption is slightly below the OECD average. Between 2000 and 2012, growth in developed land has been slow compared to other OECD countries, but as the population remained approximately constant, per capita land use has been growing, nevertheless. An exception to this trend are the core parts of metropolitan areas, where the growth in developed land has been slower than population growth.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Germany

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	357 782	39 680	180 358	137 744	
Total developed land	33 743	9874	16 437	7 432	
Percentage of total	9.4%	24.9%	9.1%	5.4%	
Annual change in developed land, 2000-12	65.0	13.0	32.6	19.4	
Annual percentage change in developed land, 2000-12	0.20%	0.13%	0.20%	0.27%	
Agricultural land	204 450	17 938	102 754	83 759	
Percentage of total	57.1%	45.2%	57.0%	60.8%	
Annual change in agricultural land, 2000-12	-72.7	-12.7	-39.1	-20.9	
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.07%	-0.04%	-0.02%	
Forests	108 589	10 915	55 059	42 615	
Percentage of total	30.4%	27.5%	30.5%	30.9%	
Annual change in forests, 2000-12	-30.1	-4.1	-17.9	-8.2	
Annual percentage change in forests, 2000-12	-0.03%	-0.04%	-0.03%	-0.02%	
Land cover per capita (m²)					
Total developed land per capita	412	285	430	529	
Annual percentage change in developed land per capita, 2000-12	0.23%	-0.04%	0.21%	0.50%	
Agricultural land per capita	2 498	501	2 778	5 992	
Annual percentage change in agricultural land per capita, 2000-12	-0.003%	-0.253%	-0.081%	0.200%	
Forests per capita	1 327	312	1 437	3 076	
Annual percentage change in forests per capita, 2000-12	0.005%	-0.223%	-0.074%	0.205%	

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	128 344	17 452	110 892
Total developed land	18 643	7 814	10 829
Percentage of total	14.5%	44.8%	9.8%
Annual change in developed land, 2000-12	35.8	7.8	27.9
Annual percentage change in developed land, 2000-12	0.19%	0.10%	0.26%
Agricultural land	73 507	5 675	67 832
Percentage of total	57.3%	32.5%	61.2%
Annual change in agricultural land, 2000-12	-37.1	-7.7	-29.4
Annual percentage change in agricultural land, 2000-12	-0.05%	-0.14%	-0.04%
Forests	33 979	3 435	30 544
Percentage of total	26.5%	19.7%	27.5%
Annual change in forests, 2000-12	-5.6	-0.6	-5.0
Annual percentage change in forests, 2000-12	-0.02%	-0.02%	-0.02%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	357	242	420
Annual percentage change in developed land per capita, 2000-12	0.24%	-0.06%	0.15%
Agricultural land per capita	1 409	108	1 867
Annual percentage change in agricultural land per capita, 2000-12	-0.01%	-0.27%	-0.12%
Forests per capita	651	68	895
Annual percentage change in forests per capita, 2000-12	0.03%	-0.13%	-0.07%

Note: Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Source: All land cover statistics for Germany are based on OECD calculations based on *Corine Land Cover dataset*.

Greece

The planning system

Levels of government and their responsibilities

Greece has two subnational levels of government in addition to the national government; 13 regions (*περιφέρειες*) and 325 municipalities (*δήμοι*). Furthermore, seven decentralised administrative units (*αποκεντρωμένες* διοικήσεις) exist that are a deconcentrated part of the national government.

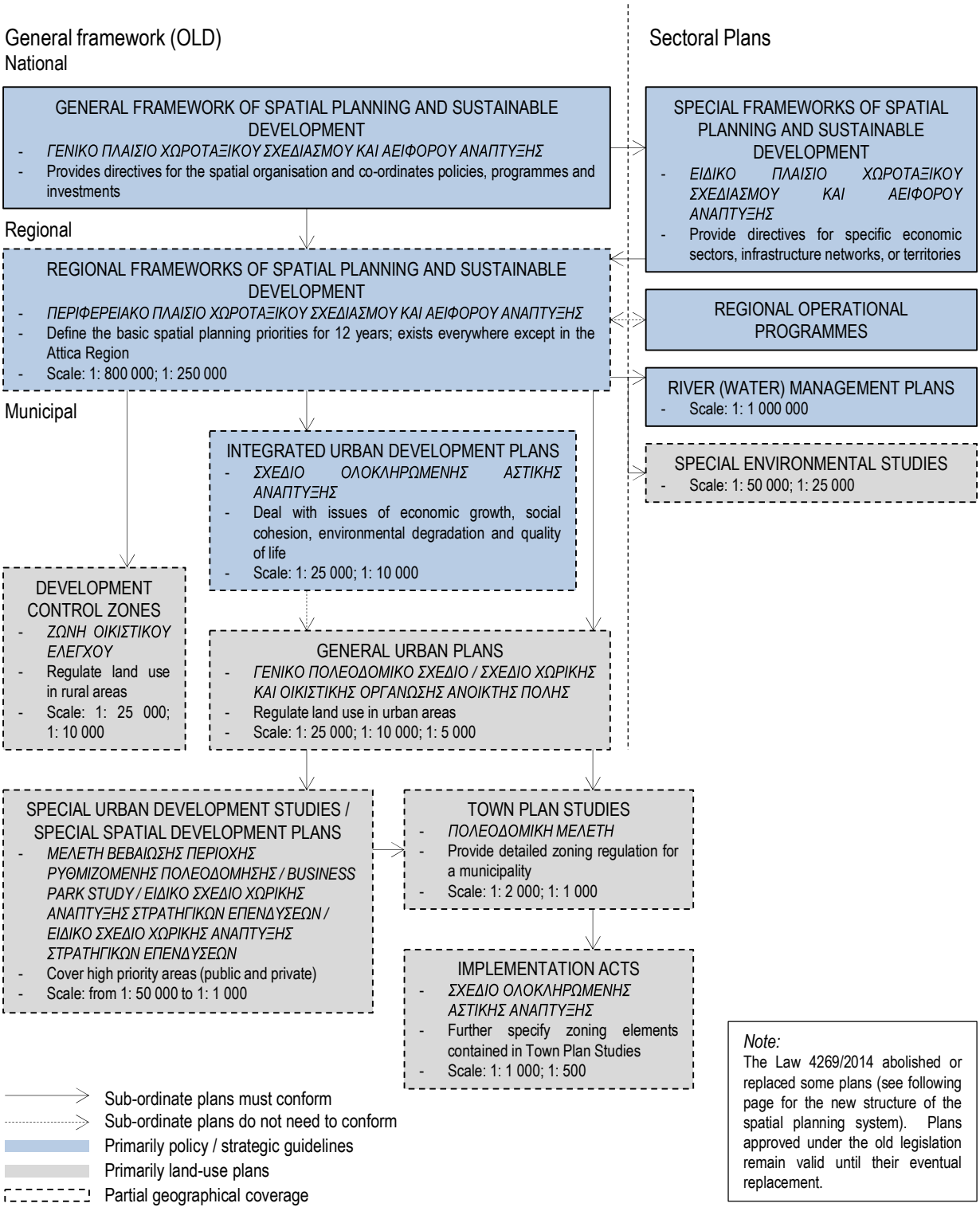
In the complex system of spatial planning in the country, the national government has by far the most important responsibilities. It is in charge of the framework laws on regional and urban planning, environmental protection and regional development. In addition to all laws concerning these fields, it also enacts all by-laws concerning the planning process. More unusually, the national government also approves almost all of the large number of spatial plans in the country. Of the 25 different types of spatial plans that exist, 22 are approved by the national government, out of which 47 are jointly approved with the decentralised administrations.

Regions have very few responsibilities on land use. Mainly, they concern advisory roles in the creation of some spatial plans. The decentralised administrative units are responsible for approving a detailed land-use plan and jointly approve four other plans together with the national government. Municipalities play advisory roles in the approval of some local land-use plans. They were also responsible for the approval of a local land-use plan that has legally been abolished in 2014 (some plans of this type under preparation at the time of their legal abolition will still be completed and eventually approved by the municipality).

A special role is played by *Enterprise Greece*, a business promotion agency that has the authority to fast track strategic investment projects. It is involved in the preparation and approval of *Special Spatial Development Plans of Public Properties* and of *Special Spatial Development Plans of Strategic Investments.* Both plans can override regular plans and can also speed up environmental licensing. Due to these functions, Enterprise Greece is arguably more important for land-use decisions than any level of subnational government in Greece.

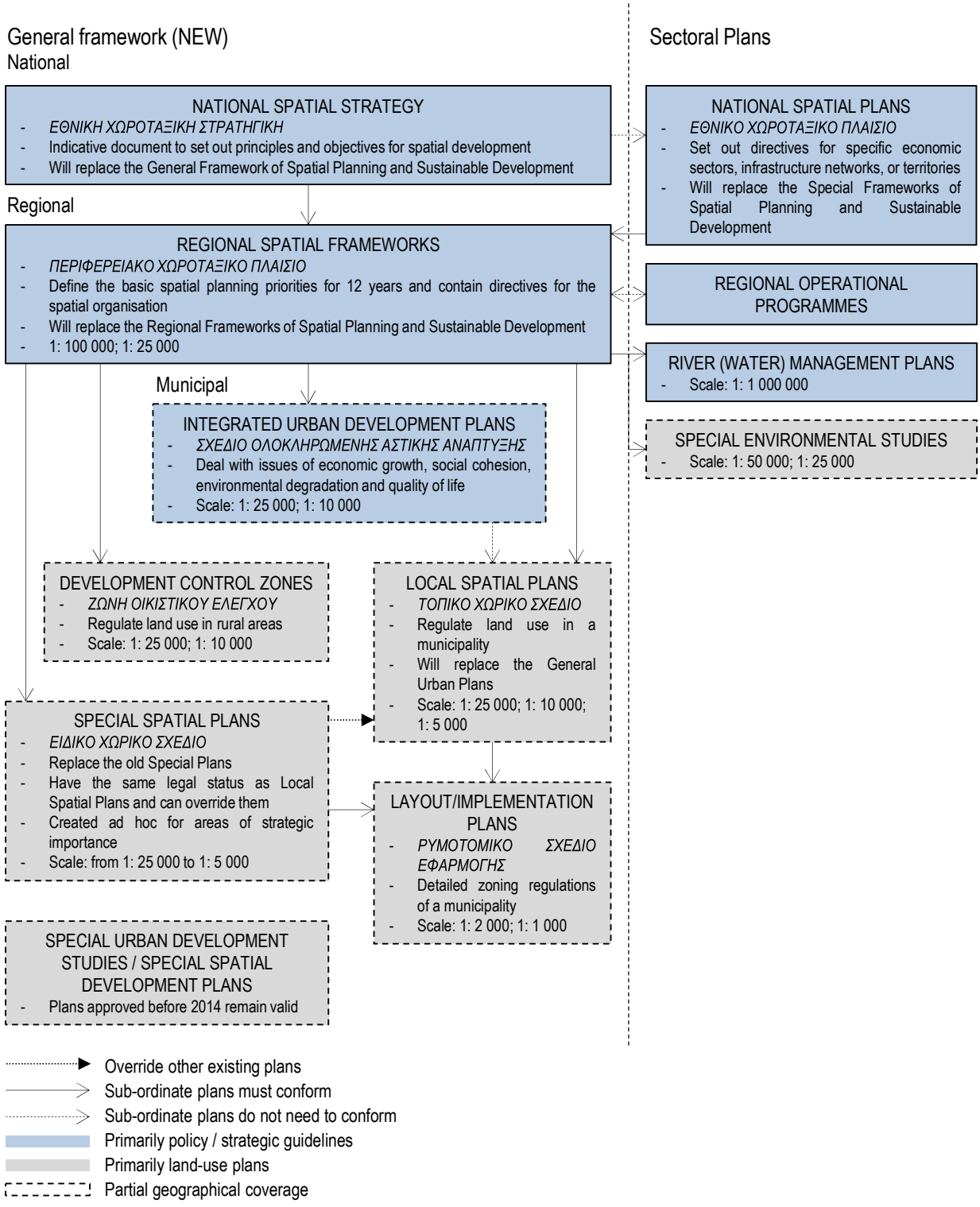
An important issue in Greek land-use governance is the question of enforcement. Generally, a large number of illegally constructed buildings exist in Greece. In most cases, developers face no or only mild fines and it is unusual that the demolishment of illegally constructed structures is enforced. Partly, the reason for this is the absence of any administrative permitting procedure that confirms that a new construction is in accordance with existing land-use plans.

Organisation of spatial and land-use planning in Greece



Note:
The Law 4269/2014 abolished or replaced some plans (see following page for the new structure of the spatial planning system). Plans approved under the old legislation remain valid until their eventual replacement.

Organisation of spatial and land-use planning in Greece



Spatial and land-use plans

Greece has 25 different types of spatial plans, by far the largest number of all OECD countries. The picture is further complicated by a reform in 2014 that has only been partially implemented as of 2016. The diagrams on the previous pages provide an overview of the structure of land-use plans before and after the reform.

The very large number of spatial plans has several origins. Some of the existing plans were legally abolished earlier, but remain in effect because they have not been replaced by more recent plans. In many other cases, specific types of plans exist for specific purposes, such as special plans for different types of urban development. Lastly, there is a significant overlap between plans. The same area might be covered by four different types of zoning plans.

Major laws and regulations

As in most countries, the building code is an important law that regulates various aspects of construction activity. It is generally relevant for all types of developments, unless more specific rules have been established by a particular plan covering the area.

Two important decrees regulate development in areas outside of town plans and areas inside settlements without a town plan. They are enacted by the national government but interpreted and enforced by municipalities. Since these areas correspond to a substantial part of the national territory, these decrees have an important impact, although sometimes they are weakly enforced. Another important decree specifies the categories of land use that could be included in the different land-use plans. Although this decree has been abolished with the recent reform, it remains in force for all old land-use plans until they are replaced.

Co-ordination mechanisms

As land-use planning is almost exclusively the domain of the national government, little scope for co-ordination between levels of government exists and municipalities have few incentives to align their policies with those of the national government beyond what is legally required.

In order to achieve horizontal co-ordination between different branches of the national government, one ministry has an overall responsibility for land-use policies and produces strategic plans that are supposed to guide the entire government. However, as strategic plans are only guiding instruments with few enforcement mechanisms, it is within the responsibility of individual ministries whether they take them into account.

Expropriations

In Greece, land can be expropriated for public use and for private use for a fairly large number of reasons, including public infrastructure, resource extraction, nature reserves, housing developments, and commercial developments. In all cases, the central criterion is whether a planned development provides a public benefit. In this context, the meaning of public benefit goes beyond a pure monetary gain for the state or a private actor and usually includes social aspects as well.

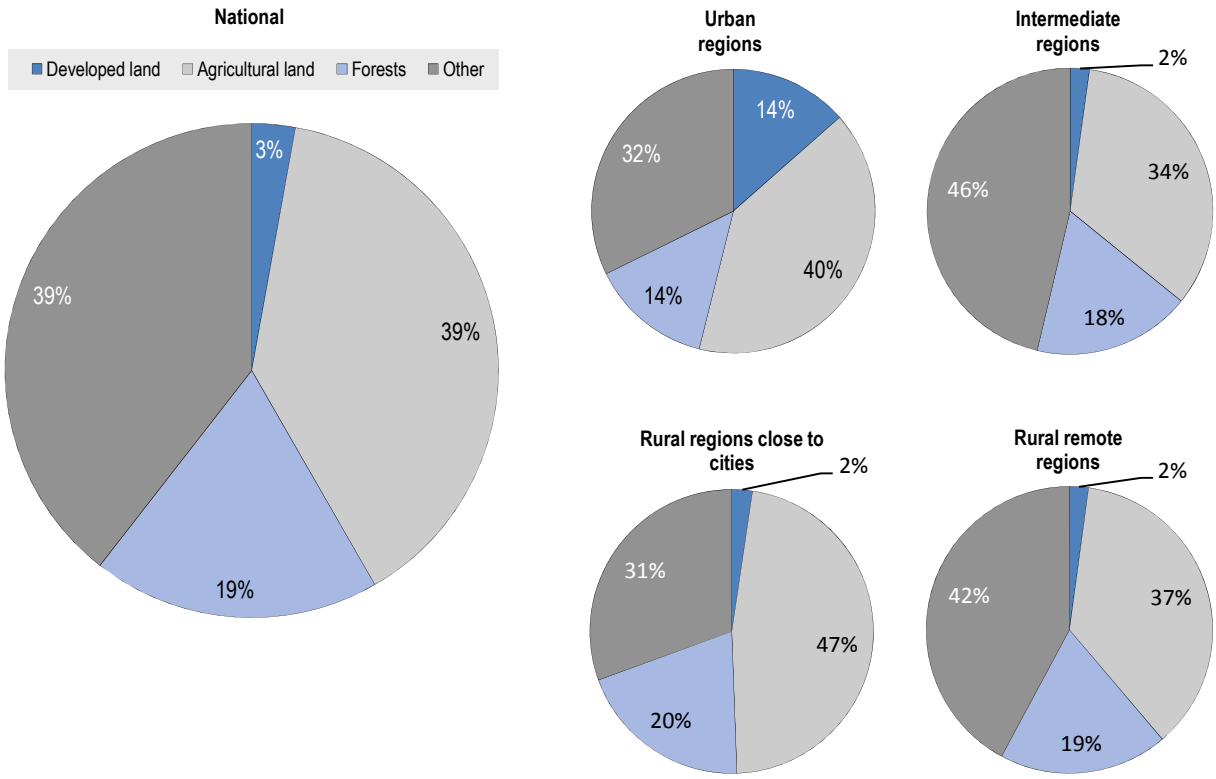
Recent and planned reforms to the system of land-use planning

In its broad outline, the current system of land-use governance has been in place in Greece since 1983. However, numerous reforms have been made since then. Most recently, a

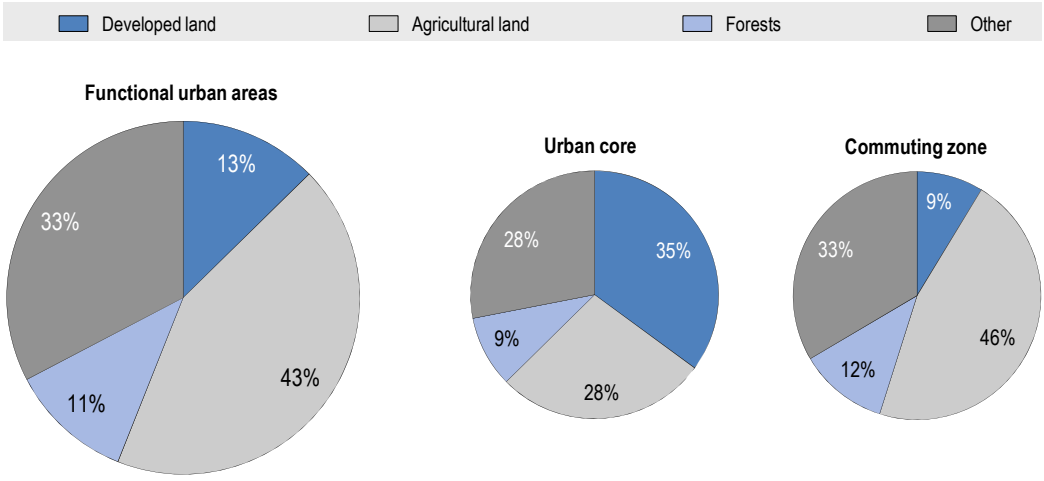
reform in 2014 has replaced several old land-use plans with new ones and changed the categorisation of land-uses in plans. However, this reform has in large parts not been implemented and a modification of it was under preparation as of the time of writing.

Land cover in Greece

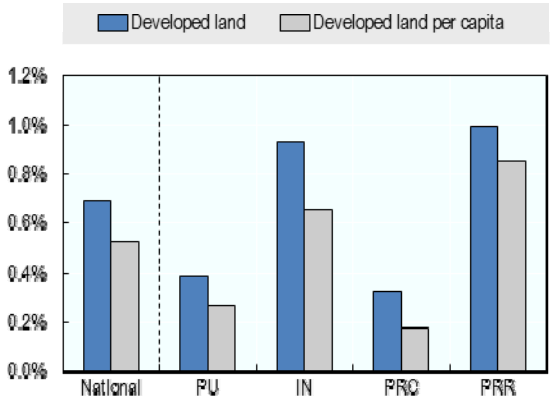
Land cover at the national level



Land cover in functional urban areas (FUAs)

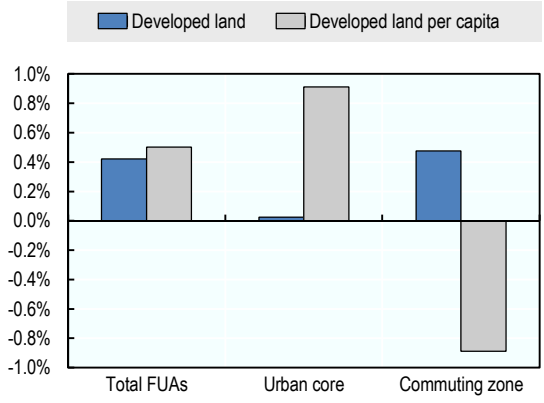


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Greece

Greece has a per capita land consumption that is somewhat below OECD average. Between 2000 and 2012, it experienced significant increases in its total share of developed land as well as in its per capita land consumption. Over the same time period, a strong suburbanisation pattern emerged. Population in the commuting zones of urban areas grew significantly, whereas it declined in urban cores. This was partially matched by increasing shares of developed land in commuting zones. As of the time of writing, no more recent land cover data is available that can show the full effect of the economic crisis. Outside of large urban areas, Greece is characterised by a relatively low share of developed land, as well as of forested land.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Greece

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	131 949	7 467	15 946	29 966	78 569
Total developed land	3 742	1 008	351	703	1 681
Percentage of total	2.8%	13.5%	2.2%	2.3%	2.1%
Annual change in developed land, 2000-12	24.8	3.8	3.1	2.3	15.7
Annual percentage change in developed land, 2000-12	0.69%	0.39%	0.93%	0.33%	0.99%
Agricultural land	51 269	3 016	5 361	14 110	28 782
Percentage of total	38.9%	40.4%	33.6%	47.1%	36.6%
Annual change in agricultural land, 2000-12	-21.9	-3.3	-4.8	-1.4	-12.5
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.11%	-0.09%	-0.01%	-0.04%
Forests	24 872	1 034	2 853	6 000	14 985
Percentage of total	18.9%	13.8%	17.9%	20.0%	19.1%
Annual change in forests, 2000-12	-42.4	-2.5	-4.5	-0.3	-35.1
Annual percentage change in forests, 2000-12	-0.17%	-0.24%	-0.16%	-0.01%	-0.23%
Land cover per capita (m²)					
Total developed land per capita	336	198	302	470	497
Annual percentage change in developed land per capita, 2000-12	0.53%	0.27%	0.66%	0.18%	0.86%
Agricultural land per capita	4 609	593	4 621	9 436	8 515
Annual percentage change in agricultural land per capita, 2000-12	-0.21%	-0.22%	-0.36%	-0.16%	-0.18%
Forests per capita	2 236	203	2 460	4 012	4 433
Annual percentage change in forests per capita, 2000-12	-0.33%	-0.35%	-0.43%	-0.16%	-0.37%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	7 866	1 182	6 685
Total developed land	995	414	581
Percentage of total	12.6%	35.0%	8.7%
Annual change in developed land, 2000-12	4.1	0.5	3.6
Annual percentage change in developed land, 2000-12	0.42%	0.12%	0.64%
Agricultural land	3 413	326	3 087
Percentage of total	43.4%	27.6%	46.2%
Annual change in agricultural land, 2000-12	-3.5	-0.5	-3.0
Annual percentage change in agricultural land, 2000-12	-0.10%	-0.14%	-0.10%
Forests	888	110	777
Percentage of total	11.3%	9.3%	11.6%
Annual change in forests, 2000-12	-4.3	-1.5	-2.9
Annual percentage change in forests, 2000-12	-0.47%	-1.23%	-0.36%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	180	94	299
Annual percentage change in developed land per capita, 2000-12	0.50%	0.91%	-0.89%
Agricultural land per capita	616	1	779
Annual percentage change in agricultural land per capita, 2000-12	-0.02%	-0.46%	-1.51%
Forests per capita	160	6	225
Annual percentage change in forests per capita, 2000-12	-0.39%	0.35%	-2.16%

Note: Changes in per capita values for land cover in TL3 regions computed using 2001 population figures.

Source: All land cover statistics for Greece based on OECD calculations based on *Corine Land Cover dataset*.

Hungary

The planning system

Levels of government and their responsibilities

Hungary is a unitary state with two levels of subnational government; 19 counties and the capital region of Budapest constitute the regional level and 3 178 municipalities form the local level. The national government has several responsibilities related to spatial planning. First, it prepares the national framework legislation that structures planning at the national and subnational level. Second, it enacts the *National Spatial Plan*, the two existing *Spatial Plans for Special Regions* and *Cross-border Spatial Plans*. Third, it uses financial instruments and allocates its budget to shape the spatial structure of the country. Fourth, it provides opinions on regional and local spatial plans and approves them with respect to their congruence with higher level spatial plans. This task is delegated to the *State Chief Architects* within the regional *Government Offices*, i.e. the deconcentrated parts of the national administration.

County governments are primarily responsible for the preparation and enactment of the *Spatial Plans for Counties*. They also provide opinions on the *National Spatial Plan* and the *Spatial Plans for Special Regions* that concern their territory.

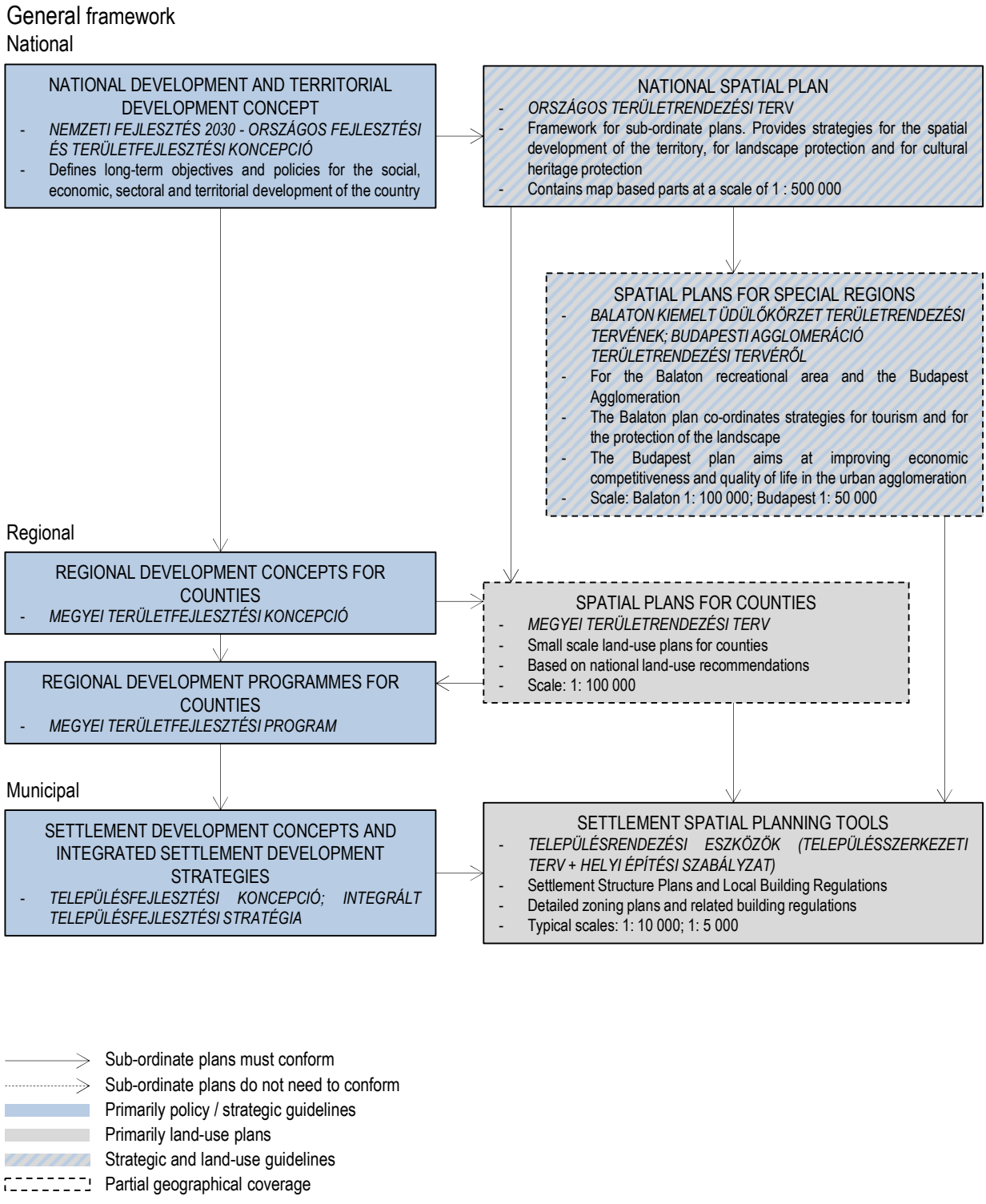
Local governments enact *Settlement Structural Plans* and related building regulations that complement the plans. They are also the primary contact point for public engagement in the planning process. Furthermore, they have several special legal instruments at their disposal that they can use to shape the spatial structure in their territory, such as special proceedings, prohibitions and plot readjustments.

Spatial and land-use plans

Hungary has a hierarchical planning system with three or four levels of spatial plans depending on the region. At the highest level, the *National Spatial Plan* contains a mix of general guidelines, strategic plans and small scale land-use plans at a scale of 1: 500 000. It is a legally binding document that is approved by a vote of parliament and is replaced every seven years.

Below the *National Spatial Plan,* two *Spatial Plans for Special Regions* exist. They cover the capital of Budapest and its surrounding urban agglomeration and the touristic area around Lake Balaton, respectively. Both plans are comprehensive plans that aim at fostering the economic potential of the region, while supporting sustainable development and the protection of nature and the cultural heritage. Just as national plans, they combine general guidelines and strategic plans with land-use plans at a scale of 1: 100 000 in the case of the Balaton plan and 1: 50 000 in the case of the Budapest plan. Both plans are approved by vote of the parliament, binding for lower level plans and renewed every ten years in the case of the Balaton plan and every seven years in case of the Budapest plan.

Organisation of spatial and land-use planning in Hungary



Every seven years, each county prepares a *Spatial Plan for Counties*. It provides the link between the *National Spatial Plan* and local plan by detailing the regulations provided in the national plan. *Spatial Plans for Counties* are particularly relevant for development control, as they outline areas for future development and for nature and cultural heritage protection. Furthermore, they determine the permitted uses of those areas that have been left unspecified by the national plan. Land-use plans within *Spatial Plans for Counties* are generally drawn at a scale of 1: 100 000.

At the local level, the *Settlement Structural Plan* is a comprehensive plan that combines zoning with strategic planning and is binding for land owners. It is complemented by local building regulations that provide more details on approved types of use and possible developments. It has a scale of 1: 10 000 in the largest municipalities and larger scales in smaller ones. As for most other plans in Hungary, it is renewed every seven years.

Spatial plans at all three levels of government are accompanied by *Development Concepts*. They define long-term objectives for territorial development at the respective geographical scale and focus in particular on social and economic objectives. Furthermore, they guide sectoral planning. Each *Development Concept* guides the preparation of *Spatial Plans* at the corresponding administrative level (within the limits provided by higher level *Spatial Plans*).

Major laws and regulations

Three laws form the main framework legislation that determines the Hungarian spatial planning system. *Act XXI 1996 on Regional Development and Spatial Planning* outlines the roles of the different levels of government and their bodies for spatial development. *Act XXVI 2003 on the National Spatial Plan* determines how the land-use planning system works and defines the main land-use categories that must be used in zoning plans at national and county level. *Act LXXVIII 1997 on the Development and Protection of the Built Environment* contains the main elements of national building regulation.

Co-ordination mechanisms

Vertical co-ordination between levels of government occurs through the *Chief Architects* in counties who serve as representatives of the national government. They provide assistance to municipalities in preparing their plans and ensure that they match national plans. They can also approve discrepancies between local and national plans. Co-ordination at the horizontal level occurs primarily through the dissemination of the spatial plans at an early stage of the planning process to a list of authorities that is defined by decree. These authorities may comment on the plans and influence their contents.

Expropriations

Expropriation is possible for public sector developments that are in the public interest if a sale of the property could not be negotiated and the proposed development is only possible at the particular location. Expropriation is generally not possible for private sector developments.

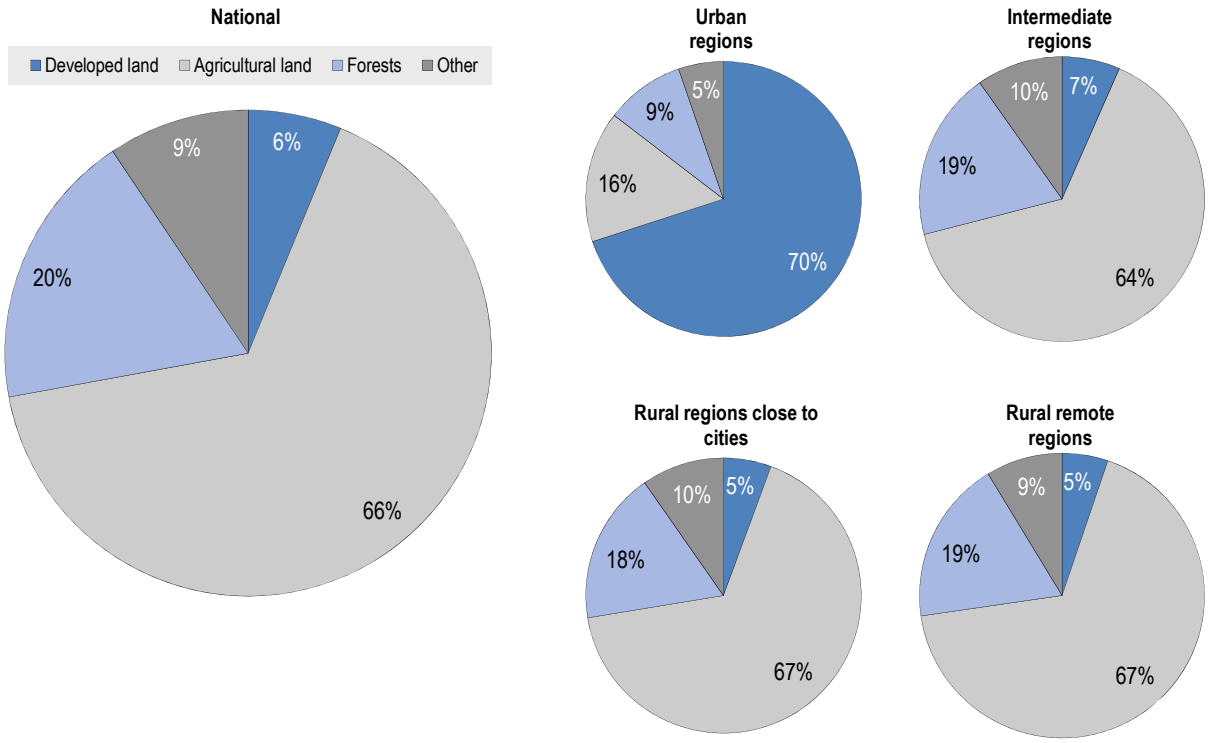
Recent and planned reforms to the system of land-use planning

The Hungarian spatial planning system in its current form was established in 1996 and 1997 with the enactment of the *Act XXI on Regional Development and Spatial Planning* and the *Act LXXVIII 1997 on the Development and Protection of the Built Environment*. Since

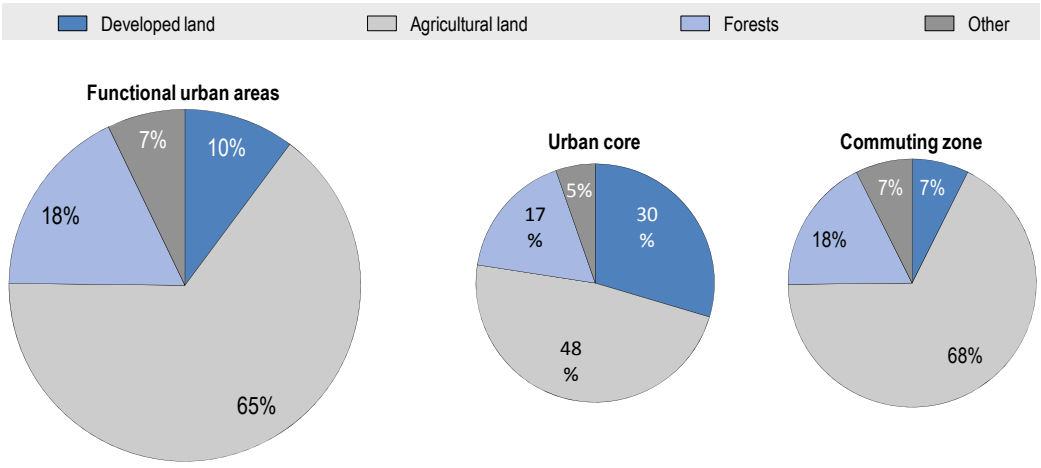
then, several further acts were passed that define the planning system and the role of the involved authorities in more detail without changing the system in general. Since 2009, several decrees were passed to streamline the planning process.

Land cover in Hungary

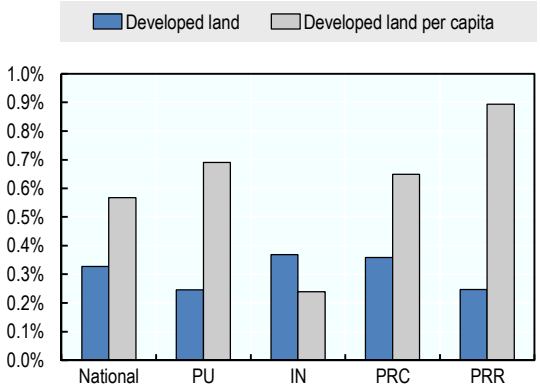
Land cover at the national level



Land cover in functional urban areas (FUAs)

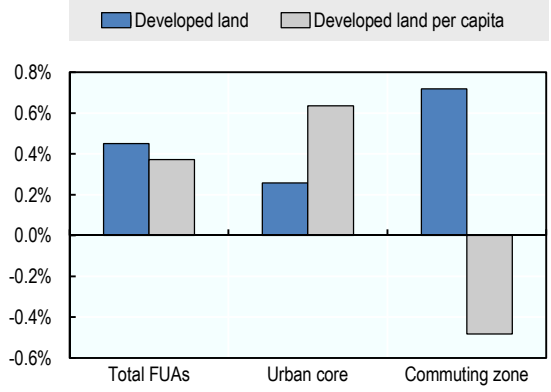


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Hungary

Hungary's per capita land consumption is high relative to countries with comparable moderate population densities and the sixth highest among all 28 analysed OECD countries. Since 2000, per capita land consumption has increased in urban, rural and intermediate regions driven by a combination of declining populations and continued development of land. As a share of total land area, developed land makes up 6% in Hungary, which is within the middle of the range for OECD countries. In contrast, with 66%, the share of agricultural land is well above OECD average. The only exceptions are primarily urban regions, which have an unusually high share of developed land. This can be explained by the fact that the capital region of Budapest is the only region classified as primarily urban. As its boundaries correspond closely to the extent of the urban fabric, the region is dominated by developed land.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Hungary

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	93 018	522	30 787	34 451	27 258
Total developed land	5 738	365	2 040	1 927	1 405
Percentage of total	6.2%	70.0%	6.6%	5.6%	5.2%
Annual change in developed land, 2000-12	18.4	0.9	7.3	6.7	3.4
Annual percentage change in developed land, 2000-12	0.33%	0.25%	0.37%	0.36%	0.25%
Agricultural land	61 320	80	19 824	23 005	18 411
Percentage of total	65.9%	15.4%	64.4%	66.8%	67.5%
Annual change in agricultural land, 2000-12	-97.6	-0.8	-32.4	-46.4	-18.0
Annual percentage change in agricultural land, 2000-12	-0.16%	-0.93%	-0.16%	-0.20%	-0.10%
Forests	17 203	49	5 911	6 172	5 072
Percentage of total	18.5%	9.3%	19.2%	17.9%	18.6%
Annual change in forests, 2000-12	-28.5	0.1	-11.9	1.1	-17.9
Annual percentage change in forests, 2000-12	-0.16%	0.31%	-0.20%	0.02%	-0.34%
Land cover per capita (m²)					
Total developed land per capita	578	211	576	689	753
Annual percentage change in developed land per capita, 2000-12	0.57%	0.69%	0.24%	0.65%	0.89%
Agricultural land per capita	6174	47	5596	8229	9863
Annual percentage change in agricultural land per capita, 2000-12	0.08%	-0.49%	-0.29%	0.09%	0.55%
Forests per capita	1 732	28	1 669	2 208	2 717
Annual percentage change in forests per capita, 2000-12	0.08%	0.76%	-0.33%	0.31%	0.30%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	21 311	2 683	18 628
Total developed land	2 173	794	1 379
Percentage of total	10.2%	29.6%	7.4%
Annual change in developed land, 2000-12	9.5	3.0	6.5
Annual percentage change in developed land, 2000-12	0.45%	0.39%	0.49%
Agricultural land	13 846	1 284	12 563
Percentage of total	65.0%	47.8%	67.4%
Annual change in agricultural land, 2000-12	-29.6	-3.7	-25.9
Annual percentage change in agricultural land, 2000-12	-0.21%	-0.28%	-0.20%
Forests	3 765	462	3 303
Percentage of total	17.7%	17.2%	17.7%
Annual change in forests, 2000-12	-4.7	-0.9	-3.8
Annual percentage change in forests, 2000-12	-0.12%	-0.19%	-0.11%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	433	215	598
Annual percentage change in developed land per capita, 2000-12	0.37%	0.64%	-0.48%
Agricultural land per capita	2 759	49	2 893
Annual percentage change in agricultural land per capita, 2000-12	-0.29%	-0.56%	-1.42%
Forests per capita	750	28	889
Annual percentage change in forests per capita, 2000-12	-0.20%	0.61%	-1.51%

Source: All land cover statistics for Hungary are based on OECD calculations based on *Corine Land Cover dataset*.

Ireland

The planning system

Levels of government and their responsibilities

Ireland has two levels of government; the national government and 31 local governments at the county or municipality level. In between the two levels, three indirectly elected Regional Assemblies exist.

At a national level two main organisations have responsibility for planning, the *Department for Housing, Planning, Community and Local Government* and the *Planning Appeals Board* (*An Bord Pleanála*). The Department is responsible for the framing of planning legislation, for devising a *National Planning Framework* (NPF) and for issuing guidance documents in respect of national planning issues such as rural housing, wind energy, retailing, etc. *An Bord Pleanála* was established in 1977 and provides an arbitration forum in which any decision made by a planning authority on a planning application can be reviewed at the request of the applicant or another interested party. It is also responsible for the determination of applications for strategic infrastructure development and for dealing with proposals for expropriation of land.

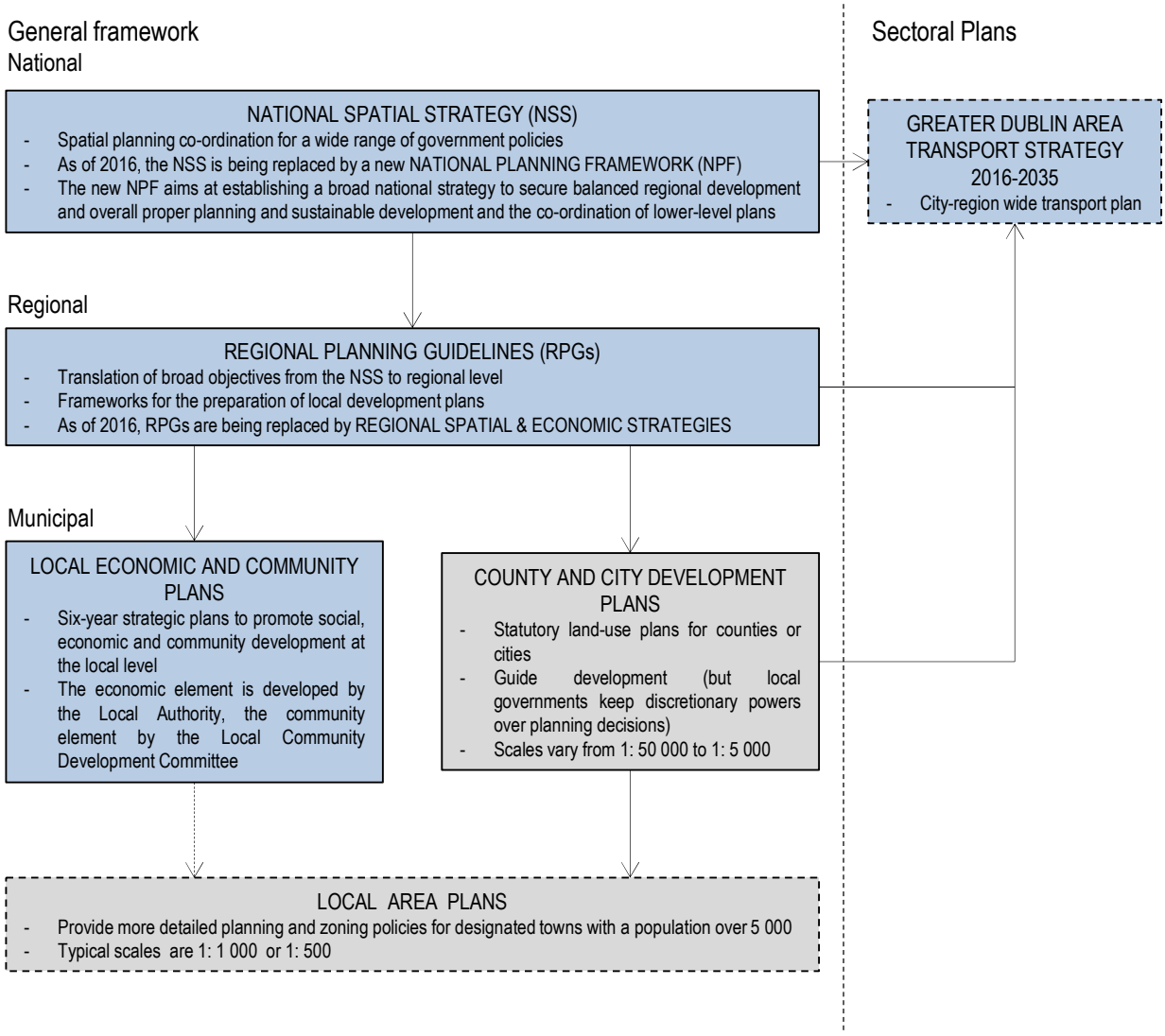
Following the enactment of the *Local Government Reform Act 2014* the eight existing regional authorities were dissolved. In their place, three new Regional Assemblies came into effect in 2015. The aim of the new assemblies is to co-ordinate, promote and support strategic planning and sustainable development and promote effectiveness in local government and public services.

The physical planning system in Ireland is operated by the 31 local authorities. The elected councils (operating at local authority or municipal district level) prepare the *Development Plans*, the *Local Area Plans* and the *Landscape Character Assessments*. Furthermore, they designate protected structures and conservation areas and provide non-statutory guidance, for example on the design of new developments. Every development project requires planning permission from the local authority unless it is designated strategic infrastructure at the national level. In 2014, *Local Community Development Committees* (LCDCs) were established in each local authority. They prepare *Local Economic Development Plans* and work with other actors to implement them. Furthermore, LCDCs ensure that local planning is consistent with other plans.

Spatial and land-use plans

The *National Spatial Strategy* (NSS) is Ireland's national spatial planning framework from 2002-20. It has provided the strategic context for spatial planning by regional authorities in their regional planning guidance roles and for planning authorities in their statutory planning functions. Furthermore, it has influenced the National Development Plan that steers investment in transport, housing, water services and communications infrastructure. The NSS is to be replaced by a successor document, the *National Planning Framework*.

Organisation of spatial and land-use planning in Ireland



Sub-ordinate plans must conform
Sub-ordinate plans do not need to conform
Primarily policy / strategic guidelines
Primarily land-use plans
Partial geographical coverage

Note:
As of 2016, the NATIONAL SPATIAL STRATEGY is being replaced by a new NATIONAL PLANNING FRAMEWORK.

Following the replacement of the 8 Regional Authorities with 3 Regional Assemblies in 2015, the REGIONAL PLANNING GUIDELINES are being replaced with the new REGIONAL SPATIAL & ECONOMIC STRATEGIES

As of the time of writing, *Regional Planning Guidelines* exist that were supposed to translate the broad objectives of the *National Spatial Strategy* to the regional level and to provide guidance to local authorities in their planning decisions. Following the replacement of the Regional Authorities with Regional Assemblies, the *Regional Planning Guidelines* will be replaced by *Regional Spatial and Economic Strategies*. These strategies will be drawn up in conjunction with the various enterprise and economic development agencies.

Local councils are responsible for making statutory land-use plans (*County* or *City Development Plans*). *Development Plans* detail the overall strategy of the council for the planning and sustainable development of an area and generally consist of a written statement and maps drawn at relatively small scales of between 1: 50 000 and 1: 5 000. Hierarchically below *Development Plans*, *Local Area Plans* exist as a second tier of land-use plans. They are detailed land-use plans at scales usually between 1: 1 000 and 1: 500. *Local Area Plans* are prepared for designated towns with a population of over 5 000 inhabitants.

The six year *Local Economic and Community Plans* (LECP) promote the development of the relevant area through a more co-ordinated and collaborative approach to planning and service delivery. They are prepared by the above-mentioned LCDCs. LECPs need to be consistent with *Development Plans*, *Regional Spatial and Economic Strategies* and *Regional Action Plans for Jobs*.

The *Greater Dublin Area Transport Strategy 2016-2035* is prepared by the National Transport Authority. The plan provides a framework for the planning and delivery of transport infrastructure and services in the GDA over a 20 year period. It also provides a transport planning policy for other agencies involved in land-use planning, environmental protection, and delivery of other infrastructure.

Major laws and regulations

The planning code is made up of both primary and secondary legislation (i.e. acts and regulations). The framework is set out in the *Planning and Development Act 2000* and its amendments and the detail is prescribed in the *Planning and Development Regulations*. The Department for Housing, Planning, Community and Local Government produces a range of guidelines designed to help planning authorities. Following a proposal by the Minister for the Environment and Local Government, the government can designate a particular site or sites for the establishment of a Strategic Development Zone (SDZ) to contain developments of economic or social importance. Furthermore, environmental assessment regulations have a major impact on the planning process.

Co-ordination mechanisms

Vertical co-ordination takes place primarily with the goal plan to ensure local land-use plans comply with national strategies. Regional Assemblies have a role in ensuring the compliance of development plans and local area plans with the *Regional Planning Guidelines* (to be superseded by the *Regional Spatial Economic Strategies*).

At the national level, the Minister for Housing, Planning, Community and Local Government has the power to direct a planning authority to take measures in relation to a development plan, or a local area plan. This possibility is used if a planning authority has ignored or has not taken sufficient account of the Minister's statutory

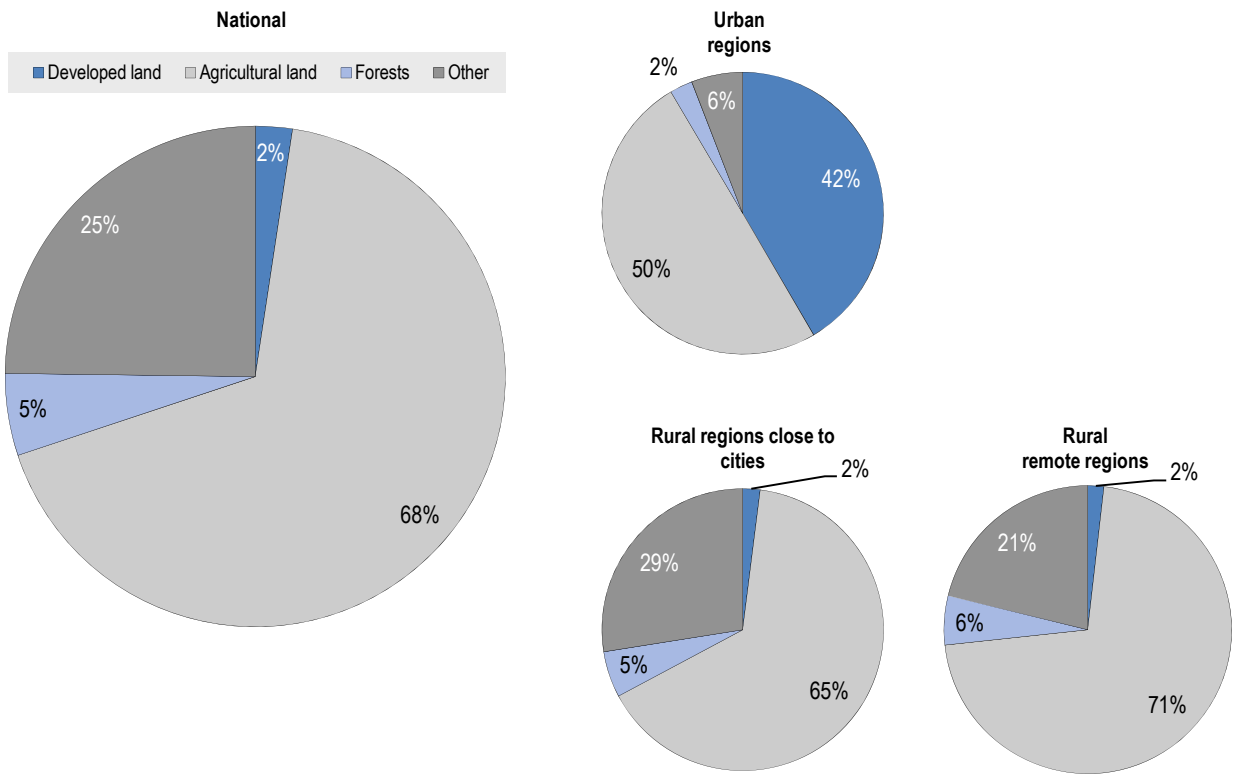
observations, if a plan fails to set out an overall strategy for proper planning and sustainable development, if a plan is not in compliance with the Planning Acts or if a plan in the Greater Dublin Area is not consistent with the transport strategy.

Recent and planned reforms to the system of land-use planning

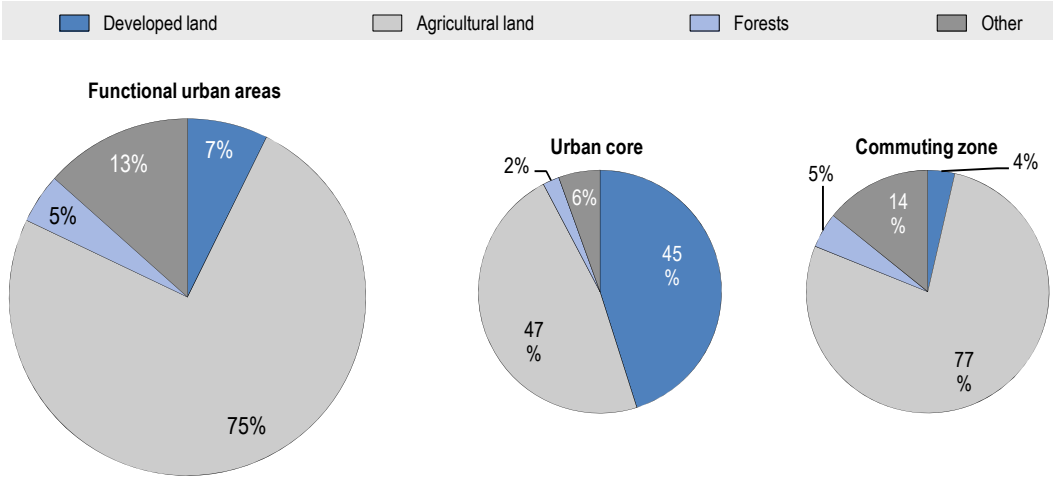
A nationwide planning system was established in Ireland in 1964. Since then, the system has seen frequent incremental reforms, most importantly with the introduction of national and regional plans and a fast-track planning procedure for major infrastructure projects in 2006. In addition to the recently completed or on-going reforms that have been mentioned above, other reforms relating to governance of land-use are the enactment of the *Urban Regeneration and Housing Act 2015* and new guidelines for sustainable housing (*Sustainable Urban Housing: Design Standards for New Apartments Guidelines for Planning Authorities*).

Land cover in Ireland

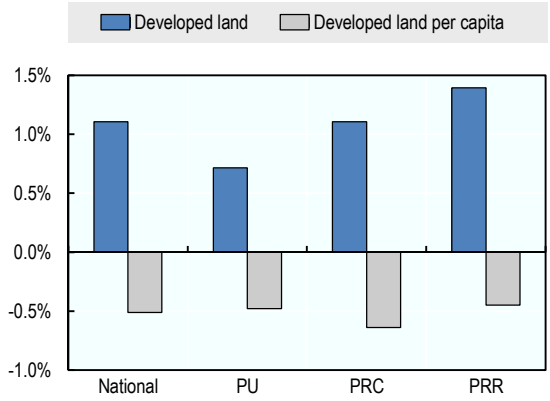
Land cover at the national level



Land cover in functional urban areas (FUAs)

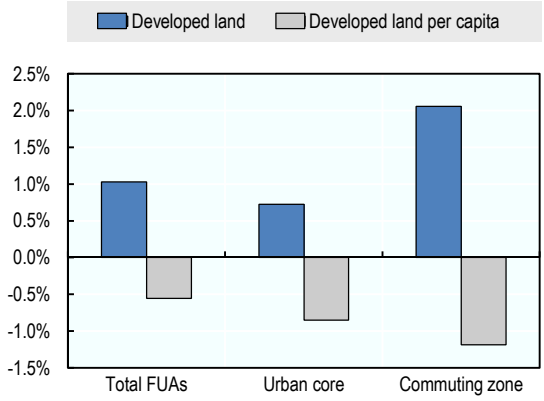


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Ireland

With more than 1% annually between 2000 and 2012, Ireland has experienced the third highest growth rate of developed land of all 28 analysed OECD countries. Despite this strong growth, per capita use of developed land declined across all regions, as the population grew even faster than the area of developed land over the same time period. Land cover in Ireland is dominated by agricultural land, which covers 68% of the country – one of the highest rates in the OECD. Due to its relatively low population density, only slightly more than 2% of the land is developed.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Ireland

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	6 9972	905		40 543	28 524
Total developed land	1 695	376		792	527
Percentage of total	2.4%	41.6%		2.0%	1.8%
Annual change in developed land, 2000-12	17.5	2.6		8.2	6.7
Annual percentage change in developed land, 2000-12	1.10%	0.72%		1.11%	1.39%
Agricultural land	47 265	452		26 426	20 388
Percentage of total	67.5%	49.9%		65.2%	71.5%
Annual change in agricultural land, 2000-12	-44.5	-2.6		-22.2	-19.7
Annual percentage change in agricultural land, 2000-12	-0.09%	-0.56%		-0.08%	-0.10%
Forests	3 713	23		2 135	1 555
Percentage of total	5.3%	2.6%		5.3%	5.5%
Annual change in forests, 2000-12	-8.4	0.1		-6.0	-2.4
Annual percentage change in forests, 2000-12	-0.22%	0.38%		-0.28%	-0.15%
Land cover per capita (m²)					
Total developed land per capita	370	298		392	406
Annual percentage change in developed land per capita, 2000-12	-0.51%	-0.48%		-0.64%	-0.45%
Agricultural land per capita	10 314	358		13 072	15 699
Annual percentage change in agricultural land per capita, 2000-12	-1.69%	-1.73%		-1.81%	-1.91%
Forests per capita	810	18		1 056	1 197
Annual percentage change in forests per capita, 2000-12	-1.82%	-0.81%		-2.00%	-1.97%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	12 103	1 078	11 025
Total developed land	888	486	402
Percentage of total	7.3%	45.1%	3.6%
Annual change in developed land, 2000-12	8.6	3.1	5.5
Annual percentage change in developed land, 2000-12	1.03%	0.66%	1.51%
Agricultural land	9 050	509	8 541
Percentage of total	74.8%	47.2%	77.5%
Annual change in agricultural land, 2000-12	-11.9	-3.1	-8.8
Annual percentage change in agricultural land, 2000-12	-0.13%	-0.59%	-0.10%
Forests	539	24	515
Percentage of total	4.5%	2.2%	4.7%
Annual change in forests, 2000-12	-0.5	0.1	-0.5
Annual percentage change in forests, 2000-12	-0.09%	0.25%	-0.10%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	356	298	463
Annual percentage change in developed land per capita, 2000-12	-0.56%	-0.85%	-1.19%
Agricultural land per capita	3 630	359	6 737
Annual percentage change in agricultural land per capita, 2000-12	-1.70%	-2.12%	-3.33%
Forests per capita	216	18	456
Annual percentage change in forests per capita, 2000-12	-1.66%	-1.31%	-3.23%

Source: All land cover statistics for Ireland are based on OECD calculations based on *Corine Land Cover dataset*.

Israel

The planning system

Levels of government and their responsibilities

Israel is a unitary state with one subnational level of government (255 local governments). Land-use planning is highly centralised with strong oversight at the national level over decisions at the municipal level. The national government influences land-use policies in several ways. First, it has the usual responsibilities for the framework law that outlines the spatial planning system of the country. Second, it prepares the *National Master Plan* (see below), which is approved by the cabinet. Third, it appoints most members of the six *District Planning and Building Commissions* and in this way determines the contents of *District Master Plans*. Fourth, the national government oversees *Local Planning Commissions* and the plans made by them. In principle, the Minister of Finance has the authority to review all local plans and determines which plans require his approval. In practice, ministerial intervention is rare. Fifth, the national government plans and funds major infrastructure projects.

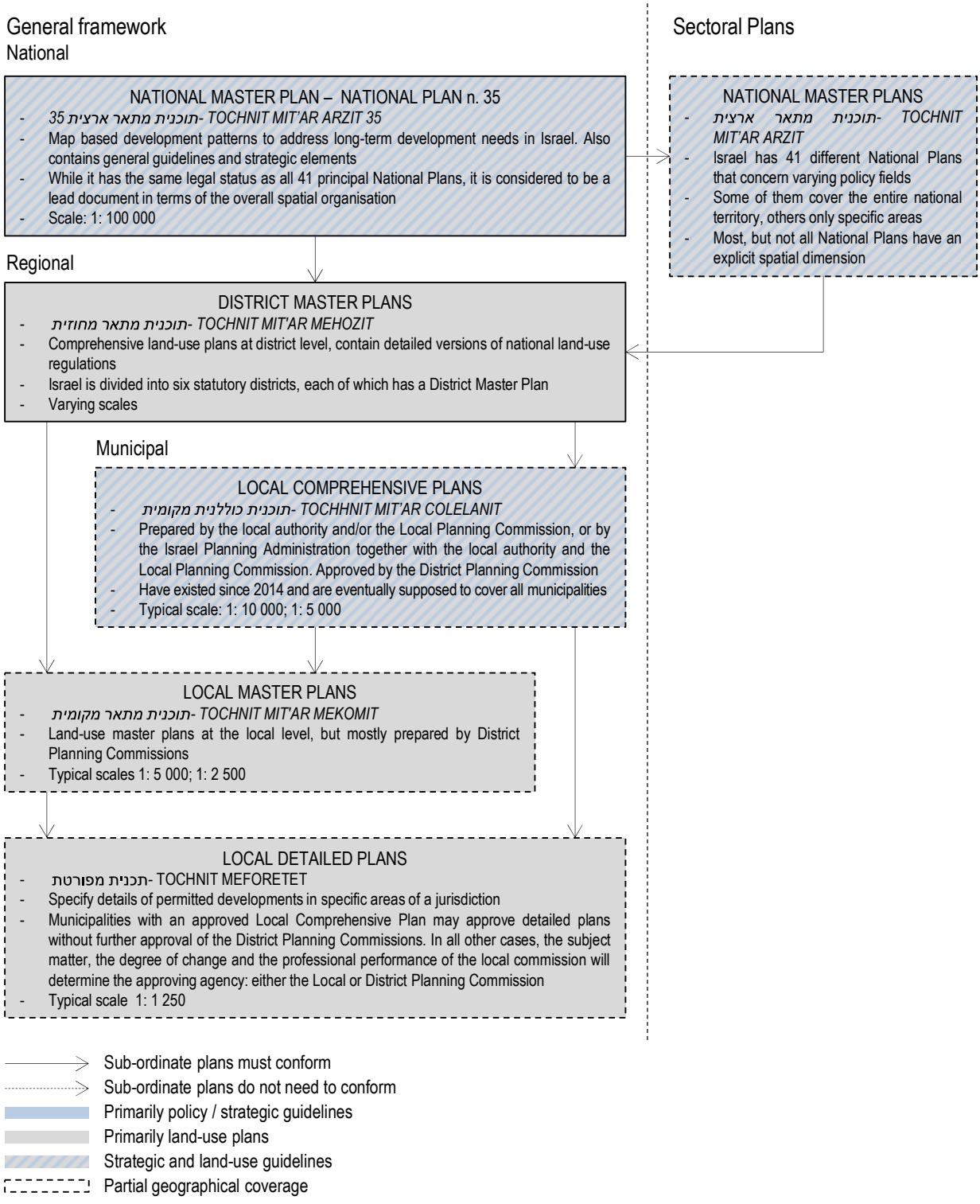
The national government also nominates 16 of the 36 members of the *National Planning Board*. The board adjudicates appeals to planning decisions. Its other members are representatives from local governments, the planning and building professions, environmental groups, academia and other members of civil society. A second important body is the *National Board for Planning and Construction of Infrastructure*. Public agencies may submit their proposed plans to it, as it has the power to fast-track planning applications even if they deviate from existing plans.

At the local level, approximately 100 *Local Planning Commissions* are the central actors in land-use planning. They consist of representatives of local governments and prepare local land-use plans. Mostly, they are responsible for a single municipality, except in rural areas where they frequently cover several smaller settlements. The legal powers of *Local Planning Commissions* vary according to a rating of their competence. *Local Planning Commissions* that are judged more competent receive more legal powers than those judged less competent.

Spatial and land-use plans

Israel operates a strictly hierarchical system of spatial planning. While higher level plans tend to be more general, plans at all levels include specific land-use regulations and lower level plans must correspond to higher level plans unless the higher level plan contains an explicit flexibility clause for a particular area.

Organisation of spatial and land-use planning in Israel



The country has 41 principal *National Plans* that frequently contain land-use regulations for specific areas. While some are infrastructure plans, most are sectoral plans that focus on narrowly defined issues or territories. A major exception is *National Plan No. 35*. It is a comprehensive land-use plan covering the entire country. In contrast to high-level plans in most other OECD countries, it is primarily a map based plan at a scale of 1: 100 000 regulating development patterns[1] and containing, inter alia, general guidelines and strategic elements. While it has the same legal status as all other *National Plans*, in practice it is considered to be a lead document. It provides general regulations that all lower level plans have to follow except in areas in which it contains flexibility clauses. The plan includes a clause that restricts all developments outside of existing urban boundaries.

National Plan No. 38 plays a special role in the urban context. Nominally, it contains earthquake protection regulations and incentives for property owners to improve the earthquake resistance of buildings built before 1980. While originally only intended as a tool to improve earthquake protection, it is now much more widely used in many cities to provide incentives for urban regeneration and densification to property owners.

Below national plans, *District Master Plans* exist. They contain more precise and detailed versions of national land-use regulations, albeit still general in nature. Due to the strictly hierarchical nature of planning, they tend to follow national plans closely except in the few areas where national plans contain flexibility clauses. In general, all local level plans must be checked for compliance with *District Master Plans*.

On the local level, three types of plans exist; *Local Comprehensive Plans* (approved by the *District Planning Commission* and covering all or most of the local jurisdiction), *Master Plans* and *Detailed Plans*. *Local Comprehensive Plans* have been introduced in the 2014 planning law amendment, and are currently prepared either by the Israel Planning Administration (IPA) with an active participation of the affected municipalities or by the municipalities themselves. *Local Comprehensive Plans* are statutory plans that are supposed to strengthen the strategic planning of municipalities. Consequently, they put less emphasis on zoning than other Israeli plans. However, due to the difficulties in integrating them with existing plans and regulations, the adaption of *Local Comprehensive Plans* has been slow and only a few statutory approved plans exist. *Local Master Plans* contain general land-use provisions, but in practice may also contain detailed zoning regulation. They are typically approved by the *District Planning Commission* unless their subject matter is specifically relegated by law to the approval of the local planning agencies. *Local Detailed Plans* are detailed local plans that specify details of permitted developments down to the plot level.

Municipalities that have adopted a *Local Comprehensive Plan* have the authority to approve all local plans that correspond to it. In most other cases, approval of Master Plans and Detailed Plans rests in the hands of the *District Planning Commission.* However, *Local Planning Commissions* that have been rated as performing well can approve plans in pre-specified subject areas.

Major laws and regulations

The main framework law outlining the Israeli planning system is the *Planning and Building Law*. The *Real Estate Law* is regulating expropriations. There are several other important laws concerning environmental aspects, such as air pollution, noise, and water pollution. The *Coastal Protection Law* and the *Law on National Parks and Nature*

Reserves provide specific regulations for these areas. A variety of laws and regulation on agriculture affects primarily rural areas.

Co-ordination mechanisms

The six *District Planning Commissions* are the primary authorities for vertical and horizontal co-ordination. They are comprised of representatives from all relevant ministries, some of which work locally and some in the ministries. *District Planning Commissions* review and approve local planning decisions based on their compliance with higher level plans, including *Local Master Plans,* and other considerations. Strategic co-ordination of planning decisions throughout the district plays a comparably moderate role, especially also due to the workload that the former task involves. Similarly, the National Planning Board is another forum for horizontal co-ordination, even though in practice its primary role is related to the adjudication of specific planning decisions rather than strategic planning.

Expropriations

Expropriation in Israel is possible for a list of legally defined purposes, including infrastructure construction, the provision of specific public services and urban development. Furthermore, compulsory dedication of land for public service provision and land readjustments are possible. While generally regulations are straightforward, expropriation procedures can be lengthy and often involve court settlements regarding the compensation that has to be paid for expropriated land.

Recent and planned reforms to the system of land-use planning

The general system of land-use planning was established in 1965 and included the creation of the *National Planning Board* and the *Agricultural Land Preservation Committee*. From 1990 until 1995 temporary planning laws were enacted creating special planning bodies to cope with a large influx of immigrants. In 1996, planning law was amended to transfer the approval of plans in specific subject areas to the *Local Planning Commission,* thus granting local governments more powers. In 2014, the planning Law was amended and *Local Comprehensive Plans* were introduced to provide further powers and responsibilities to municipalities and to strengthen their strategic planning. In addition, *Local Planning Commissions* that do not have a comprehensive plan were also given additional powers according to a rating of their performance. As of the time of writing, this reform is still being implemented.

1 Predefined ensembles of urban patterns, landscapes and permitted uses.

Italy

The planning system

Levels of government and their responsibilities

Italy has 4 levels of government: national, regional (19 regions and 2 autonomous provinces with regional powers), provincial (110 provinces, out of which 10 acquired the status of metropolitan city in 2015) and local (8 047 municipalities). Italy is a unitary country, but its land-use planning system follows a model generally observed in federal countries, with regional laws and regulations as the main source of legal provisions outlining the planning process. However, despite the high degree of regional autonomy, actual planning systems are similar across the country.

The national government provides guidelines for territorial development with a particular emphasis on Southern Italy and other economically lagging regions. It is also in charge of the construction and management of infrastructure of national importance as well as of the protection of heritage sites and of the natural landscape. Although the constitution stipulates that the national government should prepare a framework law on planning, no such law has been approved by parliament.

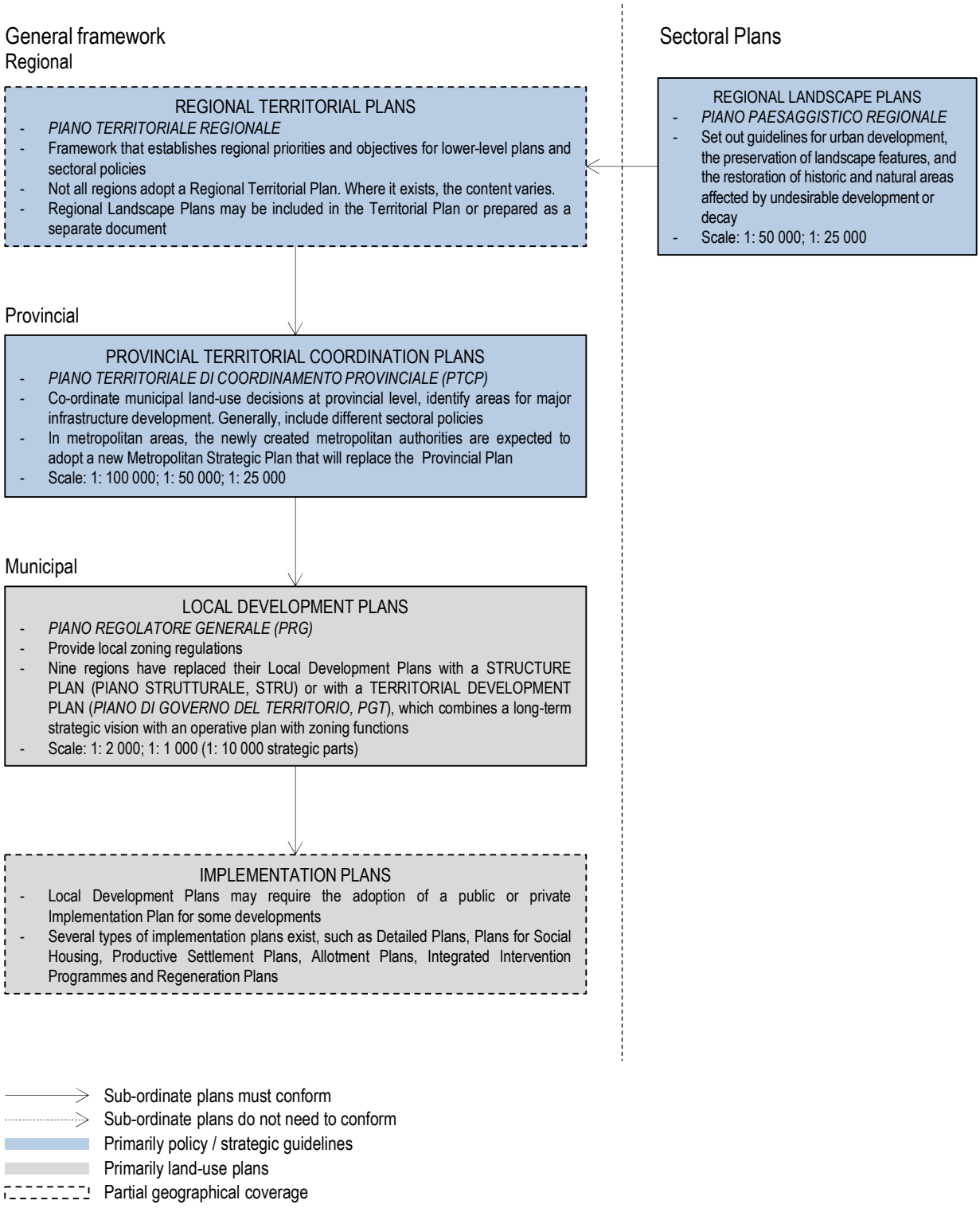
Regional laws and planning acts define the structure and processes that local authorities follow in preparing statutory land-use plans. Given the absence of a national framework law, regional provisions can vary from each other. Regions prepare *Regional Landscape Plans* together with the *National Ministry of Cultural Heritage and Activities and Tourism*. They also produce *Regional Territorial Plans* whose contents vary from region to region. The second level of subnational government, the provinces, produces the *Provincial Territorial Coordination Plan* to co-ordinate land-use decisions across municipalities and plan major infrastructure projects. In 2015, ten provinces were replaced by *Metropolitan Cities*. They are expected to adopt a metropolitan strategic plan that replaces the provincial plan. As of the time of writing, the future role of provincial governments outside of metropolitan areas is under discussion, but no final decisions have been made.

Actual land-use decisions are primarily made at the local level by municipalities through the *Local Development Plan*. Municipalities with fewer than 5 000 inhabitants have to form inter-municipal co-operations to conduct their land-use planning. The exact nature of the planning process and the responsibility of municipalities differs from region to region.

Spatial and land-use plans

Italy has a three-tier hierarchical planning system. At the regional level, The *Regional Landscape Plan* provides strategies to preserve and enhance the landscape that may include restrictions on the type and scope of development allowed in areas of natural, cultural or historic value. Such documents can either be issued separately, or as part of *Regional Territorial Plans* which identify general policy priorities and objectives at the regional level.

Organisation of spatial and land-use planning in Italy



Provincial Territorial Coordination Plans aim to co-ordinate municipal land-use decisions within a province. They also encompass the management of sub-regional infrastructure, water basins, high-school estates and provincial roads. *Strategic Plans* prepared by Metropolitan Cities will steer planning by local authorities in the metropolitan area once they are implemented.

Local Development Plans are the main statutory land-use plans developed by municipalities at typical scales between 1: 2 000 and 1: 1 000. Following the 2001 Constitutional Reform, some regions opted to keep a system centred on a single regulatory plan that contains a number of inset plans that are envisaged to guide implementation. Among them are *Detailed Plans*, *Plans for Social Housing*, *Productive Settlement Plans*, *Allotment Plans, Integrated Intervention Programmes* and *Regeneration Plans.* Other regions introduced a model which combines a strategic *Structure Plan* with an *Operative Plan* that includes land-use allocations and addresses the needs of specific regeneration/transformation areas. *Operative Plans* are prepared for 5-year periods that coincide with the mayoral tenure. All building activity within consolidated built up areas is controlled through planning regulations and the *Building Code*.

As a unique case, Lombardy region has adopted a system in which municipalities produce three plans. A *Core Document* defines key strategic goals, verifies environmental sustainability and consistency with the plans of neighbouring municipalities. The *Service Delivery Plan* assesses the needs related to the provision of physical, green and social infrastructure. The *Zoning Plan* covers urban fabric and defines criteria for (re-)development, with specific rules applying to buildings of cultural or historic value.

Major laws and regulations

Several laws and regulations contain elements that structure the planning system (*Law 1150/1942*, *Law 765/1967*, *Law 1187/1968*, *Law 1444/1968*, *Law 10/1977* and *Inter-ministerial decree 1444/1968*). Further important regulations are provided by multiple environmental acts referring to different aspects of environmental protection and by decrees that regulate the environmental impact assessment in accordance with EU regulations. Most of the framework legislation is enacted at the regional level. Regional laws and regulations furthermore provide details on permitted construction in varying urban environments.

Co-ordination mechanisms

Several co-ordination mechanisms exist in Italy. They combine elements of vertical co-ordination and elements of horizontal co-ordination. The *State-Regions Conference* is a forum to co-ordinate high-level issues regarding spatial planning and environmental regulations between the national and the regional governments. Primarily at the local level, *Service Conferences* co-ordinate decision making related to regulatory decisions that require approval from a number of different agencies and service providers. They are often used to facilitate the planning of local service provision and infrastructure delivery. If necessary, they can also involve higher levels of government. Special development projects can be co-ordinated between levels of government through *Programme Agreements*, which also enable municipalities to issue joint land-use plans.

Expropriations

Expropriation of land is possible if it is in the public interest and owners are compensated according to market prices. Land can be expropriated for the construction of infrastructure and public facilities, social housing, and industrial facilities. Expropriation orders are automatically reversed if construction on a project does not start within five years of the

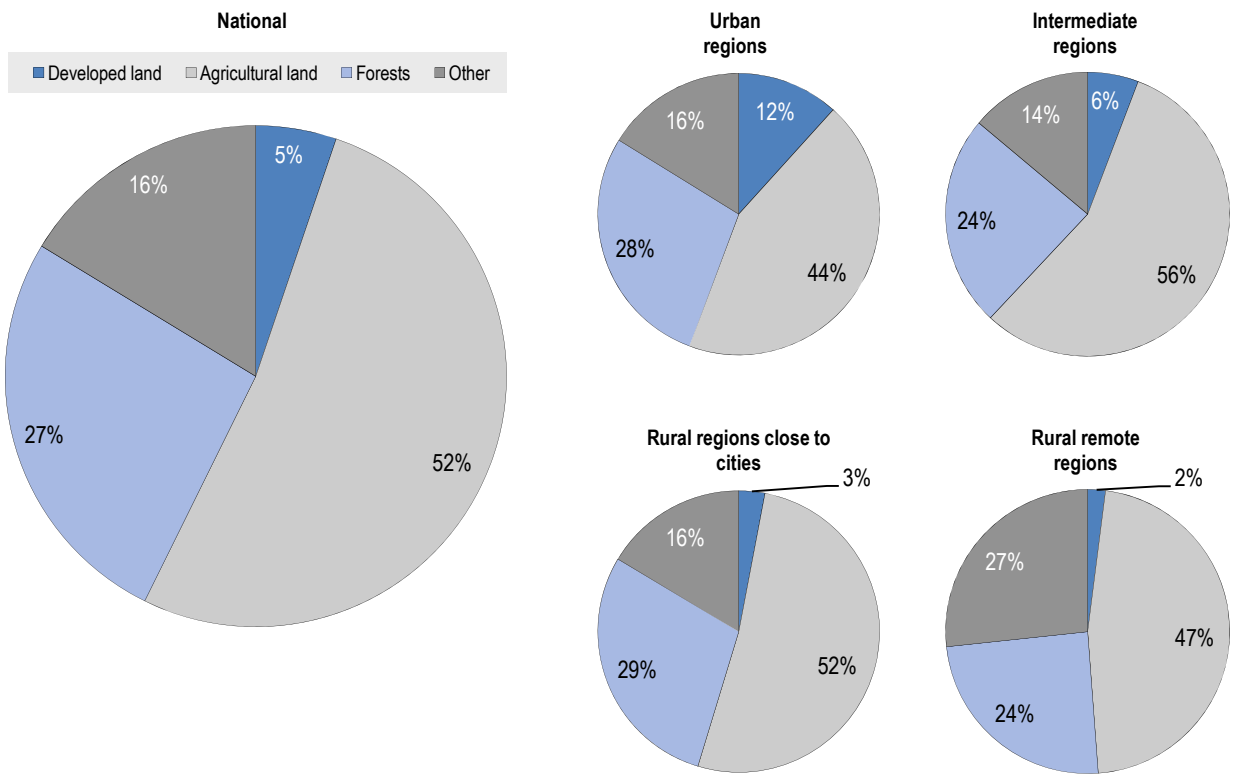
expropriation. In general, public authorities acquire ownership of expropriated land. In rare cases it can be transferred to public-private partnerships in which the state has a minority share. In those cases, the expropriated land owner might join the public-private partnership. If a local plan zones private land for public use (e.g. roads) the local authority has to purchase the land within five years of the adoption of the plan, otherwise constraints on development will be lifted.

Recent and planned reforms to the system of land-use planning

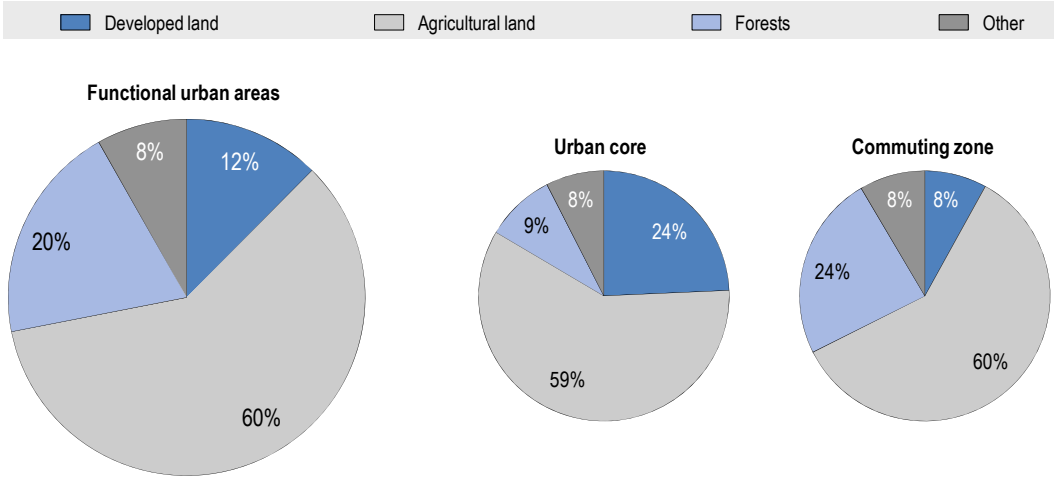
The law establishing the Italian planning framework has been in place since 1942. The system was initially designed to manage the outward growth of urban agglomerations and had a strong emphasis on expropriation and public developments. Subsequent reforms and court rulings have limited this emphasis, but left the *Local Development Plan* as the central planning instrument mostly unchanged. In order to counteract the rigidity of the *Local Development Plan*, negotiated procedures have become more common in the recent past. Until 2001 planning was a responsibility of the national government, and the system operated on the basis of a national framework law. Regional governments did produce regional planning laws, but these had to follow national laws and guidelines. Following the 2001 constitutional reform, planning became a shared responsibility between the national government and the regions. Subsequently, Italy has witnessed the development of a regionalised planning system. As of the time of writing, further reforms are under discussion, including changes to role and responsibilities of provinces and the transfer of shared responsibilities back to the national government.

Land cover in Italy

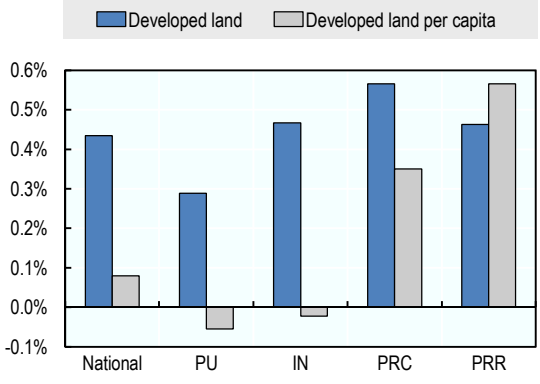
Land cover at the national level



Land cover in functional urban areas (FUAs)

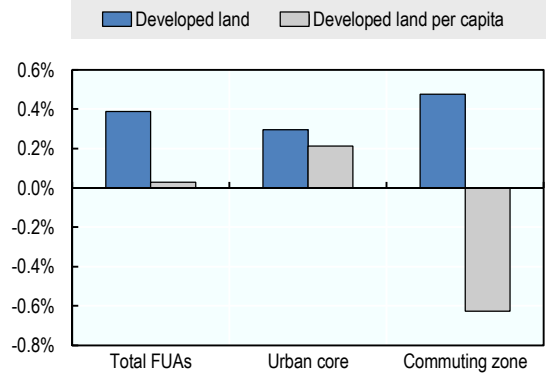


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions. Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Italy

With 260 square metres, Italy has one of the lowest areas of developed land per capita. While developed land has increased since 2000, this increase has corresponded roughly to the population growth rate. Large urban areas experienced strong increases in population in their commuting zones, whereas population in the urban cores remained roughly constant. However, this suburbanisation pattern was not reflected in the growth rates of developed land, which were similar in urban cores and commuting zones. As a consequence, per capita land use in urban cores increased whereas it declined in commuting zones.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Italy

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	301 044	39 173	125 784	107 424	28 663
Total developed land	15 637	4 567	7 295	3 199	576
Percentage of total	5.2%	11.7%	5.8%	3.0%	2.0%
Annual change in developed land, 2000-12	66.1	12.9	33.1	17.5	2.6
Annual percentage change in developed land, 2000-12	0.43%	0.29%	0.47%	0.57%	0.46%
Agricultural land	156 905	17 238	70 672	55 572	13 424
Percentage of total	52.1%	44.0%	56.2%	51.7%	46.8%
Annual change in agricultural land, 2000-12	-57.9	-11.7	-29.7	-13.6	-2.7
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.07%	-0.04%	-0.02%	-0.02%
Forests	79 340	11 007	30 293	31 015	7 024
Percentage of total	26.4%	28.1%	24.1%	28.9%	24.5%
Annual change in forests, 2000-12	-35.9	-3.8	-13.0	-15.3	-3.8
Annual percentage change in forests, 2000-12	-0.05%	-0.03%	-0.04%	-0.05%	-0.05%
Land cover per capita (m²)					
Total developed land per capita	263	215	292	307	326
Annual percentage change in developed land per capita, 2000-12	0.08%	-0.05%	-0.02%	0.35%	0.57%
Agricultural land per capita	2 642	907	2 745	5 076	8 600
Annual percentage change in agricultural land per capita, 2000-12	-0.39%	-0.39%	-0.51%	-0.23%	0.09%
Forests per capita	1 336	615	1 265	3 118	4 299
Annual percentage change in forests per capita, 2000-12	-0.40%	-0.37%	-0.51%	-0.26%	0.08%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	53 709	14 502	39 207
Total developed land	6 668	3 522	3 146
Percentage of total	12.4%	24.3%	8.0%
Annual change in developed land, 2000-12	25.2	11.1	14.1
Annual percentage change in developed land, 2000-12	0.39%	0.32%	0.46%
Agricultural land	31 968	8 582	23 385
Percentage of total	59.5%	59.2%	59.6%
Annual change in agricultural land, 2000-12	-23.4	-11.1	-12.3
Annual percentage change in agricultural land, 2000-12	-0.07%	-0.13%	-0.05%
Forests	10 688	1 308	93 80
Percentage of total	19.9%	9.0%	23.9%
Annual change in forests, 2000-12	-6.9	-1.1	-5.8
Annual percentage change in forests, 2000-12	-0.06%	-0.08%	-0.06%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	218	151	251
Annual percentage change in developed land per capita, 2000-12	0.03%	0.21%	-0.63%
Agricultural land per capita	1045	200	1489
Annual percentage change in agricultural land per capita, 2000-12	-0.43%	-0.30%	-1.17%
Forests per capita	350	25	553
Annual percentage change in forests per capita, 2000-12	-0.42%	-0.25%	-1.15%

Note: Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Source: All land cover statistics for Italy are based on OECD calculations based on *Corine Land Cover dataset*.

Japan

The planning system

Levels of government and their responsibilities

Japan is a unitary state with three levels of government; the national level, 47 prefectures and 1 741 municipalities. The national government has five distinct functions related to spatial planning. First, it enacts framework laws that structure land-use planning processes. Second, it prepares national level spatial plans. Third, it provides financing for major infrastructure projects that influence land use directly and indirectly. Fourth, it approves spatial plans that prefectures prepare according to national law. Fifth, it issues binding regulations on the content of subnational plans, provides standards for other instruments of lower level governments and gives general guidance and advice to subnational governments.

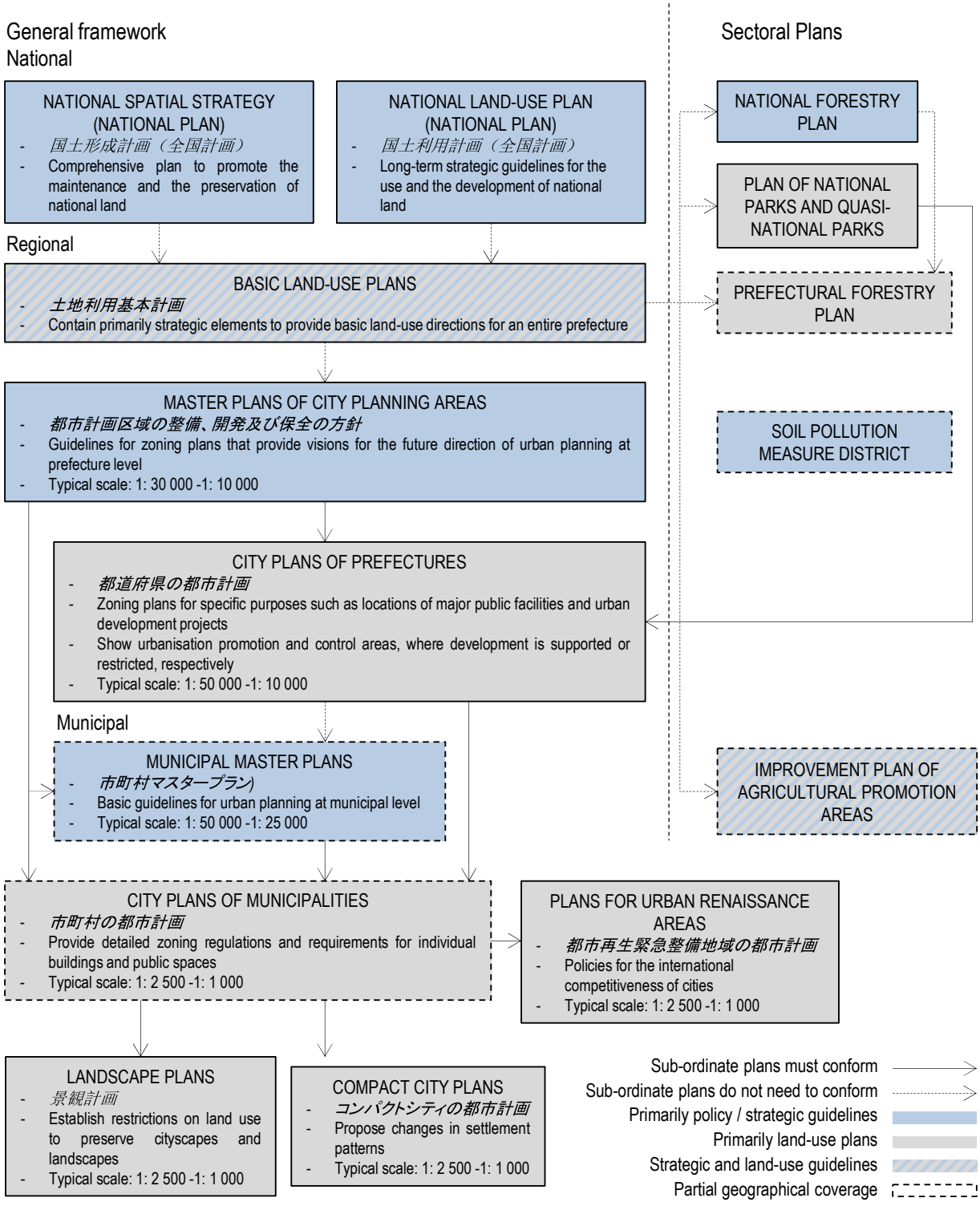
Prefectures are responsible for the enactment of local laws and regulations on spatial planning, the preparation of prefecture level plans, and the approval of municipal level land-use plans. Furthermore, they provide guidance and advice to municipalities. Actual zoning decisions are made by prefectures and municipalities. They prepare strategic and zoning plans in accordance with national and prefectural laws and regulations and pass auxiliary regulations guiding land use in their jurisdictions.

Spatial and land-use plans

The Japanese spatial planning system is complex and employs a large number of spatial plans. At the national level, two plans provide strategic directions. The *National Spatial Strategy (National Plan)* provides general principles on a national spatial structure, land use, environmental protection, sustainable use of resources and disaster prevention. The *National Land Use Plan (National Plan)* includes a master concept for land use and outlines necessary measures to achieve it.

At the prefectural level, *Basic Land Use Plans* play a comparable role to the *National Land Use Plan.* They are strategic plans that focus on general policy objectives for spatial development. *Master Plans for City Planning Areas* concern only urban areas within prefectures and outline the objectives for land-use planning in those areas, such as targets for development promotion and development control. The actual land-use plans at the prefectural level are the *City Plans of Prefectures*. These plans do not refer to a single city, but generally cover the entire urban area of a prefecture. Among other aspects, they delineate areas where urbanisation is promoted or controlled, which has substantial consequences for the types of permitted developments and for the planning approval process. Furthermore, they contain special zoning regulations for specific developments and show major transport infrastructure. They are typically drawn at scales between 1: 50 000 and 1: 10 000 and are among the plans that are the most strictly enforced.

Organisation of spatial and land-use planning in Japan



The municipal level mirrors the prefectural level insofar as its main planning instruments are a master plan and an actual zoning plan. *Municipal Master Plans* are strategic plans that contain general objectives for the municipality and guidelines for zoning and adjustments to land uses. *City Plans of Municipalities* are the main local land-use plans. They contain detailed zoning maps and restrictions on building sizes and shapes, designate major urban redevelopment areas and show public infrastructure.

In addition to the plans described above, several sectoral plans exist at all levels of government. These plans concern only specific land uses, but provide legally binding, sometimes detailed zoning regulations. For urban areas, three distinct plans exist. The *Plans for Urban Renaissance Areas* outline urban redevelopment projects and policies to strengthen the competitiveness of cities. *Landscape Plans* target urban design aspects, for example by restricting outdoor advertisement. *Location Optimization Plans* prescribe settlement patterns in urban areas with the objective of promoting compact development and high population densities.

Major laws and regulations

Four acts form the foundation of the Japanese land-use planning system. The *Comprehensive National Land Development Act* and the *National Land-use Plan Act* provide the legal basis for the *National Land Use Plan*. The *City Planning Act* stipulates the details of land-use planning in urban areas at the prefectural and municipal level. It also specifies the procedure in order to obtain planning permission. The *Building Standards Act* contains building code regulation and specifies the procedure to obtain building confirmations.

Furthermore, three environmental acts contain important provisions affecting the land-use planning system. The *Soil Pollution Measure Act* and the *Water Pollution Control Act* outline protective measures that restrict development in sensitive areas. Similarly, the *Sabo Act* defines erosion control areas, in which development is restricted in order to prevent landslides and reduce fatalities in case they occur.

Co-ordination mechanisms

Vertical co-ordination between national and subnational governments occurs through two channels. Each level of government can confer with another level of government on its own initiative. The national government has furthermore the possibility to offer advice to lower levels of governments. Similarly, horizontal co-ordination at the national and subnational level occurs primarily through consultations between ministries and departments. In particular, a department intending to change a policy is obliged to confer with other departments.

Expropriations

Expropriations are possible for clearly defined purposes, which cover primarily transport and energy infrastructure, public facilities and environmental developments. Expropriation of land for private uses is not possible. Compensation to the expropriated land owner must cover the market price of the property, the costs of moving as well as the costs to establish the private life or the business at the new location.

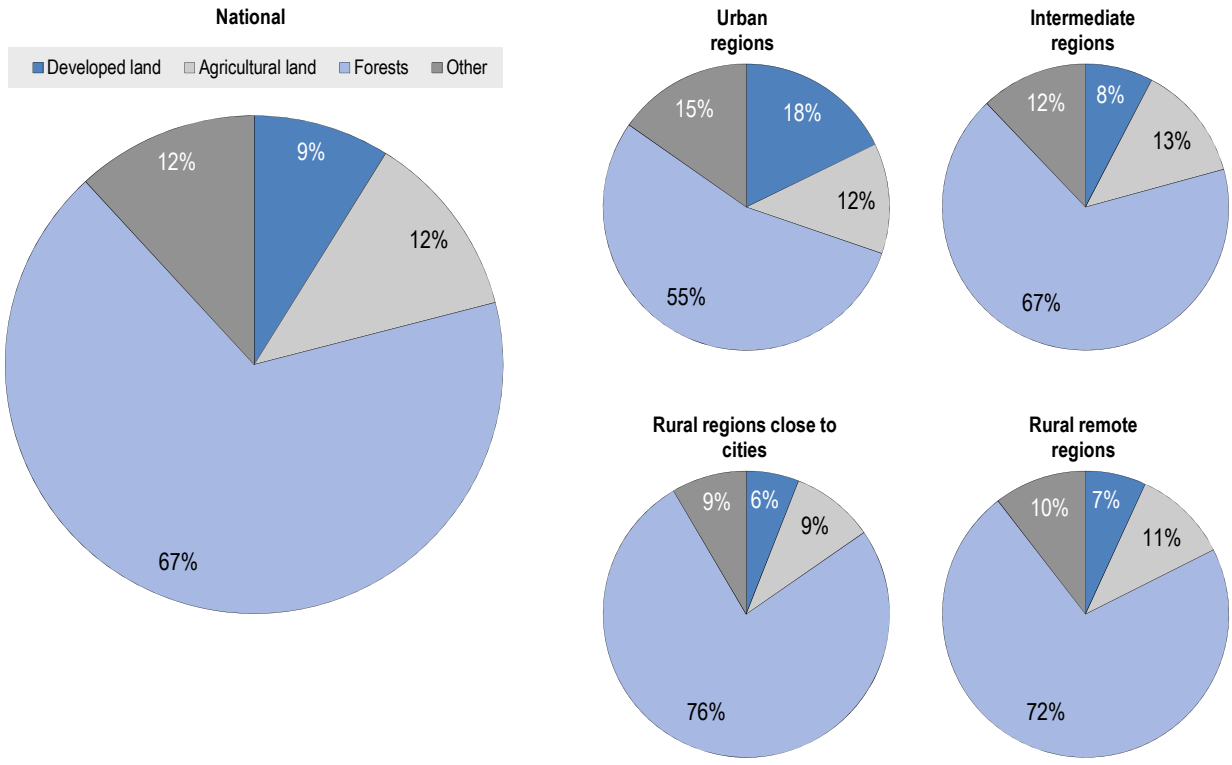
Recent and planned reforms to the system of land-use planning

The broad outlines of the Japanese land-use planning system were established in 1950, when the *Comprehensive National Land Development Act* and the *Building Standard Act* were passed. Two further milestones were the enactment of the *City Planning Act* in 1968 that

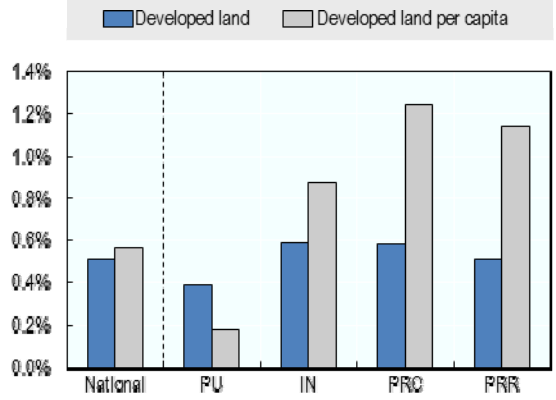
replaced an older act from 1919 and the *National Land-use Plan Act* in 1974. Since then, reforms have been incremental. Most recently, changes occurred with the approval of the *Soil Pollution Measure Act* and the *Special Act for City Restauration* in 2002, and the *Landscape Act* in 2004. Currently, efforts are made to improve the quality of cadastre data. In the past, cadastre data has been imprecise, which led to conflicts between land owners and difficulties in the planning process.

Land cover in Japan

Land cover at the national level



Annual change in developed land from 2005 to 2015



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Land-use trends in Japan

Japan stands out as the country that has the highest share of forested land among all analysed countries. More than two-thirds of its surface is covered by forests. In contrast, the share of agricultural land is exceptionally low at just 12% and has been declining by almost 0.5% annually. Per capita use of developed land is one of the lowest within the OECD with an average developed surface of just 260 square metres per inhabitant. Since 2005, the area of developed land has been expanding at a rate of approximately 0.5% annually even though the population has slightly declined over the same period.

Source: OECD calculations based on data provided by the Japanese government.

Land cover at the national level in Japan

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	372 969	58 089	202 896	50 052	61 933
Total developed land	33 042	10 342	15 466	2 984	4 250
Percentage of total	8.9%	17.8%	7.6%	6.0%	6.9%
Annual change in developed land, 2005-15	166.7	39.6	88.0	17.8	21.3
Annual percentage change in developed land, 2005-15	0.52%	0.39%	0.59%	0.58%	0.52%
Agricultural land	45 181	7 222	26 618	4 690	6 651
Percentage of total	12.1%	12.4%	13.1%	9.4%	10.7%
Annual change in agricultural land, 2005-15	-211.5	-57.2	-110.0	-17.1	-27.2
Annual percentage change in agricultural land, 2005-15	-0.46%	-0.76%	-0.40%	-0.37%	-0.40%
Forests	250 588	31 659	136 248	38 134	44 548
Percentage of total	67.2%	54.5%	67.2%	76.2%	71.9%
Annual change in forests, 2005-15	-27.6	-7.1	-26.5	-0.7	6.8
Annual change in forests, 2005-15	-0.01%	-0.02%	-0.02%	-0.002%	0.02%
Land cover per capita (m²)					
Total developed land per capita	260	144	388	474	475
Annual percentage change in developed land per capita, 2005-15	0.57%	0.18%	0.88%	1.25%	1.15%
Agricultural land per capita	356	100	668	745	743
Annual percentage change in agricultural land per capita, 2005-15	-0.40%	-0.97%	-0.11%	0.27%	0.23%
Forests per capita	1 972	440	3 419	6 060	4 979
Annual percentage change in forests per capita, 2005-15	0.04%	-0.23%	0.28%	0.63%	0.65%

Note: Per capita values for land cover in TL3 regions computed using 2014 population figures.

Source: All land cover statistics for Japan based on data provided by the Japanese government.

Korea

The planning system

Levels of government and their responsibilities

Korea has 3 levels of government. Below the national government, there are 17 regional governments out of which 9 have the status of province, 6 of metropolitan cities and 2 with special status (Sejong self-governing city and Seoul capital city). Metropolitan cities combine the functions of regional and local government. At the local level, there are 228 local authorities that have the status of city, county or district. These local authorities are further sub-divided into around 3 500 administrative units.

The national government has three primary functions related to land-use policies. First, it enacts the framework legislation that structures the planning system. Second, it provides a spatial framework for the country that guides its development. Third, it oversees and approves *City Master Plans* and designates the urban planning boundaries in the country. Furthermore, the national government is the primary actor when it comes to environmental protection, the designation of nature reserves and the protection of forests. It also designates rural, mountainous and heritage sites for which it can enact special provisions and planning regulations.

The regional level of government prepares strategic metropolitan or provincial plans depending on its status as province or metropolitan city. Regional governments also oversee and approve land-use plans prepared by local governments.

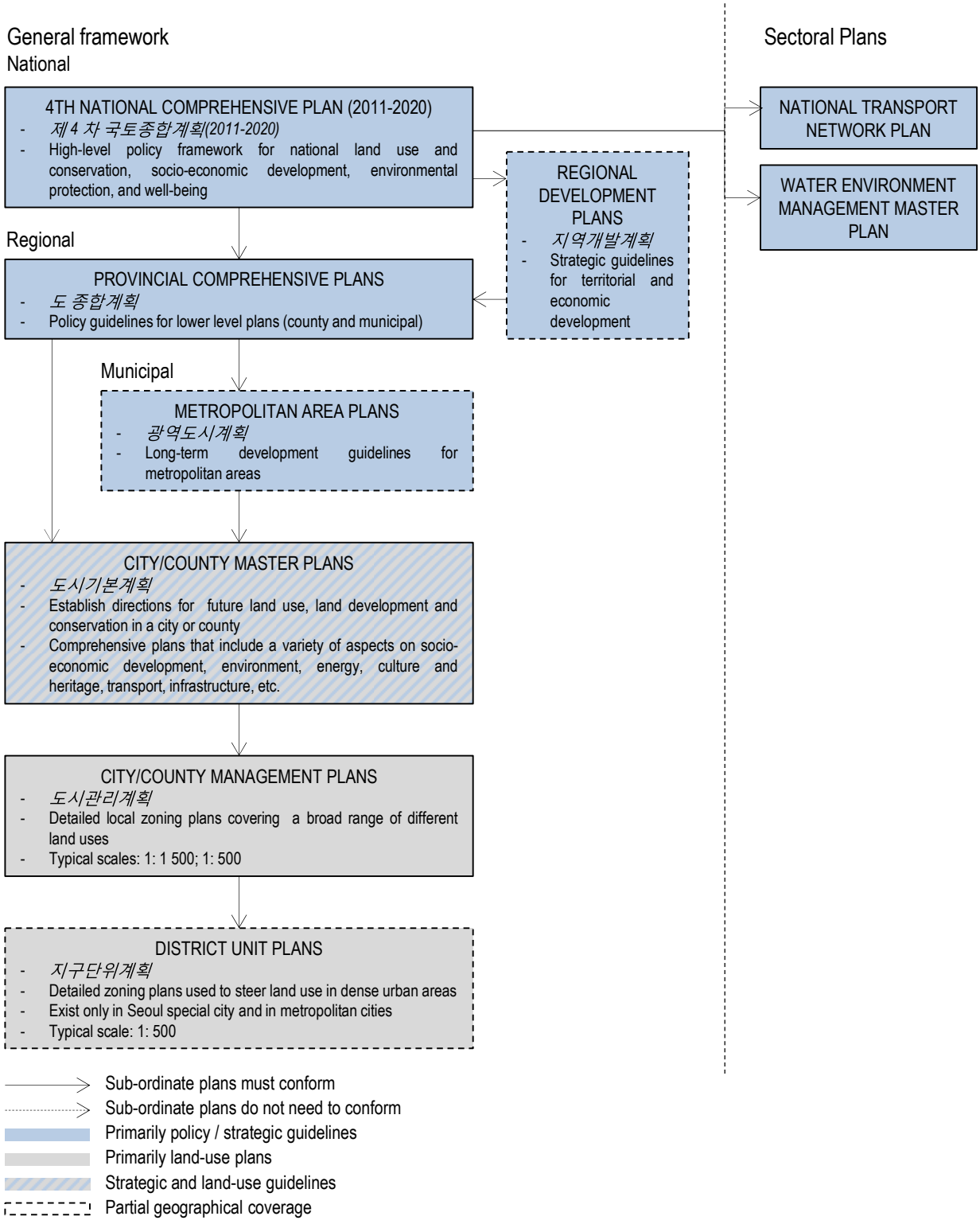
With an average number of 222 130 inhabitants, local authorities in Korea are the largest within the OECD by a considerable margin. They are responsible for strategic planning and the creation of zoning regulations for their territory. Furthermore, they provide building permits. Their primary instruments are three different land-use plans that vary in terms of their specificity (see below).

Spatial and land-use plans

Korea uses a hierarchical land-use planning system involving four plans in most of the country. At the national level, the *National Comprehensive Plan* provides a general framework that focuses on socio-economic development, environmental protection and well-being and contains spatial and non-spatial elements. It has a 10-year time horizon, with the current plan covering the 2011-20 period. Although it is legally binding for lower level plans, in practice it is mostly not restrictive on lower level plans.

At the regional level, *Metropolitan Area Plans* and *Provincial Comprehensive Plans* provide regional frameworks and focus on similar topics to the *National Comprehensive Plan.* They are legally binding for subordinate plans and – in contrast to the *National Comprehensive Plan* – may also include small scale land-use plans. Nevertheless, they are typically not highly restrictive. *Metropolitan Area Plans* and *Provincial Comprehensive Plans* are created by metropolitan cities and provinces, but need to be approved by Ministry of Land, Infrastructure and Transport of the national government. Although they are renewed every 10 years, they have a planning horizon of 20 years.

Organisation of spatial and land-use planning in Korea



At the local level, *City Master Plans* are comprehensive plans that contain strategic elements and detailed land-use plans. They cover a very wide range of topics including socio-economic development, housing, transport, infrastructure, public health, disaster prevention, environmental protection, sustainability, culture, and heritage protection. Just as with the higher level metropolitan and provincial plans, they cover a 20 year period, but are replaced every 10 years. They are prepared in consultation with citizens and independent experts.

The *Urban Management Plan* is the main zoning plan in Korea with scales of 1: 1 500 to 1: 500 and imposes legally binding restrictions on land-use for land owners. It is drawn-up by local governments and approved by regional governments. It concerns a similarly wide-range of topics as the *City Master Plans*.

Furthermore, in Seoul and the six metropolitan cities, *District Unit Plans* exist as the lowest level of land-use plans in order to steer the development of small neighbourhoods and individual blocks in densely populated areas. Zoning plans in *District Unit Plans* have a very large scale of typically 1: 500.

Major laws and regulations

The *National Land Planning and Utilisation Act* provides the legal basis of the Korean spatial planning system and the *Building Act* is the main source of building code regulation. Besides this framework legislation of the planning system, a large number of other laws have direct impact on land use. Several acts on urban development and housing aim at ensuring a sufficient supply of affordable housing, promoting sustainable residential development and revitalising residential neighbourhoods with aging housing stocks. In particular, the *Industrial Sites and Development Act* has the goal of ensuring a sufficient and spatially balanced supply of appropriate land for industrial use in order to foster economic development. The *Urban Traffic Readjustment Promotion Act* promotes the modernisation of transport infrastructure and the efficient management of urban transport systems.

Co-ordination mechanisms

Vertical co-ordination of land-use policies is primarily ensured by the hierarchical character of the spatial planning system; lower level plans are generally required to correspond to higher level plans. Horizontal co-ordination at the national level takes place through the *Central Urban Planning Committee* within the Ministry of Land, Infrastructure and Transport. At the regional level, metropolitan and provincial governments have similar committees to co-ordinate policies.

Expropriations

Expropriation of land in Korea is possible for public uses and for private uses if the private use is in the public interest. However, expropriations for private uses are generally rare. Expropriations can occur for a relatively large number of reasons, including the construction of infrastructure, housing, commercial and industrial developments, mining activities and the establishment nature reserves. In all cases, fair compensation has to be paid to the land owner.

Recent and planned reforms to the system of land-use planning

The current system of land-use governance was created in 2002 when the new *National Land Planning and Utilisation Act* was enacted. The reform established *District Unit Plans*, introduced a distinction between urban and non-urban areas and strengthened regulations to protect the environment and limit unplanned developments. Furthermore, it reduced overlapping and contradicting regulations. Since then, no major reforms to the system of land-use governance have occurred.

Mexico

The planning system

Levels of government and their responsibilities

Mexico is a federal country with 3 levels of government; the national level, 32 federated states and 2 457 municipalities. The territory of the capital Mexico City is under federal control. Compared to other federal countries, the national government is an influential actor related to land use. According to the constitution, all land and water in Mexico belongs to the nation and the national government is in charge of providing legislation to operationalise this principle. It prepares the framework legislation that structures the planning system and is responsible for environmental issues and housing policy. The government also affects land use through the work of several of its agencies. Most importantly, the *Secretariat of Agriculture, Territory and Urban Development (SEDATU)* is active in land-use policy. It works with local governments by providing funding and technical assistance for projects that are in line with the priorities of the national government. Other important government agencies are the *National Institute of Housing Promotion (INFONAVIT)*, the *National Water Commission (CONAGUA)*, the *National Land Ownership and Regulation Commission (CORETT)* and the *Secretariat of Environment and Natural Resources (SEMARNAT)*.

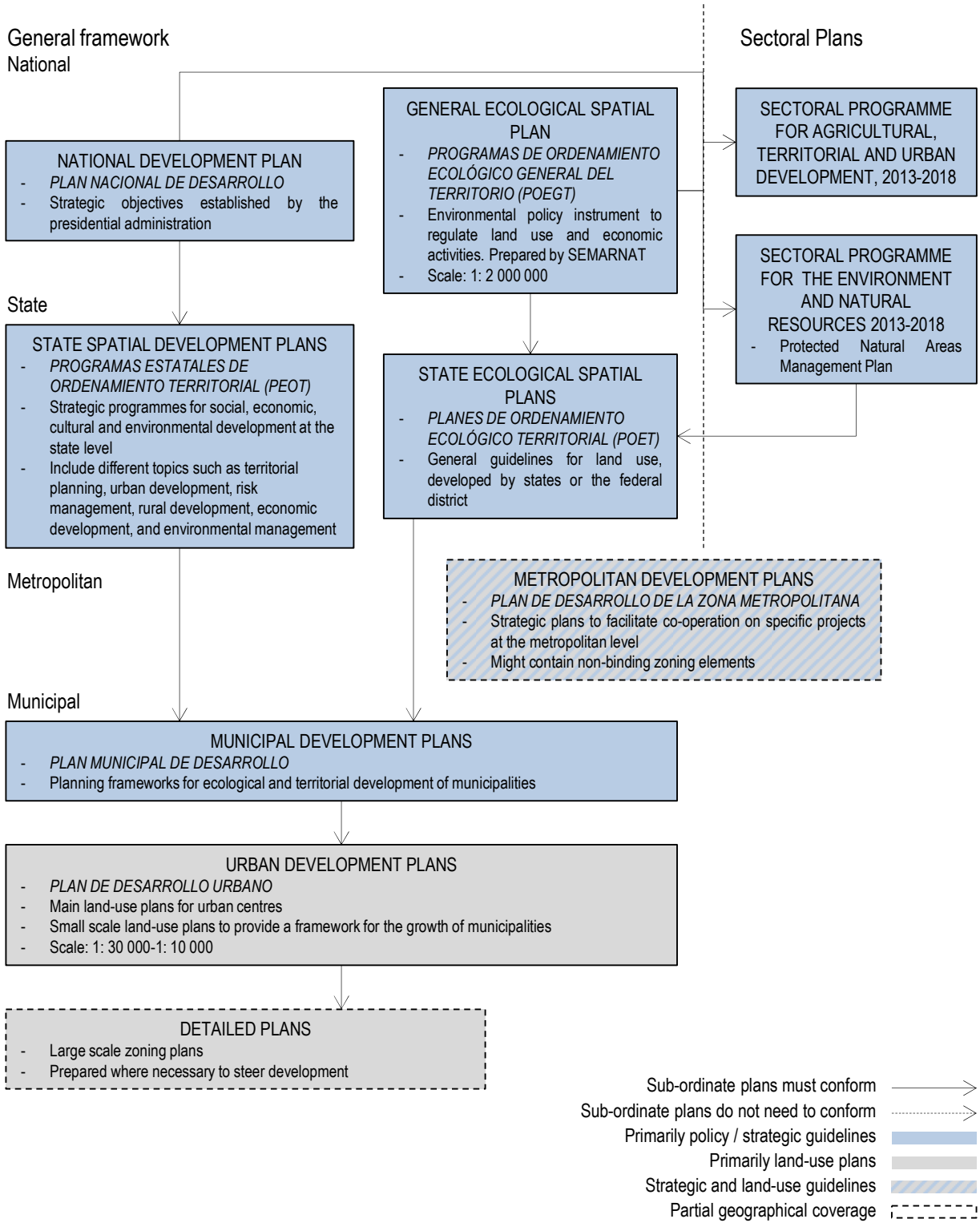
Mexican states have fewer powers related to land use than the national government, which is unusual among federal OECD countries. State responsibilities are primarily related to economic development. The main policy documents of states to guide economic development throughout their territories are the *State Spatial Development Plans*.

The constitution specifies that municipalities are the planning authorities. They can decide on land use as long as they take other constitutional provisions and guidelines of higher levels of government into account. They have several instruments at their disposal. Most importantly, they develop land-use plans that control land-use changes and decide whether or not to issue building permits. Exceptions to this rule are mining and water extraction activities, which are regulated by the national governments. Municipalities are also responsible for land administration within their jurisdiction. Furthermore, they can set property taxes and are responsible for the provision of public services and infrastructure.

Spatial and land-use plans

Mexico has a hierarchical planning system with several plans at each level of government. At the national level, two main plans exist. The *National Development Plan* contains general objectives for the economic and social development of the country and related spatial aspects. It contains guidelines for land-use policies in urban and rural areas and links them to development goals. It is renewed every six years. The national *General Ecological Spatial Plan* aims at regulating land use to protect the environment and to promote sustainable development. Whereas the *National Development Plan* is approved by parliament, the *General Ecological Spatial Plan* is approved by regulatory decision. Both plans also provide the framework for the *Sectoral Programme for Agricultural, Territorial and Urban Development 2013-2018* and the *Sectoral Programme for the Environment and Natural Resources* 2013-2018. The General Ecological Spatial Plan also designates protected areas through the Natural Protected Areas Administration Plan.

Organisation of spatial and land-use planning in Mexico



At the state level, the two most important plans mirror those at the national level. *State Spatial Development Plans* and *State Ecological Spatial Plans* contain objectives and strategies for the respective topics at the state level and must take the corresponding national plans into account. Similar to the national plan, *State Ecological Spatial Plans* designate protected areas.

Three common types of plans exist at the municipal level. The *Municipal Development Plan* provides guidelines for urban development that follow those established at the national level. It takes into account the natural and built environment and combines them with a long-term vision for economic and social development. The *Urban Development Plan* and *Development Plans for Population Centres* are comprehensive plans that contains zoning regulation for the built-up territory of a municipality at a scale between 1: 30 000 and 1: 10 000. *Detailed Plans* are large scale zoning plans that are prepared for areas where it is necessary to steer development.

Between the state and the municipal level, *Metropolitan Development Plans* can be prepared by supra-municipal associations under the guidance of state governments. They are supposed to co-ordinate policies between municipalities in metropolitan areas, but few such plans exist and their practical relevance and impact is limited.

Major laws and regulations

Article 27 of the Mexican constitution defines principles related to land ownership and the state's control of land use. *Article 115* gives municipalities the authority to control land use in their territory and outlines the services that they are required to provide. The *Human Settlements General Law,* the *Urban Development Law*, the *General Land Use and Environmental Policy Law* and the *Planning Law* provide the framework legislation that structures the planning system. They are complemented by the *Cadastral Law* and the *Building Code*. The main environmental law is the *Ecological Equilibrium and Environmental Protection General Law*. The *Federal Housing Law* has important consequences for residential developments, as it aims at increasing the supply of land for housing and reducing land speculation.

Co-ordination mechanisms

Some vertical co-ordination is provided by the hierarchical nature of the planning system. Higher level plans are binding for subordinate plans. Furthermore, the *Secretariat of Agriculture, Territory and Urban Development (SEDATU)* works directly with municipalities and uses a system of incentives to encourage them to follow national policy priorities regarding land use. Co-ordination across policy fields is within the responsibilities of the sectoral agencies of the national government (see above). Municipalities generally follow the lead of those agencies in their land-use decisions.

Ownership rights

Expropriation is possible for a broad range of reasons and in recent decades, it has frequently been used for urban renewal projects. Land owners are entitled to compensation, but no clear rules determining its size exist. Often, compensation is based on the cadastral value or the appraised value of a property, which may differ from its market value.

Recent and planned reforms to the system of land-use planning

In its broad outlines, the current Mexican planning system was established in the late 1970s with the creation of the *Human Settlement and Public Works Secretariat*, a predecessor of *SEDATU*. In 1987, a constitutional reform changed *Article 115* of the constitution that defines the responsibilities of municipalities for land-use planning. In 1999, the same article was amended to include municipal responsibility for property taxes and cadastral management.

Netherlands

The planning system

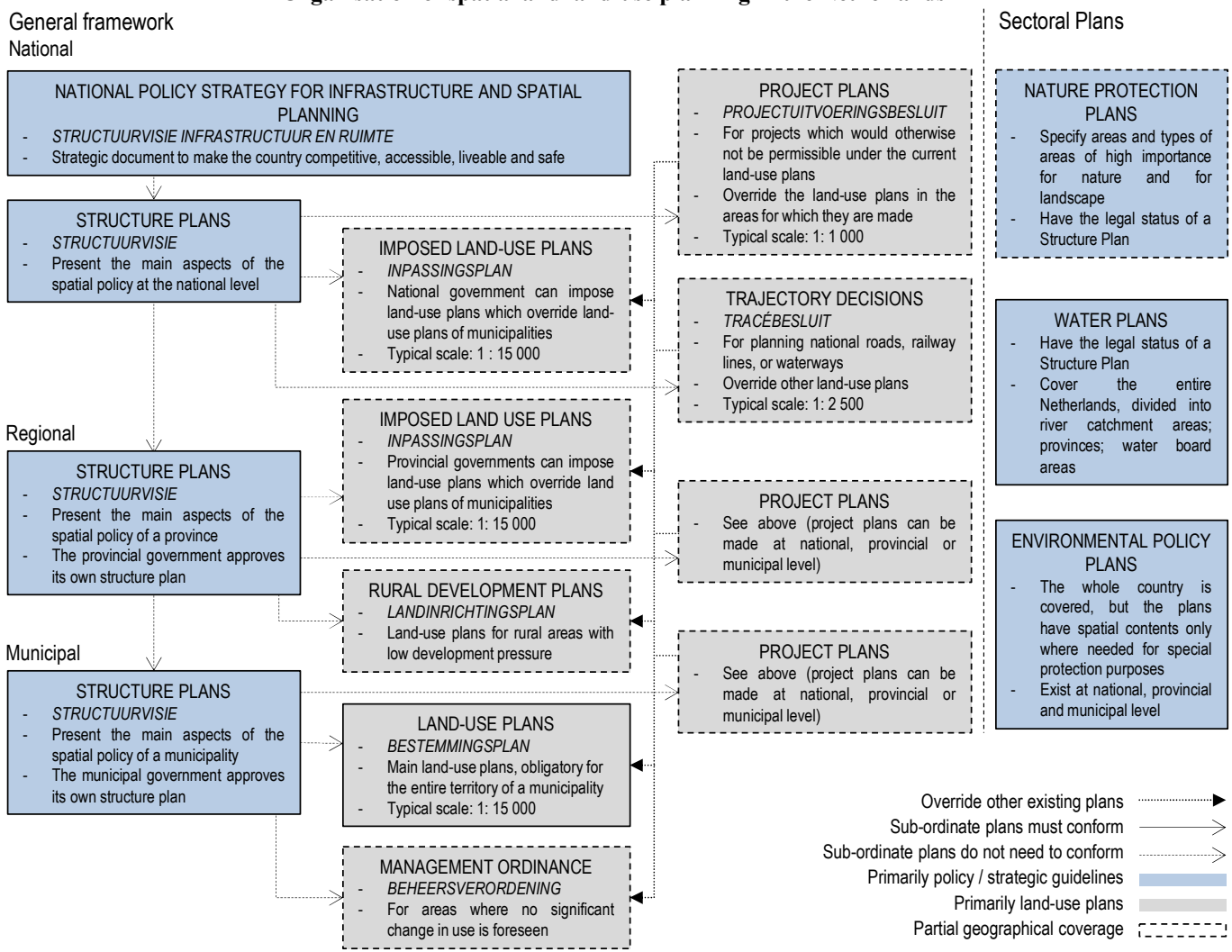
Levels of government and their responsibilities

The Netherlands is a unitary state with 3 levels of government; the national level, 12 provinces and 390 municipalities. The national government creates the legal framework for spatial planning that determines the responsibilities of individual actors. It decides based on a principle of subsidiarity, i.e. it gives powers to the lowest level of government if possible and to a higher level if necessary. Under this system, the national government is primarily responsible for areas and networks of national significance for the economic and social development of the country. These areas and networks are defined in the National Structure Plan. In urban regions around major transport hubs the national government works jointly with regional and local governments to manage development. Other issues of national importance are related to water safety and the preservation of natural and cultural heritage. Furthermore, the national government is responsible for infrastructure of national importance and has to take its spatial impact into account when making decisions. The national government also influences decisions of lower levels of government by offering financial incentives (although the importance of this steering mechanism has declined) and by passing important laws and regulations, such as the framework decree structuring spatial planning.

The provincial level has the responsibility for spatial planning of issues of provincial importance and is mostly free from national guidance in determining what these issues are. In general, provinces prepare rural development plans for rural areas in their territory, maintain the provincial road network and co-ordinate the activities of the water boards, which are important given that large parts of the Netherlands are vulnerable to flooding. Provinces may also supervise the spatial policies of municipalities and can intervene if the decisions of one municipality have negative consequences on other municipalities.

Municipalities are the most important actors in determining land-use policies. Although the national and provincial governments have significant powers to override municipal planning decisions, they make seldom use of these powers. Municipalities exercise their powers partly by preparing local land-use plans, but also by practicing pro-active planning. They frequently become active in land and property markets to ensure desired developments take place. Municipalities have powerful vetoes. It rarely happens that developments occur against their wish. In contrast, if municipalities want a development to take place, they are frequently successful in realising it even if it contradicts existing plans. There are several other important public actors that influence land use. 23 water boards manage water related infrastructure and must be consulted by plan-making government bodies. Housing associations play an important role in the construction of residential buildings. In more densely populated areas, associations of municipalities exist that prepare joint structure and land-use plans for their territories.

Organisation of spatial and land-use planning in the Netherlands



Spatial and land-use plans

The two major types of spatial plans in the Netherlands are *Structure Plans* and *Land Use Plans*. All three levels of government must prepare *Structure Plans* that outline their main spatial policy objectives and the policies to pursue them. In addition to the general Structure Plan that is legally required all levels of government can prepare additional structure plans that deal with particular sectors or challenges. The long-term infrastructure investment programme of the national government (MIRT) receives its spatial dimension through the national Structure Plan.

Land Use Plans are the main zoning plans and form the basis on which planning applications are decided. They have varying scales with 1: 15 000 being a typical scale. *Land Use Plans* are generally prepared by municipalities, but the national government and the provinces can prepare so-called *Imposed Plans* if local plans do not correspond to national and provincial planning policies. While they are legally binding to land owners, exemptions can easily be made if they are in the interest of the plan-making body. The second type of zoning plan is the *Project Plan*. It takes precedence over *Land Use Plans* and is used to facilitate the approval of developments that contradict existing *Land Use Plans*. *Project Plans* can be made and implemented by all three levels of government. Sometimes, they are used by higher level governments to enable projects to take place which would otherwise be blocked by lower levels of government. A special type of *Project Plan* is the *Trajectory Decision* for national infrastructure projects, to which local governments cannot object. The third type of zoning plan in the Netherlands is the *Management Ordinance*. It is used for areas, where no major change in use is foreseen and restricts development possibilities. It is valid for a 10 year period. Compared to *Land Use Plans*, it has the advantage that it can be prepared more quickly and cheaply, but it does not create a legal basis for development. Lastly, *Rural Development Plans* are zoning plans for rural areas, where no major change in use is foreseen, but major changes in local infrastructure or land readjustments are required. Beyond the plans listed above, sectoral plans for water management, environmental policy in general and nature protection areas exist.

Major laws and regulations

Two main framework laws outline the Dutch spatial planning system. The *Spatial Planning Act* (including its accompanying regulations) provides the legal basis for Structure Plans, Land-use Plans, and project plans. The *Law Regulating the Development Permit* stipulates the criteria that have to be met beyond complying with land-use plans in order receive the permission to develop. Other important and strictly enforced laws related to land use are the *Nature Protection Act*, the *Environmental Act*, the *Water Act*, and the *Expropriation Act.*

Co-ordination mechanisms

Vertical co-ordination between provinces and municipalities occurs in provincial planning committees that serve as platforms for discussions between all three levels of government. If no consensus is reached there, the provincial or national government can issue ordinances that request a change in lower level plans to conform to higher level plans. If the lower level does not comply, it can be forced through directives ordering it to do so. Furthermore, national and provincial governments can directly impose land-use plans on municipalities. Horizontal co-ordination at all three levels of government occurs through the legal requirement to co-ordinate spatially relevant decisions between the responsible public authorities at the respective level of government.

Expropriations

In general cases, land can be expropriated if a proposed development is in the public interest, but the existing land owner cannot or will not carry it out. Furthermore, the proposed development must be urgent and the public body must have first tried to acquire the land amicably. This is irrespective of whether the proposed development will be carried out by a public or private investor. Furthermore, specific cases for expropriation exist, such as water safety, national defence and the readjustment of fragmented plots of land. Once the legal criteria are met, expropriation procedures are straightforward.

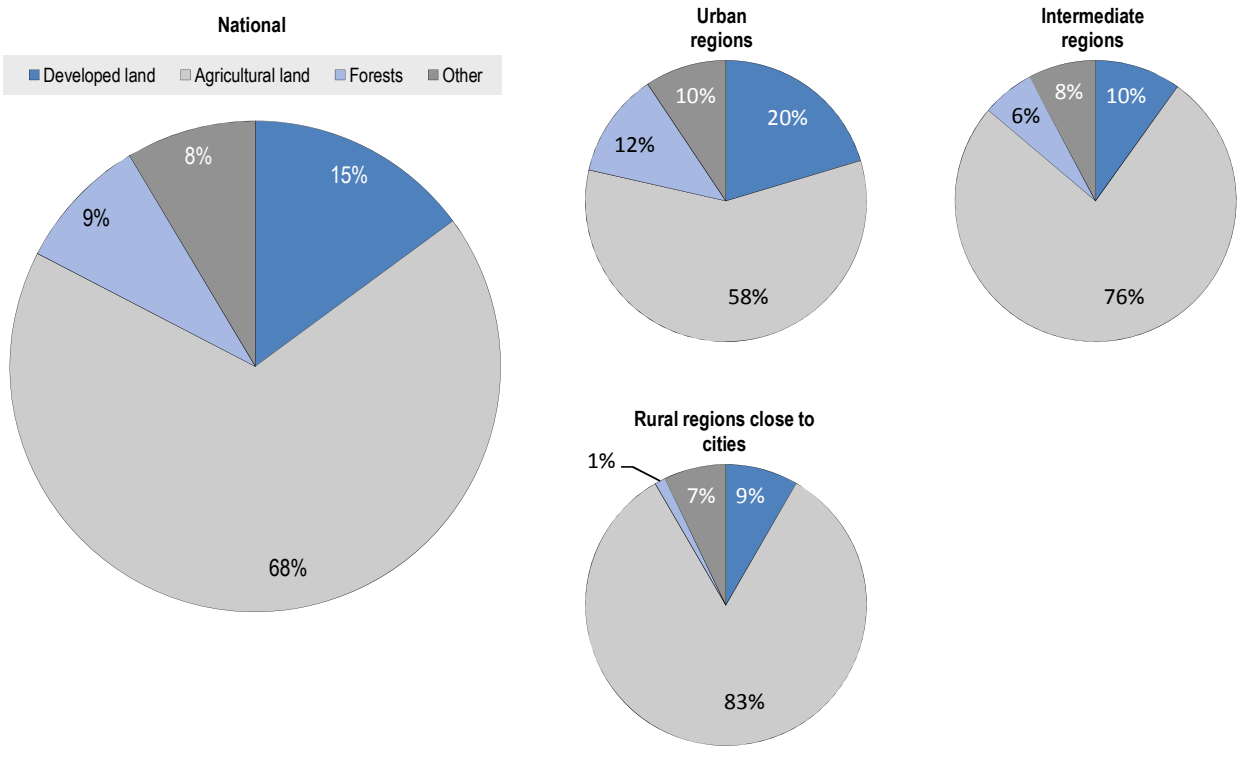
Recent and planned reforms to the system of land-use planning

The *Spatial Planning Act* of 1965 regulated spatial planning until 2008, when it was replaced by an act aimed at streamlining regulations that had become fragmented over time. The reform also strengthened national and provincial oversight over municipal decisions. At the same time, a new law to simplify planning applications was introduced. It reduced the number of required permits from 35 to 1. Some of the reforms of the *Spatial Planning Act* were reversed in 2010 to foster economic growth, which had declined since 2008. None of the reforms has affected the fundamental system of land-use governance, which has remained stable over the past decades.

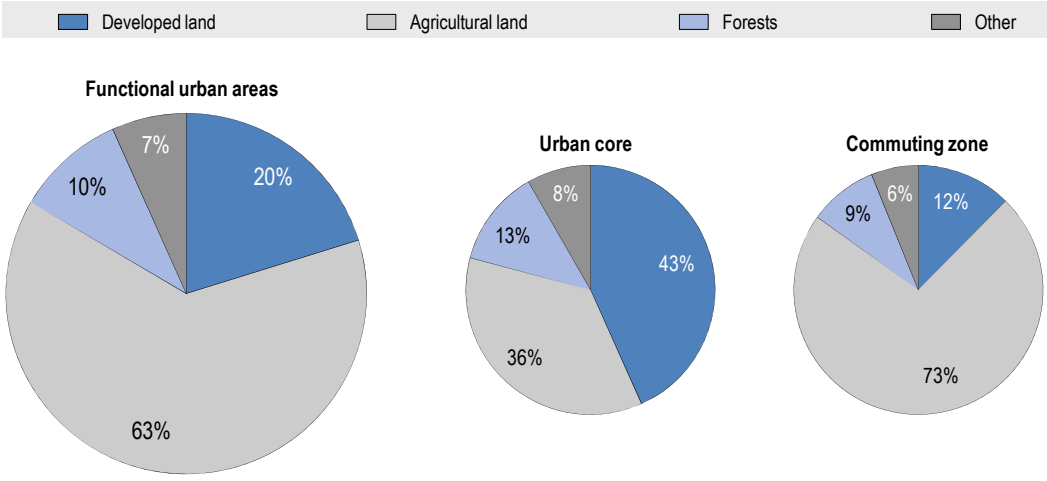
A major legislative reform is currently taking place. It has the objective to consolidate all of the national environmental legislation under one framework in the *Environment and Planning Act (Omgevingswet)*. The new act will integrate, modernise, harmonise and simplify current rules on the wide array of activities. They affect for example the environment, land-use planning, urban and rural development, water management, construction of buildings, protection of cultural heritage, and the development of major public and private works. This marks an important shift from the old environmental law dispersed across 26 separate acts into one consolidated piece of legislation. The act is expected to take effect in 2019.

Land cover in the Netherlands

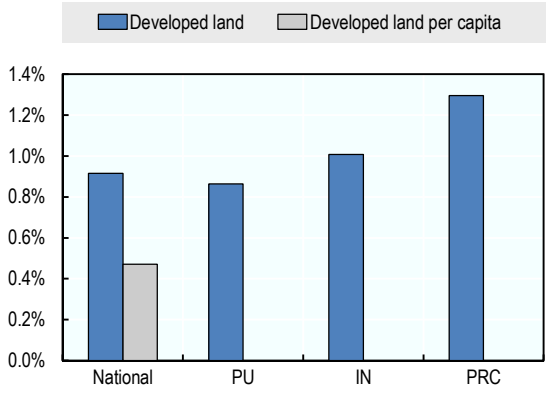
Land cover at the national level



Land cover in functional urban areas (FUAs)

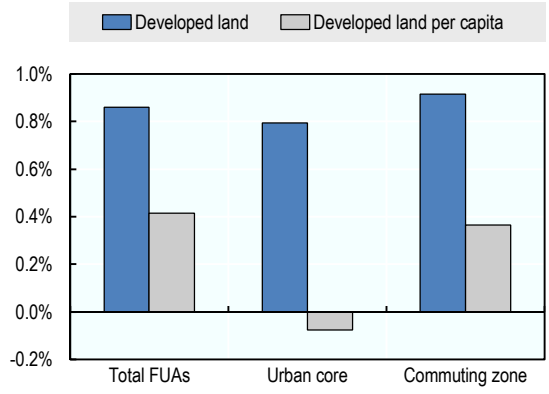


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in the Netherlands

The Netherlands is one of the most densely populated countries in the OECD, and even though land consumption on a per capita basis is low, the share of developed land relative to the total area is the second highest among all analysed countries. Agriculture plays a prominent role in the Netherlands and agriculture is by far the most common land use in all types of regions, including primarily urban ones. Whereas the commuting zones of functional urban areas are very compact by OECD standards, this is not the case for urban cores. The per capita area of developed land in urban cores is virtually identical to the OECD average. This is a sign that compact patterns of urban development can be achieved without resorting to exceptionally high densities in core parts of urban areas.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in the Netherlands

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	35 530	17 133	17 663	734	
Total developed land	5 296	3 489	1 746	61	
Percentage of total	14.9%	20.4%	9.9%	8.3%	
Annual change in developed land, 2000-12	45.7	28.5	16.5	0.7	
Annual percentage change in developed land, 2000-12	0.92%	0.86%	1.01%	1.30%	
Agricultural land	24 055	9 969	13 475	611	
Percentage of total	67.7%	58.2%	76.3%	83.3%	
Annual change in agricultural land, 2000-12	-62.1	-34.7	-25.9	-1.5	
Annual percentage change in agricultural land, 2000-12	-0.25%	-0.34%	-0.19%	-0.25%	
Forests	3 138	2 066	1 064	9	
Percentage of total	8.8%	12.1%	6.0%	1.2%	
Annual change in forests, 2000-12	-0.4	-0.6	0.3	0	
Annual percentage change in forests, 2000-12	-0.01%	-0.03%	0.02%	0%	
Land cover per capita (m²)					
Total developed land per capita	317	290	387	575	
Annual percentage change in developed land per capita, 2000-12	0.47%				
Agricultural land per capita	1 438	828	2987	5 737	
Annual percentage change in agricultural land per capita, 2000-12	-0.70%				
Forests per capita	188	172	236	86	
Annual percentage change in forests per capita, 2000-12	-0.45%				

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	17 751	4 507	13 244
Total developed land	3 586	1 952	1 634
Percentage of total	20.2%	43.3%	12.3%
Annual change in developed land, 2000-12	29.2	14.6	14.6
Annual percentage change in developed land, 2000-12	0.86%	0.78%	0.95%
Agricultural land	11 230	1 615	9 615
Percentage of total	63.3%	35.8%	72.6%
Annual change in agricultural land, 2000-12	-37.0	-16.1	-20.9
Annual percentage change in agricultural land, 2000-12	-0.3%	-1.0%	-0.2%
Forests	1 749	567	1 182
Percentage of total	9.9%	12.6%	8.9%
Annual change in forests, 2000-12	-0.4	0.1	-0.5
Annual percentage change in forests, 2000-12	-0.02%	0.02%	-0.04%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	291	246	317
Annual percentage change in developed land per capita, 2000-12	0.41%	-0.08%	0.37%
Agricultural land per capita	912	122	1 336
Annual percentage change in agricultural land per capita, 2000-12	-0.76%	-2.24%	-0.81%
Forests per capita	142	27	196
Annual percentage change in forests per capita, 2000-12	-0.46%	-0.76%	-0.55%

Note: Per capita values for land cover in TL3 regions computed using 2011 population figures.

Source: All land cover statistics for the Netherlands are based on OECD calculations based on *Corine Land Cover dataset*.

New Zealand

The planning system

Levels of government and their responsibilities

New Zealand has two tiers of subnational government (11 regions and 67 municipalities). The national government provides the framework legislation that structures the planning system and guides planning by lower levels of government. The Ministry for the Environment also acts as the responsible body for the publication of *National Environmental Standards* and *National Policy Statements* that give directions for specific environmental decisions.

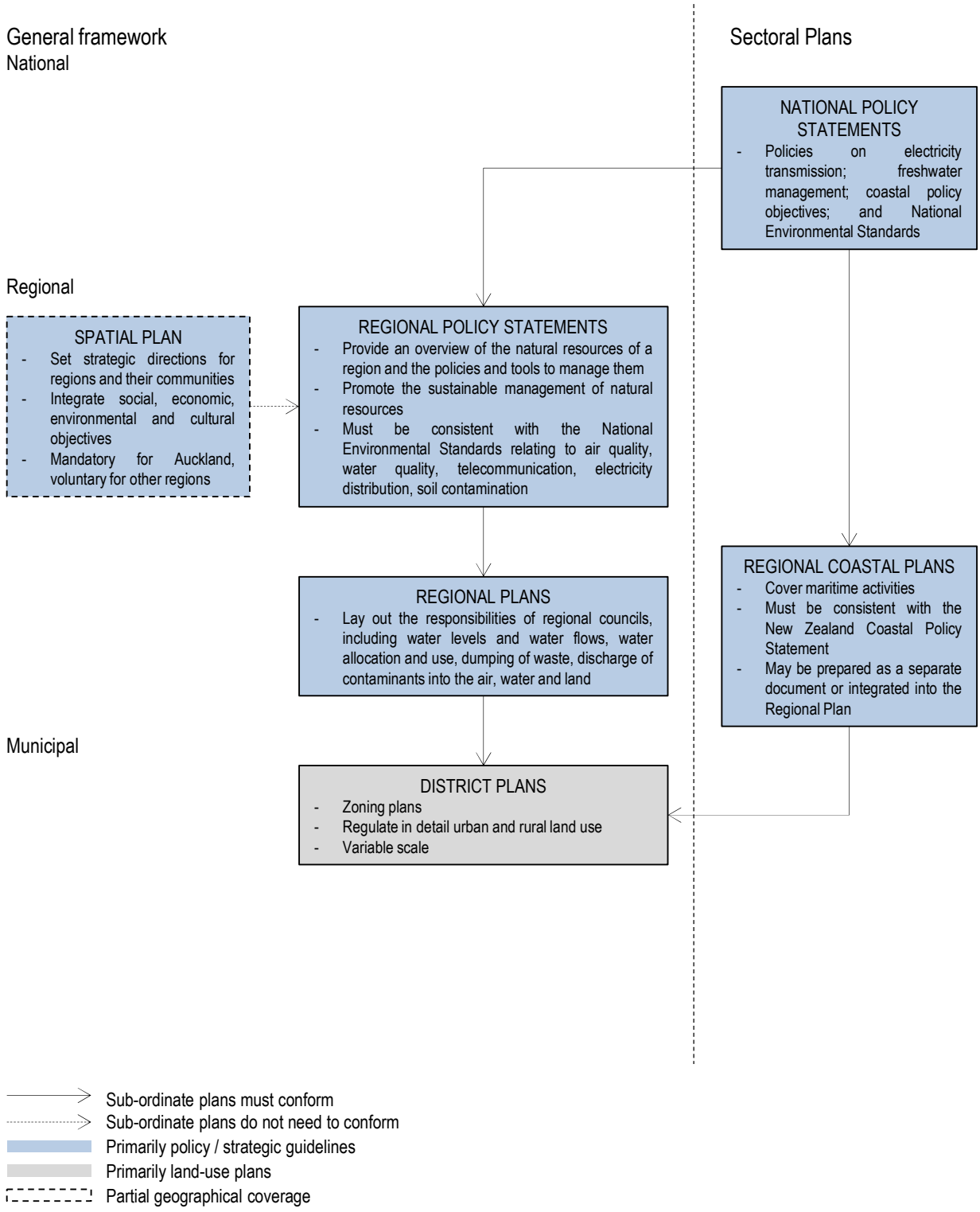
Regional councils prepare *Regional Policy Statements* to set out strategic policies for spatial development. The statements are implemented through *Regional Plans* containing strategic spatial guidelines and selected small-scale land-use regulations. Furthermore, regions develop *Regional Coastal Plans* to control all activities and uses of maritime coastal areas. In the Auckland region, an additional spatial plan gives strategic spatial directions to the subordinate regional plans.

Local authorities are in charge of zoning decisions through the *District Plans* and the granting of building permits. In New Zealand, there are 12 city councils and 55 district councils (6 of them are unitary councils with regional and territorial responsibilities). With an average of 64 550 inhabitants they are among the largest local authorities in the OECD. Unitary councils prepare *Unitary Plans* combining *Regional Plans* and *District Plans*. Local authorities may also establish local or community boards in order to represent the interests of the community and take charge of some non-regulatory functions.

Spatial and land-use plans

New Zealand's planning system follows a two-tier hierarchical structure. Regional and territorial councils are responsible for the development of spatial plans. At the national level, a general plan for the entire country does not exist, but *National Environmental Standards*, and *National Policy Statements* (including a *New Zealand Coastal Policy Statement*) must be given effect in regional and district plans. Every region adopts its own strategic framework, the *Regional Policy Statement*. The purpose of the Statement is to carry out an integrated management of the natural and physical resources of a region. *Regional Plans* must give effect to the *Policy Statement*. They are implementation plans to achieve the goals established by the statement. *Regional Plans* also have to include *Regional Coastal Plans* to regulate activities in the maritime coastal areas. The *Regional Coastal Plan* may be integrated into the *Regional Plan* or prepared as separate document.

Organisation of spatial and land-use planning in New Zealand



Territorial authorities have detailed control of land zoning through the adoption of *District Plans*. Such plans set out the requirements for public infrastructure, roads and footpaths and establish the permitted activities for each area. They also give directions for the protection of the landscape and architectural heritage. They must be consistent with the *Regional Policy Statement,* the *Regional Plan* and any national environmental standard. Once the plans are approved, they obtain the binding status of legal documents. Plans are replaced approximately every 10 years and are updated when needed.

Auckland is the only region required to have a spatial plan that provides long-term high-level strategic policies – the *Auckland Plan*. A number of other areas have however developed them voluntarily (e.g. Bay of Planty and Dunedin). Spatial Plans guide the development of regional policies and development plans such as the *Regional Policy Statement* and the *Unitary Plan* . The main objectives of the *Auckland Plan* are the integration of social, economic, environmental and cultural policies and the definition of the role of the Auckland region for New Zealand.

Major laws and regulations

The *Resource Management Act*, adopted in 1991 and amended in 2015, is the law that governs the planning system of New Zealand. The act aims to promote the sustainable management of natural and physical resources. It also provides directions for heritage protection and the planning of public works and infrastructure. Another important law is the *Environment Act* of 1986 that established the Ministry for the Environment and the Parliamentary Commissioner for the Environment. The *Local Government Act* of 2002 is the law that gives to the local governments the power to set out land-use policies. The *Land Transport Management Act* (2003) designated the New Zealand Transport Agency as the body in charge of the planning of national transport infrastructure.

Co-ordination mechanisms

The hierarchical structure of the planning system provides the vertical co-ordination between plans. Plans must be consistent with any higher level plan or water conservation order and must give effect to any national policy statement, the New Zealand coastal policy statement and any national environmental standard. Before approving a plan, horizontal co-ordination is assured by preliminary consultations between councils, ministries, adjacent local authorities, public bodies and utility providers who may be affected by the plan.

Expropriations

Private land can be expropriated for public works and infrastructure. The national government, local authorities and authorised utility providers, such as energy authorities and telecommunications providers, are the subjects with land acquisition rights. The latter bodies may be private in a legal sense; in this case the expropriation is allowed for interventions guaranteeing a public or community benefit.

Recent and planned reforms to the system of land-use planning

The current planning system in New Zealand was established in 1991 with the *Resource Management Act*. Several amendments have occurred since then; most importantly a reform in 2015 aimed to improve the efficiency of the planning system and reduce the costs of compliance and delays in the preparation of plans and in the permitting process. In 2013 the *Housing Accords and Special Housing Areas Act* was approved as a supplement to the *Resource Management Act*. The aim of the act is to simplify approval procedures for some housing projects in the Auckland area that meet the criteria outlined in the Act.

Norway

The planning system

Levels of government and their responsibilities

Norway is a unitary state with three levels of government; the national level, 19 counties and 428 municipalities. The national government has few direct responsibilities related to land-use planning. Primarily, it creates the framework laws and policy documents that structure spatial planning. Norway has a comprehensive planning system in which spatial planning and sectoral planning is done in parallel. The *Ministry of Local Affairs and Modernisation* is the national planning authority. It is not directly involved in the actual planning process except in rare cases in which the national government takes over municipal planning. The *Ministry of Climate and Environment* designate protected areas according to the biodiversity act. The national government funds major infrastructure projects, but transport authorities usually use the regional and local planning system in their planning. National level planning is rare, but is becoming more frequent, in particular the case of transport planning. More commonly, however, transport authorities and other federal authorities submit their plans to local and regional governments to be incorporated in local and regional plans. If local or regional plans conflict with national objectives, the national government can object to local plans through transport authorities or through its county commissioners that serve as its regional representatives.

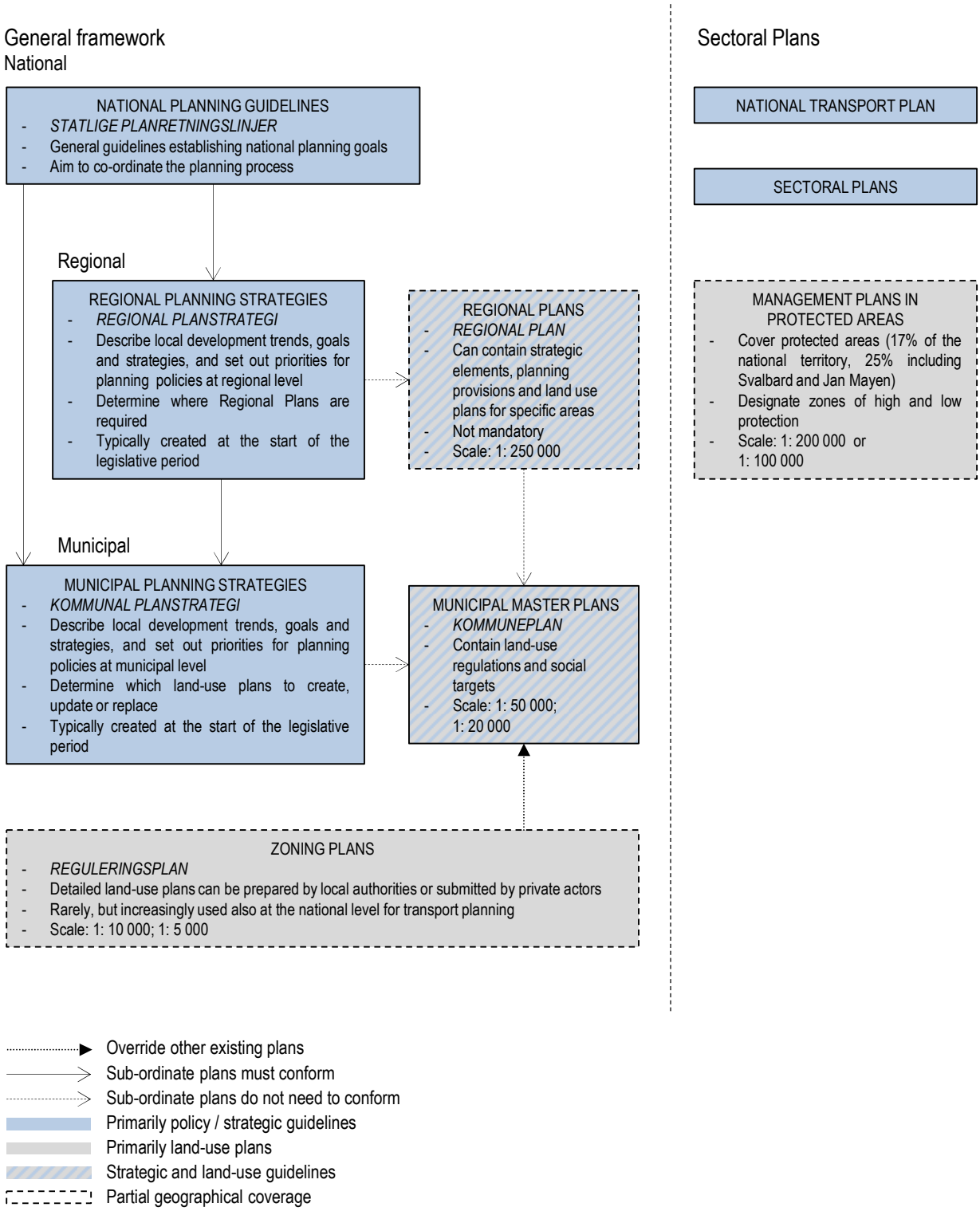
County governments serve as planning authorities and supervise planning of local governments. They are also responsible for the adoption of regional plans. These plans focus on issues of regional importance, such as land-use and transport planning, mountain and outdoor recreation planning and river and coastal planning. The influence of regional plans is limited but is increasing in urban areas where the need for inter-municipal co-ordination is greater.

Municipalities are the main planning authorities in Norway. They are responsible for the preparation and approval of local strategies, the municipal master plan and local zoning plans. In the case of local zoning plans, most plans are prepared by developers or sectoral authorities and submitted to the municipalities for political approval. If objections to planning proposals are raised, *County Commissioners* co-ordinate negotiations. If no amicable solution can be found through these negotiations the decision whether or not to approve a plan is taken by the *Ministry of Local Affairs and Modernisation*.

Spatial and land-use plans

No national spatial plan exists in Norway. At the county level, two types of plans exist. *Regional Planning Strategies* are regional development strategies that are typically prepared at the beginning of each legislative period. They describe socio-economic trends and policy objectives for the county. They are general planning documents that do not focus on the spatial dimension, but they determine the areas for which *Regional Plans* are needed. Currently, *Regional Planning Strategies* have to be approved by the national government, but there are on-going discussions to drop this requirement.

Organisation of spatial and land-use planning in Norway



Regional Plans are non-statutory plans. They are prepared as required by *Regional Planning Strategies* and contain a mix of general guidelines, strategic plans and detailed zoning plans. The land-use categories that they contain are not regulated by law and frequently vary from those in other plans. Typically, *Regional Plans* play only a minor role in the policy-making process and receive little attention unless they concern a subject of national importance. However, they can provide guidelines for regional and local planning and can contain formal objections to local plans.

At the municipal level, *Municipal Planning Strategies* play a comparable role to *Regional Planning Strategies* at the county level. They allow municipalities to specify independently which land-use plans have to be made and which have to be updated. *Municipal Master Plans* are the main spatial planning documents of municipalities. They are comprehensive plans for local development and cover all spatially relevant policy fields. They contain general guidelines, strategic plans and a land-use plan for the entire municipality. Generally, *Municipal Master Plans* are approved by municipalities, but county and national government can object to them. Currently, political priority is given to reducing the number of objections in order to strengthen local autonomy and capacity. *Municipal Master Plans* can also be imposed by the national government as *State Land Use Plans*. This is rare and primarily serves to facilitate the planning of national transport infrastructure, such as national roads, railways and airports. The scale of zoning plans in *Municipal Master Plans* varies from 1: 20 000 in small municipalities to up to 1: 200 000 in the largest municipalities.

Zoning Plans are the most detailed plans and typically have scales of 1: 5 000 or 1: 10 000. They are mostly prepared for areas for which development is foreseen, but are also used to protect areas from development. There are two kinds of local zoning plans; public plans made by the planning authority and submitted plans made by private actors and public authorities. Between 80% and 90% of all *Zoning Plans* are prepared by private developers and public authorities. These plans are submitted to municipalities for political approval. As in the case of *Municipal Master Plans*, the national government and in particular transport authorities can also impose their own *Zoning Plans* on municipalities.

Land Conservation Management Plans are sectoral plans for protected areas and national parks that specify the level of protection and allowed use. They contain small scale zoning regulation, typically at scales of 1: 100 000 or 1: 200 000.

Major laws and regulations

Besides the framework legislation provided by the *Planning and Building Act*, three laws are particularly important in determining land use. First, the *Act for Biodiversity* concerns nature conservation, the protection of species and other environmental issues. It affects protected areas, outdoor activities, second homes, hydropower, agriculture, forestry and fish farming. Second, the *Cultural Heritage Act* affects primarily urban areas. Third, the *Agricultural Act* affects rural areas and tries to limit the loss of agricultural land to urban sprawl. In addition to these three acts, a variety of other laws and regulations affect land-use planning.

Co-ordination mechanisms

To foster co-ordination, all public authorities must inform each other early in the planning process about their proposed policies. In order to foster vertical co-ordination, regular meetings between regional and local authorities are held. Horizontal co-ordination occurs primarily through the planning process of the *Regional Plans* and *Municipal Master Plans*, which involve all concerned public authorities.

Expropriations

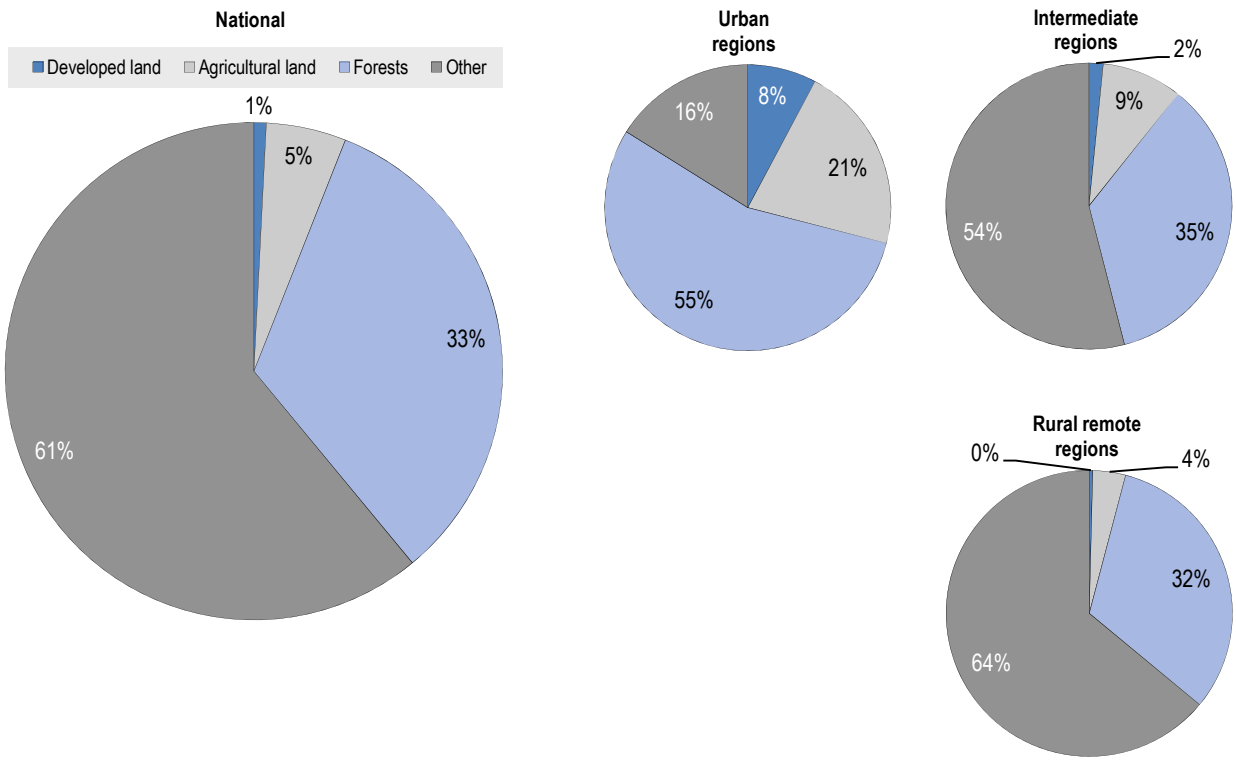
Land can be expropriated by the government and by public organisations that have been granted this power. The law specifies 55 reasons for expropriation including the construction of public building and infrastructure, housing and some commercial undertakings. While all levels of government can expropriate land, nowadays it is primarily used by national transport authorities and rarely by local governments.

Recent and planned reforms to the system of land-use planning

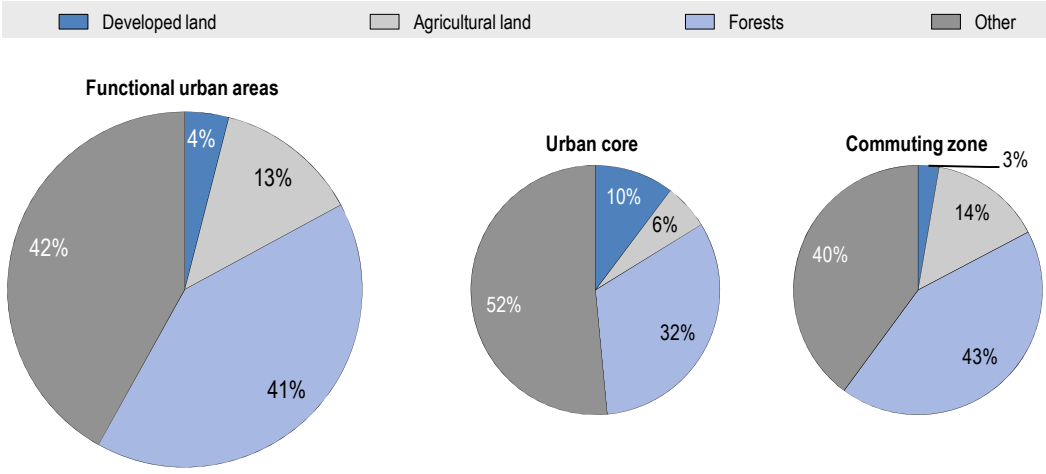
The first nation-wide planning system was established in Norway in 1965 in order to co-ordinate spatial planning and economic planning. In 1985, the system was transformed into a comprehensive planning system that integrated different kinds of planning for mountain and costal planning and transport planning. At the same time, private developers gained the right to submit privately prepared plans to municipalities and local participation in the planning process was strengthened. A major reform was conducted in 2008, when the planning system was made more flexible with the introduction of the *Regional* and *Local Planning Strategies*, which allow counties and municipalities to determine independently for which areas to prepare plans. This reform also gave submitted zoning plans a more formal role and introduced procedural requirements for them. The most recent major reform occurred in 2014, when responsibility for planning was transferred from the *Ministry of the Environment* where it had resided since 1972 to the *Ministry of Local Affairs and Modernisation*.

Land cover in Norway

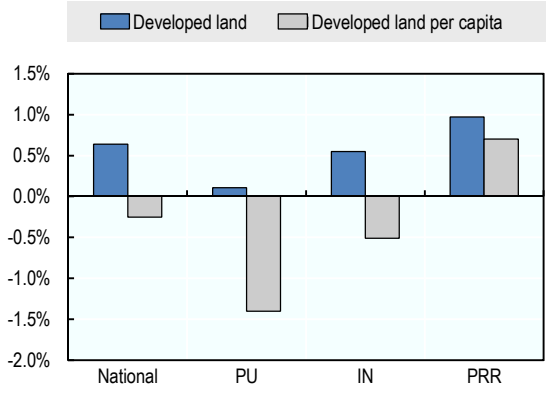
Land cover at the national level



Land cover in functional urban areas (FUAs)

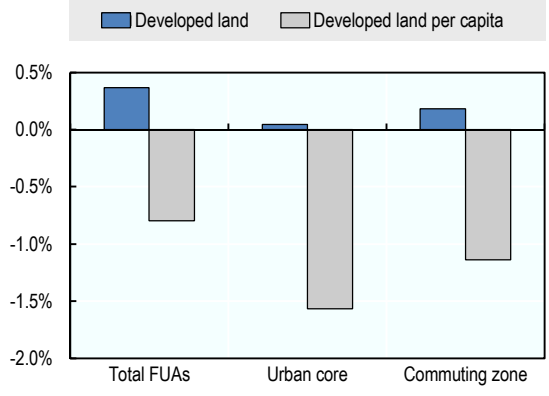


Annual change in developed land, 2000-12



Note: PU: Urban regions, IN: Intermediate regions, PRR: Rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Norway

Norway has a very low share of developed land and of agricultural land with 1% and 5% of the total land mass, respectively. Its per capita area of developed land is only slightly higher than OECD average and below that of other northern European countries. Little growth in developed land since 2000 has taken place in urban areas. As population increased significantly, per capita use of developed land declined strongly in these areas. In contrast, in rural areas, the growth of developed land was approximately proportional to the increase in population.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Norway

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	32 4000	5 362	72 123		246 515
Total developed land	2 651	418	1 185		1 048
Percentage of total	0.8%	7.8%	1.6%		0.4%
Annual change in developed land, 2000-12	16.3	0.4	6.3		9.6
Annual percentage change in developed land, 2000-12	0.64%	0.11%	0.55%		0.97%
Agricultural land	16 778	1 136	6 583		9 059
Percentage of total	5.2%	21.2%	9.1%		3.7%
Annual change in agricultural land, 2000-12	-1.0	0.02	-1.3		0.3
Annual percentage change in agricultural land, 2000-12	-0.01%	0.001%	-0.02%		0.003%
Forests	106 978	2 941	25 439		78 598
Percentage of total	33.0%	54.9%	35.3%		31.9%
Annual change in forests, 2000-12	-209.8	-15.7	-48.4		-145.8
Annual percentage change in forests, 2000-12	-0.19%	-0.52%	-0.19%		-0.18%
Land cover per capita (m²)					
Total developed land per capita	532	357	542		643
Annual percentage change in developed land per capita, 2000-12	-0.26%	-1.40%	-0.51%		0.70%
Agricultural land per capita	3 365	971	3 012		5 556
Annual percentage change in agricultural land per capita, 2000-12	-0.90%	-1.51%	-1.07%		-0.26%
Forests per capita	21 456	2 515	11 638		48 207
Annual percentage change in forests per capita, 2000-12	-1.08%	-2.02%	-1.24%		-0.45%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	24 237	4 169	20 068
Total developed land	978	429	549
Percentage of total	4.0%	10.3%	2.7%
Annual change in developed land, 2000-12	3.5	1.0	2.5
Annual percentage change in developed land, 2000-12	0.37%	0.23%	0.48%
Agricultural land	3 168	247	2 921
Percentage of total	13.1%	5.9%	14.6%
Annual change in agricultural land, 2000-12	-0.7	-0.2	-0.5
Annual percentage change in agricultural land, 2000-12	-0.02%	-0.08%	-0.02%
Forests	9 938	1 345	8 593
Percentage of total	41.0%	32.3%	42.8%
Annual change in forests, 2000-12	-27.9	-1.1	-26.8
Annual percentage change in forests, 2000-12	-0.28%	-0.08%	-0.31%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	419	225	527
Annual percentage change in developed land per capita, 2000-12	-0.80%	-1.57%	-1.14%
Agricultural land per capita	1 356	22	2 340
Annual percentage change in agricultural land per capita, 2000-12	-1.18%	-1.61%	-1.32%
Forests per capita	4 255	430	5 379
Annual percentage change in forests per capita, 2000-12	-1.43%	-1.84%	-1.91%

Source: All land cover statistics for Norway are based on OECD calculations based on *Corine Land Cover dataset*.

Poland

The planning system

Levels of government and their responsibilities

Poland has 4 levels of government; the national government, 16 regional governments (*Voivodeship*), 380 intermediate governments (*Powiat*) and 2 478 local governments (*Gmina*). Concerning land use, the national level, regional level and local level have relevant powers.

The national government has a direct role in spatial planning through its responsibility for developing a national spatial development concept. It is also responsible for the *Spatial Planning and Development Act*, which is the framework law for the planning system, and for other laws that affect land use directly and indirectly. Furthermore, the national government influences land use through its responsibility for large infrastructure investments.

Voivodeships play a limited role in spatial planning through their responsibility for *Regional Spatial Plans*. *Powiats* have only minor functions related to planning. The head of a *Powiat* issues non-binding opinions on local plans. In special circumstances, the *Powiat* may also establish an architectural commission. *Powiats* are also responsible for issuing planning permissions in those areas. However, due to the national legislative framework, they have much less discretion in influencing land use in areas that are not covered by land-use plans than in areas that are covered.

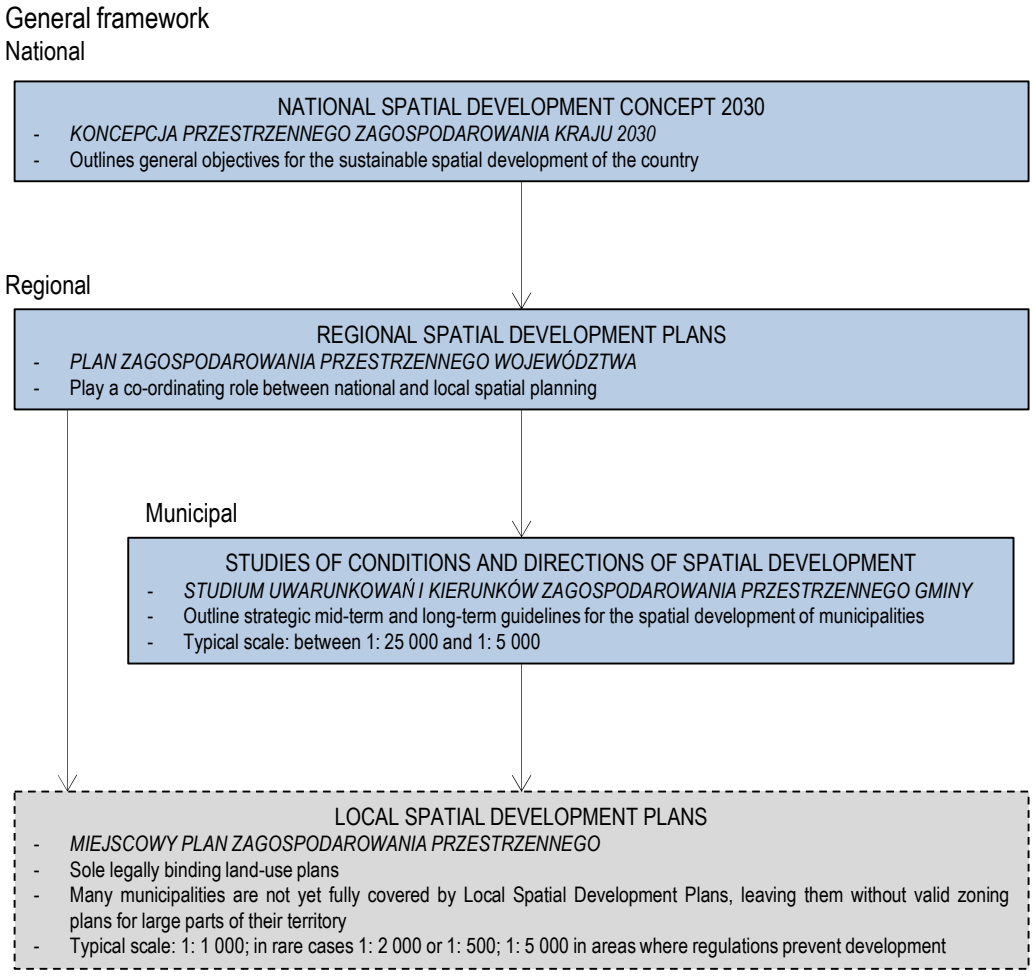
The main actors in land-use planning are local governments. They have responsibility for creating and approving *Local Spatial Development Plans*, which are the only legally binding zoning plans in Poland even though large parts of cities are not covered by them. Furthermore, they may prepare *Spatial Studies* that provide visions and non-binding concepts for areas of varying size.

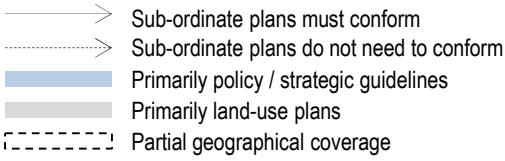
Spatial and land-use plans

Formally, Poland has a hierarchical planning system with plans at the national, regional and local level. In between regional and local plans, the legal possibility for the preparation of metropolitan plans exists, but no such plan has been adopted, yet. In practice, the influence of higher level plans on subordinate plans remains limited.

The *National Spatial Development Concept 2030* provides general policy guidelines primarily related to settlement patterns, transport and environmental aspects. At an intermediate level, *Regional Spatial Plans* spell out regional development strategies and provide guidelines for local land-use plans. They also demarcate restricted areas (for example military bases), flood prone areas and mining areas.

Organisation of spatial and land-use planning in Poland





Note:
The Metropolitan Association Act of 2015 introduced the possibility to develop a new planning instrument, the Framework Study for Metropolitan Areas.
As of the time of writing, no such plan has been approved yet.

The only binding land-use plans in Poland are the *Local Spatial Development Plans,* which are typically drawn at a large scale of 1: 500 in densely built-up areas and at lower scales up to 1: 2 000 in in less densely developed areas. Although *Local Spatial Development Plans* are supposed to steer development and urbanisation and municipalities are required to prepare them, the process to prepare plans has not been completed and there are still large gaps in plan coverage. Affected municipalities do not have any legally binding zoning plan for large parts of their territory. Legally, *Local Spatial Development Plans* are required to follow the *Regional Spatial Development Plan*. However, there are no enforcement mechanisms to ensure that local plans actually adhere to regional ones. As a consequence,

Local Spatial Development Plans are in practice rarely constrained by the *National Spatial Development Concept 2030* or by *Regional Spatial Development Plans*.

Municipalities and regional governments may prepare a second planning document, the *Spatial Study*. It is a strategic document at the local level that outlines the main spatial development objectives of municipalities. It can, but does not necessarily, include detailed land-use plans at scales between 1: 5 000 and 1: 25 000. The main function of the *Spatial Study* is the development of a vision for the municipality. While it is not a statutory instrument, it must be considered in the preparation of *Local Spatial Development Plans.*

Major laws and regulations

The *Spatial Planning and Development Act* is the main framework law that spells out the responsibilities of the three levels of government and describes the legal requirements of the planning process. Importantly, it also provides the rules under which planning permission must be granted if an area is not covered by a *Local Spatial Development Plan*. As large parts of some cities are currently without such a plan, this procedure is an important element in the Polish land-use planning system. The *Real Estate Management Act* contains detailed rules for the management of plots of land. The *Railway Transport Act* and the *Act on Special Rules for the Preparation and Implementation of Investment in Roads* contain the major rules for transport infrastructure investment.

In the absence of an overarching strategic framework that can steer development, a large number of sectoral acts have been approved to guide development in specific contexts. Among them are acts on the preparation of the UEFA Euro 2012, on investments in public airports, on a liquefied natural gas terminal, on telecommunication networks, on flood prevention infrastructure, and on nuclear power plants. As of the time of writing, similar acts are under preparation.

Co-ordination mechanisms

Vertical co-ordination of spatial planning policies is formally provided through the hierarchical relationship between the different levels of government. Furthermore, lower level plans are required to conform to higher level ones. However, in practice the *National Spatial Development Concept 2030* and *Regional Spatial Development Plans* lack the instruments to shape local planning. Local *Spatial Development Plans* also have to be approved by the regional level of government (*Voivodeship*). Horizontal co-ordination occurs primarily on the local level during the planning process through a consultation process that requires public authorities in several sectors to approve local plans. Furthermore, a large number of bodies may issue opinions on local plans without having the power to veto them.

Expropriation

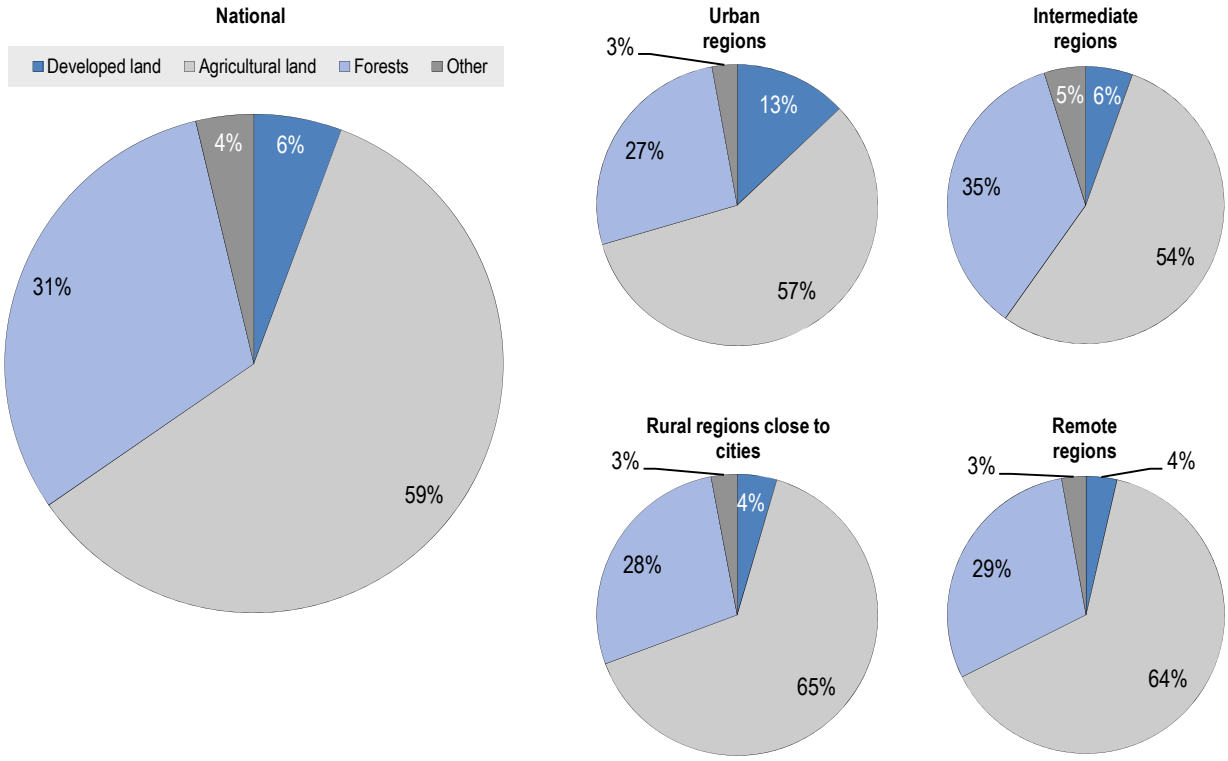
Land can be expropriated for a limited set of public investment projects that are listed in a specific catalogue. Land cannot be expropriated for private uses. If revised or newly established land-use plans restrict the development potential of land, land owners may demand compensation from public authorities.

Recent and planned reforms to the system of land-use planning

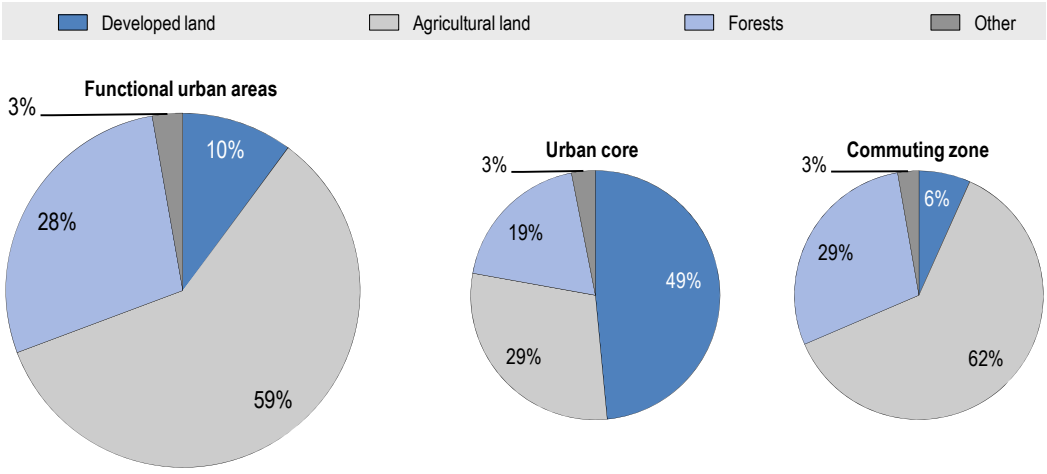
A modern decentralised spatial planning system was created in 1994 after the fall of communism. In 2003, the spatial planning system was significantly modified. As a consequence of this reform, all municipal land-use plans adopted before 1995 became invalid. Subsequently, the preparation and adoption of new plans has been slow and municipalities frequently have large areas that are not covered by a valid new plan.

Land cover in Poland

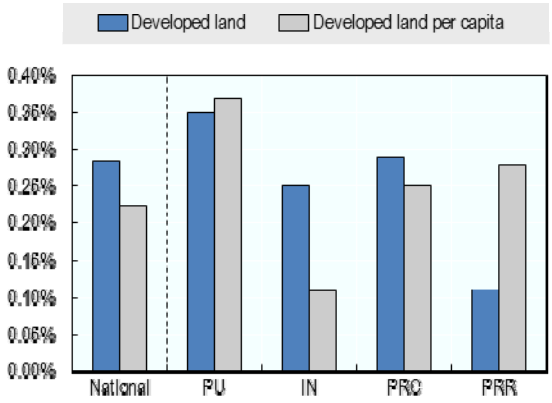
Land cover at the national level



Land cover in functional urban areas (FUAs)

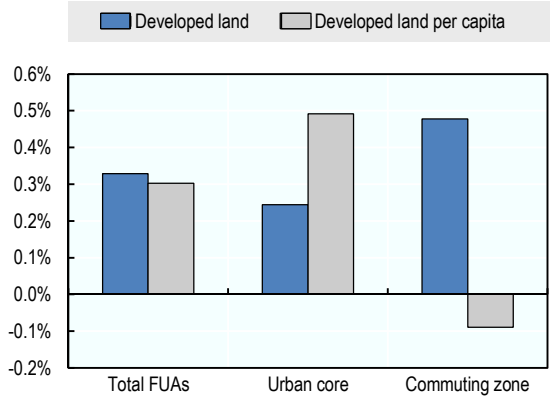


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Poland

Agriculture is the dominating land use in Poland. With 59% of the total territory, the share of agricultural land is higher than in many other OECD countries. The use of developed land is close to the OECD average on a per capita basis with 462 square metres. Since 2000, it has increased slowly, but steadily, both in absolute terms and in per capita terms. Developed land grew especially strongly in primarily urban regions. Functional urban areas experienced a strong growth of developed land in their commuting zones and lower growth within urban cores. This trend has been accompanied by population movement from the urban cores into the commuting zones of functional urban areas.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Poland

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	311 927	29 144	132 098	144 704	5 980
Total developed land	17 795	3 783	7 237	6 558	216
Percentage of total	5.7%	13.0%	5.5%	4.5%	3.6%
Annual change in developed land, 2000-12	49.8	13.0	17.8	18.7	0.2
Annual percentage change in developed land, 2000-12	0.29%	0.35%	0.25%	0.29%	0.11%
Agricultural land	186 193	16 762	718 14	93 790	3 827
Percentage of total	59.7%	57.5%	54.4%	64.8%	64.0%
Annual change in agricultural land, 2000-12	-93.7	-14.8	-50.2	-28.0	-0.7
Annual percentage change in agricultural land, 2000-12	-0.05%	-0.09%	-0.07%	-0.03%	-0.02%
Forests	96 225	7 758	46 657	40 043	1 767
Percentage of total	30.8%	26.6%	35.3%	27.7%	29.5%
Annual change in forests, 2000-12	-27.0	4.1	-25.9	-4.3	-0.9
Annual percentage change in forests, 2000-12	-0.03%	0.05%	-0.06%	-0.01%	-0.05%
Land cover per capita (m²)					
Total developed land per capita	462	349	487	523	699
Annual percentage change in developed land per capita, 2000-12	0.23%	0.37%	0.11%	0.25%	0.28%
Agricultural land per capita	4 831	1 544	4 837	7 486	12 364
Annual percentage change in agricultural land per capita, 2000-12	-0.11%	-0.07%	-0.21%	-0.07%	0.15%
Forests per capita	2 497	715	3 142	3 196	5 707
Annual percentage change in forests per capita, 2000-12	-0.09%	0.07%	-0.19%	-0.05%	0.12%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	81 416	6 642	74 774
Total developed land	8 231	3 221	5 010
Percentage of total	10.1%	48.5%	6.7%
Annual change in developed land, 2000-12	26.5	6.5	19.9
Annual percentage change in developed land, 2000-12	0.33%	0.21%	0.41%
Agricultural land	48 178	1 949	46 229
Percentage of total	59.2%	29.3%	61.8%
Annual change in agricultural land, 2000-12	-35.7	-6.4	-29.3
Annual percentage change in agricultural land, 2000-12	-0.07%	-0.32%	-0.06%
Forests	22 747	1 267	21 480
Percentage of total	27.9%	19.1%	28.7%
Annual change in forests, 2000-12	0.4	-0.4	0.8
Annual percentage change in forests, 2000-12	0.002%	-0.03%	0.004%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	390	230	557
Annual percentage change in developed land per capita, 2000-12	0.30%	0.49%	-0.09%
Agricultural land per capita	2 284	115	3 797
Annual percentage change in agricultural land per capita, 2000-12	-0.10%	-0.22%	-0.65%
Forests per capita	1 079	75	1 390
Annual percentage change in forests per capita, 2000-12	-0.02%	0.27%	-0.52%

Source: All land cover statistics for Poland are based on OECD calculations based on *Corine Land Cover dataset*.

Portugal

The planning system

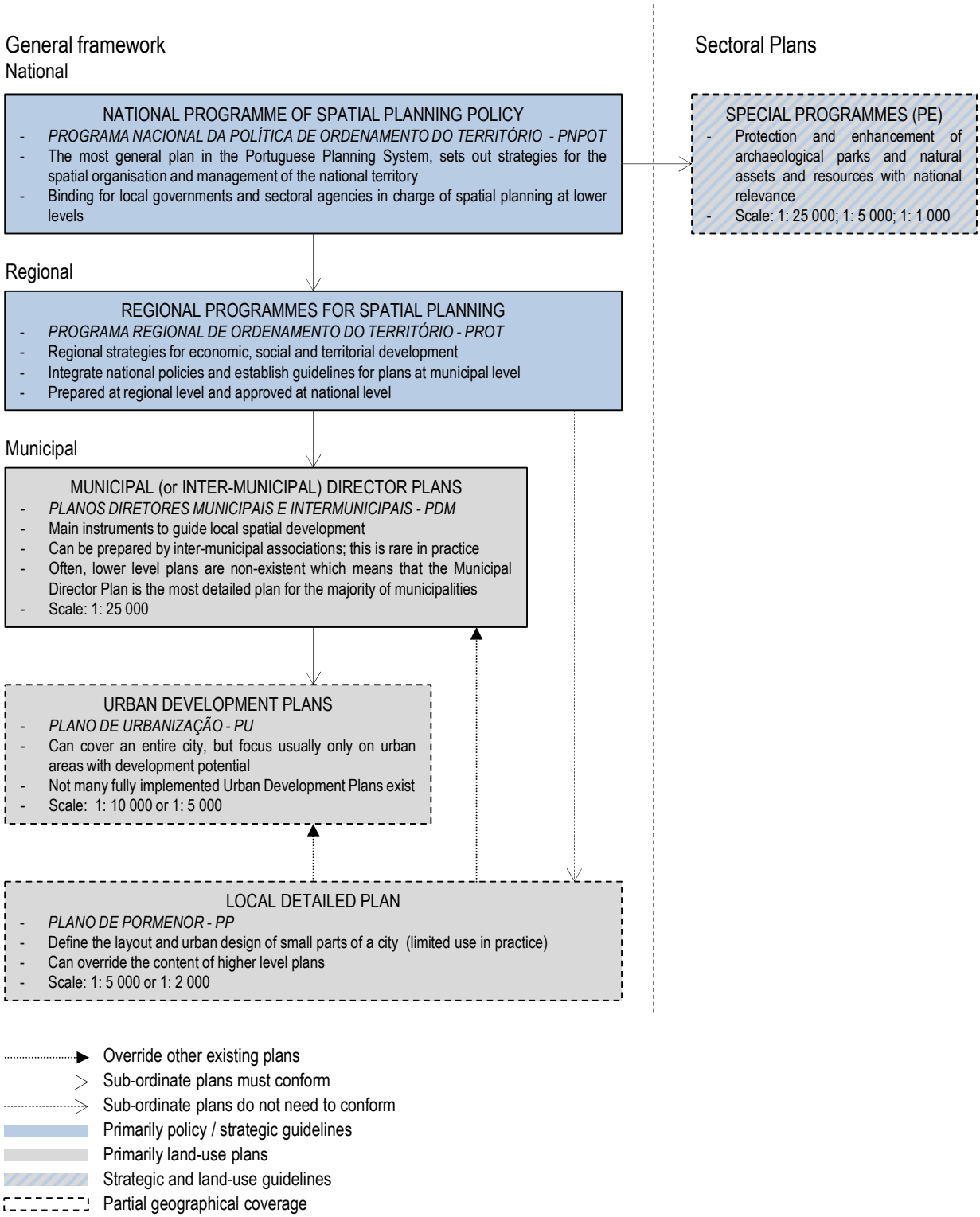
Levels of government and their responsibilities

Portugal is a unitary state with two levels of government; the national level and 308 municipalities. Furthermore, two autonomous regions exist (the islands of the Azores and of Madeira). The national government has four distinct functions related to land-use policies. First, it provides the legal framework that regulates planning at the national, regional and local level. Second, it defines national and sectoral strategic policies aimed at integrated, cohesive and sustainable territorial development of the country. Third, it allocates national and EU funds to specific territories and projects. With respect to spatial planning, funds for transport infrastructure have been especially important. Fourth, it provides technical assistance for regional and municipal planning. The spatial dimension of these four functions is spelled out in the *National Programme of Spatial Planning Policies* and *Special Programmes* for particular regions. The national government also supervises the *Regional Co-ordination and Development Commissions*. They are de-concentrated branches of the Ministry for the Environment and have administrative and fiscal autonomy. They co-ordinate national and local policies related to environmental and spatial planning and prepare the *Regional Spatial Development Programmes*.

Municipalities exercise their responsibility for land use primarily through the preparation of one of the three local land-use plans (see below). For the preparation of the most important of the three local land-use plans – the *Municipal Director Plan* – municipalities have recently been encouraged by law to form inter-municipal associations to plan jointly, but as of the time of writing it is too early to evaluate the receptiveness to this new inter-municipal planning practice. Beyond their immediate responsibility for land-use planning, municipalities also affect land use through their responsibility for the construction of public buildings and municipal infrastructure.

Several other public authorities and public companies affect land-use policies in Portugal. Most of them are controlled by the national government. Among them is the *Institute for Nature Preservation and Forestry* that is responsible for ensuring that land-use planning follows sustainable development principles. It has a co-ordination role between different public bodies and is represented on the advisory committees for *Municipal Director Plans*. For cultural heritage protection, a similar role is played by the *Institute of Architectural and Archaeology Heritage Management*. Other important public organisations are the *Regional Hydrographical Institutes* that manage water resources and *Infrastructures of Portugal* that are responsible for the financing, construction and maintenance of the road and rail network.

Organisation of spatial and land-use planning in Portugal



Spatial and land-use plans

The *National Programme of Spatial Planning Policies* is the most general plan in the Portuguese planning system and the only one that is approved directly by parliament instead of regulatory decision. It covers all spatially relevant policy fields, contains objectives for the spatial development of the country and provides guidelines for the planning process at regional and local levels. It is complemented by *Special Programmes* that are prepared at the national level and target areas with particularly high environmental and/or cultural significance, such as the coastlines, natural parks and archaeological parks. *Special Programmes* contain general guidelines on the management of these sites, but also detailed land-use plans.

Regional Programmes for Spatial Planning are prepared by the *Regional Co-ordination and Development Commissions* and approved at the national level, except in the cases of the two autonomous regions, where they are approved by the respective regional governments. Their main function is to translate national spatial planning policies into regional ones, to connect them to municipal policies and to plan major infrastructure investments at the regional level.

At the local level, three types of land-use plans exist. The most important plan is the *Municipal* (or *Inter-municipal) Director Plan*. As mentioned above, it can be prepared by municipalities and inter-municipal associations, but the latter case is rare in practice. All municipalities are required to have their entire territory covered by a *Municipal Director Plan*. Usually, it contains both strategic elements and land-use plans at a scale of 1: 25 000. According to the legislation, *Municipal Director Plans* are supposed to be complemented by two more detailed plans; the *Urban Development Plan* and the *Local Detailed Plan*. As these plans often do not exist, *Municipal Director Plans* are frequently the only existing statutory land-use plans and contain more detailed regulations than foreseen by the legislation.

Urban Development Plans are supposed to provide comprehensive zoning regulations for a significant part or the entire urban territory of a municipality. Although Portuguese legislation established them several decades ago, they are not common especially in small and medium-sized towns and even many larger cities are not fully covered by them. Instead, their function is often covered by *Municipal Director Plans*.

The lowest level land-use plans are *Local Detailed Plans*. They typically cover small neighbourhoods of particular importance for urban development at scales of 1: 5 000 or 1: 2 000. *Local Detailed Plans* have a particular place in the Portuguese planning system because they can override the regulations of higher level plans. As their preparation and approval process is complex and time consuming they are only used rarely.

Major laws and regulations

The *Law of Public Policy on Soil, Land-use Planning and Urban Planning* contains the framework legislation for the planning system. Together with its associated regulations and building code regulations, it is the most important legal text related to land-use planning. Other important laws and regulations are the regulations concerning environmental assessment, including *Strategic Environmental Assessment* and *Environmental Impact Assessment*, the *Water Law*, the *Code of Expropriations* and the implementation of the *EU Natura 2000* regulations.

Co-ordination mechanisms

Horizontal co-ordination occurs through the so-called *Government Service Conferences* that are scheduled at specific points in time during the planning process and assemble the

relevant public actors. Vertical co-ordination on an on-going basis is provided by the *Regional Co-ordination and Development Commissions* that have the task of connecting spatially relevant national and local policies.

Expropriations

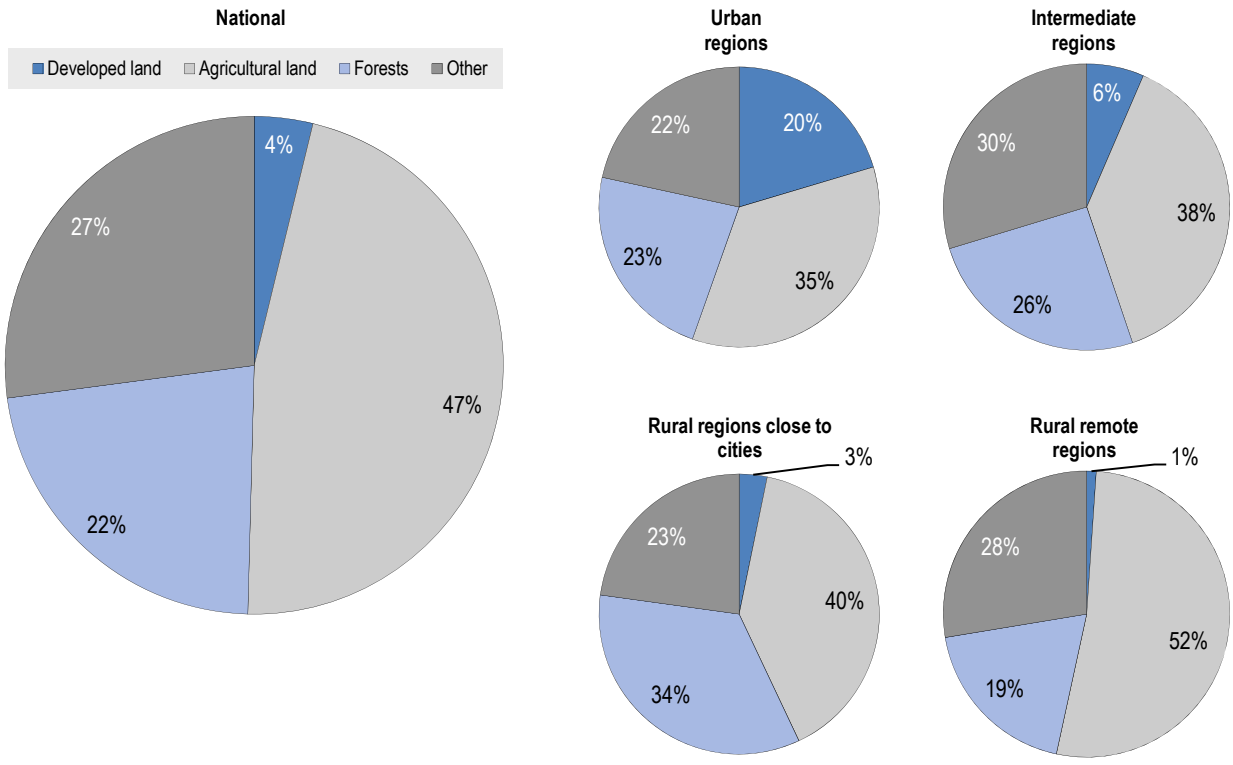
Expropriations of land are possible and common for a wide range of reasons such as the implementation of urban and rural regeneration programmes, spatial development programmes and transport and logistics infrastructure projects. However, land can only be expropriated into public ownership. Prior to expropriation, public authorities must attempt to buy land amicably and identify clearly the public benefit of the planned development.

Recent and planned reforms to the system of land-use planning

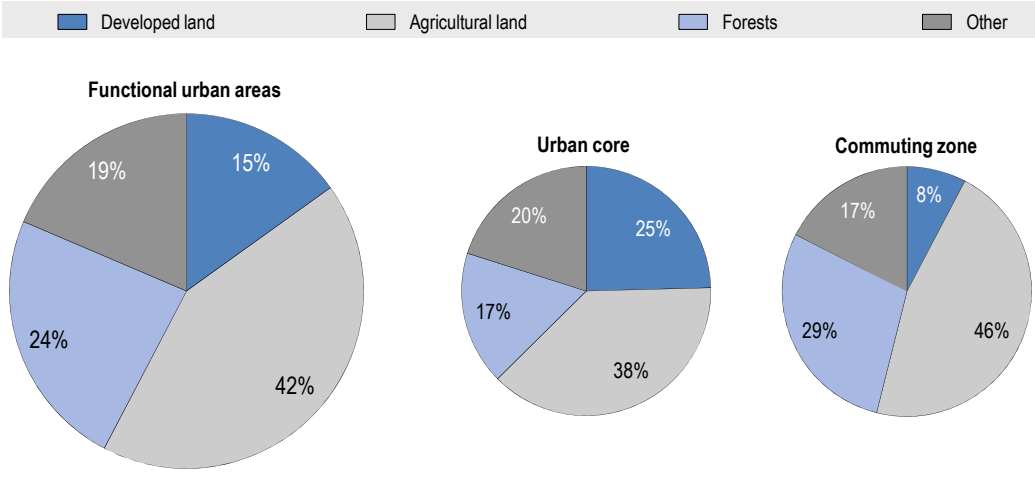
A major reform of the spatial planning system in Portugal took place in 2014/15. It aimed at strengthening the strategic dimension of the planning process. It created a clearer division between programmes on the national and regional levels that have primarily a strategic component and plans at local level that serve primarily to regulate specific land use. It also created the possibility for municipalities to form inter-municipal entities for joint planning and for changing land-use categories in an attempt to contain urban expansion. Furthermore, the reform streamlined the division of tasks between local and national governments and introduced monitoring requirements for programmes and plans.

Land cover in Portugal

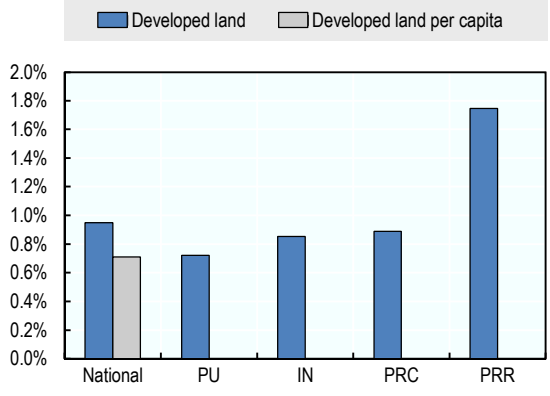
Land cover at the national level



Land cover in functional urban areas (FUAs)

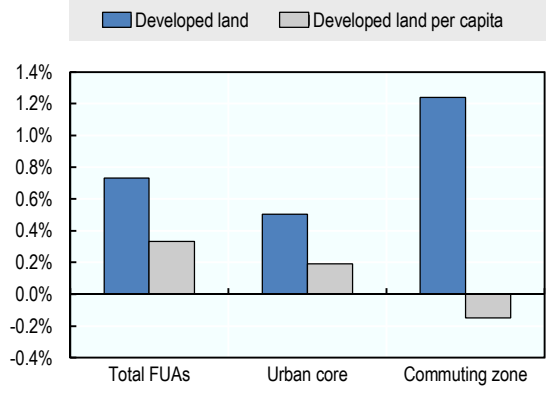


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Portugal

Portugal has experienced fast growth of developed land. At an annual rate of more than 0.9%, growth of developed land was the fourth highest within the OECD. In per capita terms, the annual growth rate of 0.7% is the second highest within the OECD. Despite these high growth rates between 2000 and 2012, the area of developed land per capita is still slightly below OECD average with 335 square metres. Besides the increase in developed land, a strong decline in land covered by forests is noticeable in Portugal. Annually, forested land decreased by 1.2%, which corresponds to a total decline of 13.5% between 2000 and 2012.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Portugal

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	92 032	6 574	18 951	11 497	55 009
Total developed land	3 527	1 344	1 230	363	589
Percentage of total	3.8%	20.4%	6.5%	3.2%	1.1%
Annual change in developed land, 2000-12	31.5	9.3	9.9	3.0	9.2
Annual percentage change in developed land, 2000-12	0.95%	0.72%	0.85%	0.89%	1.75%
Agricultural land	42 920	2 301	7 266	4 578	28 776
Percentage of total	46.6%	35.0%	38.3%	39.8%	52.3%
Annual change in agricultural land, 2000-12	-48.1	-4.8	-6.1	-2.0	-35.2
Annual percentage change in agricultural land, 2000-12	-0.11%	-0.21%	-0.08%	-0.04%	-0.12%
Forests	20 737	1 509	4 830	3 928	10 470
Percentage of total	22.5%	23.0%	25.5%	34.2%	19.0%
Annual change in forests, 2000-12	-268.1	-18.1	-36.4	-37.9	-175.7
Annual percentage change in forests, 2000-12	-1.19%	-1.11%	-0.72%	-0.91%	-1.52%
Land cover per capita (m²)					
Total developed land per capita	335				
Annual percentage change in developed land per capita, 2000-12	0.71%				
Agricultural land per capita	4 071				
Annual percentage change in agricultural land per capita, 2000-12	-0.35%				
Forests per capita	1 967				
Annual percentage change in forests per capita, 2000-12	-1.43%				

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	10 180	4 449	5 731
Total developed land	1 539	1 095	444
Percentage of total	15.1%	24.6%	7.7%
Annual change in developed land, 2000-12	10.7	6.5	4.3
Annual percentage change in developed land, 2000-12	0.73%	0.61%	1.03%
Agricultural land	4 339	1 691	2 648
Percentage of total	42.6%	38.0%	46.2%
Annual change in agricultural land, 2000-12	-5.2	-2.6	-2.6
Annual percentage change in agricultural land, 2000-12	-0.12%	-0.15%	-0.10%
Forests	2 408	771	1 637
Percentage of total	23.7%	17.3%	28.6%
Annual change in forests, 2000-12	-20.4	-9.4	-10.9
Annual percentage change in forests, 2000-12	-0.80%	-1.13%	-0.64%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	265	212	385
Annual percentage change in developed land per capita, 2000-12	0.33%	0.19%	-0.15%
Agricultural land per capita	746	191	2 272
Annual percentage change in agricultural land per capita, 2000-12	-0.51%	-0.54%	-1.51%
Forests per capita	414	59	995
Annual percentage change in forests per capita, 2000-12	-1.19%	-1.56%	-1.85%

Source: All land cover statistics for Portugal are based on OECD calculations based on *Corine Land Cover dataset*.

Slovak Republic

The planning system

Levels of government and their responsibilities

The Slovak Republic is a unitary state with three levels of government. It has 8 regional and 2 926 municipal governments. The national government is primarily involved in land-use policy through the *Ministry for Transport, Construction and Regional Development*. The ministry guides lower level planning processes and ascertains that planning documents correspond to the legal requirements. It also procures the *Slovak Spatial Development Perspective* that forms the national spatial development strategy and allocates funding for major infrastructure projects. Besides the *Ministry for Transport, Construction and Regional Development*, the *Ministry of the Environment* plays an important role in land-use policies, as it declares environmental protection areas, issues exemptions to environmental regulations and decides on appeals against decisions by regional environmental authorities.

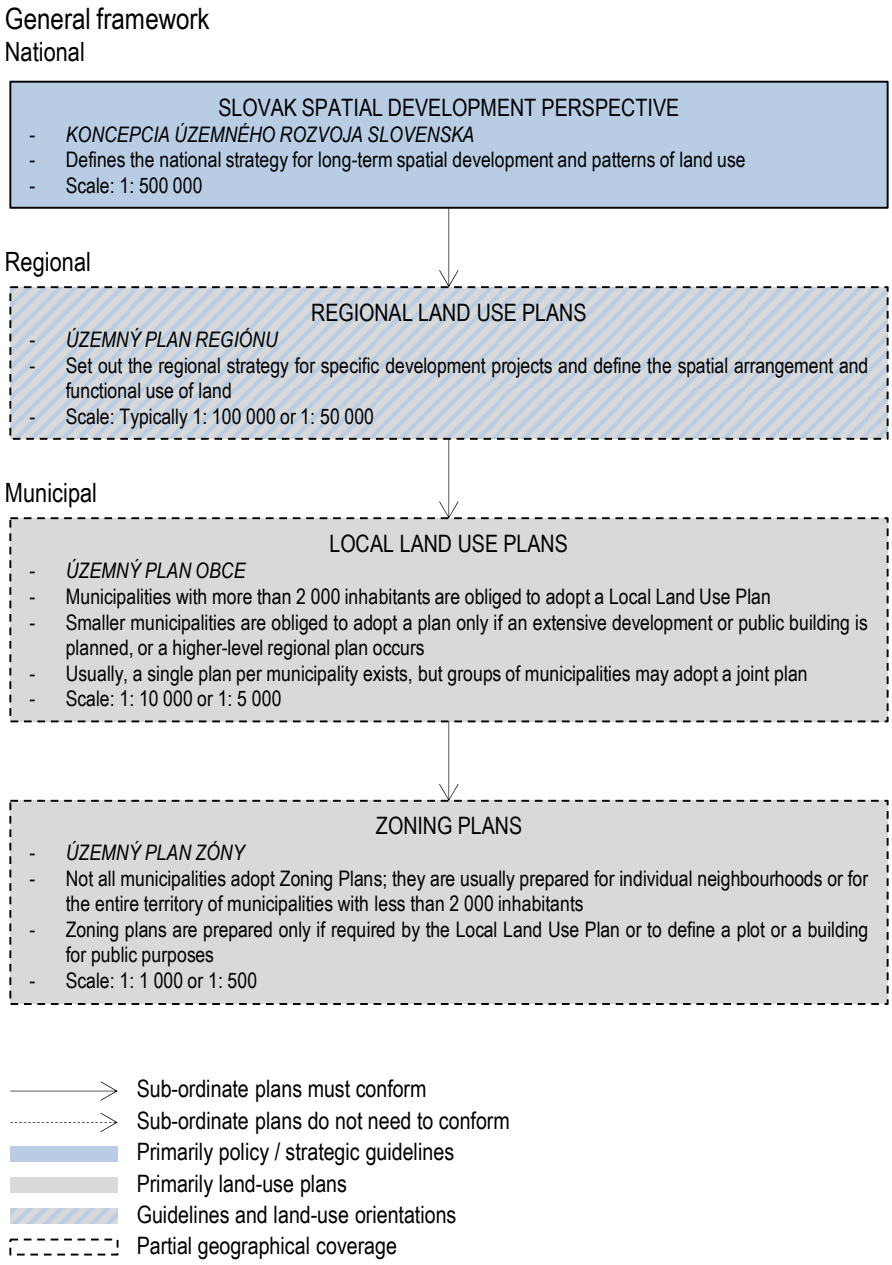
Regions have wide-ranging responsibilities (on education, health, road transport, and social services). Their central task related to land use is the preparation and approval of *Regional Land Use Plans*. Typically, regions work with external experts that co-ordinate the participation of public stakeholders (municipalities, national authorities and other public sector organisations). Furthermore, regions review local plans and planning regulations.

Municipalities in the Slovak Republic are among the smallest in the OECD with an average number of just 1 854 inhabitants. Nevertheless, they have significant responsibilities and competencies. With respect to land use, several functions are important. Most directly, municipalities affect land use by issuing binding local land-use plans. Typically, plans are commissioned by municipalities and prepared by certified independent experts. Indirectly, municipalities affect land use through taxes on land and buildings. They can determine the tax rate and differentiate taxes on land according to uses. Furthermore, municipalities are responsible for social housing and urban regeneration.

Spatial and land-use plans

The Slovak Republic has a hierarchical planning system with four levels of plans. The long-term strategic document for spatial development at the national level is the *Slovak Spatial Development Perspective*. It is closely connected to the *National Plan for Regional Development* that addresses regional disparities. The *Slovak Spatial Development Perspective* defines a hierarchy of settlements and their national and international connections. It also outlines the main urban axes within the Slovak Republic. Furthermore, it provides directions that aim at creating equal living conditions in the entire country and at preserving the natural and cultural heritage. The *Slovak Spatial Development Perspective* contains binding and guiding parts. Lower level land-use plans must conform to the binding parts and this conformity is generally well enforced.

Organisation of spatial and land-use planning in Slovak Republic



Below the *Slovak Spatial Development Perspective*, three levels of land-use plans exist. A *Regional Land Use Plan* exists in each of the eight regions and combines strategic principles for spatial development with land-use plans for the region. It also determines the location of major infrastructure, technical facilities and contains directions for the protection of natural and cultural heritage sites. The overarching aim of *Regional Land Use Plans* is to guide local land-use planning towards sustainable and effective development. They are legally binding for subordinate *Local Land Use Plans*.

On the local level, two land-use plans exist. *Local Land Use Plans* must be adopted by municipalities with more than 2 000 inhabitants. They contain land-use plans at a scale of 1: 10 000, 1: 5 000 or 1: 2 880 that are binding for land owners. They are typically commissioned by municipalities and prepared by certified experts from the private sector. Sectoral plans for issues such as transport, agriculture and waste management are integrated in the *Local Land Use Plan*. As municipalities tend to be very small in the Slovak Republic, a large number of municipalities with less than 2 000 inhabitants exist. They can adopt a *Local Land Use Plan*, but do not have to do so unless they plan extensive developments, public buildings or are obliged by regional plans. Municipalities may also be obliged to adopt a *Local Land Use Plan* if important infrastructure or public buildings exist within their territory. Current trends indicate that many municipalities with fewer than 2 000 inhabitants that are not required to adopt a *Local Land Use Plan* have adopted one or are in the process of doing so.

The second local land-use plan is the local *Zoning Plan*. It is a highly detailed plan (typically drawn at a scale of 1: 1 000 or 1: 500) that describes permitted land use on plots and includes the footprints of individual buildings. The creation of *Zoning Plans* is mandatory only if it is required by *Local Land Use Plans* or when a public building is planned in the area. *Zoning Plans* exist mostly in larger cities and for areas where large public developments occur or that are environmentally sensitive.

Major laws and regulations

The *Building Act* provides the legal basis for land-use planning in the Slovak Republic. It is a comprehensive framework law that has several functions. It establishes land-use plans and provides guidelines on their content. It covers issues such as the spatial distribution of land uses, protected areas for development control, impact evaluation of proposed developments and the exploitation of natural resources. Furthermore, it contains building code regulations that provide architectural and technical guidelines for permitted developments. Together with environmental protection legislation, the act provides the basis for planning decisions.

The *Environmental Impact Assessment Act* specifies the requirement for developers to carry out such assessments. The importance of this process is limited because environmental impact assessments have only an indicative role and are not binding for the permitting process.

Other important laws are the *Nature and Landscape Protection Act* and the *Act on the Protection of Cultural Monuments*. Furthermore, the *Supporting Regional Development Act* sets out requirements for strategic local planning for economic development. It emphasises particularly co-operation between the regional and local level and between local governments.

Co-ordination mechanisms

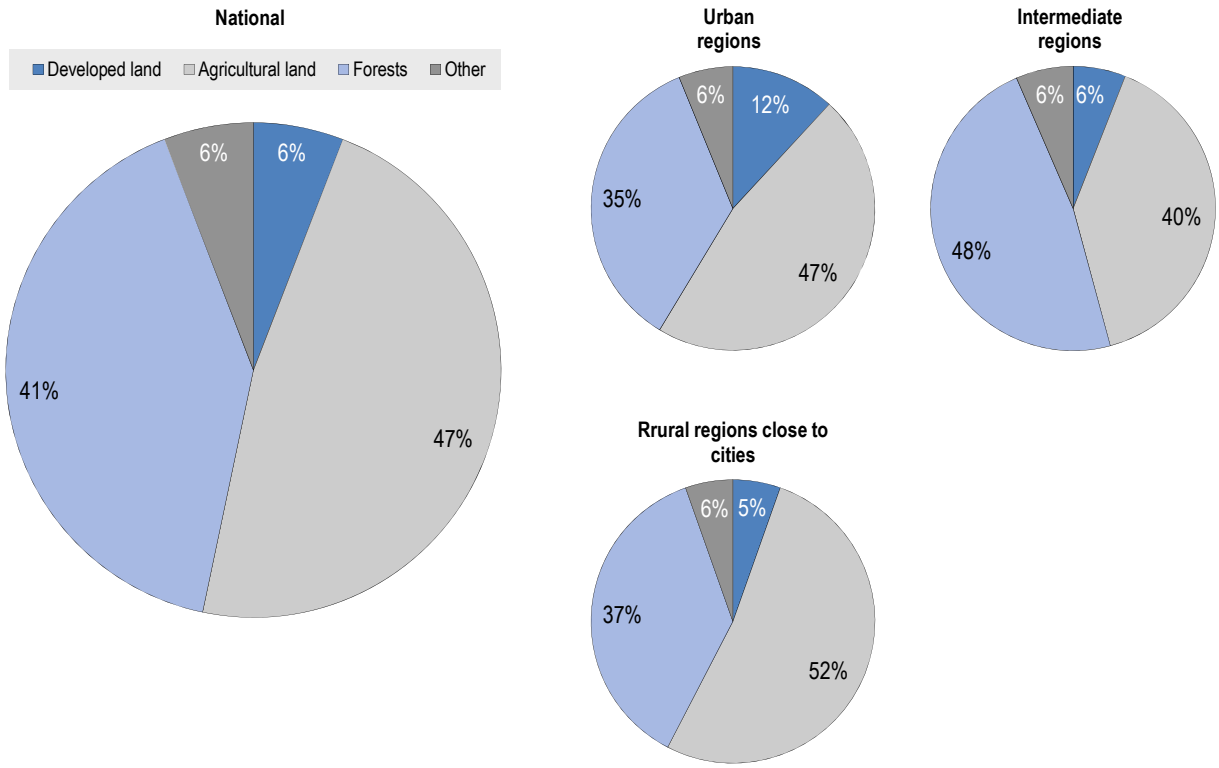
Vertical co-ordination of land-use related policies is ensured by the hierarchical nature of the planning system with the *Ministry of Transport, Construction and Regional Development* as the central authority overseeing the process. No formal mechanisms for strategic horizontal co-ordination between policy fields exist, but public stakeholders from different sectors may provide input for the preparation of *Local Land Use Plans*.

Recent and planned reforms to the system of land-use planning

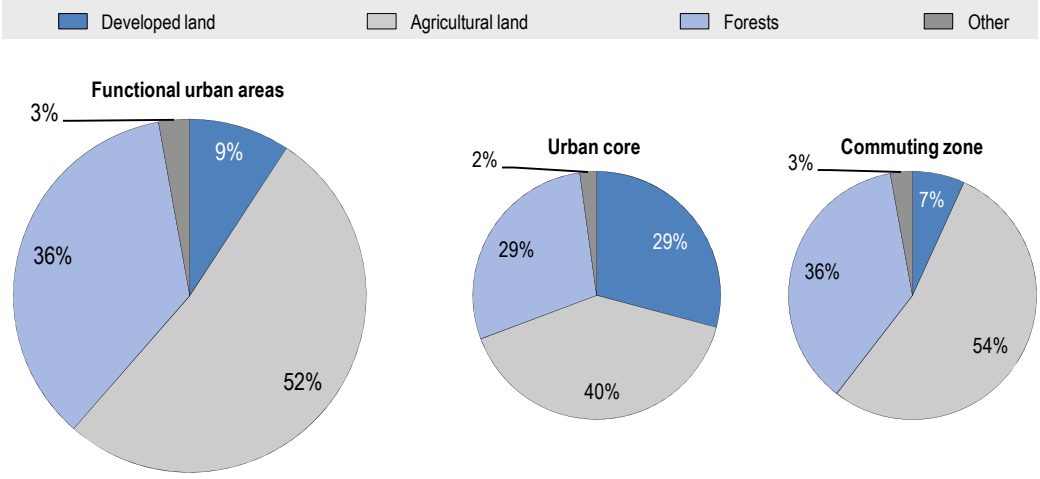
The main elements of the Slovak planning system were introduced in conjunction with the establishment of the current system of subnational governments. Municipal governments as autonomous authorities were established in 1990 as part of the transition towards democracy. Regional governments were established in 2001 via the *Act on Self-governing Regions*.

Land cover in Slovak Republic

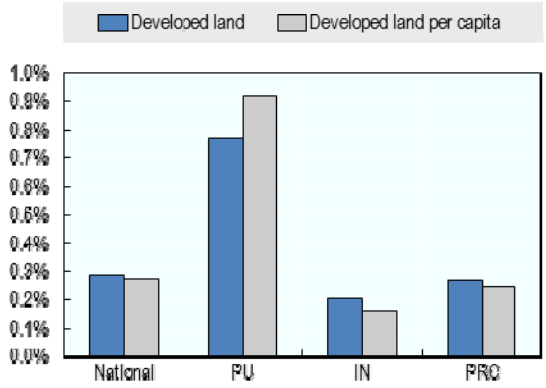
Land cover at the national level



Land cover in functional urban areas (FUAs)

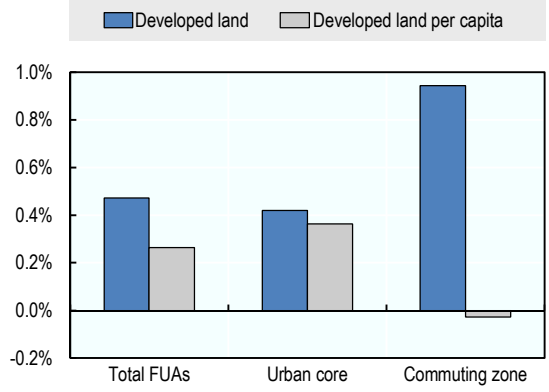


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Slovak Republic

With 534 square metres of developed land per capita, land consumption in the Slovak Republic is slightly higher than the OECD average. Since 2000, it has grown slightly less than the OECD average in absolute terms, but slightly more than average in per capita terms. Growth of developed land has been particularly strong in urban regions. It occurred primarily within the commuting zones of functional urban areas, which also experienced strong population growth. The Slovak Republic has a comparatively high share of forested land, even though its size has declined by approximately 3.6% between 2000 and 2012.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Slovak Republic

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	49 084	2 056	18 089	28 939	
Total developed land	2 888	244	1 079	1 566	
Percentage of total	5.9%	11.9%	6.0%	5.4%	
Annual change in developed land, 2000-12	8.2	1.8	2.2	4.2	
Annual percentage change in developed land, 2000-12	0.29%	0.78%	0.21%	0.27%	
Agricultural land	23 274	962	7 204	15 108	
Percentage of total	47.4%	46.8%	39.8%	52.2%	
Annual change in agricultural land, 2000-12	-12.0	-1.7	-3.9	-6.4	
Annual percentage change in agricultural land, 2000-12	-0.05%	-0.18%	-0.05%	-0.04%	
Forests	20 046	723	8 630	10 693	
Percentage of total	40.8%	35.2%	47.7%	36.9%	
Annual change in forests, 2000-12	-62.5	-2.1	-26.5	-33.9	
Annual percentage change in forests, 2000-12	-0.31%	-0.29%	-0.30%	-0.31%	
Land cover per capita (m²)					
Total developed land per capita	534	402	519	576	
Annual percentage change in developed land per capita, 2000-12	0.28%	0.92%	0.17%	0.25%	
Agricultural land per capita	4 307	1 586	3 469	5 552	
Annual percentage change in agricultural land per capita, 2000-12	-0.06%	-0.03%	-0.09%	-0.06%	
Forests per capita	3 709	1 192	4 156	3 930	
Annual percentage change in forests per capita, 2000-12	-0.31%	-0.14%	-0.34%	-0.33%	

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	10 234	1 118	9 116
Total developed land	947	326	622
Percentage of total	9.3%	29.1%	6.8%
Annual change in developed land, 2000-12	4.3	1.3	3.0
Annual percentage change in developed land, 2000-12	0.47%	0.42%	0.50%
Agricultural land	5 340	449	4 891
Percentage of total	52.2%	40.2%	53.7%
Annual change in agricultural land, 2000-12	-4.6	-1.3	-3.3
Annual percentage change in agricultural land, 2000-12	-0.09%	-0.29%	-0.07%
Forests	3 657	319	3 339
Percentage of total	35.7%	28.5%	36.6%
Annual change in forests, 2000-12	-5.8	-0.3	-5.5
Annual percentage change in forests, 2000-12	-0.16%	-0.08%	-0.16%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	467	277	642
Annual percentage change in developed land per capita, 2000-12	0.26%	0.36%	-0.03%
Agricultural land per capita	2 634	319	4 957
Annual percentage change in agricultural land per capita, 2000-12	-0.29%	-0.40%	-1.07%
Forests per capita	1 804	206	1 841
Annual percentage change in forests per capita, 2000-12	-0.36%	0.01%	-1.29%

Source: All land cover statistics for Slovak Republic are based on OECD calculations based on *Corine Land Cover dataset*.

Slovenia

The planning system

Levels of government and their responsibilities

Slovenia is a unitary country with 2 levels of government; the national level and 212 municipalities. As in most unitary countries, the national government adopts the framework legislation that structures the spatial planning system. It conducts most land-use related work through the *Ministry of the Environment and Spatial Planning*, which is responsible for the preparation of national level spatial plans, for environmental impact assessments, for the designation of nature conservation areas, for land surveys and for the provision of land and cadastre data. In addition to the *Ministry of the Environment and Spatial Planning*, other ministries may also propose the preparation of *National Spatial Plans* if necessary. Furthermore, the national government influences land use through its responsibility for national roads, railways and other structures of national importance, for agriculture and for heritage protection. Through an administrative agency, the national government is also responsible for issuing building permits.

No regional level of government exists in Slovenia, but *Regional Development Agencies* exist to support economic development at the subnational level. These agencies may also initiate the preparation of inter-municipal *Regional Spatial Plans* although local communities should mainly initiate their preparation (see below).

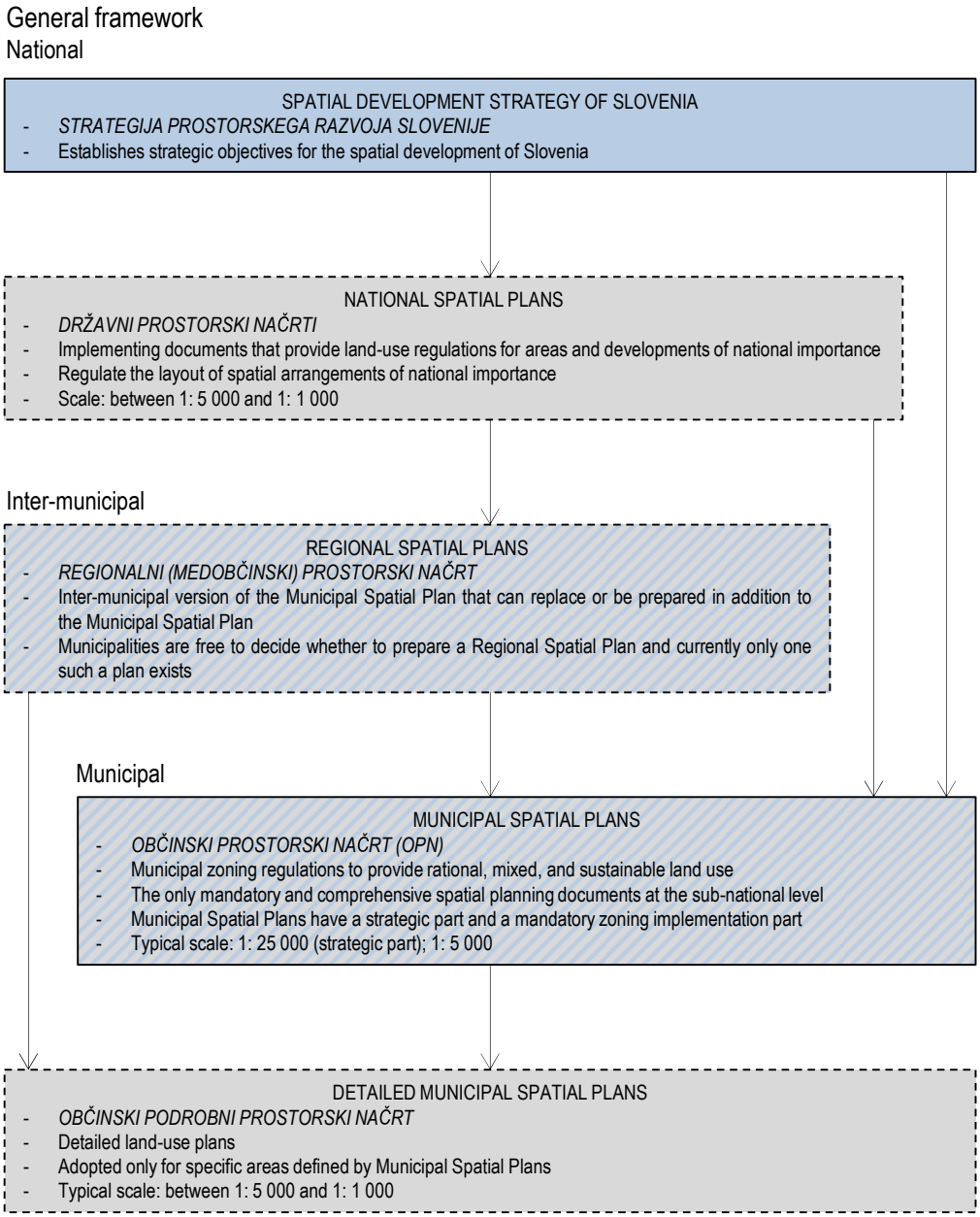
Municipalities have the right to manage the spatial development in their jurisdiction except for those aspects that are under the direct control of the national government. They adopt municipal land-use plans in accordance with national guidelines that aim at creating rational, mixed and sustainable land-use patterns. Municipalities are allowed to form inter-municipal associations to prepare their *Regional Spatial Plans*, but this is rare in practice.

Spatial and land-use plans

Slovenia operates a hierarchical system of plans. The highest level planning document is the *Spatial Development Strategy of Slovenia*, which outlines the main objectives for spatial development. It focuses on the description and development of spatial systems of national importance and considers settlements, transport, infrastructure, and environmental and landscape protection. The current *Spatial Development Strategy of Slovenia* was approved in 2004. As of the time of writing, it is under revision.

The national government can also adopt *National Spatial Plans*, which are spatial arrangements plans for development projects of national importance. These plans are prepared at scales between 1: 5 000 and 1: 1 000 and can override existing municipal land-use plans, but must follow the *Spatial Development Strategy of Slovenia*. They contain detailed outlines of permitted uses, built structures and parcellation. Their primary use is to ensure fast and uncomplicated planning for the construction and modernisation of infrastructure and other structures at national, regional and sometimes local level. Furthermore, they can also be used in other settings, such as for reconstruction after natural disasters (in which case they may exceptionally contradict the *Spatial Development Strategy of Slovenia*).

Organisation of spatial and land-use planning in Slovenia



Sub-ordinate plans must conform
Sub-ordinate plans do not need to conform
Primarily policy / strategic guidelines
Primarily land-use plans
Strategic and land-use guidelines
Partial geographical coverage

Note:
As of the time of writing, reforms of the spatial planning system are under discussion, but no decision regarding their scope and content has been made.

At the municipal level, the main planning document is the *Municipal Spatial Plan*. It is divided into two parts: a strategic part and an operational part. The strategic part contains objectives for the spatial development of a municipality, guidelines on the development of the built environment and a concept for commercial development of municipal importance. The operational part contains land-use plans (typically at a scale of 1: 5 000) and associated zoning regulations covering the entire municipality. It also specifies for which areas a *Detailed Municipal Spatial Plan* is required. Municipalities are obliged by the *Spatial Planning Act* of 2007 to prepare the operational part of a *Municipal Spatial Plan*. However, due to the lengthy planning process many municipalities had not prepared such a plan by 2015. In municipalities that do not yet have approved a *Municipal Spatial Plan*, the spatial planning documents are based on older legislation from 1984.

Regional Spatial Plans are comparable to *Municipal Spatial Plans* except that they are prepared jointly for several municipalities and adopted by inter-municipal associations. The co-operating municipalities agree on preparing a joint plan and specify who is responsible for drafting it. If it contains sufficient detail, a *Regional Spatial Plan* may be prepared instead of *Municipal Spatial Plans*. Municipalities are free to decide whether to prepare a *Regional Spatial Plan* and as of early 2016, only one such plan had been adopted.

Detailed Municipal Spatial Plans are only prepared for specific areas. They contain detailed land-use regulations and specify permitted uses. They are typically drawn at a scale of 1: 1 000 or 1: 500.

Major laws and regulations

The *Spatial Planning Act* of 2007 contains the framework legislation that regulates the spatial planning system of Slovenia. It also contains regulations regarding the provision of infrastructure for new developments and establishes a spatial information system. Other important acts include the *Environmental Protection Act*, which concerns nature conservation areas and the *Water Act*, which protects aquifers and contains provisions to prevent erosion. The *Agricultural Act* contains classifications of agricultural land that can protect it permanently from development. Furthermore, the *Forest Act*, the *Land Survey Service Act*, the *Cultural Heritage Protection Act* and the *Public Roads Act* have major influences on land use.

Co-ordination mechanisms

On a general level, the *Spatial Development Strategy of Slovenia* is the main policy document to co-ordinate policies across sectors. With respect to the preparation of individual spatial plans, a special consultation process exists for ministries and companies with statutory competencies. During the drafting phase of a plan, they are obliged to state the requirements that it would entail for their sector. At the end of the drafting process, they need to approve the solutions that have been found. At the local level, municipalities have the task of co-ordinating between all stakeholders. Furthermore, municipalities may work with specific ministries on the particular aspects of land-use patterns and environmental regimes.

Expropriations

According to the Slovene Constitution, any real property ownership can be revoked or limited if it is in the public interest. The *Spatial Planning Act* lists four particular cases;

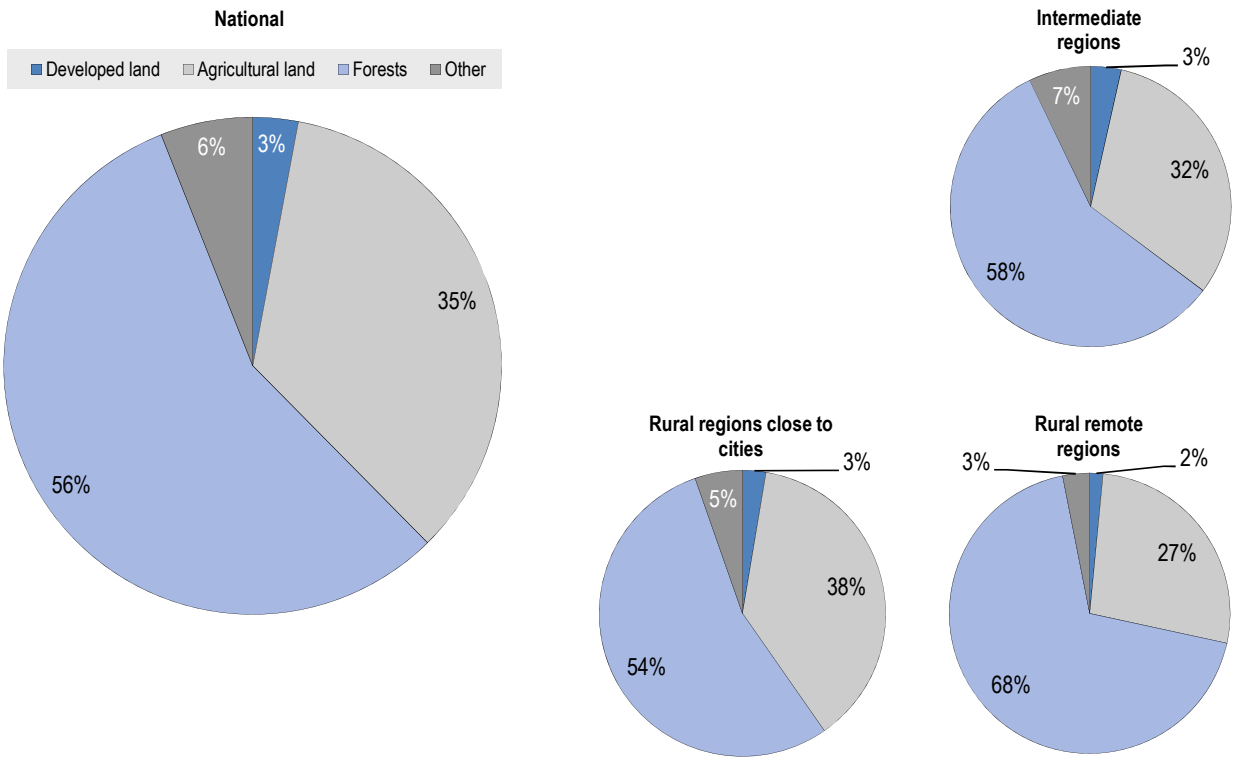
infrastructure development; public safety and defence; land required for the provision of education, health care or social protection; and the construction of social housing. Other legislation also specifies that land can be expropriated for mining, for nature protection and for cultural heritage protection. In most cases, land is not expropriated but transferred amicably.

Recent and planned reforms to the system of land-use planning

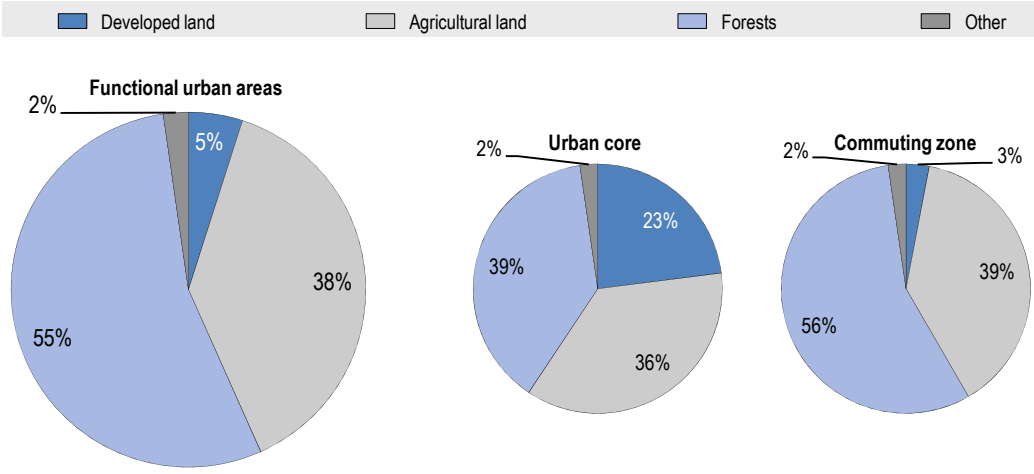
The first decade after Slovenian independence in 1991 was characterised by a series of temporary reforms to the spatial planning system. The current system was established with the adoption of the *Spatial Management Act* in 2002 and its replacement by the *Spatial Planning Act* in 2007. Among other reforms, the *Spatial Planning Act* changed the hierarchical structure of spatial plans and the process through which *Regional Spatial Plans* are prepared. Since 2007, two minor reforms to the act have occurred and in 2010, the section relating to *National Spatial Plans* was substituted by a separate act concerning the topic. As of the time of writing, a major reform of spatial planning acts and of the building code was on-going, with the objective of adopting the legislation in early 2017.

Land cover in Slovenia

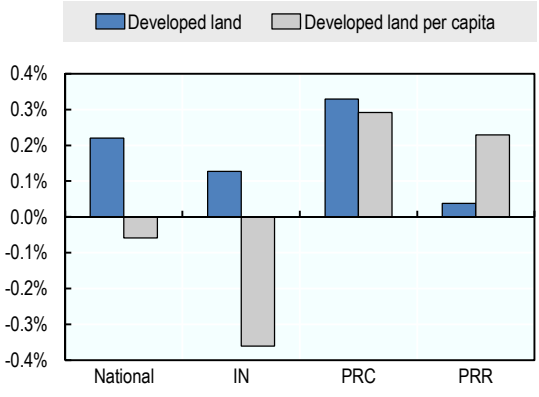
Land cover at the national level



Land cover in functional urban areas (FUAs)

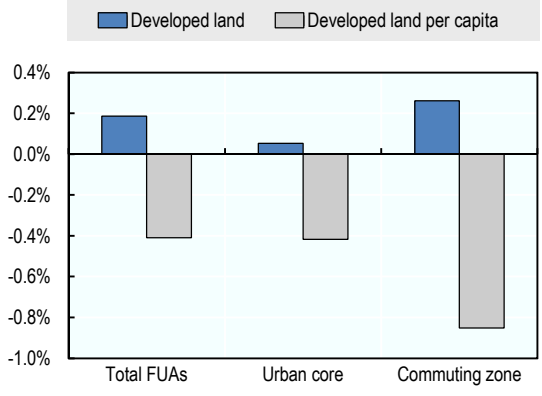


Annual change in developed land, 2000-12



Note: IN: Intermediate regions, PRC: Rural regions close to cities, PRR: Rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Slovenia

With a surface area of approximately 20 000 square kilometres, Slovenia is one of the smallest OECD countries. With just 290 square metres of developed land per capita, it also has one of the lowest per capita land consumption of all analysed countries. Furthermore, growth in developed land has remained low and roughly in line with population growth, thus indicating a continued pattern of compact development. Compared to other central European countries, it has a relatively low share of agricultural land, but a high share of forested land.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Slovenia

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	20 249		8 383	10 829	1 037
Total developed land	596		295	286	16
Percentage of total	2.9%		3.5%	2.6%	1.5%
Annual change in developed land, 2000-12	1.3		0.4	0.9	0.01
Annual percentage change in developed land, 2000-12	0.22%		0.13%	0.33%	0.04%
Agricultural land	7 019		2 659	4 081	279
Percentage of total	34.7%		31.7%	37.7%	26.9%
Annual change in agricultural land, 2000-12	-0.5		-0.1	-0.3	-0.01
Annual percentage change in agricultural land, 2000-12	-0.01%		-0.01%	-0.01%	-0.002%
Forests	11 420		4 829	5 880	710
Percentage of total	56.4%		57.6%	54.3%	68.5%
Annual change in forests, 2000-12	-2.3		-0.8	-1.5	-0.004
Annual percentage change in forests, 2000-12	-0.02%		-0.02%	-0.03%	-0.001%
Land cover per capita (m²)					
Total developed land per capita	290		255	345	217
Annual percentage change in developed land per capita, 2000-12	-0.06%		-0.36%	0.29%	0.23%
Agricultural land per capita	3 415		2 300	4 935	3 855
Annual percentage change in agricultural land per capita, 2000-12	-0.29%		-0.49%	-0.04%	0.19%
Forests per capita	5 556		4 177	7 111	9 810
Annual percentage change in forests per capita, 2000-12	-0.30%		-0.50%	-0.06%	0.19%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	4 478	423	4 056
Total developed land	220	97	123
Percentage of total	4.9%	23.0%	3.0%
Annual change in developed land, 2000-12	0.4	0.1	0.3
Annual percentage change in developed land, 2000-12	0.19%	0.07%	0.28%
Agricultural land	1 719	154	1 565
Percentage of total	38.4%	36.3%	38.6%
Annual change in agricultural land, 2000-12	-0.1	-0.03	-0.1
Annual percentage change in agricultural land, 2000-12	-0.01%	-0.02%	-0.01%
Forests	2 437	162	2 275
Percentage of total	54.4%	38.4%	56.1%
Annual change in forests, 2000-12	-0.6	-0.03	-0.5
Annual percentage change in forests, 2000-12	-0.02%	-0.02%	-0.02%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	271	245	278
Annual percentage change in developed land per capita, 2000-12	-0.41%	-0.42%	-0.85%
Agricultural land per capita	2 111	315	3 111
Annual percentage change in agricultural land per capita, 2000-12	-0.60%	-0.49%	-1.11%
Forests per capita	2 994	404	5 979
Annual percentage change in forests per capita, 2000-12	-0.62%	-0.49%	-1.13%

Source: All land cover statistics for Slovenia are based on OECD calculations based on *Corine Land Cover dataset*.

Spain

The planning system

Levels of government and their responsibilities

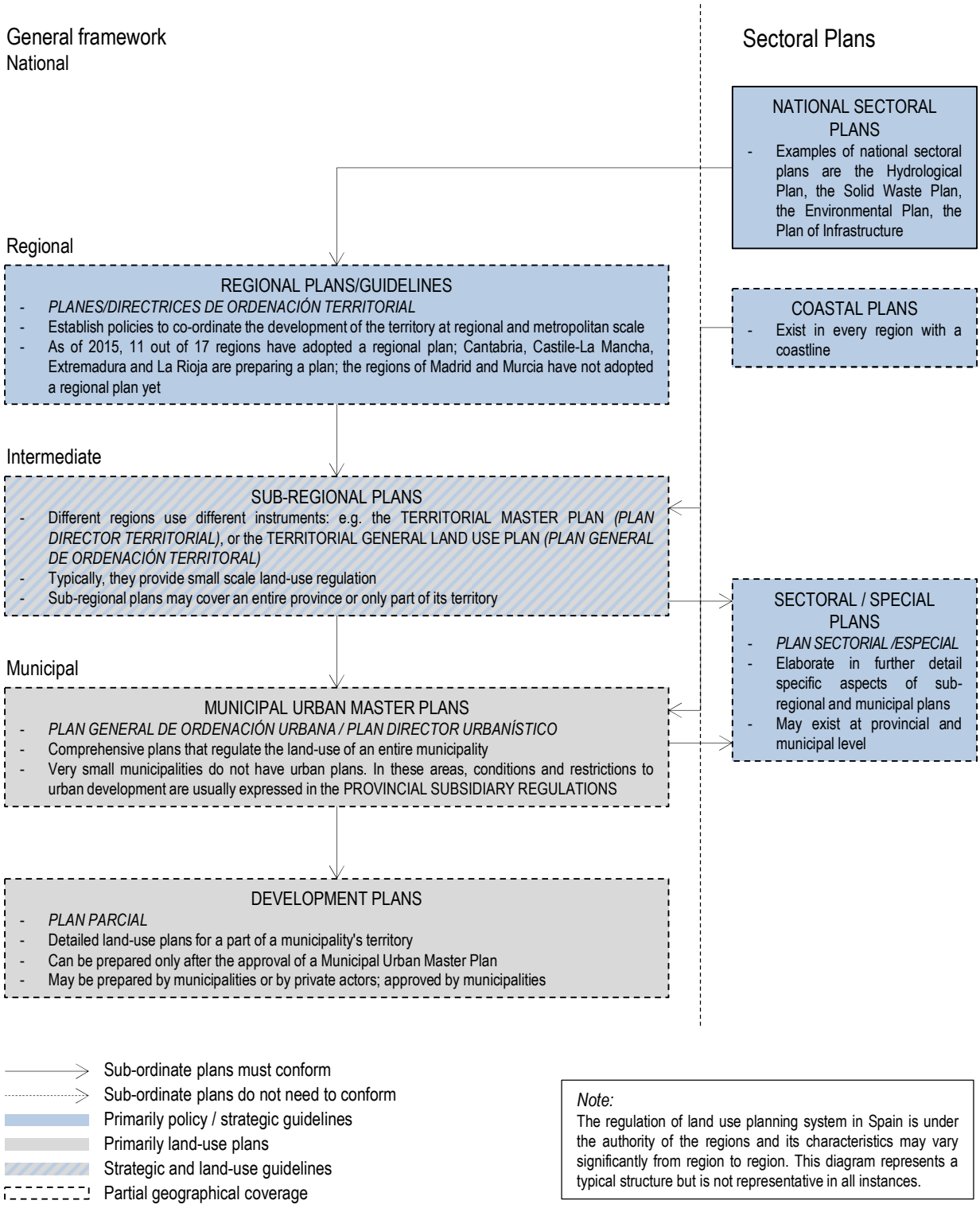
Spain is defined by the OECD as a quasi-federal state with 4 levels of government; the national government, 17 autonomous communities, 50 provinces and 8 119 municipalities. The division of powers regarding land-use policy is specified in the constitution and in other national legislation. The constitution assigns responsibility for spatial planning to the autonomous communities, but the national government prepares framework legislation that guides regional laws. Furthermore, the national government has important powers in policy fields related to spatial planning. It can impose environmental legislation and related legislation that affects the possibilities to develop land. It also prepares a sectoral plan for national infrastructure, for example related to transport and energy. However, according to a decision of the constitutional court, it has no authority to prepare a general national spatial plan.

Autonomous communities develop and complement the basic national framework legislation concerning land use by establishing their own legislative framework on land-use planning. Within the limits set by the national framework, this allows them to establish their own comprehensive planning systems. This includes, for example, the definition of the requirements of municipal master plans to delineate land as "suitable for urban development", as "not suitable" or as "protected according to its environmental, natural cultural, etc. value": and the definition and the content of the different planning instruments. Most regions have adopted a hierarchical system in which the regional government is responsible for preparing a regional spatial plan that is binding for municipal governments. Depending on the region, regional governments are also responsible for issuing building permits for specific development projects, such as large scale or particularly sensitive projects.

Intermediate levels of governments in some autonomous communities prepare land-use plans that have varying content. Frequently, they also establish *Provincial Subsidiary Regulations* (*Normas Subsidiarias Provinciales*) whose primary role is to steer development in municipalities or areas of a province that have not yet approved a *Municipal Urban Master Plan*. They are detailed regulations that specify under which conditions development is permitted if no *Municipal Urban Master Plan* exists. Furthermore, the *Subsidiary Regulations* may contain guidelines for municipalities concerning the preparation of local plans.

Municipalities are the main actors in land-use planning. They prepare and enact local plans, which vary in their details between regions. In general, medium size and small municipalities adopt a simplified version of the Master Plan, with very similar contents. Only very small municipalities have no land-use plans; in this case, the conditions and restrictions to urban development are usually set up by the *Provincial Subsidiary Regulations*. In most cases, municipalities are also responsible for assessing applications for building permits.

Organisation of spatial and land-use planning in Spain



Note:
The regulation of land use planning system in Spain is under the authority of the regions and its characteristics may vary significantly from region to region. This diagram represents a typical structure but is not representative in all instances.

Spatial and land-use plans

According to a ruling of the Constitutional Court, the national government is not allowed to prepare a national-level spatial plan for Spain. However, it may prepare sectoral plans and does so for several policy fields (i.e. the *Hydrological Plan,* the *Solid Waste Plan; Environmental Plans,* the *Plan of Infrastructure*).

On the regional and local level, the system of plans differs between autonomous communities. Typically, a *Regional Plan* exists at the level of the autonomous community that guides and co-ordinates planning at the local level. Furthermore, all coastal regions have prepared a *Coastal Plan* in order to deal with the particular development pressures and environmental sensitivities along the coast.

Hierarchically below the regional level, sub-regional *Territorial Plans* are prepared by intermediate levels of government (e.g. *Comarcas*) in some autonomous communities. Their content and geographical scope varies between autonomous communities. In some cases, they focus only on selected areas of high importance or on areas for which no local land-use plans exists, whereas in others they cover the entire jurisdiction of the subnational government.

The main land-use plans at the local level tend to be *Municipal Urban Master Plans* – comprehensive master plans for municipalities. In all autonomous communities, these plans may contain legally binding regulation for land owners. In geographical sectors that have been designated as suitable for development by *Municipal Urban Master Plans,* the conditions for development are further elaborated on at the second stage by the sector's *Development Plan*, a detailed plan that shows permitted land use and regulates building conditions for each individual plot included in the sector.

Major laws and regulations

At the national level, the *Law on Land and Urban Development* contains the main legislative elements related to spatial planning that are within the competence of the national government. It is supplemented by varying framework legislation enacted by the autonomous communities.

Co-ordination mechanisms

All 17 Spanish regions use a hierarchical model of planning, in which lower level plans must comply with higher levels. Thus, co-ordination between levels of government in a narrow sense is provided by the requirement that local planning follows the plans established at the regional level. Co-ordination also occurs through administrative consultation requirements between levels of government. The hierarchical planning system guarantees that lower level plans are in accordance with higher level plans; at the same time, higher level plans may on purpose include ambiguous elements to ensure sufficient flexibility at the local level.

Expropriations

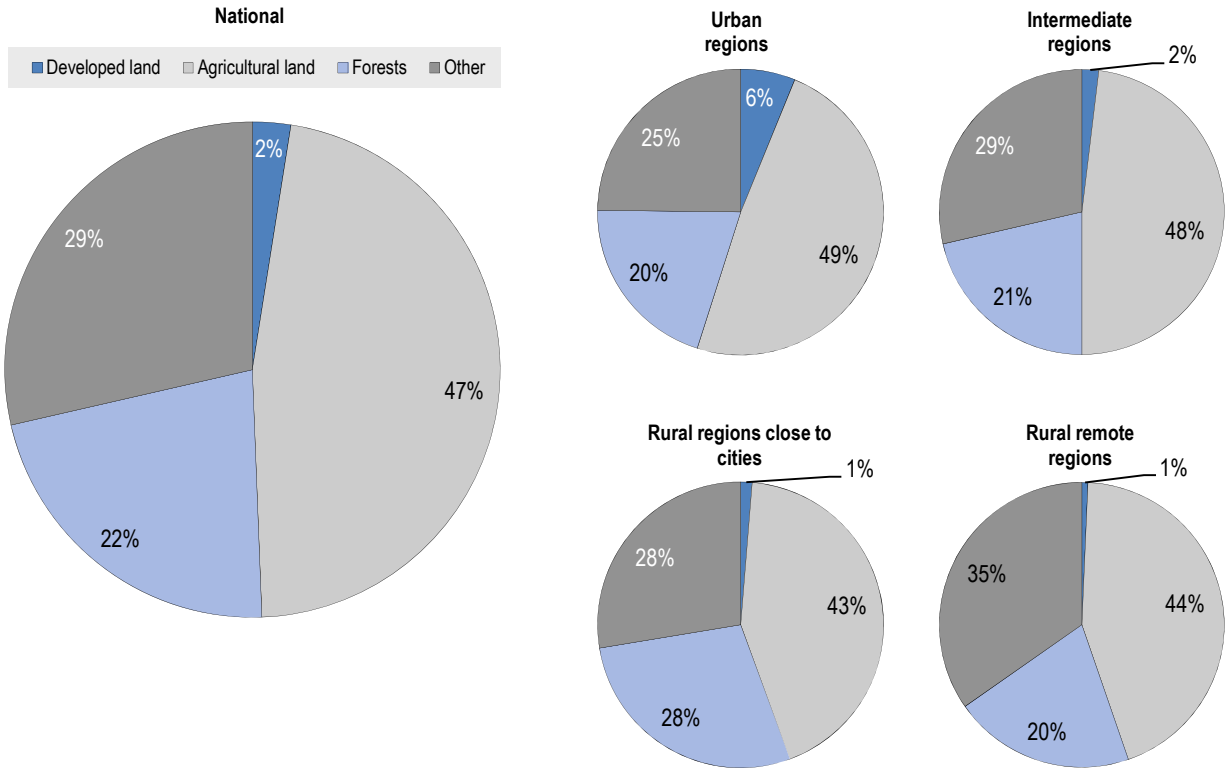
Expropriation is possible as long as it is in the public interest. Among possible reasons for expropriation are infrastructure construction, housing development and resource extraction.

Recent and planned reforms to the system of land-use planning

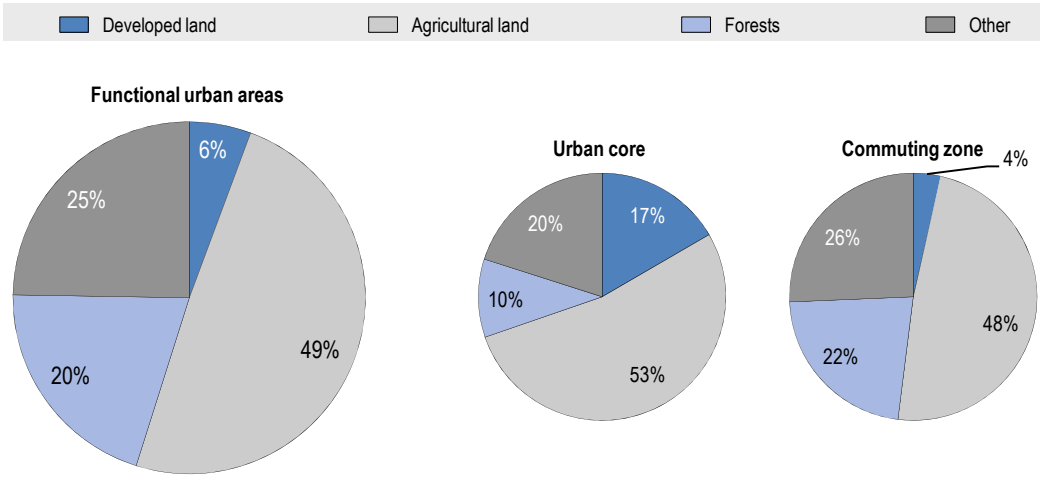
The current system of land-use planning was introduced with the Constitution of 1978, which assigned the responsibility for spatial planning and urban development to the autonomous communities. Subsequently, autonomous communities established their own planning systems starting with Catalonia in 1983. Since then, reforms at the regional level have occurred at varying points in time and especially after 2000 as regions adapted to the new principles and objectives of the European Spatial Planning Perspective.

Land cover in Spain

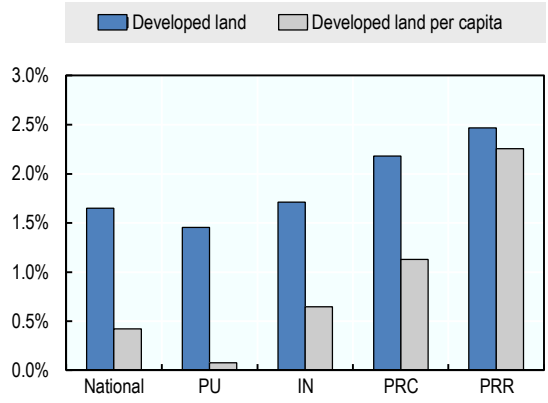
Land cover at the national level



Land cover in functional urban areas (FUAs)

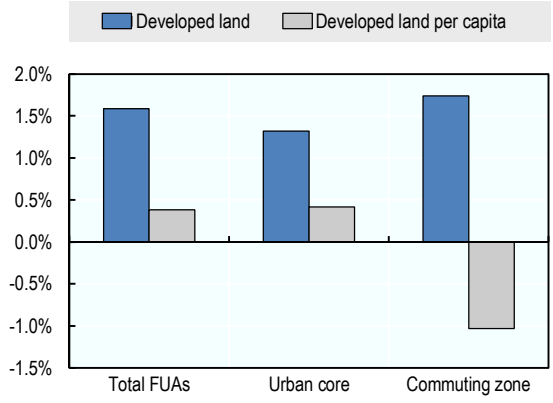


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Spain

Spain had the highest growth of developed land between 2000 and 2012 of all 28 analysed OECD countries. Developed land grew on average by 1.6% annually, which implies a total increase of approximately 22% over the entire time period. As Spain experienced significant population growth over the same time, the per capita area of developed land grew by only 0.4% annually. While this is still high compared to the OECD average, it is more closely in line with several other OECD countries. Compared to many other OECD countries, Spain is unusual as it experienced strong growth of developed land in the core parts of its metropolitan areas – to a degree that the growth in developed land was stronger than population growth. The increase in developed land was accompanied by a decrease in land covered with forests (which declined by a total of 1 930 square kilometres) and a somewhat smaller decrease in agricultural lands.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Spain

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	506 061	100 672	256 711	67 334	81 344
Total developed land	12 609	6 232	4 912	859	606
Percentage of total	2.5%	6.2%	1.9%	1.3%	0.7%
Annual change in developed land, 2000-12	187.4	82.7	75.5	16.3	12.8
Annual percentage change in developed land, 2000-12	1.65%	1.46%	1.71%	2.18%	2.47%
Agricultural land	237 369	49 058	123 501	29 052	35 757
Percentage of total	46.9%	48.7%	48.1%	43.1%	44.0%
Annual change in agricultural land, 2000-12	-83.3	-58.4	-14.9	-10.3	0.4
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.12%	-0.01%	-0.04%	0.001%
Forests	111 141	20 474	55 027	18 876	16 764
Percentage of total	22.0%	20.3%	21.4%	28.0%	20.6%
Annual change in forests, 2000-12	-160.8	-20.8	-88.8	-20.6	-30.6
Annual percentage change in forests, 2000-12	-0.14%	-0.10%	-0.16%	-0.11%	-0.18%
Land cover per capita (m²)					
Total developed land per capita	269	225	313	389	481
Annual percentage change in developed land per capita, 2000-12	0.42%	0.08%	0.65%	1.13%	2.26%
Agricultural land per capita	5 070	1 774	7 867	13 156	28 388
Annual percentage change in agricultural land per capita, 2000-12	-1.24%	-1.48%	-1.06%	-1.07%	-0.21%
Forests per capita	2 374	740	3 505	8 547	13 309
Annual percentage change in forests per capita, 2000-12	-1.35%	-1.46%	-1.21%	-1.14%	-0.39%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	119 048	19 360	99 688
Total developed land	6 756	3 218	3 538
Percentage of total	5.7%	16.6%	3.5%
Annual change in developed land, 2000-12	96.8	38.7	58.1
Annual percentage change in developed land, 2000-12	1.58%	1.31%	1.84%
Agricultural land	58 576	10 279	48 298
Percentage of total	49.2%	53.1%	48.4%
Annual change in agricultural land, 2000-12	-68.6	-28.4	-40.2
Annual percentage change in agricultural land, 2000-12	-0.12%	-0.27%	-0.08%
Forests	24 267	1 983	22 284
Percentage of total	20.4%	10.2%	22.4%
Annual change in forests, 2000-12	-25.5	-3.2	-22.2
Annual percentage change in forests, 2000-12	-0.10%	-0.16%	-0.10%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	215	115	330
Annual percentage change in developed land per capita, 2000-12	0.38%	0.42%	-1.03%
Agricultural land per capita	1 864	102	3 015
Annual percentage change in agricultural land per capita, 2000-12	-1.30%	-1.91%	-2.85%
Forests per capita	772	29	1 081
Annual percentage change in forests per capita, 2000-12	-1.29%	-0.97%	-2.86%

Source: All land cover statistics for Spain are based on OECD calculations based on *Corine Land Cover dataset*.

Sweden

The planning system

Levels of government and their responsibilities

Sweden is a unitary country with 3 levels of government; the national level, 21 counties and 290 municipalities. The national government has several instruments to affect land-use planning. As in most unitary OECD countries, it is responsible for the framework legislation that defines the system of land-use planning and provides the guidelines that municipalities have to follow in their plan-making process. It also defines the building code and designates areas that are strictly protected from development for nature or heritage protection. Furthermore, it exercises control of sectoral policies that affect land use through its state bodies, such as the *Swedish Transport Agency*, the *Swedish Environmental Protection Agency* and the *Swedish Energy Agency*.

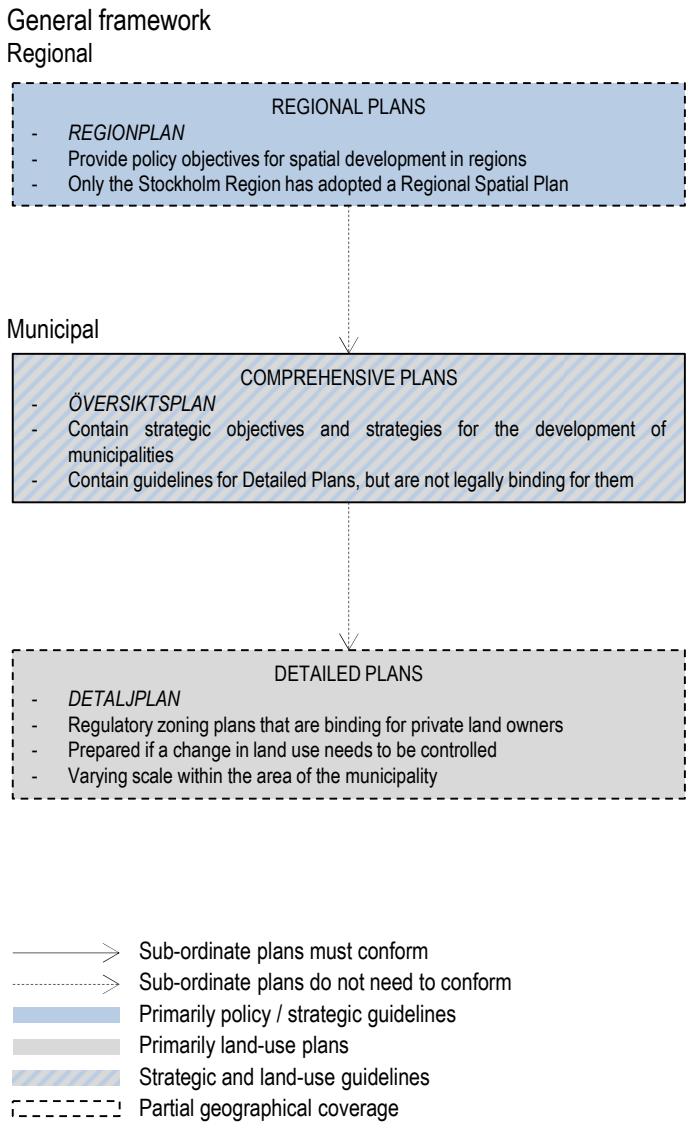
At the regional level, the national government is represented through *County Administrative Boards*, which represent the national government's interests in the planning process, in particular with respect to the guidelines stated in the *Planning and Building Act*. Furthermore, they are supposed to provide municipalities with data and advice and to co-ordinate in the case of conflicts between municipalities. While *County Administrative Boards* are deconcentrated parts of the national administration, *County Councils* are the intermediate level of government in Sweden. The *County Council* is a directly elected regional body mainly responsible for health care and public transport. Ten *County Councils* (out of 21) have additional responsibilities such as regional development.

National legislation makes regional spatial planning obligatory for the Stockholm region, but not for other Swedish regions. Although no regional spatial plans exist outside of the Stockholm region, the government requires that there is a regional development strategy in each county. This strategy may contain spatial elements and influences land-use decisions.

Municipalities have three main responsibilities related to land use. First, they are responsible for local planning. They prepare *Comprehensive Plans* and *Detailed Plans* and issue building permits based on those plans and other relevant regulations. In order to make their comprehensive plans more strategic, municipalities are supposed to consider a regional perspective. Second, they are responsible for the provision of housing through public housing companies, which provide a significant share of all rental accommodation in Sweden. Third, they provide the technical infrastructure required to develop land, such as roads and water and sewage disposal networks. Municipalities have the possibility to form inter-municipal associations to jointly take care of their responsibilities.

Furthermore, many municipalities have substantial land holdings. This gives them an important tool to shape land use in their territory, either by choosing directly how to use the land they own or by deciding to sell it to private developers.

Organisation of spatial and land-use planning in Sweden



Spatial and land-use plans

No formal spatial plan at national level exists in Sweden. At the regional level, the legal framework allows *County Councils* to prepare *Regional Plans*, but this is not mandatory, except for the county of Stockholm, which has produced a regional spatial plan for the greater Stockholm area.

Municipalities prepare two types of plans. The *Comprehensive Plan* is their main tool for strategic planning. It is legally required and covers the entire territory of a municipality, but it does not contain any legally binding provisions for land owners. It forms the basis of decisions on the use of land and water areas. Comprehensive plans must be reviewed by the municipal council at least once during each legislative period. Their compliance with national guidelines is checked by the *County Administrative Boards*. The statement of the county administrative board forms a compulsory planning

document within the comprehensive plan. It reflects primarily considerations how to incorporate national interests in local planning.

The *Detailed Development Plan* is the statutory instrument to regulate land use at municipal level. It gives obligations and rights to land owners. These rights are protected during an implementation period that can vary between 5 and 15 years. *Detailed Plans* are only prepared in areas where it is necessary to control a change in land use and are valid until they are repealed or replaced. *Special Area Regulations* are more simple planning instruments that are also binding and are primarily used outside built-up areas.

Major laws and regulations

The *Planning and Building Act* is the main framework legislation that defines the land-use planning system in Sweden. It is complemented by the *Environmental Code*, which contains the most relevant regulations related to the permitted land uses. Other legislation relevant to land use can be found in the *Roads Act*, the *Public Water and Wastewater Act* and in the *Real Property Formation Act*, which provides the legal framework related to land ownership.

Co-ordination mechanisms

The main formal co-ordination mechanisms between levels of government and other relevant actors and stakeholders are mandatory consultations that occur in the plan-making process and before granting building permits. In practice, consultations are channelled through the *County Administrative Boards*, which play a co-ordinating role.

Expropriations

Expropriations are regulated by several different laws depending on the underlying reason for expropriation. The *Expropriation Act* provides the general framework for expropriations and specifies broader reasons for expropriation, such as infrastructure projects, housing developments and resource extraction. It provides a basis for expropriation if no special laws exist on which it would be based. The *Real Property Formation Act* gives municipalities and private land owners the right, but also the obligation to expropriate land in specific circumstances. Furthermore, it gives the cadastral authorities the right to order the transfer of a property or parts of a property to another property to facilitate plot formation and re-allotment of agricultural or forest properties. If legal requirements for expropriation are met, the expropriation procedures are straightforward. However, in the vast majority of cases that would fall under either of the two acts, land transfers are negotiated amicably.

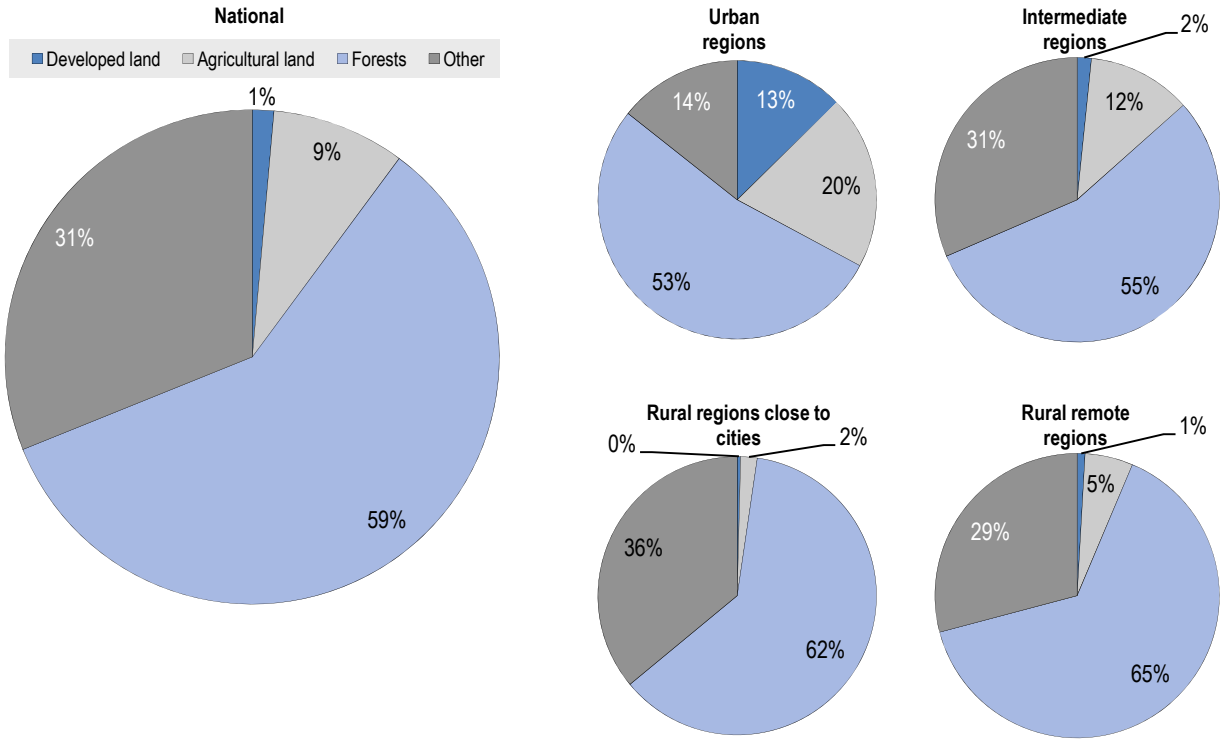
Recent and planned reforms to the system of land-use planning

The most important reform of the past decades occurred in 1987 when sole responsibility for land-use planning was transferred to municipalities with the introduction of the *Planning and Building Act*. Another important reform occurred in 1999 with the introduction of the *Environmental Code*. This reform merged several older laws into a single act and clarified the division of tasks between the *Planning and Building Act* and environmental legislation. In 2011 changes to the *Planning and Building Act* were made. The reform introduced new requirements for comprehensive plans to incorporate national and regional objectives. In 2013 the government established a committee to further investigate the need for regional spatial planning and better co-ordination of planning at the regional level.

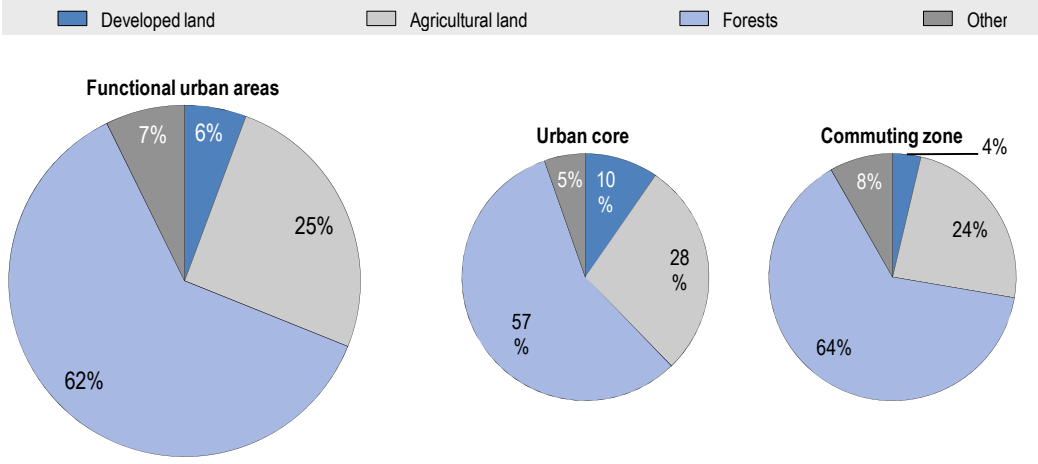
Sweden's national strategy for sustainable regional growth and attractiveness 2015-2020 also focuses on spatial planning, emphasising the need to better co-ordinate local comprehensive planning and regional development efforts. The strategy emphasises that by 2020 each county should have integrated a spatial perspective in its regional development policies.

Land cover in Sweden

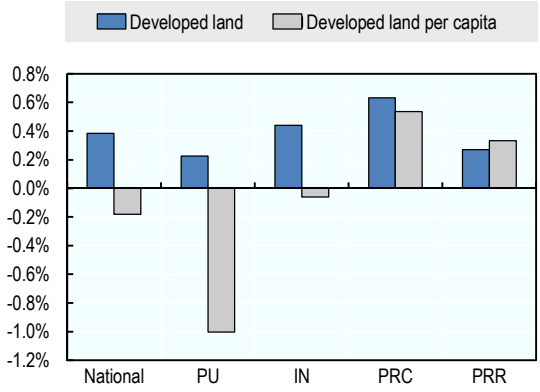
Land cover at the national level



Land cover in functional urban areas (FUAs)

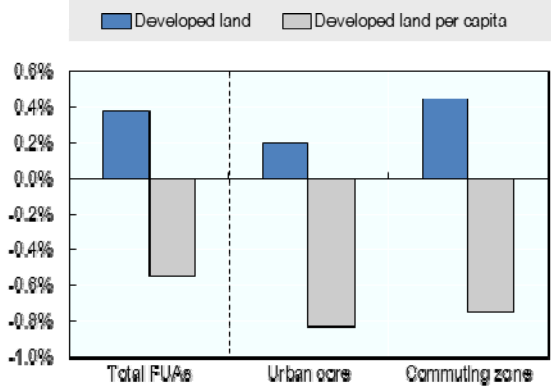


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Sweden

Similar to other sparsely populated countries, only a very small part (1.4%) of Sweden's land mass consists of developed land even though the country has one of the highest per capita land consumption with 671 square metres of developed land. Since 2000, a disparity in development patterns has emerged. Primarily urban regions experienced the smallest increase in developed land, but by far the highest population growth. As a result, per capita land use declined strongly in those regions. In contrast, in intermediate and rural regions, it stayed roughly constant or increased.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Sweden

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	449 493	7 017	248 443	59 209	134 824
Total developed land	6 360	888	4 021	236	1 215
Percentage of total	1.4%	12.7%	1.6%	0.4%	0.9%
Annual change in developed land, 2000-12	23.9	2.0	17.2	1.4	3.2
Annual percentage change in developed land, 2000-12	0.38%	0.23%	0.44%	0.63%	0.27%
Agricultural land	39 227	1 417	29 332	1 124	7 355
Percentage of total	8.7%	20.2%	11.8%	1.9%	5.5%
Annual change in agricultural land, 2000-12	-8.7	-0.6	-7.8	0.1	-0.4
Annual percentage change in agricultural land, 2000-12	-0.02%	-0.05%	-0.03%	0.01%	-0.01%
Forests	264 133	3 707	136 901	36 536	86 988
Percentage of total	58.8%	52.8%	55.1%	61.7%	64.5%
Annual change in forests, 2000-12	359.1	-3.0	50.4	114.1	197.7
Annual percentage change in forests, 2000-12	0.14%	-0.08%	0.04%	0.32%	0.23%
Land cover per capita (m²)					
Total developed land per capita	671	425	686	908	955
Annual percentage change in developed land per capita, 2000-12	-0.18%	-1.00%	-0.06%	0.54%	0.33%
Agricultural land per capita	4 137	677	5 007	4 329	5 777
Annual percentage change in agricultural land per capita, 2000-12	-0.59%	-1.27%	-0.52%	-0.08%	0.05%
Forests per capita	27 854	1 773	23 367	140 705	68 331
Annual percentage change in forests per capita, 2000-12	-0.43%	-1.31%	-0.46%	0.22%	0.29%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	45 648	15 331	30 317
Total developed land	2 589	1 468	1 121
Percentage of total	5.7%	9.6%	3.7%
Annual change in developed land, 2000-12	9.5	4.9	4.6
Annual percentage change in developed land, 2000-12	0.38%	0.34%	0.43%
Agricultural land	11 596	4 323	7 273
Percentage of total	25.4%	28.2%	24.0%
Annual change in agricultural land, 2000-12	-5.1	-3.0	-2.2
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.07%	-0.03%
Forests	28 133	8 715	19 418
Percentage of total	61.6%	56.8%	64.0%
Annual change in forests, 2000-12	-29.1	-10.5	-18.6
Annual percentage change in forests, 2000-12	-0.10%	-0.12%	-0.10%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	515	338	744
Annual percentage change in developed land per capita, 2000-12	-0.12%	-0.44%	-0.26%
Agricultural land per capita	2 307	239	3 611
Annual percentage change in agricultural land per capita, 2000-12	-0.54%	-0.83%	-0.74%
Forests per capita	5 596	378	5 559
Annual percentage change in forests per capita, 2000-12	-0.60%	-0.81%	-0.83%

Source: All land cover statistics for Sweden are based on OECD calculations based on *Corine Land Cover dataset*.

Switzerland

The planning system

Levels of government and their responsibilities

Switzerland is a federal country with 26 cantons and 2 294 municipalities. The fundamental responsibilities for spatial planning and land-use policies are defined in the Swiss constitution. Responsibilities for spatial planning lie with the cantons, while the federal government defines guiding principles for land-use planning and co-ordinates the efforts of the cantons.

In practice, the national government has two primary roles. First, it enacts the framework law that structures the planning processes of the cantons. It also enacts legislation in other fields such as transport, environmental protection, housing and energy that has relevance for land-use planning. Typically, federal legislation in these areas provides a framework that is further specified by cantonal legislation. Second, the federal government is directly involved in the preparation of five sectoral plans and two sectoral concepts on issues that have relevance beyond individual cantons (see below for further details).

Due to binding national guidelines, land-use planning in most Swiss cantons is structured similarly. Cantons exercise their responsibility for spatial planning mostly through the preparation of strategic regional plans. All cantons except Geneva and Basel-Stadt have delegated actual responsibility for land-use planning to municipalities, but they remain responsible for issuing building permits for projects that are located outside of so-called building zones (i.e. areas designated as developable).

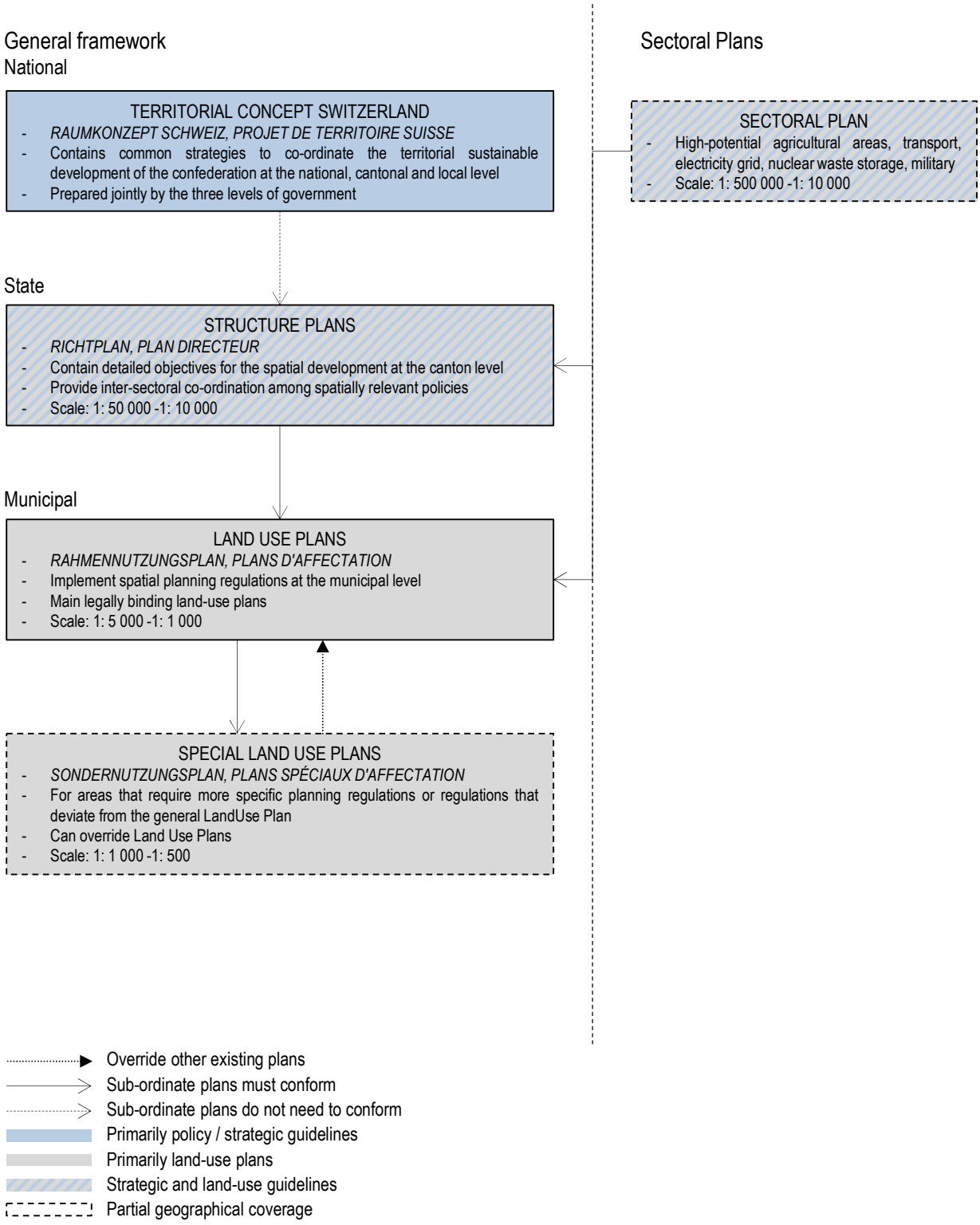
While formal responsibilities of cantons are similar across Switzerland, actual planning practices vary between them. Some cantons are known for more liberal approaches than others. Furthermore, there are differences between urban and rural areas, as large urban municipalities have the capacity to develop more elaborate plans than smaller municipalities.

While details vary between cantons, municipalities are central actors in land-use policies, as they prepare binding land-use plans (except in Geneva and Basel-Stadt where this is done by the respective canton administration). Furthermore, they issue building permits for all construction projects located within the building zone of their territory.

Spatial and land-use plans

At the national level, a non-binding country-wide strategic plan, five sectoral plans and two spatial concepts exist. Sectoral plans concern high-potential agricultural areas, transport, the electricity grid, storage sites for nuclear waste, and the military. They designate areas for specific land uses within their thematic fields and are binding for subordinate plans. Sectoral concepts, which contain less detail than sectoral plans are prepared for landscape planning and the planning of sports facilities.

Organisation of spatial and land-use in Switzerland



At the cantonal level *Structure Plans* are detailed strategic plans that describe the socio-economic situations in cantons and include detailed objectives for the spatial development in cantons. They are very specific about the intended land use for certain parts of the canton and determine the location of public infrastructure. However, they do not contain land-use regulations that are binding for land owners.

Land use is generally regulated by *Local Land Use Plans*, which are prepared by municipalities except in the cantons of Geneva and Basel where cantonal land-use plans are prepared. All municipalities are covered by them (map-based elements 1: 5 000 and 1: 1 000). They typically define the limits of building zones and the different land-use zones within it, but do not contain regulations on urban design. After their preparation by municipalities, *Local Land Use Plans* have to be approved by the canton. In some cantons *Local Land Use Plans* may also need to be confirmed by a public referendum in the respective municipality.

Special Land Use Plans are prepared for areas where additional regulation beyond general zoning is required. Most commonly, *Special Land Use Plans* define neighbourhood layouts, architectural details of buildings and other specific aspects required for developments. They may override *Local Land Use Plans*. Beyond these aspects, they may also regulate other aspects of land use if needed. *Special Land Use Plans* are defined in cantonal legislation. Therefore, their details and their approval process vary from canton to canton.

In addition to the plans mentioned above, a large variety of other plans exist. Primarily, these are strategic plans at all levels of government and sectoral plans at the canton level. Typically, they cover issues such as economic development, waste, wastewater, telecommunication, the electricity grid, traffic and environmental protection. Furthermore, some national legislation has an explicit spatial dimension. Examples are laws creating an inventory of heritage sites or determining areas where hunting is banned.

Major laws and regulations

As mentioned above, the most important law is the framework *Law on Spatial and Regional Planning*. It guides spatial planning at all levels of government and requires a sparing use of land whenever possible. As a central mechanism to achieve this goal, it demands a strict delineation of land that is available for development and land that is not. Furthermore, it requires that different levels of government co-ordinate their land-use related activities. Due to the high level of detail in the *Law on Spatial and Regional Planning*, and in the corresponding implementation ordinance, the planning systems of the Swiss cantons are generally similar.

Several other laws have major importance for land use in Switzerland. The *Agriculture Law* defines the multi-functionality of agricultural landscape and requires decentralised settlement patterns. A *Law on Second Homes* limits the share of second homes within municipalities to 20% and has important impacts on some municipalities in touristic areas. Furthermore, the *Nature and Cultural Heritage Protection Law* and the *Environmental Protection Law* restrict land use along various dimensions.

Co-ordination mechanisms

Limited co-ordination between levels of government is provided by the formally hierarchical nature of the planning system. Although municipalities retain a high degree of autonomy concerning land-use planning, their plans must comply with higher level

plans. Horizontal co-ordination occurs primarily at the cantonal level through *Structure Plans*, which cover several policy areas.

Expropriations

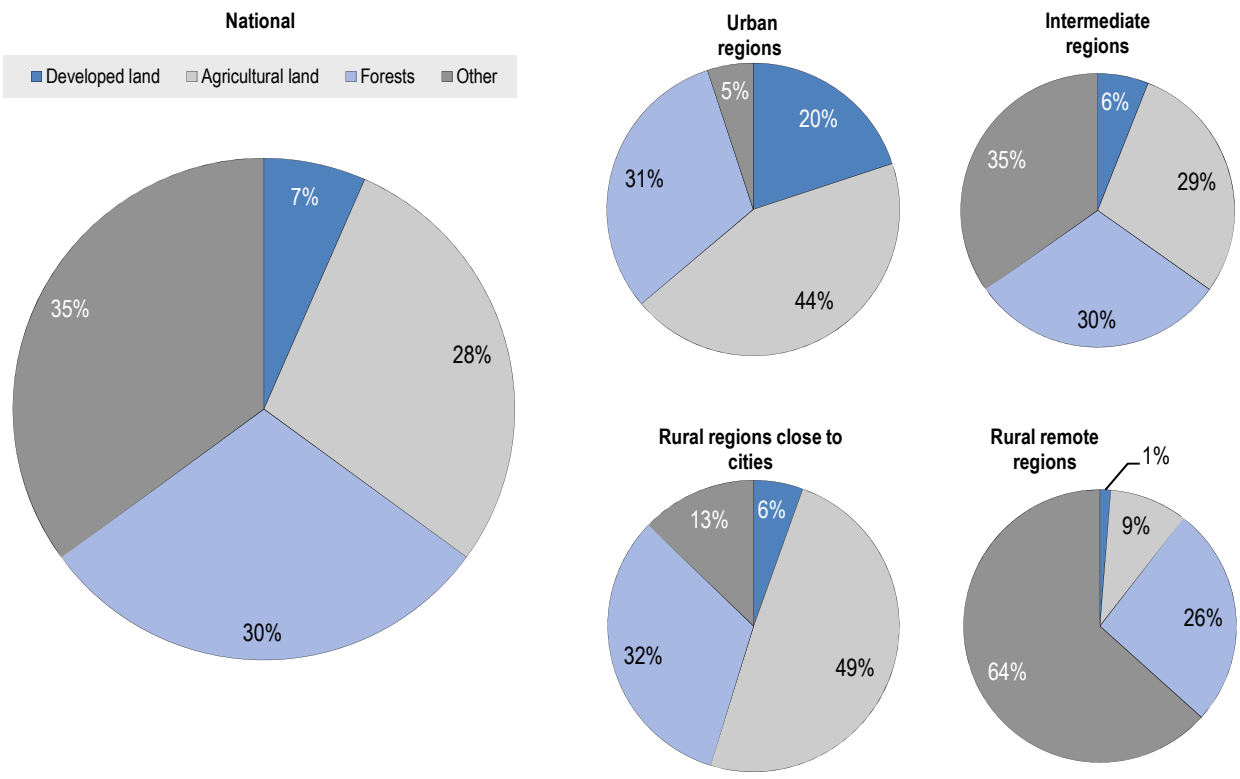
Expropriation is possible for several reasons, among them the construction of transport infrastructure and public buildings, the protection of nature reserves and for military purposes. Expropriations are comparatively uncomplicated in the case of construction of infrastructure and to a lesser degree also for military purposes, but very difficult in most other cases due to the strong protection of property rights.

Recent and planned reforms to the system of land-use planning

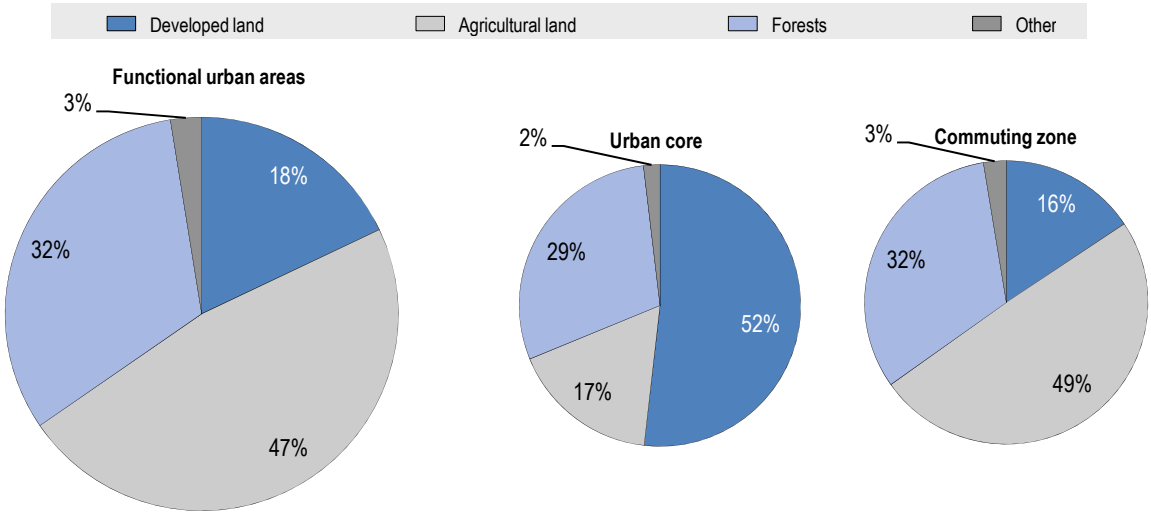
The *Law on Spatial and Regional Planning* has been in place since 1979, but has been revised several times since then (in 1995, 1998, 2007, and 2013). The most recent reform aimed at increased densification and at limiting expansion outside of building zones. As of the time of writing, further reforms are under discussion but not decided.

Land cover in Switzerland

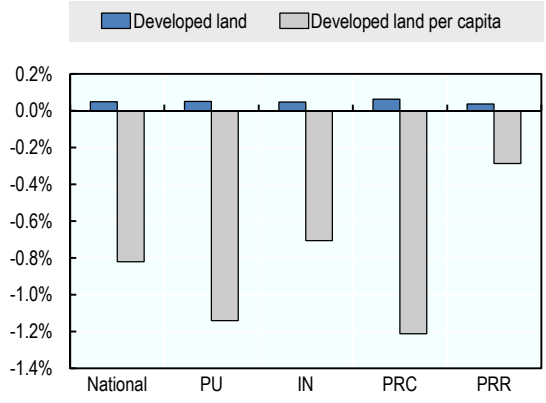
Land cover at the national level



Land cover in functional urban areas (FUAs)

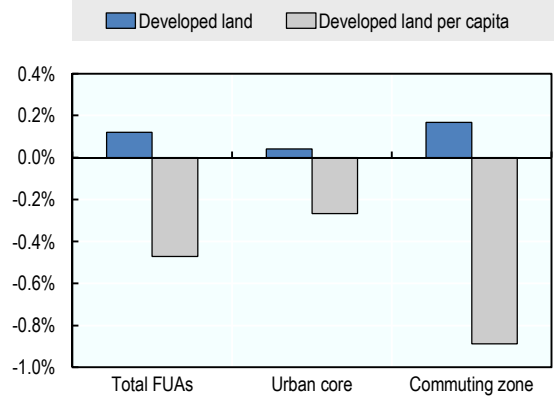


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in Switzerland

Switzerland is one of the more densely populated OECD countries. Land use is more constrained than in many other countries because of the mountainous terrain, which is reflected in the high share of land that is neither developed, nor used for agriculture or forestry. Since 2000, developed land has increased by very little – at least insofar as can be observed on the available satellite-imagery. As population has been growing strongly, the amount of developed land per capita has decreased by approximately 0.8% annually, the second highest decline in the OECD behind Luxembourg. Per capita use of developed land is slightly below the OECD average.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Switzerland

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	41 297	4 234	26 933	2 998	7 132
Total developed land	2721	844	1622	165	89
Percentage of total	6.6%	19.9%	6.0%	5.5%	1.3%
Annual change in developed land, 2000-12	1.3	0.4	0.8	0.1	0.03
Annual percentage change in developed land, 2000-12	0.05%	0.05%	0.05%	0.06%	0.04%
Agricultural land	11 750	1 858	7 755	1 477	660
Percentage of total	28.5%	43.9%	28.8%	49.3%	9.3%
Annual change in agricultural land, 2000-12	-1.1	-0.4	-0.6	-0.1	0.0
Annual percentage change in agricultural land, 2000-12	-0.01%	-0.02%	-0.01%	-0.01%	0.00%
Forests	12 345	1 318	8 190	972	1 865
Percentage of total	29.9%	31.1%	30.4%	32.4%	26.2%
Annual change in forests, 2000-12	0.4	0.8	-0.3	-0.01	-0.1
Annual percentage change in forests, 2000-12	0.003%	0.06%	-0.003%	-0.001%	-0.01%
Land cover per capita (m²)					
Total developed land per capita	342	326	392	421	462
Annual percentage change in developed land per capita, 2000-12	-0.82%	-1.14%	-0.71%	-1.21%	-0.29%
Agricultural land per capita	1 477	718	1 876	3 776	3 413
Annual percentage change in agricultural land per capita, 2000-12	-0.88%	-1.21%	-0.76%	-1.28%	-0.33%
Forests per capita	1 552	509	1 981	2 485	9 645
Annual percentage change in forests per capita, 2000-12	-0.86%	-1.13%	-0.76%	-1.27%	-0.33%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	7 390	472	6 918
Total developed land	1 327	244	1 082
Percentage of total	18.0%	51.8%	15.6%
Annual change in developed land, 2000-12	1.6	0.1	1.5
Annual percentage change in developed land, 2000-12	0.12%	0.04%	0.14%
Agricultural land	3 506	80	3 426
Percentage of total	47.4%	17.0%	49.5%
Annual change in agricultural land, 2000-12	-1.4	-0.1	-1.3
Annual percentage change in agricultural land, 2000-12	-0.04%	-0.12%	-0.04%
Forests	2 369	138	2 231
Percentage of total	32.1%	29.3%	32.2%
Annual change in forests, 2000-12	0.4	0.1	0.3
Annual percentage change in forests, 2000-12	0.02%	0.08%	0.01%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	299	157	351
Annual percentage change in developed land per capita, 2000-12	-0.47%	-0.27%	-0.89%
Agricultural land per capita	791	41	930
Annual percentage change in agricultural land per capita, 2000-12	-0.63%	-0.45%	-1.11%
Forests per capita	534	53	651
Annual percentage change in forests per capita, 2000-12	-0.57%	-0.04%	-1.02%

Source: All land cover statistics for Switzerland are based on OECD calculations based on *Corine Land Cover dataset*.

Turkey

The planning system

Levels of government and their responsibilities

Turkey is a unitary state with 3e levels of government; the national level, 81 provinces and 1 397 municipalities. The national government is responsible for the framework legislation defining the spatial planning system of the country and for funding major infrastructure decisions. It is also responsible for the preparation of all national plans and regional plans and approves *Municipal Master Plans*. Within the national government, responsibilities are divided between the *Ministry of Development* and its subordinate *Regional Development Agencies* and the *Ministry of the Environment and Urban Planning*. Whereas the former is responsible for regional development strategies and their spatial dimensions, the latter is responsible for land-use plans and the *National Spatial Development Plan* that is currently under preparation.

The role of provinces in land-use governance is limited. They are not actively involved in land-use planning and shape land use primarily through spending on public works and economic development programmes, for example on agriculture.

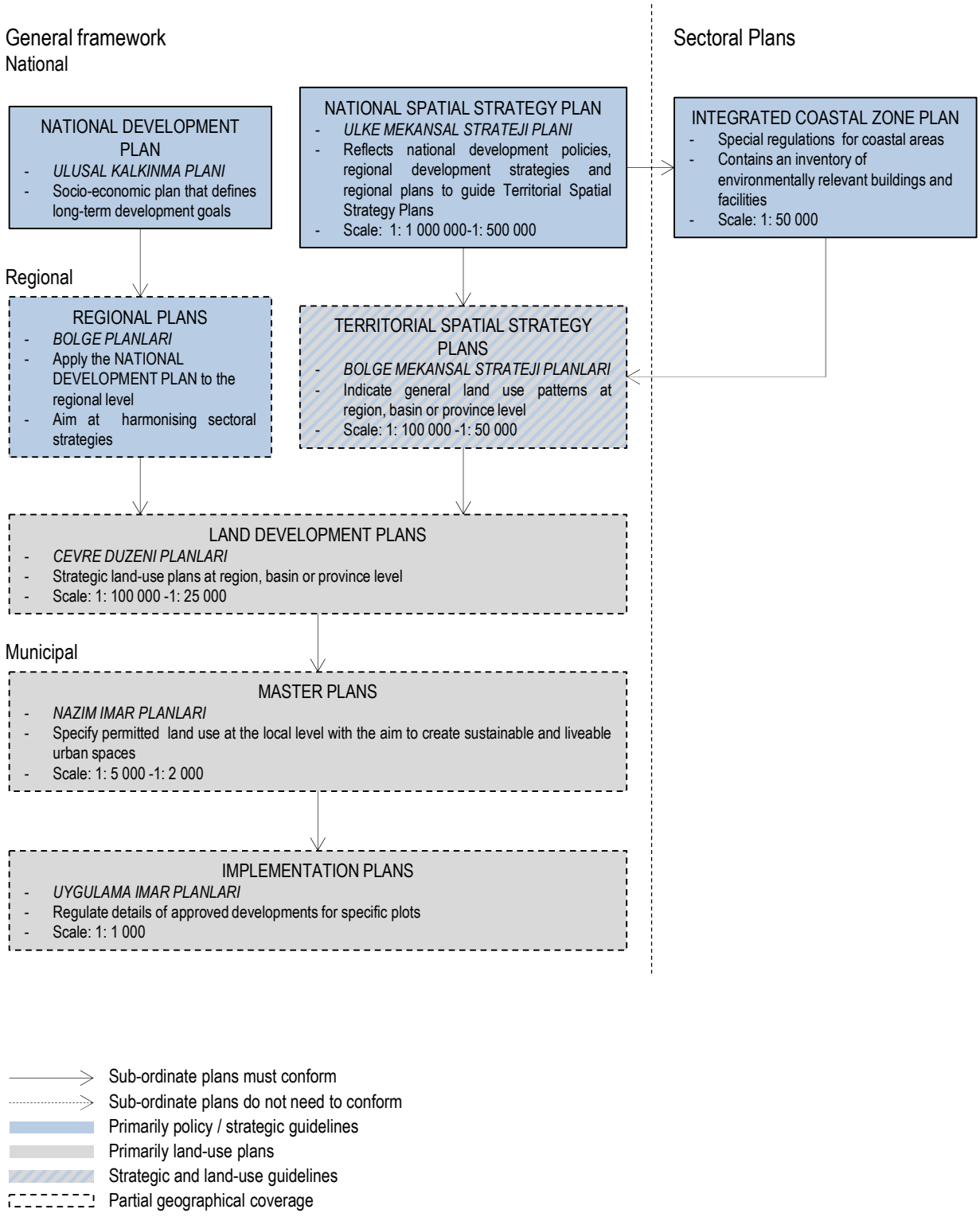
Municipalities in Turkey are categorised into *Metropolitan Municipalities*, *City Municipalities* and *Town Municipalities*. All municipalities above 10 000 inhabitants are responsible for the preparation of *Municipal Master Plans* and *Implementation Plans*. Eventually, *Metropolitan Municipalities* and *City Municipalities* will also prepare *Urban Development Plans*.

Spatial and land-use plans

At the national level, two plans are foreseen in Turkey. The *National Development Plan* is a general plan for economic development that contains spatial elements but is not primarily a spatial plan. It covers a five year time period and is complemented by *Regional Plans* that spell out the spatial dimension of the *National Development Plan* more explicitly and provide concrete objectives and policy measures for each of the 26 regions of the country. These plans will be complemented by the *National Spatial Strategy Plan*. It will determine spatial strategies related to urban systems, infrastructure, transport and other spatially relevant aspects of public policy. It is supposed to co-ordinate regional development strategies, steer lower level plans and to determine the location of major public investment projects. At the regional level, the *National Spatial Strategy Plan* is supposed to be complemented by *Territorial Spatial Strategy Plans* that can be prepared at varying regional scales. They may eventually replace the existing *Regional Plans*.

Land Development Plans have the same geographical scope as the planned *Territorial Spatial Strategy Plans*. They contain fewer strategic elements and provide instead small scale land-use plans (typically at scales between 1: 100 000 and 1: 25 000). They are used as steering instrument through which the national government can guide local land-use plans.

Organisation of spatial and land-use planning in Turkey



At the local level, two land-use plans exist. *Master Plans* combine elements of strategic plans and zoning plans. They are the main plans used by municipalities to shape their urban development in a sustainable way. They must follow the guidelines provided by *Land Development Plans*, but are much more detailed at scales of 1: 5 000 to 1: 2 000. The second type of local plan is the *Implementation Plan*, which determines the details of permitted developments at the plot scale.

In addition to the plans listed above, a special *Integrated Coastal Zones Plan* exists. It has the goal of improving land-use management and accelerating the decision-making process in coastal regions that face particularly strong development pressures. It provides an inventory of coastal buildings and facilities to improve environmental management and shows functional relations between areas along the coast.

Major laws and regulations

The Law on Soil Conservation and Land Use and the Land Development Planning and Control Law provide the framework legislation for the land-use planning system in Turkey together with the Zoning Directive, the Directive on the Preparation of Spatial Plans and the Regulation for Planned Areas. Other relevant laws are the Law on the Establishment of Metropolitan Municipalities and Town Municipalities that created the new municipalities and determined their borders and responsibilities. The Coastal Law delineates coastal areas and regulates public land use in them.

Co-ordination mechanisms

Legally, authorities are required to co-ordinate with each other when deciding on policies related to spatial planning. Vertical co-ordination is provided through the hierarchical nature of the planning system, which mandates lower level plans to follow higher level plans. Horizontal co-ordination occurs through consultations between authorities.

Expropriations

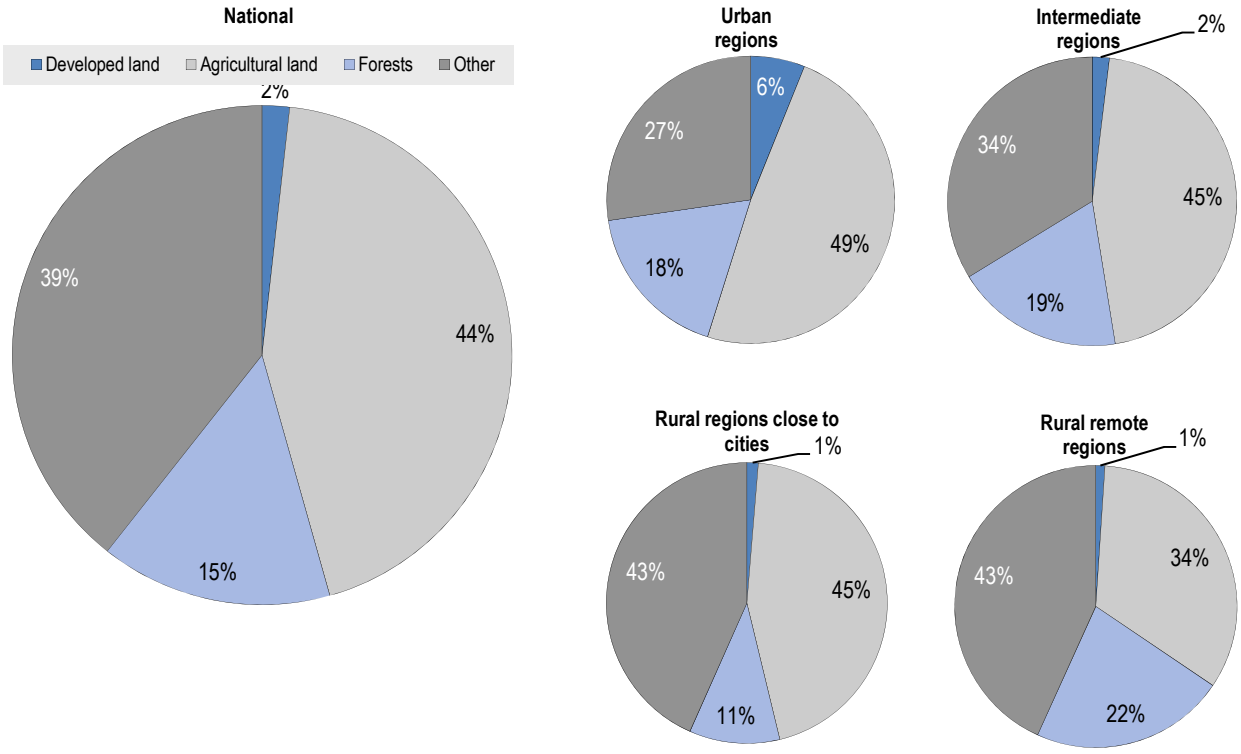
Expropriations are possible if a planned development is in the public interest, independent from whether it is conducted by private or public developers. Before expropriations start, attempts for a negotiated settlement must have failed and a fair compensation for expropriated land must be paid. Expropriations can only be conducted by public authorities, but they can determine the public interest in a privately planned development and expropriate accordingly.

Recent and planned reforms to the system of land-use planning

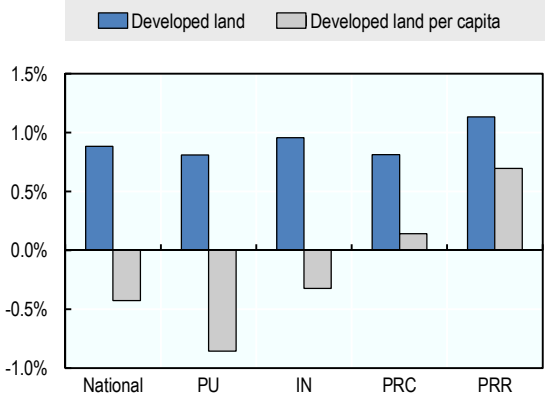
Several reforms to the Turkish land-use governance system have occurred in recent years. In 2001, a reform integrated principles for sustainable development into the national planning strategies. This was further strengthened by incorporating environmental and ecological priorities into the main planning laws in 2005. In 2006, the *Regional Development Agencies* were established with the goal to promote economic development at the regional level. In 2013 a reform reshaped the size and functions of municipalities.

Land cover in Turkey

Land cover at the national level



Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Land-use trends in Turkey

With 182 square metres, Turkey uses the least developed land per capita of all analysed countries. While developed land increased by more than 10% between 2000 and 2012, this growth was outpaced by population growth. As a consequence, developed land per capita decreased slightly between 2000 and 2012. This was the case especially in primarily urban areas, where population growth has been exceptionally strong. While the share of agricultural land in Turkey is comparable to many other OECD countries, the share of forested land is lower than in many other analysed countries. Likely, this is due to climate conditions.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in Turkey

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	771 692	48 946	237 590	385 591	99 564
Total developed land	13 618	2 989	4 580	5 036	1 013
Percentage of total	1.8%	6.1%	1.9%	1.3%	1.0%
Annual change in developed land, 2000-12	113.8	23.0	41.2	38.9	10.7
Annual percentage change in developed land, 2000-12	0.88%	0.81%	0.96%	0.81%	1.13%
Agricultural land	338 538	23 872	108 120	173 257	332 89
Percentage of total	43.9%	48.8%	45.5%	44.9%	33.4%
Annual change in agricultural land, 2000-12	-73.3	-17.3	-24.3	-24.9	-6.8
Annual percentage change in agricultural land, 2000-12	-0.02%	-0.07%	-0.02%	-0.01%	-0.02%
Forests	115 801	8 722	44 710	40 132	22 237
Percentage of total	15.0%	17.8%	18.8%	10.4%	22.3%
Annual change in forests, 2000-12	-80.0	-1.5	-68.6	4.7	-14.6
Annual percentage change in forests, 2000-12	-0.07%	-0.02%	-0.15%	0.01%	-0.07%
Land cover per capita (m²)					
Total developed land per capita	182	121	169	263	274
Annual percentage change in developed land per capita, 2000-12	-0.42%	-0.86%	-0.32%	0.14%	0.70%
Agricultural land per capita	4 530	967	3 979	9 044	9 000
% annual change in agricultural land per capita from 2000 to 2010		-1.72%	-1.29%	-0.68%	-0.45%
Forests per capita	1 550	353	1 645	2 095	6 012
Annual percentage change in forests per capita, 2000-12		-1.67%	-1.42%	-0.65%	-0.50%

Source: All land cover statistics for Turkey are based on OECD calculations based on *Corine Land Cover dataset*.

United Kingdom

The planning system

Levels of government and their responsibilities

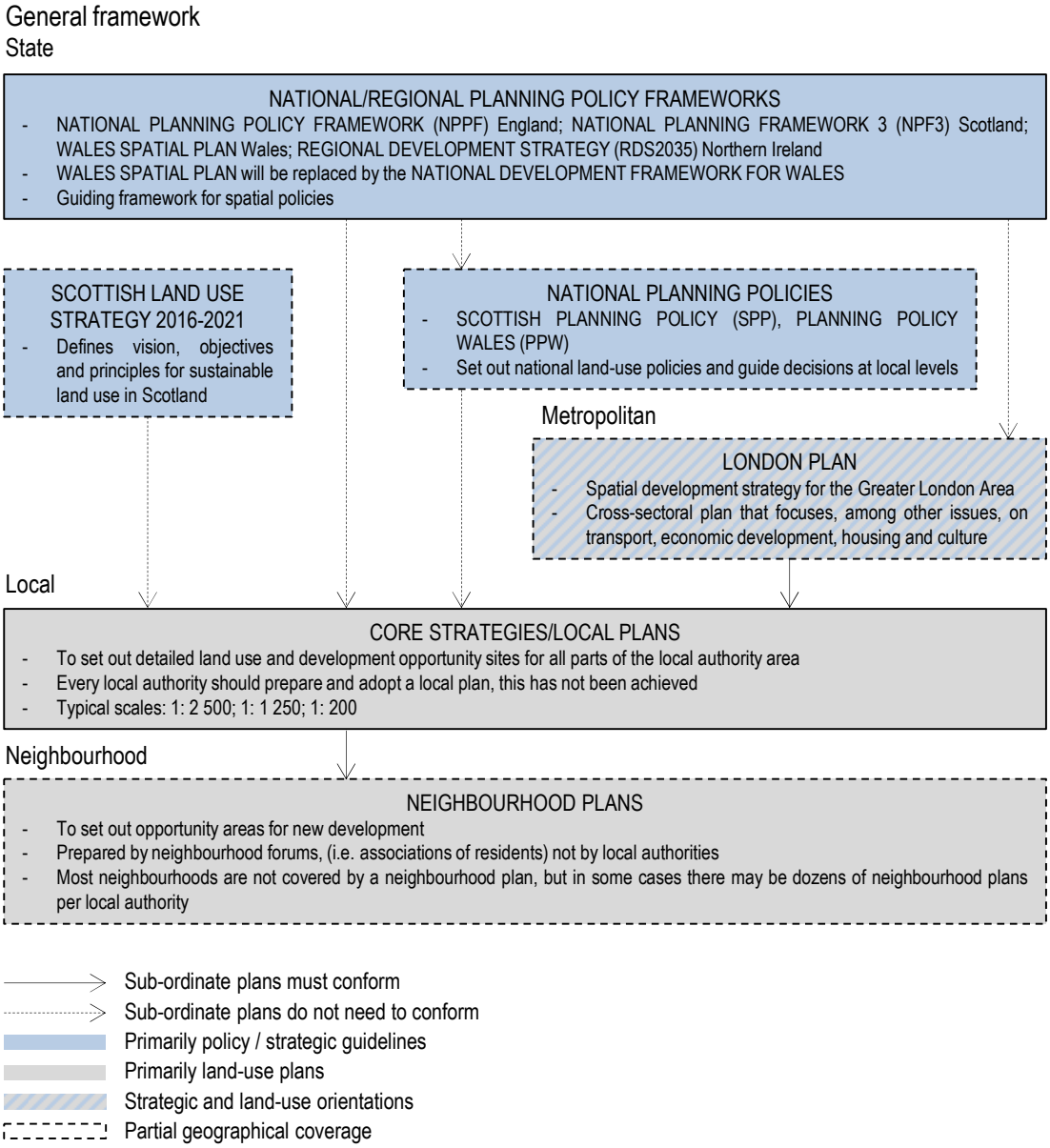
The United Kingdom is a unitary state with three devolved governments in Northern Ireland, Wales and Scotland, respectively. At the local level, 389 local authorities with varying status and powers exist. Among them are 27 county councils, which exist in parts of England and are strictly speaking an intermediate level of government because they operate above other local authorities, except where they are unitary authorities. The UK government is responsible for allocating funds to local authorities and for preparing the *National Planning Policy Framework* in England. It can also facilitate important infrastructure projects through specific legislation or by placing them under direct ministerial control. The Welsh and Scottish governments have been granted far reaching powers regarding land-use policies. They enact national spatial planning frameworks that structure the planning system in their territories. The Scottish government also prepares a *Scottish Land Use Strategy*, the only such document in the United Kingdom. Furthermore, both governments decide about appeals against local planning decisions and have the power to fast track infrastructure project in their territories.

Local authorities are responsible for local land-use planning and public housing. They also decide on planning applications. Some local authorities have contracted land-use planning out to the private sector. County councils as an intermediate level of government are – where they exist – responsible for strategic planning and for planning applications related to waste disposal sites, mineral extraction and county owned land. In London, the *Greater London Authority* has a distinct legal status as a metropolitan authority and is among other issues responsible for transport and for the preparation of the *London Plan*, a strategic plan that provides binding guidelines to local authorities in the greater London area. Other devolved authorities will also receive strategic planning powers if they wish under the Government's programme of Devolution Deals.

Spatial and land-use plans

England, Northern Ireland, Scotland and Wales each have separate *National or Regional Planning Policy Frameworks.* These provide long-term guidance frameworks for the spatial development in the respective parts of the country. In England, the *National Planning Policy Framework (NPPF)* sets out how government policies for England should be applied and must be taken into account by local councils and local people in the preparation of their own local and neighbourhood plans. It is accompanied by more detailed Planning Practice Guidance available on-line. In Scotland, the *National Planning Framework (NPF)* outlines a long-term vision for spatial development and investment across Scotland for the next 20-30 years. In Wales, the *Wales Spatial Plan* sets out cross-cutting national spatial policies which provide the context for the application of national and regional policies for specific sectors and different sub regions of Wales. In Northern Ireland, the *Regional Development Strategy (RDS2035)* is a long-term plan to 2035 which informs the spatial aspects of the strategies of all government departments.

Organisation of spatial and land-use planning in the United Kingdom



These national and regional planning frameworks formulate policy priorities for spatial development but do not allocate land for specific uses. They do not contain legally binding elements, but are material considerations that must be taken into account by local governments. The frameworks are prepared and issued by the responsible minister in each country. The frameworks do not contain specific policies for nationally significant infrastructure projects such as power stations, airports, inter-city rail and road networks which are the subject of separate legislation. Decisions on these developments are taken in accordance with other planning legislation and national policy statements for major infrastructure, which form part of the overall framework of national planning policy.

Core Strategies are the main local land-use plan. They contain a section with general policy guidelines as well as local land-use plans typically drawn at scales between 1: 2 500 and 1: 200. They are approved by regulatory decision of the local authority. In England, *Core Strategies* form part of local authority's *Local Development Frameworks* which include *Local Plans*. These are at the heart of the English planning system and set out a vision and framework for the future development of an area, addressing issues such as housing, infrastructure, the economy, the environment and good design.

At the very local level, *Neighbourhood Plans* have existed in England since 2011. These plans are created on an ad-hoc basis by citizens from self-organising communities known as *Neighbourhood Forums*. To prepare a *Neighbourhood Plan* a *Neighbourhood Forum* must be formally designated by the local planning authority. *Neighbourhood Plans* cannot restrict development in areas where it has been approved by *Core Strategies* and *Local Plans*, but they can designate additional land for development if this is in conformity with the NPPF. Over 200 *Neighbourhood Plans* have been approved as of the time of writing.

Major laws and regulations

Due to the devolution of land-use planning, England, Northern Ireland, Scotland and Wales have their own framework legislation on planning as well as on related issues such as conservation. In England, the *Localism Act* from 2011 has granted local authorities additional powers and allowed local referenda. The *Environmental Protection Act* applies to England, Scotland and Wales, but not to Northern Ireland, which is subject to a somewhat different set of environmental laws and regulations.

Co-ordination mechanisms

The *Localism Act 2011* introduced the "Duty to Cooperate", under which local planning authorities when preparing *Local Development Plans* must co-operate with neighbouring planning authorities and related organisations on cross-boundary strategic issues. These issues include homes and jobs, commercial development, infrastructure, health, security and cultural infrastructure, climate change mitigation and adaptation. The "Duty to Cooperate" applies to other public bodies which have an interest in a particular plan.

Planning Inspectors from the Government's Planning Inspectorate play an important role in examining *Local Plans* for their soundness. If an inspector has significant concerns about a *Local Plan* in relation to the "duty to cooperate" or other procedural requirements, the Inspector will inform the local planning authority and may suspend the examination process until the local authority has addressed the issue. Whilst no formal horizontal co-ordination mechanisms between different policy branches exist interested parties may co-ordinate on an ad-hoc basis as necessary.

Expropriations

Land ownership and development rights are considered separate issues in the United Kingdom. In general, ownership does not give the automatic right to develop land and all developments require planning permission. Expropriation or compulsory purchase is possible for both public and private developments, including infrastructure projects, public facilities, and also commercial projects such as retail and residential developments. Expropriations were frequent in the decades after 1945,

but are used sparingly since the 1980s even though they pose few legal difficulties. Under compulsory purchase powers local authorities must demonstrate that there is a "compelling case in the public interest" for the compulsory acquisition of land and there are strong legal compensation rights for those affected.

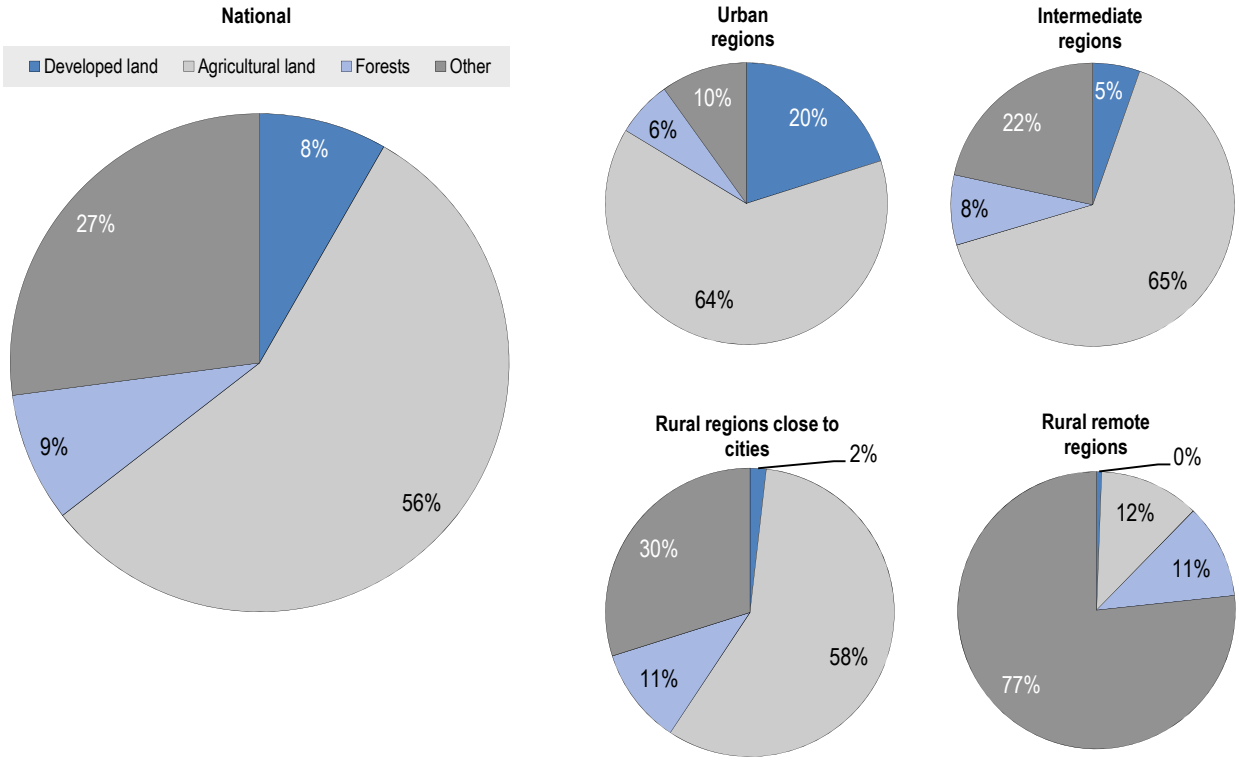
Recent and planned reforms to the system of land-use planning

The current land-use planning system in its broad outline has been in place in the United Kingdom since 1947. Since then, it has been very frequently reformed and updated. Currently, reforms are on-going to give large cities more powers and responsibilities under *Devolution Deals* and plans for *Combined Authorities*. These reforms will most likely also have effects on land-use planning in large urban areas, but no concrete measures had been decided as of the time of writing.

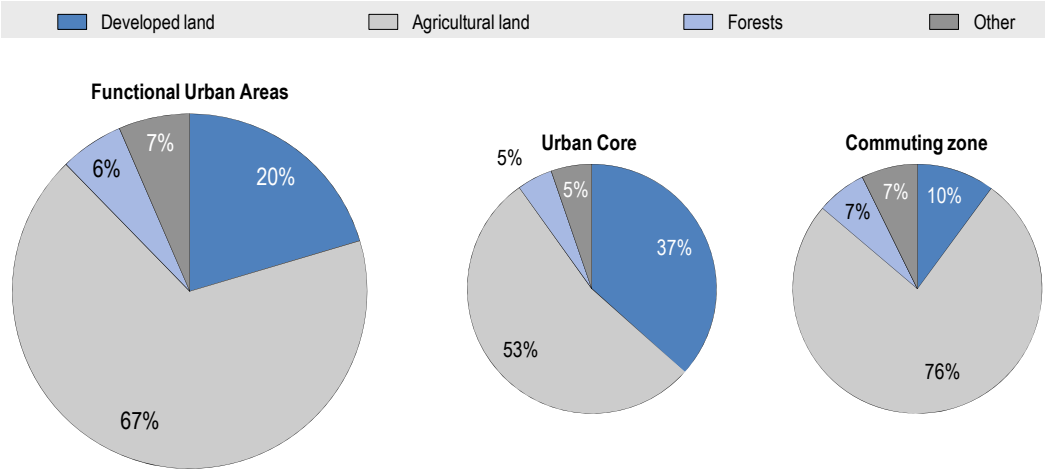
The *Neighbourhood Planning and Infrastructure Bill 2016-17* has provisions to strengthen neighbourhood planning by making the local government duty to support neighbourhood groups more transparent by improving the process for reviewing and updating plans. It is also due to make changes to the compulsory purchase system to make the system clearer, fairer and quicker. The bill will also put the *National Infrastructure Commission* on a statutory footing. The Commission was set up on an interim basis in 2015 to look at the United Kingdom's future needs for nationally significant infrastructure to maintain the country's national competitiveness.

Land cover in the United Kingdom

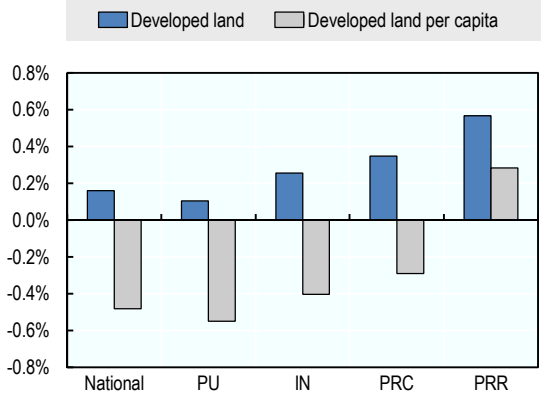
Land cover at the national level



Land cover in functional urban areas (FUAs)

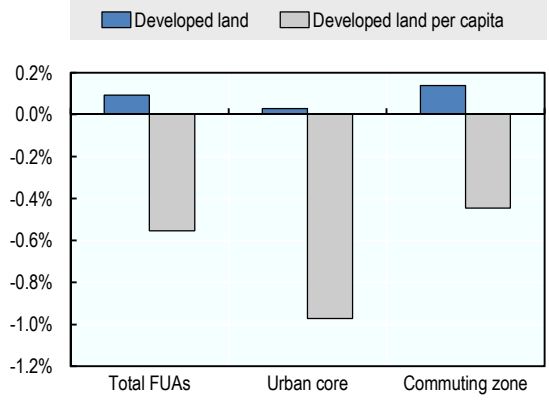


Annual change in developed land, 2000-12



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.. Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Annual change in developed land in functional urban areas from 2000 to 2012



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in the United Kingdom

Land use in the United Kingdom is characterised by strong differences between the very densely populated south-east that is dominated by developed and agricultural land and sparsely populated areas in the north with little developed or agricultural land. Urban areas have experienced strong and sustained population growth since 2000, but have seen only very small increases of developed land. In fact, a very pronounced inverse relationship between the growth of developed land and population growth exists among the four types of regions along the OECD urban-rural classification. The greater the population growth in a type of region has been, the smaller the growth rate of developed land in the type of region. This disparity between population growth and land use is likely to explain the sustained pressure on housing prices in parts of the United Kingdom.

Source: OECD calculations based on *Corine Land Cover dataset*.

Land cover at the national level in the United Kingdom

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	245 019	67 689	109 829	33 440	34 060
Total developed land	20 324	13 612	5 905	617	189
Percentage of total	8.3%	20.1%	5.4%	1.8%	0.6%
Annual change in developed land, 2000-12	32.1	14.1	14.8	2.1	1.0
Annual percentage change in developed land, 2000-12	0.16%	0.10%	0.26%	0.35%	0.57%
Agricultural land	137 674	43 053	71 412	19 232	3 978
Percentage of total	56.2%	63.6%	65.0%	57.5%	11.7%
Annual change in agricultural land, 2000-12	-32.1	-13.3	-14.0	-4.6	-0.1
Annual percentage change in agricultural land, 2000-12	-0.02%	-0.03%	-0.02%	-0.02%	0.00%
Forests	20 555	4 361	8 835	3 607	3 752
Percentage of total	8.4%	6.4%	8.0%	10.8%	11.0%
Annual change in forests, 2000-12	-96.7	-9.0	-34.8	-29.7	-23.3
Annual percentage change in forests, 2000-12	-0.46%	-0.20%	-0.38%	-0.78%	-0.60%
Land cover per capita (m²)					
Total developed land per capita	320	291	399	411	559
Annual percentage change in developed land per capita, 2000-12	-0.48%	-0.55%	-0.40%	-0.29%	0.28%
Agricultural land per capita	2 168	927	4 918	12 807	11 751
Annual percentage change in agricultural land per capita, 2000-12	-0.66%	-0.68%	-0.68%	-0.66%	-0.28%
Forests per capita	324	99	619	2402	11 082
Annual percentage change in forests per capita, 2000-12	-1.09%	-0.86%	-1.04%	-1.41%	-0.88%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	66 337	25 741	40 596
Total developed land	13 526	9 418	4 108
Percentage of total	20.4%	36.6%	10.1%
Annual change in developed land, 2000-12	12.5	5.8	6.7
Annual percentage change in developed land, 2000-12	0.09%	0.06%	0.17%
Agricultural land	44 668	13 766	30 902
Percentage of total	67.3%	53.5%	76.1%
Annual change in agricultural land, 2000-12	-13.2	-6.9	-6.4
Annual percentage change in agricultural land, 2000-12	-0.03%	-0.05%	-0.02%
Forests	3 837	1 190	2 647
Percentage of total	5.8%	4.6%	6.5%
Annual change in forests, 2000-12	-9.2	-2.4	-6.8
Annual percentage change in forests, 2000-12	-0.24%	-0.20%	-0.25%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	291	222	390
Annual percentage change in developed land per capita, 2000-12	-0.55%	-0.97%	-0.44%
Agricultural land per capita	962	152	1 856
Annual percentage change in agricultural land per capita, 2000-12	-0.67%	-1.05%	-0.61%
Forests per capita	83	12	179
Annual percentage change in forests per capita, 2000-12	-0.88%	-1.10%	-1.09%

Note: Changes in per capita land use refer only to regions for which population data is available for 2000 and 2012.

Source: All land cover statistics for the United Kingdom are based on OECD calculations based on *Corine Land Cover dataset*.

United States

The planning system

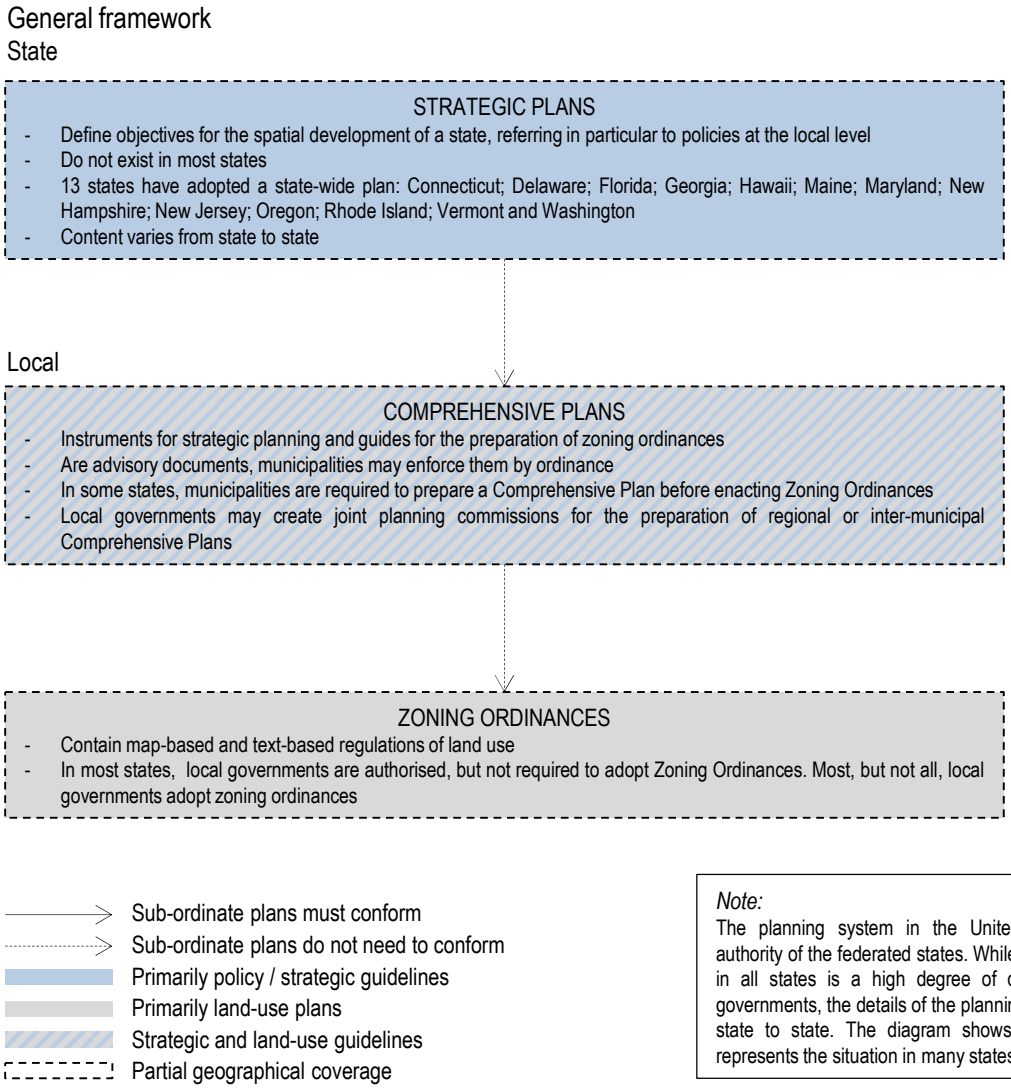
Levels of government and their responsibilities

The United States is a federal country with 4 levels of government; the national level, 50 federated states, 3 031 governments at an intermediate level (e.g. counties) and 35 879 local authorities (not including special purpose entities such as school districts). Generally, decisions concerning land use are highly decentralised. Constitutionally, land-use planning is among the powers retained by the states, but all states delegate large parts of their authority to local governments through state constitutions and statutes.

Despite its lack of direct powers regarding land-use planning on non-federal lands, the federal government exercises considerable influence over land use. First, it has enacted environmental legislation that influences land-use decision making. Second, it owns large parts of the land especially in western states. The five states with the largest share of federal land are: Nevada (85%); Utah (65%); Alaska (61%); Idaho (61%); and Oregon (53%) (Vincent, Hanson and Bjelopera, 2014). Third, it owns and may decommission military lands for private development in important urban areas. Fourth, it has signed treaties that influence or govern land use on Native American tribal land. Fifth, it constructs and funds federal roads. Sixth, it provides fiscal incentives to state and local governments for specific projects. Seventh, it provides tax incentives to individuals, for example to encourage single-family homeownership through tax deductions on mortgage interests. Eighth, it provides limited housing support for low income households. Ninth, it pursues agricultural policies using fiscal and regulatory tools that influence land use especially in rural areas. Tenth, US constitutional principles such as due process, equal protection, and takings limitations impose restrictions on land-use planning.

States have the authority to regulate land use, but all states have, to a large degree, delegated this authority to local governments through state constitutions and statutes. However, just as with the federal government, states also have considerable indirect influence. First, state constitutions determine the delegation of powers to the local governments, and states also pass the framework legislation that defines the tools that local governments can use for land-use planning and control. Second, they specify how local governments can finance themselves. For example, these financing provisions can prevent local governments from using specific fiscal instruments that would allow them to finance urban redevelopment projects. Thus, they limit local control over land use. Third, judicial review of land-use permits, as well as rules for how local governments must conduct administrative hearings on land-use permits, are frequently determined by states. Fourth, 15 states require an environmental review before building permissions can be issued. Fifth, all states adopt building codes, which generally follow the model provided by the *International Building Code*. Sixth, states may own land themselves. The five states with the largest share of state owned land are: New York (37%); Alaska (29%); New Jersey (16%); Florida (14%); and Pennsylvania (13%). Seventh, states provide voluntary guidelines and support to local governments to assist them in the planning process.

Organisation of spatial and land-use planning in the United States



Note:
The planning system in the United States is under the authority of the federated states. While a general characteristic in all states is a high degree of decentralisation to local governments, the details of the planning system may vary from state to state. The diagram shows a typical case, which represents the situation in many states.

Generally, local governments have a large degree of autonomy to control land use within their jurisdictions. States typically grant them the authority to pass ordinances and regulations as long as they do not conflict with other laws. Furthermore, all states give municipalities the power to enact zoning regulations. In 15 states, state legislation also requires municipalities to adopt a *Comprehensive Plan*. Similarly, in 8 states local governments are required to adopt *Local Zoning Ordinances*.

Spatial and land-use plans

No national level spatial plans exist in the United States. At the state level, 12 states have adopted state-wide plans, typically *Strategic Plans*. The plans vary with respect to their specificity and their focus. In some cases, they guide primarily state policies, but often they aim at guiding decisions at the local level. In seven states, the plans are legally binding documents and local governments must comply with them. In the remaining six states, they provide only guidelines, but compliance may be required for projects funded by state grants.

Comprehensive Plans are local government instruments for strategic planning. Their content and role varies from state to state. In most states, they do not create binding restrictions for land owners, but local governments use them as a guide for the development of zoning ordinances as well as for other strategic planning purposes. In most states, no legal requirement for local governments to enact a *Comprehensive Plan* exists. However, adopting a *Comprehensive Plan* is a legal requirement for enacting *Zoning Ordinances* in many other states, and some states make financial support for municipal investment projects dependent on the existence of a *Comprehensive Plan*. If a local government has adopted a *Comprehensive Plan*, some, but not all, states require *Zoning Ordinances* to be in accordance with the *Comprehensive Plan*.

Zoning Ordinances are the main instrument to restrict and steer the development of land within the jurisdiction of a local government. Typically, they contain text-based and map-based parts that indicate permitted and conditional uses for lots. Only a few states require local governments to adopt *Zoning Ordinances*, but they are common in most parts of the United States.

Major laws and regulations

Several federal laws affect land-use planning across the United States. Among the most important ones are the *National Flood Insurance Programme,* the *Endangered Species Act*, the *Energy Policy Act*, the *Clean Water Act*, the *National Environmental Policy Act*, the *Federal Highway Act* and, on federal lands, the *Federal Land Policy and Management Act*.

Co-ordination mechanisms

Few formal co-ordination mechanisms between levels of government exist in most states. Establishing a *Metropolitan Planning Organization (MPO)* is a prerequisite for urban areas with more than 50 000 inhabitants to obtain federal transportation funds. Generally, *MPOs* have an advisory role to local and state governments and focus on the co-ordination of policies between them, in particular with respect to transport planning. In most cases, the recommendations of *MPOs* are non-binding, but some states and metropolitan areas have expanded their role and given them regulatory functions.

Expropriations

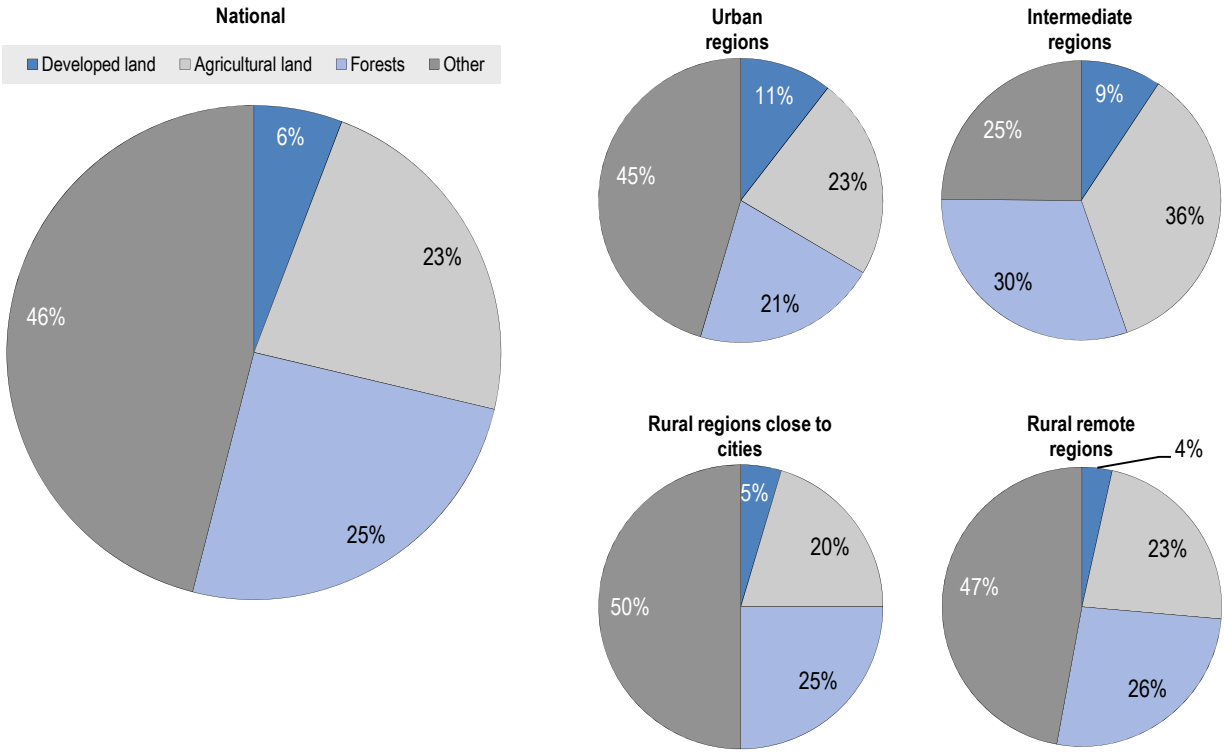
Expropriation of land is possible for "public use" if the land owner is compensated in accordance with constitutional requirements. In 2005, a US Supreme Court decision clarified that this could include cases in which expropriated land is transferred to private developers for economic development purposes. In response, several states passed legislation that either restricts expropriation for private use or make it completely impossible.

Recent and planned reforms to the system of land-use planning

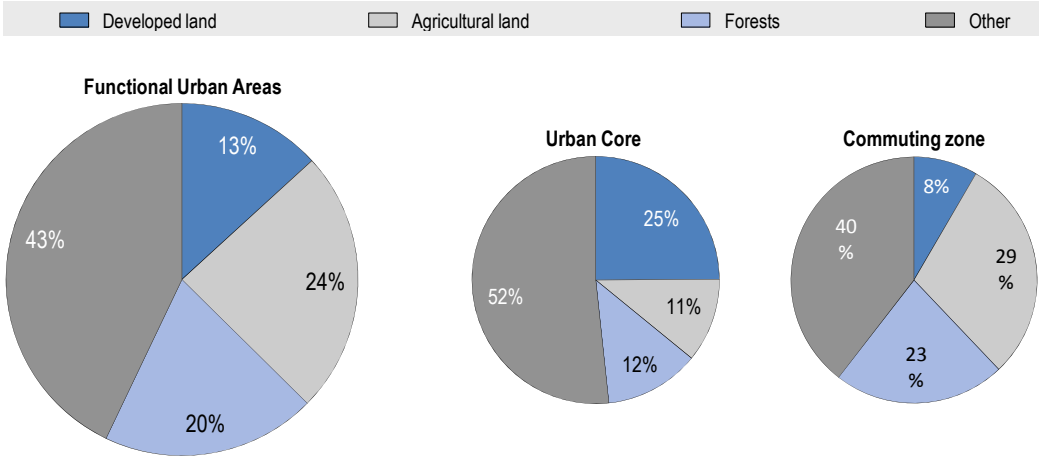
The first comprehensive zoning code in the United States was enacted in 1916 in New York City and zoning ordinances were held constitutional by the US Supreme Court in 1926. Afterwards, zoning spread rapidly across the country, in large part due to the *Standard State Zoning Enabling Act*, which was drafted by the US Department of Commerce and forms the basis of most states' zoning enabling laws. Zoning remains the dominant form of development control. On federal lands, a major reform was the enactment of the *Federal Land Policy and Management Act* in 1976, which established a uniform approach to managing those lands. At the state level, reforms and policy changes occurred at varying points in time since the emergence of zoning.

Land cover in the United States

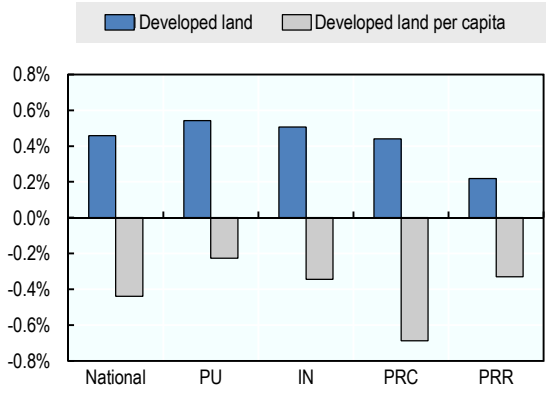
Land cover at the national level



Land cover in functional urban areas (FUAs)

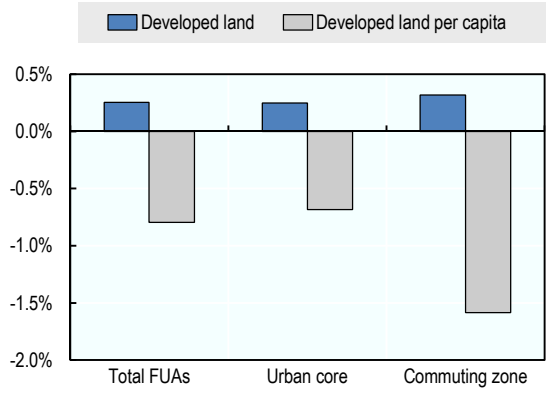


Annual change in developed land from 2001 to 2011



Note: PU: urban regions, IN: intermediate regions, PRC: rural regions close to cities, PRR: rural remote regions.

Annual change in developed land in functional urban areas from 2001 to 2011



Note: Values for urban cores and commuting zones refer only to FUAs with more than 500 000 inhabitants.

Land-use trends in the United States

Comparisons between the United States and other countries are difficult, because of differences in the methodology to compute land cover information. If the existing data is taken at face value, the United States has by far the highest per capita land consumption of all analysed countries. With 1456 square metres it is three times as high as the OECD average. However, since 2001 the growth in developed land has been lower than population growth and per capita land-use efficiency has increased. This trend has been especially pronounced in large urban areas, where developed land grew much slower than population.

Source: OECD calculations based on Homer et al. (2015), *National Land Cover Database*.

Land cover at the national level in the United States

Land cover (km²)	National	Urban regions	Intermediate regions	Rural regions close to cities	Rural remote regions
Total area	7807 628	1175 342	894 899	4481 283	1256 105
Total developed land	454 033	122 879	83 172	204 250	43 733
Percentage of total	5.8%	10.5%	9.3%	4.6%	3.5%
Annual change in developed land, 2001-11	2 029.2	646.1	410.2	878.6	94.3
Annual percentage change in developed land, 2001-11	0.46%	0.54%	0.51%	0.44%	0.22%
Agricultural land	1790 479	270 777	317 211	914 767	287 725
Percentage of total	22.9%	23.0%	35.4%	20.4%	22.9%
Annual change in agricultural land, 2001-11	-1 132.7	-267.5	-304.6	-512.2	-48.4
Annual percentage change in agricultural land, 2001-11	-0.06%	-0.10%	-0.10%	-0.06%	-0.02%
Forests	1971 842	248 044	272 474	1118 719	332 606
Percentage of total	25.3%	21.1%	30.4%	25.0%	26.5%
Annual change in forests, 2001-11	-6 662.9	-746.8	-1 052.5	-3 827.9	-1 035.6
Annual percentage change in forests, 2001-11	-0.33%	-0.30%	-0.38%	-0.34%	-0.31%
Land cover per capita (m²)					
Total developed land per capita	1 457	935	1 327	1 930	3 733
Annual percentage change in developed land per capita, 2001-11	-0.44%	-0.23%	-0.34%	-0.69%	-0.33%
Agricultural land per capita	5 744	2 060	5 060	8 642	24 562
Annual percentage change in agricultural land per capita, 2001-11	-0.96%	-0.86%	-0.94%	-1.18%	-0.56%
Forests per capita	6 326	1 887	4 346	10 569	28 393
Annual change in forest per capita, 2001-11	-1.22%	-1.06%	-1.22%	-1.46%	-0.85%

Land cover in functional urban areas (FUAs)

Land cover in FUAs (km²)	FUAs	Urban core	Commuting zone
Total area	1399 377	404 837	994 540
Total developed land	184 095	100 623	83 472
Percentage of total	13.2%	24.9%	8.4%
Annual change in developed land, 2001-11	462.2	233.2	229.1
Annual percentage change in developed land, 2001-11	0.25%	0.23%	0.28%
Agricultural land	338 178	44 732	293 446
Percentage of total	24.2%	11.0%	29.5%
Annual change in agricultural land, 2001-11	-213.3	-95.0	-118.2
Annual percentage change in agricultural land, 2001-11	-0.06%	-0.21%	-0.04%
Forests	275 204	50 378	224 826
Percentage of total	19.7%	12.4%	22.6%
Annual change in forests from 2001-11	-495.9	-98.1	-397.8
Annual percentage change in forests, 2001-11	-0.18%	-0.19%	-0.18%
Land cover per capita in FUAs (m²)	FUAs (50 000+ inhabitants)	Urban core (only FUAs 500 000+)	Commuting zone (only FUAs 500 000+)
Total developed land per capita	866	590	1 889
Annual percentage change in developed land per capita, 2001-11	-0.79%	-0.68%	-1.58%
Agricultural land per capita	1 591	287	5 409
Annual percentage change in agricultural land per capita, 2001-11	-1.11%	-1.13%	-1.95%
Forests per capita	1 295	329	4 745
Annual percentage change in forests per capita, 2001-11	-1.22%	-1.12%	-2.06%

Source: All land cover statistics for the United States are based on OECD calculations based on National Land Cover Data.

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Land-use Planning Systems in the OECD

COUNTRY FACT SHEETS

This report provides an overview of spatial and land-use planning systems across the OECD. It contains country fact sheets that focus on formal aspects of planning systems, as they are defined by laws and regulations. The country fact sheets describe the responsibilities of each level of government with respect to spatial and land-use planning. They include a description of all spatial and land-use plans of a country and show their hierarchical relations in a diagram. For most countries, the fact sheets also contain key statistics on land use. A summary chapter provides an overview of the information in the country fact sheets and discusses land value capture tools, land expropriation procedures, reforms of the planning system, and other issues. The information provided in this report was collected through a survey that involved academic experts on planning from all 32 countries covered.

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