Draft
National Strategy on Spatial Planning and the Environment
A sustainable perspective for our living environment
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Executive summary

The National Strategy on Spatial Planning and the Environment (Nationale Omgevingsvisie - NOVI) provides a sustainable perspective for our living environment (which comprises both the built and the natural environment). This strategy document will enable us to respond to the major challenges facing us. Our environment is influenced by a whole raft of trends and developments; changing and growing cities, the transition to a sustainable and circular economy and adaptation to the consequences of climate change are all part of the bigger picture. Although these could offer opportunities, they do call for careful choices. After all, the space available to us both above the ground and below the surface is a scarce commodity. Combining all those challenges calls for a new approach, not imposed from above, but drawn up in careful consultation between government authorities, businesses, centres of knowledge, civil society organisations and individual citizens. The NOVI offers a framework, suggests a route to be followed and, wherever possible, makes choices. At the same time, it offers space for tailor-made regional solutions and area-specific elaborations. Because the responsibility for environmental policy to a large extent lies with provinces, municipalities and water authorities, in many cases, substantive choices can best be taken at a regional level. By drawing up the NOVI, we aim to initiate a process according to which we are able to accelerate and improve the way in which choices are made in respect of our living environment. In that way, we will work together to building a more attractive and stronger Netherlands.

The NOVI is part of the Environment and Planning Act (Omgevingswet), which is expected to enter into force in 2021. The underlying principle for this new approach is that interventions in the living environment must not take place in isolation, but in combination with other interventions. This will result in better, more integrated choices in specific areas. In the North Sea, for example, we are faced with the task of installing more wind turbines. This can only be achieved if sound agreements are reached with other users. We must also think carefully about the locations where the energy generated by wind turbines is brought ashore. The most efficient choice is to offer space at locations close to large-volume energy consumers.

Four priorities

According to a future perspective for 2050, the NOVI presents a long-term vision. National government aims to set and maintain a course to fulfil the national interests. Those interests are clustered in four priorities:

1. Space for climate adaptation and energy transition

The Netherlands must adapt to the consequences of climate change, such as sea level rise, higher volumes of water discharge via the rivers, flooding and longer periods of drought. By 2050, the Netherlands must be climate resilient and water robust. This calls for measures in the living environment, for example ensuring sufficient planting and space for water storage in our cities. A useful side effect is that these measures at the same time improve the quality of the living environment, and increase opportunities for nature.

By 2050, energy supply in the Netherlands must be renewable. This requires space, for example for wind turbines and solar panels. Our preferred option is offshore wind, but onshore wind farms will also be required. By clustering these facilities as far as possible, we will prevent fragmentation across the landscape, and will ensure maximum efficiency in the use of space. At all times, the essential precondition is that local residents be fully involved and retain influence over the use, and wherever possible can also enjoy the benefits. As far as possible, we must limit the construction of solar farms in the landscape. The first preference is to install solar panels on roofs and facades. National government will reserve sufficient space for the main energy system, on a national scale.
2. Sustainable economic growth potential
The Netherlands is working towards becoming a sustainable, circular, knowledge-intensive and internationally competitive economy, by 2050. This will enable our country to maintain its position in the top five of most competitive countries in the world. This in turn requires good connections by road, rail, air, water and digital networks, and close collaboration with our international partners, both our immediate neighbours and other countries in Europe and across the globe, also with regard to our defence. We are aiming to achieve a solid and innovative business establishment climate, combined with good quality of life: a living environment that offers residents a full range of facilities for housing, mobility, recreation, interaction and relaxation.

It is nonetheless essential that our economy becomes future-proof, in other words that it is competitive, sustainable and circular. We will focus on the use of renewable energy sources and changes in production processes so that we are no longer reliant on finite, fossil fuels.

3. Strong and healthy cities and regions
New locations for housing and employment are above all needed in our cities and urban regions, preferably within existing city boundaries, so that open spaces are retained between the various urban centres. This will require optimum harmonisation and investments in mobility. At the same time, we wish to improve the quality of life and climate resilience of our towns, cities and villages. Cleaner air, sufficient green space and water and adequate public facilities where people can exercise (walk, cycle, enjoy sport and play), relax and come together. That in turn calls for excellent connectivity and accessibility, also for disabled people. We aim to ensure that the quality and security of the living environment keeps improving. This means that before new locations are selected for urbanisation, it must be clear what requirements need to be met in terms of the quality and safety of the living environment, and which additional measures are needed when these locations are chosen. This will help guarantee the health of our cities and regions. We will however not be focusing exclusively on growth. We also aim to strengthen vitality and quality of life in areas where population numbers are falling.

4. Future-proof development of rural areas
A new perspective is emerging for the Dutch agricultural sector as a pioneer in sustainable cyclic agriculture. In this form of agriculture, healthy earning potential for farms is combined with the minimum effect on the environmental quality of the air, soil and water. This approach also makes a positive contribution to improving biodiversity. Moreover, subsidence must be tackled.

In certain peatland areas, water levels will have to be raised in the future. Agreements will be reached with the affected regions and users on how to bring this about, with due caution. In all cases, we will continue to develop the typical characteristics of the Dutch landscape, that represent an essential cultural historical value. Cluttering and fragmentation of the landscape, for example through the uncontrolled expansion of distribution centres, are undesirable and will also be tackled.

Consideration principles
The pressure on space available in the Netherlands is so considerable that interests sometimes collide. We will strive to achieve combined solutions and win-win situations, but this is not always possible. Difficult choices sometimes have to be made and in those situations interests must be balanced. The NOVI assumes three consideration principles:

1. Combinations of functions take precedence over single functions: in the past, functional separation was enforced too strictly. Within the NOVI, we will seek to ensure the maximum combination of different functions, with a view to ensuring the efficient and careful use of our space;
2. The typical characteristics and identity of an area are key points of focus: the ideal balance between protection and development, between competitiveness and quality of life differs from area to area. In some areas, certain tasks and interests are more urgent than in others;

3. The shifting of responsibilities must be prevented: it is vital that our living environment satisfies the wishes and needs of the current generation of residents as far as possible, without negative impact for future generations.

**Implementation**

The NOVI also outlines an Implementation Agenda which not only clarifies the efforts already being undertaken by national government, provinces and municipalities but also identifies which (joint) actions will be added, as part of the NOVI. The Implementation Agenda will be further elaborated to coincide with the final NOVI, taking account of the opportunities and risks identified in the Strategic Environmental Assessment (SEA – PlanMER).

The intention is that the NOVI be adaptable to new developments, in a permanent and cyclic process, on the basis of a sound NOVI monitor.

Central, provincial and municipal government will work together as one body. The NOVI approach is a shared responsibility of all the authorities. Other levels of government, individual citizens and businesses are not legally bound by the strategy in the NOVI. On the basis of the final NOVI, cooperation agreements will be reached in order that the various government authorities tackle the tasks together.

Wherever necessary and possible, it is important that the environmental strategies of national government, provinces and municipalities are harmonised. To make that possible, the existing Area Agendas will have to be expanded into more wide-ranging Regional Agendas. These encompass the full scope of environmental policy and may evolve into the essence of a working system of environmental policy. These Regional Agendas will be drawn up in consultation with all levels of government, for all parts of the country.

The convergence of the various national interests and the scale of the tasks mean that in certain areas, arriving at suitable solutions will be a real challenge. In these areas, additional efforts on the part of National government, provinces and municipalities will be needed, since it is not possible to achieve the intended results within the existing frameworks. With that in mind, specific NOVI areas will be identified.

**Open process**

The NOVI was drawn up in consultation with the responsible Ministries, municipalities, provinces and water authorities. Input was also sought from advisory boards, centres of knowledge, the private sector, civil society organisations and individual citizens. The dialogue with and between all these stakeholders will not cease when the (draft) NOVI is published. It will remain an open process of which public consultation represents an intrinsic part.
1. About the National Strategy on Spatial Planning and the Environment

The Netherlands is faced with huge challenges that influence our physical living environment. These complex challenges that include urbanisation, sustainability and climate adaptation, are closely interwoven. This complexity calls for a new, integrated work approach that enables us to accelerate and improve the way in which we make choices for our living environment. The National Strategy on Spatial Planning and the Environment (NOVI) represents a joint approach that will result in a sustainable perspective for our living environment. Such a perspective is essential if we are to achieve our objectives, and is a shared responsibility of government and society.

1.1 A sense of urgency; a perspective for the Netherlands

The major developments and tasks facing us require a new perspective for the Netherlands. Together they place severe pressure on the living environment and the space available, and make it necessary that the various interests be reconsidered, with a view to the long term.

Sustainable

The challenges facing us relate not only to the longer term, but will also affect us in the coming years. We place severe demands on our living environment. We all want to act sustainably with regard to our planet. We want a clean, healthy, recognisable and safe environment but at the same time we want a flourishing economy. We need space in which to live, work, manufacture, build and move about. We want to learn, play, recreate, relax, exercise and enjoy sporting activities. We want to improve the accessibility and quality of the living environment. We want to guarantee that we are safe from the risks of flooding, that we are protected against the hazards inherent in high-risk production and activities, and we want to work towards healthy housing and living and working conditions. We also want to offer space to nature and water. But how do we balance all those wishes? How can we further reinforce the quality of our living environment? How can we ensure that we maintain a country in which we continue to live and work happily in and beyond 2050? These are important questions that affect us all.

Strong tradition

Our knowledge, experience and ambitions give us the confidence and the energy to actively take up these new challenges. The Netherlands has a strong tradition of regulating the living environment. Throughout history we have been successful in adapting to changing circumstances. The NOVI is simply a continuation of this tradition of building an attractive, sustainable and strong Netherlands that is ready to face the future while still taking account of the needs of the environment, sustainability, economic vitality and the quality of life and the physical living environment. At the same time, we must remain realistic: this strategy document describes the quality outlines of the living environment we wish to achieve, the proposed developments and the policy to be undertaken. It is however not possible to make all these choices at once. Wherever we are able to set a carefully conceived course right now, we will do so. However, many choices call for other considerations in the regions, or at a later moment in time. As such, the NOVI is not a static policy document but is far more an action plan for the years to come, that will be constantly adapted, added to and reinforced, throughout the course of the process.
1.2 New vision, new approach

Integrated
The NOVI represents a new approach to the issues affecting the physical living environment. The tasks are considerable, multifaceted and often heavily interwoven. In many situations, specifically sectoral objectives can no longer be achieved through a purely sectoral approach. As a consequence, a new, more integrated approach is needed. The approach outlined in the NOVI is drawn from the relevant national interests in the living environment, including the related tasks. Wherever these tasks require an integrated approach, the NOVI will set the course. As concerns other subjects, reference will be made to sectoral policy. The distinction is not always easily made, and moreover may change over time. For that reason the NOVI is continuously adaptive.

Cooperation
Cooperation is crucial when it comes to making choices. The Netherlands, as an open economy, is heavily integrated in North-western Europe and the rest of the world. When it comes to cross-border tasks, we work alongside our international partners, both our immediate neighbours and partners from other countries in Europe and across the globe. Within our national borders, the government of the Netherlands works alongside other levels of government, civil society organisations and individual citizens. The process of the NOVI introduces coherence in the approach at (inter)national, provincial and municipal level.

Area specific
The tasks facing us are increasingly integrated in the regions, and demands deliberate choices. The greater the extent to which the combined levels of government (national government, provincial government, water authorities and municipalities) work together in an area-specific approach, acting as it were as one government, and join forces with businesses, centres of knowledge, civil society organisations and the residents of the country, the better the task facing us will be fulfilled. With that in mind, we are broadening existing Area Agendas into Regional Agendas, in which the area-specific tasks covering the entire country are recorded across the full scope of the NOVI. The outcome is a broadly supported approach that establishes a clear link between municipal and provincial environmental strategies, and the strategy contained in the NOVI. In a number of areas that face large tasks and complex problems, the (institutional) frameworks offer insufficient space to arrive at sound solutions. That is why specific NOVI areas will be designated. Fully in line with current programmes, National and regional governments will together examine possible solutions for these areas that demonstrate a willingness to look beyond the limits of existing frameworks.

1.3 A different view, different choices

Characteristics and identity
The pressure on the physical living environment in the Netherlands has become so great that in many cases it is impossible to serve conflicting interests in isolation. The aspiration therefore is to create a cohesive approach and wherever possible to combine interests that bring about a win-win situation. This is not always possible, in every situation, and on occasion tough choices will be necessary. In making those choices we will not so much consider the functions or how we can individually allocate those functions across the country, but will instead look at the specific characteristics, identity and historical background of the areas in question. What are the economic foundations for an area, and what is the current quality of the living environment (including nature, cultural heritage, environment, beauty of the landscape)? What is the condition of the soil, water and air? How is the area currently laid out? Where do people currently live, spend their leisure time and work, and how do they move around? How are local residents organised, and what grassroots initiatives are there? In other words, we look at areas with their own strengths and underlying principles.
Consideration
In balancing the various interests, we consider societal values, costs and benefits. The challenge lies in structuring the living environment in such a way that wherever possible, the various functions complement one another, while being able to develop without hindering each other unnecessarily, and so reach their maximum fulfilment. Based on that approach, we can together achieve a good-quality living environment, without unnecessarily and irresponsibly shifting responsibilities to other areas or future generations. From the point of view of government, costs and investments will have to be matched to the available budgets set aside at the moment of decision making.

1.4 Scope and positioning

Instrument of the Environment and Planning Act
The NOVI is an instrument of the new Environment and Planning Act (Omgevingswet), which is expected to come into effect on 1 January 2021, and as such is a precursor to that Act coming into effect. The NOVI, as a structural strategy, is based among others on the existing Spatial Planning Act (Wet Ruimtelijke Ordening). As soon as the Environment and Planning Act does come into effect, this national strategy will be viewed as an environmental strategy, as intended in the new Act.

The Environment and Planning Act specifies for the NOVI that, ‘taking account of sustainable development, the inhabitability of the countryside and the protection and improvement of the physical living environment, the cohesive strategy is aimed at: (a) achieving and maintaining a safe and healthy physical living environment and sound environmental quality1 and (b) the effective management, use and development of the physical living environment in satisfying the needs of society’2.

Physical living environment
The NOVI is the first integrated national strategy document pursuant to the Environment and Planning Act, and as such assumes the same broad interpretation of the term physical living environment: the built and natural environment including the large waters and natural landscapes, agricultural landscapes, the built environment, with towns, cities, villages, industrial estates, networks and infrastructure for traffic and passengers, goods, data, materials and energy, and the archaeological, agricultural and built

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1 In the NOVI, we use the broader term quality of the living environment.
heritage. The physical living environment is closely linked with the social physical living environment. In addition to the spatial and functional division of the living environment, it is also a question of the activities that influence the living environment in the broadest sense, including the natural environment, water, soil, air and natural capital. In that respect, the aboveground and underground environments are inextricably linked. The tasks facing us call for a short-term, medium-term and long-term approach. In respect of new developments, and the necessary approach, we have attempted to lay down a time horizon through to 2050. In that process we make use of the (sectoral) objectives that were already laid down by the Cabinet for the year 2050. It is however already abundantly clear that many of the long-term targets will already require action over the coming years, if they are to be achieved. Nonetheless, we wish to prevent any watering down of the long-term ambitions by setting intermediate targets. Everything we do either in the short or medium term must also contribute to achieving the long-term targets for 2050.

**National and international**

The NOVI is a subject of national focus and, pursuant to the Environment and Planning Act, relates to the European Netherlands, including the nation’s territorial waters, but excluding the Caribbean part of our Kingdom. In terms of content, however, the vision is not limited to the Netherlands. In the NOVI and the related programmes we have also translated the relevant international rules and agreements. Many issues demand a cross-border approach. Agreements on air transport and shipping, for example, have for years been reached at EU level, and indeed on a worldwide scale, at international round tables (ICAO, IMO). Also with regard to river management, we have for years been subject to international agreements with Belgium, France, Switzerland, Germany and Luxembourg, that for example cover the entire river basin of the Rhine and Meuse rivers.

Cross-border cooperation in many other fields also requires immediate action. Housing markets and labour markets, for example, cannot be restricted by administrative boundaries. Cohesion with Flanders in these policy areas is constantly growing. This is reflected in the increased volume of home-work travel between the Netherlands and Flanders and the merger of the ports of Flushing and Terneuzen with the port of Ghent. We are also seeing ever closer ties with the German Federal States of Lower Saxony and North Rhine-Westphalia. Further expanding these links is essential for the cross-border opportunities for our nationals and the functioning of our country.

### 1.5 Cooperation and implementation

The NOVI approach is based on broad societal involvement and contributions from government, citizens, the private sector, civil society organisations and centres of knowledge. The partners in society will actively contribute to improving the living environment and increasing the sustainability of the way in which we live, work and spend our leisure time. These combined efforts call for a national government that cooperates and facilitates where desirable and possible, and directs where necessary.

**Responsibility**

Living environment policy is a shared responsibility of the affected government authorities. Within their environmental strategies, provinces and (cooperating) municipalities will express their own responsibility and choices with regard to the physical living environment. Other levels of government, individual citizens and businesses are not legally bound by the strategy in the NOVI, but are required to comply with the rules and standards that emerge from that strategy. It is important that wherever necessary the environmental and planning strategies of National, provincial and municipal authorities be successfully combined. If the various levels of government understand and recognise one another’s wishes and objectives, this will contribute to the underpinning of the choices made by national government.

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3 See Parliamentary Papers II: 2016/17, 34682, no. 1; 2017/18, 34 682 no. 3; 2018/19, 34 682, no. 6.
4 International Civil Aviation Organization (ICAO).
5 International Maritime Organization (IMO).
Good government
The management philosophy of the Environment and Planning Act is based on trust, whereby shared responsibility for the physical living environment is of key importance in drawing up an environment strategy. Sound government means that other authorities take account of the content of the NOVI, and that in drawing up the NOVI strategy, national government takes account of the policy of the other levels of government. With regard to implementation, too, the responsibility that businesses, individual citizens and civil society organisations wish to and are able to assume for the quality of the living environment must be clear. In order to underpin collaboration with other levels of government, cooperation agreements are being prepared on the basis of the final NOVI.

Environment and planning law
The NOVI is one of the instruments for the new system of environment and planning law. Together with the general rules, the programmes and the environmental permits, the strategy forms a coherent set of instruments. These instruments cannot be viewed in isolation from other (sectoral) policy instruments intended for achieving the targets set for 2050. Choices made in the NOVI will subsequently be translated into investment decisions, programmes and wherever necessary regulations. This NOVI is the first strategy that has emerged from the thinking behind the future Environment and Planning Act. As a consequence, this strategy is specifically more broadly applicable than previous policy plans and (structural) strategies, which in many cases cover one primary facet (for example space, soil or the environment) or a single sector (for example agriculture or mobility).

Strategic combination
This first integrated NOVI marks the start of a programme of development. The publication of the NOVI does not mean the end of other policy documents and strategies relating to the physical living environment. Wherever such policy frameworks require not only a sectoral but also an integrated approach, then they will be linked to the ongoing NOVI process. Because of the scope and extent of the physical living environment, not all subjects can be studied to their full depth. Existing policy documents and policy fields are however connected at strategic level, within the NOVI. A course will be set at that level, but in many cases area-specific and/or programmatic elaboration will still be required. The NOVI offers the necessary framework.

Implementation Agenda
The NOVI also represents the lead-up to an Implementation Agenda. That agenda will not only clarify the efforts currently being undertaken by national government but also the (joint) actions added to those efforts, by the NOVI. The Implementation Agenda will be further elaborated in the preparation of a final NOVI.

1.6 Development

Societal involvement
In the start-up phase for the NOVI, we organised numerous workshops with the aim of identifying developments in the physical living environment, experiences and ambitions. In the subsequent phases, we held in-depth discussion sessions with experts, and area dialogues throughout the country. To obtain a clear picture of the public’s perspective, we undertook a public survey which not only involved an online questionnaire but also focus groups at various locations in the Netherlands. We also investigated the ideas of children and young people.6 7 In the implementation phase, we organised a series of ‘crash tests’, with administrative and societal players to examine where the planned route and the national interests could come into conflict, and to identify possible solutions.

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6 Motivation International BV, Citizen Perspectives for the NOVI & Public Dialogue, input for the NOVI, August 2018 and January 2019.
7 Het Groene Brein, Combineren, Concentreren & Concurren - a young persons' perspective on the National Strategy on Spatial Planning and the Environment, June 2018.
**Initial policy document**

In February 2017, the initial policy document “Tasks for the National Strategy on Spatial Planning and the Environment (NOVI)” was published. This document designated the scope of the vision and on that basis a series of sectoral tasks and strategic tasks for the living environment were formulated. In April 2018, the House of Representatives was informed about the way in which the NOVI was drawn up and the direction it planned to take, while the strategic tasks were crystallised into four priorities, on the basis of urgency and the coalition agreement. In October 2018, the Cabinet perspective on the National Strategy on Spatial Planning and the Environment was sent to the House of Representatives.

This perspective marked the opening of the societal debate by identifying the political direction taken by the Cabinet on three urgent subjects that are very much the subject of public discussion.

**Open process**

Right from the start of the development of the NOVI, an open process has been employed. At national level, the affected ministries are collaborating intensively. Between the various administrative levels, similar cooperation is taking place with municipalities, provinces and water authorities. Moreover, advisory boards, centres of knowledge, the private sector, civil society organisations and individual citizens have been involved in various ways. Intermediate products were shared as early as possible and discussed intensively with all parties. Any input received was processed as effectively as possible.

The dialogue with and between all these stakeholders will not cease with the publication of the draft NOVI. It remains an open process, of which public consultation is a fundamental element.

**SEA**

The draft NOVI will be accompanied by a Strategic Environmental Assessment (SEA). This report describes opportunities and risks for the physical living environment for the policy choices made in the NOVI. The report considers the environmental impact as well as charting out other environmental effects.

During the drawing up of the NOVI, intermediate results of the SEA process were utilised as input for the strategy. The EIA Committee (Commissie m.e.r.) will be consulted on the environmental impacts outlined in the SEA.

The SEA describes how different tasks come together, impact on one another and compete with one another for (environmental) space, in the physical living environment. The same applies to the fact that the NOVI is an outline that presents strategic national policy choices in four priority areas and that calls for a cohesive, integrated approach, on a national scale, that goes beyond the limits of the individual sectors. The SEA takes into account that in addition to the NOVI, for certain more specific interests, choices have been made and laid down in a variety of structural strategy documents, memoranda, other policy documents and administrative agreements.

The SEA has mapped out the opportunities and risks of the policy choices made in the NOVI, and in a number of cases has concluded that these risks call for additional measures. These may take the form of national policy choices, strategies and implementation measures for specific policy fields (such as the environment, mobility, air transport, nature, health) and other (area-specific or sectoral) elaborations.

The same applies to specific (environmental) elements that have not been given a place in the NOVI and to a number of subjects that are subject to a declining trend, which has not or not sufficiently been turned around by the policy choices in the NOVI itself.

1.7 **Structure of the NOVI**

The NOVI (in chapter 2) describes a future perspective with the ambitions: what do we want to achieve? In chapter 3, we go on to describe the national interests in the physical living environment and the tasks

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8 Parliamentary Papers II 2016/17, 34682, no. 1
9 Parliamentary Papers II 2017/18, 34 682, no. 3
10 Parliamentary Papers II 2018/19, 34 682, no. 6
that those interests give rise to. The tasks are in essence the difference between the ambition and the current situation, and expected developments.

Wherever these tasks call for an integrated approach, they have been combined in four priorities. Chapter 4 describes the policy choices made with regard to these priorities. The four priorities are:

- **Priority 1**: Space for climate adaptation and energy transition
- **Priority 2**: Sustainable economic growth potential
- **Priority 3**: Strong and healthy cities and regions
- **Priority 4**: Future-proof development of rural areas

To ensure that the policy choices are made in a clear and predictable manner, the NOVI operates three consideration principles, which assist in balancing and prioritising the various interests and tasks:

1. **Combinations of functions take precedence over single functions**;
2. **Characteristics and identity of an area are the central focus**;
3. **Shifting of responsibilities is prevented**.

The implementation of the NOVI (chapter 5) calls for new approaches to cooperation with permanent broad-based involvement by society, and contributions by government. Here we operate four basic principles:

1. **We work as one government, together with society**;
2. **We focus on the task(s)**;
3. **Our work is area-specific**;
4. **We work constantly on the tasks according to an adaptive approach**.

Figure: Consideration within the NOVI.
2. A future perspective

What kind of Netherlands do we want to live in? By 2050, the Netherlands will be a country in which it is healthy and (still) a pleasant place to live. Where the residents enjoy and appreciate a high quality of life and living environment. Where everyone has space for personal development. A country with a healthy, futureproof economy; an economy that is sustainable and circular and flourishing. A country where we leave scarce natural resources in the ground or reuse them, and where we have replaced fossil fuels with clean energy sources. A country that enjoys close ties with its neighbours and the rest of the world, and that is an active player in the international community.

Our towns, cities and villages are attractive and vital. Our rural areas are productive and pleasant. Ours is a country that offers excellent access and in which people enjoy smooth mobility thanks to a whole raft of innovations, with the lowest possible levels of harmful emissions and nuisance. A country where locations for housing and employment are carefully selected so that unnecessary movements is avoided. Where we have sufficient space to exercise, to interact, to relax and to take time for ourselves. Where nature flourishes. A healthy, clean and climate proof country with plenty of space for planting and water. A safe country, protected against flooding and other hazards. Where there is a solid balance between the built environment and open landscape, between nature and agriculture and between land and water. A country that is open to change but where the strength of its traditions, culture and identity are reflected in the layout of the physical living environment.

What do we want?
This future perspective sketches an ideal situation. No one can predict what the Netherlands will actually look like in 2050. We do know that certain social and technological developments will have a huge impact on our environment. Some we can influence ourselves, while others are unstoppable. The question is how and to what extent can they be influenced. Far more relevant for now, however, is the question what kind of a country do we want to live in. What are our ambitions and what values are we striving to uphold? What do we want to preserve and what do we want to change? Once the answers to those questions are clear in our mind, we will be in a better position to direct our actions and take the right decisions for the future.

Future perspective
Not everyone shares the same ideals. Some people feel at home in a dynamic metropolis while others prefer to live in a far more rural setting. These diverging wishes mean that we must reach consensus on the choices we make, and must be very deliberate in structuring our country. In this future perspective, we have attempted to bring together all our wishes and ambitions.
2.1 A climate-resilient delta
Climate change
To be able to continue to live, work and do business in our low-lying country, by 2050, we have ensured that the Netherlands is secure against the negative consequences of climate change. By switching to a low-CO₂ power supply, as part of an international coalition, the Netherlands will be helping to prevent further climate change. Extreme weather conditions will nonetheless be increasingly common: higher temperatures, a higher sea level, wetter winters, severe peak rainfall and dry summers. We have adapted accordingly. By 2050, we will have structured our built environment to be climate resilient and water robust, for example by ensuring sufficient open spaces with water and planting, to mitigate heat stress. Our vital infrastructure – both above ground and below the surface – will also be resistant to extreme weather conditions.

Water safety
The Netherlands is a delta and almost one fifth of its surface area is made up of (sea) water. We have built up centuries of experience in the field of water safety and water management. Water safety, an essential precondition for life in our country, is guaranteed in 2050, even in the lower-lying western part of the Netherlands. We have created space for robust flood defences and dykes.

Freshwater and drinking water supply
At the same time, we have access to sufficient volumes of good-quality freshwater. We have taken measures to prevent salinisation, declining groundwater levels and pollution, for example caused by fertilisers, micro plastics and pharmaceutical residues. By these means we will maintain the quality of our drinking water so that the water supply companies need take fewer measures to secure the supply of clean water. Whereas in the past we simply discharged waste water, we are now retrieving growing volumes of raw materials from that water. The reuse of waste water by sewer treatment plants for the extraction of raw materials will have been maximised by 2050.
2.2 Sustainable, competitive and circular
Establishment climate and quality of life
In 2050, the Netherlands will offer an excellent establishment climate and high quality of life, with close ties to the rest of the world. This open character to a considerable extent determines our prosperity and wellbeing. We therefore attach huge importance to cross-border relationships. Our country is well connected to markets and developments outside our national boundaries, and is an integral part of international cooperative ventures. In 2050, the Netherlands is still one of the world’s five most competitive economies.

Futureproof
One key principle is that our economy remains futureproof. Sustainability and growth must go hand in hand. This means we have cast aside polluting methods of production and consumption that cause harm to the living environment. Against that background, the Netherlands has joined forces with other countries to create a sustainable and circular economy; an economy with a high earning potential and consistent growth that enables us to maintain our levels of prosperity while at the same time contributing to a stable climate with the lowest possible levels of harmful emissions and minimal dependency on finite fossil resources. This is fully in line with the Paris climate goal of being almost entirely climate-neutral by 2050. By 2050, the target of having a 100% circular economy will also have been achieved. In other words, we no longer produce any waste and our resources are constantly reused, without passing on the problem to other areas or shifting them to future generations.

Climate neutral
Our ambition is for us to have jointly achieved this transition to 100% circular by 2050, and to have achieved the best possible integration of renewable energy in our living environment in a manner and according to an approach that fully includes residents and users, so that they too can profit from the economic benefits.

We will enable the creation of a robust, reliable and safe main network of pipelines to bring about the transition to a circular economy and low-CO₂ energy supply. This includes new, sustainable infrastructures, production units and storage locations such as charging stations and charging centres, supply stations and generation units for hydrogen (for example at locations where offshore electricity is brought ashore), networks for residual heat and underground CO₂ storage. By 2050, the use of renewable heat from geothermal and aquathermal sources will have become mainstream. There are more onshore and offshore wind energy farms, far more solar panels on roofs, new high-voltage power lines and storage locations (wherever possible belowground). Local power supply facilities have been realised through the involvement of local residents. Houses and buildings are energy neutral or even energy positive. By 2050, we will have succeeded in carefully integrating all these developments with minimum levels of nuisance for people and the ecosystem. This has for example been achieved by planning commercial activities and the generation of renewable energy as close together as possible.

Circular economy
The circular economy will have a tangible effect on our environment. The underlying principle is that the resources and materials used in buildings, roads and engineering structures such as viaducts and bridges retain their value so that no waste flows remain following the use phase. This will require a different approach to design involving safe materials, and products and processes that no longer cause any harmful emissions or other risks throughout their lifecycle and which as a consequence represent negligible health risks. This is an essential precondition for achieving a circular economy and a safe living environment. A circular economy is not possible without a stable ecological system with sufficient biodiversity. Nature provides us with our resources and materials, as well as providing other ecosystem services such as air purification and water storage.
Combining functions
The new sustainable economy will continue to exist for the coming decades alongside the current linear, fossil economy. During this transition period, the demands on space are potentially greater. The art will be to combine different functions without increasing the risks and negative environmental consequences. This can for example be achieved by entrusting an additional role to the five existing clusters that house energy-intensive industry (port of Rotterdam/Rijnmond, Port of Amsterdam/IJmond/North Sea Canal area, Eemshaven/Delfzijl, Flushing/Terneuzen and Chemelot/Zuid-Limburg). All these areas occupy a key position in the production of renewable resources that also provide energy in the built environment.
In respect of energy, residential and working areas will be more closely intertwined.

Benefits for society
The result is an economy that generates huge social benefits in terms of jobs, innovation, new economic activity and export opportunities, with attractive towns and cities and excellent residential and working locations. In combination with excellent access by air, water and land, our country will continue to attract international businesses and institutions, and serves as a breeding ground for innovation, start-ups and new developments. In 2050, we will still have sufficient space for the development of our key ports and airports (including the mainports), the knowledge-intensive manufacturing industry (Brainport), knowledge clusters, Internet exchanges (digiports) and topflight locations for horticulture (greenports), although their appearance will have changed, by this time.
2.3 Quality of life in towns, cities and villages
Everyone wants to live pleasantly in a town, city or smaller municipality, within easy reach of work and local facilities. The goal is to achieve good-quality housing that matches regional housing demand, with sufficient planting in the immediate vicinity. To a fundamental degree, quality of life consists of an attractive living environment with close ties between town and country. We aim to achieve quality developments for our towns and villages towards 2050. Instead of unbridled expansion, we want controlled and carefully considered growth where necessary, with the needs and wishes of residents and users as the underlying principle.

Housing diversity
Our towns, cities and villages of the future are varied, suitable for every target group, and accessible to all. They are healthy and safe; air quality has massively improved as compared with the current situation; noise nuisance has been reduced, and environmental safety, road safety and social safety have been improved. We live in inclusive, social communities where everyone has the opportunity to participate in social life, with sufficient possibilities for social interaction, suitable for young and old, through the building of homes for life. In designing the physical living environment, we guarantee sufficient public consultation, dialogue and involvement, and take into account the wide variety of interests and lifestyles.

The appearance of our towns, cities and villages will have changed by 2050. Housing, work, nature, public space and facilities will be far more integrated. There is more building density, fewer unoccupied buildings and less decay, more green and more water. At certain locations there will be more higher building, but always of good quality and always reflecting the historical character and utilising the strength of design. We will ensure that the specific, valuable characteristics of our towns, cities and villages are at least preserved, or have developed further.

Urban network
In 2050, more people will be living in cities and urban regions, which themselves have become increasingly important for our economy. This is reflected in the growth in numbers of residents. The strength of the Netherlands still lies in its polycentric structure of cities and urban regions of various sizes and with different dynamics, which function as a single, complementary system. Compared with many foreign metropolitan centres, our cities are relatively small. That makes the links within and between these regions so essential for our country, and that is what ensures the Netherlands continues to function as a single unit, in 2050.

Pleasant residential environments
The growth in urbanisation has contributed to the increased sustainability of the Netherlands, and a good quality of life. In the future, too, we will continue to cherish the small-scale character and diversity of our cities. Urban growth will primarily have been achieved within existing urban areas, thereby conserving the natural environment close to our city centres. We offer affordable housing for all, while further stimulating the quality, liveability and identity of our cities. By introducing new concepts in urban architecture, we have created new forms of mobility and pluriform residential environments that are pleasant to live in. New developments have taken place at easily accessible locations.

Peace and space
Certain parts of the country will be less densely populated in 2050 than in 2019. We have made permanent use of the potential of these regions. New (economic) initiatives, peace and space have delivered new boosts so that these regions remain viable and vital.
2.4 Proximity and reliable connections
Diverse pattern of mobility
The way in which we move around will have changed by 2050. Due to changing patterns of work and
the way we spend our leisure time, daily life has a less fixed structure. This in turn means a more diverse
pattern of how and when we move around (more ‘crisscross’ mobility and at different times).

Excellent accessibility
Excellent accessibility is crucial. With that in mind, by 2050, we have created a sound and reliable
infrastructure as part of a safe, robust and sustainable mobility system. This applies both to intercity and
intra-city links and links to and between the country’s core economic areas, but also to cross-border
connections. We operate a high-quality, cohesive urban, regional and national mobility network (roads
and public transport), a well-developed network for pedestrians and cyclists, a smoothly running
network of waterways and excellent connections by air, for both passengers and cargo.

How will people in 2050 deal with all these new forms of mobility? At this stage, it is impossible to answer
that question. Nonetheless, we can combine the technical possibilities with our ambitions. Given the
expected developments (in price), it seems likely that by 2050, the vast majority of movements in the
Netherlands will take place by (autonomous) car. Those movements must be part of an integrated
mobility system that makes use of parking facilities and transfer hubs at the periphery of our regions or
cities; public transport, bicycles and pedestrian mobility will all play a key role within these urban regions.

Travel will be made as pleasant as possible using digital technology. By 2050, ‘Mobility as a Service’ will
be widely accepted. The opportunities for such demand-based transport will certainly be fully utilised
in the more rural regions.

(Autonomous) trains, including light rail services, will continue to be essential in areas where passenger
flows remain heavy, for example between urban centres and within urban areas. For middle-distance
travel within North-western Europe, on a variety of routes, the train will offer a sustainable alternative
to air travel.

In 2050, vehicles on the road will be clean and sustainable, for example, as a result of the expansion in
the use of electric cars and possibly hydrogen cars. This development will contribute to a reduction in CO₂
and fine particulate matter levels.

Choice of location
Choices relating to the creation of infrastructure and improved (urban) mobility are linked to the choice
of locations for living and working. Proximity will be the guiding principle. By 2050, mobility in our cities
will be simpler and more efficient by bicycle, on foot or by (universally available) public transport. In this
highly urbanised environment (autonomous) cars will fulfil a subordinate role, thereby taking up far less
space. In the development of new residential and working areas, car sharing and use of demand-based
autonomous vehicles (or pods) will be taken into account, right from the start.

Air transport
The growth in world population, rising prosperity and global relations mean that air transport will continue
to fulfil an important role, in particular for long-distance travel. This will require a solid international
network that connects the Netherlands to the rest of the world. The challenge lies in structuring that
network in the safest, most efficient and most sustainable manner possible, by supporting relevant
initiatives. CO₂ emissions from air transport will have been clearly reduced by 2050. Possible solutions
include more efficient flight routes, more energy-efficient aircraft, synthetic kerosene and electric-
powered flight.
Goods transport
These challenges not only affect passenger transport but also the transport of goods. We will employ a transport system that is both futureproof and climate robust. The Netherlands has maintained its rock-solid position as the most important logistic gateway to Europe, and a major exporter of goods. Our infrastructure for transport by road, water and air, and for the production, transport and trading of goods is excellent, and is of key importance for the transition to a circular economy. Products that have reached the end of their lifecycle will be collected, processed into new materials and redistributed, on a large scale. Increased sustainability means that diesel as the number one fuel for all types of goods transport and inland shipping will been replaced by clean fuels and propulsion systems. To reduce goods traffic levels in (inner) cities, transfer points for goods have been created at the urban periphery.
2.5 Healthy and safe, recognisable and natural
In 2050, the primary objective is a safe and healthy life for all. Our living environment invites us to exercise (walk, bicycle and enjoy sport and play), to meet together and to relax. That includes good environmental quality, robust nature, climate resilience and good access to housing, work and facilities, for everyone.

**Quality of the water, air, soil and the underground environment**

The efforts aimed at improving the quality of the water, soil and air have been successful, by 2050. The loss of healthy years of life due to poor air quality has been considerably reduced, with the ultimate goal of eradicating damage to health entirely (health protection). The same applies to inner cities, in road corridors and around areas of intensive livestock farming. As far as possible, the living environment is free from pollution caused by road traffic. Cars, trucks and buses, ships, motorcycles and mobile equipment no longer emit CO₂, and practically no soot particles or other forms of air pollution. This goal receives particular attention in locations that combine housing, work and production. Noise nuisance has also been cut back considerably. Disruptions that can result in damage to health have been mitigated through the introduction of additional measures, also in areas where the density of the built environment has increased. The same applies to odour nuisance. Damage to the infrastructure, public space and buildings as a result of subsidence has been restricted, by raising groundwater levels.

Sustainable use is guaranteed by taking account of the functioning of the soil and underground environment as a natural system. Food and material cycles, water cycles and energy cycles have been maintained or re-established, and as far as possible contamination is prevented. In new spatial developments, above ground and below ground functions are considered as an integrated system right from the initial stages of planning. The main focus is on three-dimensional spatial planning. In this way, a variety of societal tasks are combined to ensure the most efficient utilisation possible of the space available above ground and below the surface.

**Health-enhancing living environment**

In 2050, the living environment will have been structured in such a way that it promotes human health. The environment itself encourages a healthy lifestyle, including exercise (sport, cycling and walking), play, relaxation and meeting and interaction with others. This can be achieved by introducing more (urban) green, water play areas, cycling and walking routes, benches, green school playgrounds and no-smoking areas. Through the integrated approach to urban development, health gains have been achieved in neighbourhoods that house relatively large numbers of vulnerable groups.

**Environmental safety**

Environmental safety has risen in 2050, among others thanks to the remediation of high-risk situations and the focus on risk management, for example in respect of the use of hazardous substances. Backed up by legislation and regulations, the basic level of protection across almost the entire Netherlands has improved considerably so that we are able to live in a safe, healthy and clean environment. Industrial activities are not mixed with public functions or house building. Industrial activities are instead concentrated along transport corridors and in the ports and industrial areas. In other words, environmental space has been set aside for these functions, and we are cautious about permitting other functions in those areas.

**Space for defence**

A secure Netherlands also operates a robust defence policy, in 2050. There is space for the accommodation of defence units, military training areas, airfields, shooting ranges and access to the sea. It remains important that defence locations be distributed right across the country. Nonetheless, certain military activities are clustered and combined at larger locations. As far as possible, operational units are housed at locations within a reasonable distance of the training facilities.
Agriculture, horticulture and nature
In 2050, the vast majority of our territory is still set aside for agriculture, horticulture, and nature. Our agricultural and food supply system for the future has however changed its appearance. The Dutch agricultural sector has retained its position as a pioneer, but now in the field of sustainable cyclic agriculture. This means for example that dairy farming has become more land-based; in other words, animal feed is obtained more from the farm’s own land or from the immediate environment, and the emission of harmful substances and greenhouse gases and the loss of nutrients into the soil, water and air have been reduced to practically zero. Agriculture and biodiversity complement one another. Certain crops are no longer grown in the open air but inside, some even in an urban environment (vertical farming). At off-land livestock farms, integrated sustainable livestock sheds are the standard. Such livestock accommodation, where resources and nutrients are used economically and efficiently, and where a high level of animal welfare is achieved, is healthy for the natural environment.

New crops are resistant to salinization of the soil. As well as fulfilling an agricultural function, rural areas also supply numerous other key services to society, such as water storage, purification of the air and water, and the storage of CO₂ and raw materials for sustainable production. Fishery has also become more sustainable. Nature and economy remain in equilibrium.

Nature-inclusive development
In the future, the Netherlands will have set aside more space for nature, by more strongly integrating nature and landscape values with other developments. Within building and development tasks, nature-inclusive development is the standard, both in urban and rural areas. Nature inclusion will become a standard element in design activities. The area of land under nature has been increased and water conditions and environmental conditions improved. Based on the European Birds Directive and the Habitat Directive (VHR11), the Netherlands is responsible for guaranteeing the continued sustainable existence of species and ecosystems. This not only applies on land but also in the marine environment where we will strive to achieve a good environmental status and sustainable and responsible use. In urban areas, there is sufficient space for nature and green, by 2050, to allow insects a good chance of survival. Soil subsidence in weak soils has been massively reduced, at the latest by 2050.

Heritage and identity
As is the case today, our landscapes, our built and archaeological heritage, our national parks and the characteristic appearance of our towns, villages and cities will continue to determine the Dutch identity in 2050. These are essential cultural and historical values that we must preserve for the future. We will aim to maintain a recognisable living environment, with a clear character. We must treat our landscape and our cultural heritage with due care. We have taken action to counter the threats of cluttering and the unbridled spread of uncontrolled building. We have identified a new future for historical monuments such as churches, and for more recent heritage such as disused factories. At a number of locations the changes have been so considerable that – in line with Dutch tradition – they form the starting point for designing and developing new landscapes and new high-quality heritage.

In other words, we embrace the new, and cherish what already exists. In this way, together, we will create an attractive, healthy and safe Netherlands, in which we are all happy to live, in 2050.

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3. National interests and tasks in the physical living environment

The physical living environment is a shared responsibility of municipalities, water authorities, provinces and national government. Certain tasks and interests exceed the local, regional and provincial level, and call for political and administrative attention, at national level. These national interests are in many cases also sectoral interests. The existing national policy for these interests is laid down in a series of structural visions and other policy documents. At present, many of them require no substantive changes. This chapter describes all the national interests with regard to environmental policy. At the same time, the national tasks are formulated, and the role of national government outlined.

The NOVI focuses specifically on those developments that bring together multiple national interests. This chapter is therefore concluded with four priority tasks in respect of which choices will have to be made between national interests.

3.1 Relevance of national interests

National interests are the substantive interests of the physical living environment with regard to which national government sees a role for itself, and for which the Cabinet is politically accountable. The promotion of those national interests and the realisation of the resultant policy objectives and tasks are not achieved by national government operating alone. Many interests are shared, and many responsibilities tie in with each other. As a consequence, national government is required to work in harmony with municipalities, water authorities and provinces, and other stakeholders. Together, it has been determined or must be determined which policy instruments should be deployed by whom in realising these national interests as effectively and efficiently as possible. The same applies for to the resultant policy objectives and tasks.

System responsibility and result responsibility
National government bears system responsibilities or all national interests. For a number of interests, it in fact has even further-reaching responsibilities. As regards system responsibility, national government is responsible for ensuring that the system functions smoothly, so that each party within the system can satisfactorily fulfil its role. If the bodies responsible for achieving results (for example municipalities or provinces) fail to reach their targets, national government must investigate why. By adapting the system or by offering support to the responsible parties, the national government then attempts to empower these other parties, so that they can achieve their goals. In terms of responsibility for results, national government itself bears final responsibility for achieving the goals, and can be directly called to account.

3.2 National interests and tasks

The list below describes the national interests on which national government has set its sights in the NOVI. The first three of these national interests are of a more overarching character than the remainder. The national interests are listed in random order. Where necessary, these national interests also apply in full, to the underground environment.
The NOVI refers to the following national interests:

1. Fostering sustainable development of the Netherlands as a whole and of all elements of the physical living environment.
2. Achieving a good-quality living environment.
3. Guaranteeing and strengthening cross-border and international relations.
4. Guaranteeing and fostering a healthy and safe physical living environment.
5. Ensuring that housing stock matches housing demand.
6. Guaranteeing and achieving a safe, robust and sustainable mobility system.
7. Maintaining and developing the main infrastructure for mobility.
8. Guaranteeing good access to the living environment.
9. Ensuring national security and offering space for military activities.
10. Mitigating climate change.
11. Achieving a reliable, affordable and safe power supply, that is CO₂-neutral by 2050, and the accompanying main infrastructure.
12. Guaranteeing the main infrastructure for the transport of substances via (pipe)lines.
14. Guaranteeing water safety and climate resilience (including vital infrastructure for water and mobility).
15. Guaranteeing good water quality, sustainable drinking water supply and sufficient availability of freshwater.
17. Achieving and maintaining high-quality digital connectivity.
18. Developing sustainable food and agricultural production.
19. Preserving and strengthening cultural heritage and landscape and natural qualities of (inter)national importance.
20. Improving and protecting biodiversity.

The national interests are briefly explained below. For a further explanation of policy, the tasks and the roles for national government that relate to the national interests and which elements of existing policy will be taken up in the NOVI, refer to the Explanatory notes. This document is only available in Dutch.

1. Fostering sustainable development of the Netherlands as a whole and of all elements of the physical living environment

The seventeen Sustainable Development Goals (SDGs) identified by the UN are important starting points for Cabinet policy for our country and as such also for the physical living environment. Of the seventeen SDGs, ten relate directly to the physical living environment. Sustainable development has not only been agreed internationally by the Dutch Cabinet, but is also of fundamental national and international interest in ensuring that our country and the world remain a suitable place to live, for future generations. Production and consumption within the limits imposed by our planet remain of key relevance.

‘Sustainable development, the suitability of the country as a place to live and the protection and improvement of the living environment’ are the overarching goals of the Environment and Planning Act and hence of the National Strategy on Spatial Planning and the Environment.

Task

The task is to implement the SDGs relevant to environmental policy. Since this particular interest relates to overall Cabinet policy, it is also reflected in other national interests:

- Zero hunger (SDG 2) relates closely to our agricultural production and is reflected in the national interest ‘Developing sustainable agriculture for food and biomass’.
- Clean water and sanitation (SDG 6) is reflected in ‘Guaranteeing a sustainable drinking water supply and sufficient availability of freshwater’.

Sustainable Development Goals (SDGs), About the Sustainable Development Goals, see https://www.un.org/sustainabledevelopment/sustainable-development-goals/
• **Affordable and clean energy (SDG 7):** ‘Establishing low-\(\text{CO}_2\) power supply, that is reliable, affordable and safe’.

• **Industry, innovation and infrastructure (SDG 9)** is reflected in ‘Guaranteeing and achieving a safe, robust and sustainable mobility system’, ‘Achieving a future-proof, circular economy’ and ‘Guaranteeing and strengthening an attractive spatial-economic establishment climate’.

• **Sustainable cities and communities (SDG 11)** is reflected in ‘Achieving a good-quality living environment’ and ‘Mitigating climate change’.

• **Responsible consumption and production (SDG 12):** is reflected in ‘Achieving a future-proof, circular economy’.

• **Climate action (SDG 13)** is reflected in ‘Mitigating climate change’, ‘Achieving a future-proof circular economy’ and ‘Establishing a low-\(\text{CO}_2\) power supply, that is reliable, affordable and safe’.

• **Life below water (SDG 14)** and **life on land (SDG 15)** are reflected in ‘Improving and protecting biodiversity’.

• **Partnerships for the goals (SDG 17)** is further elaborated in chapter 6.

**Role of central government**

Based on its system responsibility, in elaborating the NOVI and implementing the various national interests, national government will consciously involve these overarching objectives in its policy choices.

2. **Achieving a good-quality living environment**

Good environmental quality is part of the central objective of the Environment and Planning Act, and as such is of national importance. This refers to the importance of cultural heritage, architectural quality of built structures, the quality of our towns and cities and the quality of nature and landscape. It also refers to the human perception of the physical living environment, the effects that environment has on people and the intrinsic value awarded by society to the identity of areas and species of plants and animals.

The term quality of the living environment employed in the NOVI refers both to the spatial quality and the environmental quality of the physical living environment. Environmental quality relates to values we award to a healthy environment in which to live and work. It refers directly to such specific elements as air quality, noise nuisance, odour nuisance, environmental safety and the quality of water and soil.

**Task**

The task is to achieve a good-quality living environment. The current quality of the living environment is above average (in relative terms when considered with regard to international standards) since in practically all corners of the Netherlands, a basic level of protection has been achieved with the assistance of legislation and regulations. Nonetheless, there are still major challenges in improving the quality of the living environment. After all, even at the current basic level of protection, air pollution remains harmful to health. In the same way, drug residues in water, the risk of incidents at companies working with harmful substances or tackling as yet unknown environmental risks such as those caused by nano materials, call for an active and ambitious approach. Developments such as the rise in the number of homes, commercial premises and offices, the spread of infrastructure, the growth of power generation and energy storage, water and recreation all call for more space, while influencing the quality of various aspects of the living environment such as safety, (social) quality of life, spatial quality, landscape, nature and biodiversity and health. One further element of the task is to prevent these developments being shifted to future generations.

**Role of national government**

National government is responsible for a sound system of environmental laws. This includes guaranteeing carefully considered and transparent decision making, support for knowledge development and the appropriate use of spatial design (and study). The Minister of the Interior and Kingdom Relations holds system responsibility for achieving a good-quality living environment.

3. **Guaranteeing and strengthening cross-border and international relations**

An open mind towards the world and our involvement in developments abroad are essential for the identity and prosperity of the Netherlands. This is reflected in cross-border and broad international
cooperation and agreements. International cooperation is also important in respect of our ecological (and social) ‘footprint’. As a consequence of our open, international economy, this footprint is many times greater than our own territory. Moreover, the physical living environment does not simply cease at our national borders. Road, water and rail links are of vital importance to transport and the economy of the Netherlands as a whole and of border regions in particular. Cross-border public transport and infrastructure links reduce the barrier effect of borders and make it possible for economic potential to be fully utilised. Cross-border energy networks are vital for a stable and sustainable Northwest European energy system. Changes in the security situation call for intensive international cooperation with our partners in NATO and the EU, for example with regard to large troop movements. The quality of our living environment is to a considerable extent determined abroad. Nature areas and water systems extend beyond our national borders. Developments and environmental policy in our neighbouring countries can have a huge influence on the Netherlands, for example on water management, water quality and the development of nature.

Task
Many of the tasks in this NOVI have an international or cross-border component. These tasks can only be successfully tackled if this takes place at the scale relevant to the task in question. The task for environmental policy is to maintain the open character to the world and our international orientation, to grasp cross-border opportunities and to jointly tackle tasks with a cross-border nature with our neighbouring countries.

Role of national government
National government is responsible for bilateral, international and multilateral cooperation. It is also jointly responsible for intergovernmental cross-border cooperation. National government and other government authorities work alongside the Belgian regions of Flanders, Wallonia and Brussels, and with the German federal states North Rhine-Westphalia and Lower Saxony, and with provincial and municipal government bodies in the border regions. National government encourages cross-border initiatives, provides the necessary conditions, organises cross-border governance and utilises the opportunities and instruments provided by the EU and Benelux countries. The practical implementation of this interest takes various forms, for example with regard to infrastructure, the environment, water, sustainability, defence, transport, fishery, river management, nature and the cross-border housing and labour market.

4. Guaranteeing and fostering a healthy and safe physical living environment
A healthy and safe living environment, that is also perceived as such by the residents of the Netherlands, is of national importance. At the same time, with regard to the healthy living environment, a distinction is made between protecting health through good environmental quality, and encouraging a healthy lifestyle by establishing a healthy living environment. The Netherlands must at least satisfy all applicable environmental standards. However, the Cabinet is striving to achieve permanent improvement, even once the standards have been reached, for example with regard to air quality. To make that possible, traffic risks, environmental risks, environmental safety risks and health risks must be made manageable, and preferably prevented, while new risks and hazards for health must be identified and tackled in a timely manner. New production processes, infrastructure, installations, transport systems and products must all be inherently safe. Achieving and maintaining a healthy and safe physical living environment naturally requires good-quality air, soil and water, and sufficient nature. Resilient soil and a smoothly functioning soil-water system are equally important in both urban and rural areas, also with the aim of reducing the extent of soil subsidence. The (management) costs for tackling the effects of soil subsidence make it essential that we intervene (at some point in the future). At the same time, the sustainable, efficient and safe use of the underground environment is of key importance, in a manner that ensures a sound balance between use and protection. For a large number of societal tasks in both urban and rural areas, demands are placed on the underground environment, or at least account must be taken of the opportunities and limitations of that underground environment.

Nuisance and risks from among others chemical substances, radiation, vibrations and noise must be managed or preferably prevented. Air, land and water (whether in respect of nature, urban or rural areas (including transport arteries)) must be of such good quality that risks for people and the environment as a consequence of human activities are negligible.
Moreover, a healthily structured living environment invites people to demonstrate healthy behaviour and a sense of wellbeing. Key elements of a healthy living environment are encouraging exercise (walking, cycling, sport and play), meeting and interaction and relaxation. This includes the system of recreation, cycling, walking and water sport networks. In this way, the living environment can contribute to reducing obesity, lowering blood pressure and improving all-round mental health. The living environment can make an important contribution to increasing the health potential of vulnerable groups. A healthily planned and structured living environment can moreover often be combined with other functions, such as climate adaptation (more green and blue environmental elements) and active mobility.

Task

Environmental factors such as air pollution and also unhealthy behaviour continue to cause harm to health. As a result of more intensive use and the expected growth of our cities, the pressure from air pollution and noise nuisance on health is expected to rise. The task is to reduce the negative effects of the environment on our health to a negligibly low level, and to structure our living environment to encourage healthy behaviour. This will require collaboration between the physical/spatial domain and the social health domain.

Another task is the maximum possible exclusion of environmental risks as a consequence of industrial activities and transport (environmental safety). The growth of the economy and of population numbers will reduce the space available for high-risk activities while at the same time the number of sources of unsafety may rise due to economic developments and changes in our power supply.

The maps ‘Air quality’, ‘Environmental safety’ and ‘A living environment that encourages exercise, sport, play and interaction’, show a further explanation of this national interest. The map ‘Air quality’ gives an indication of the concentrations of fine particulate matter (PM10) and NO2 in the Netherlands. The map ‘Environmental safety’ gives a picture of the locations of businesses with hazardous substances, in relation to housing demand. Lastly, the map ‘A living environment that encourages exercise, sport, play and interaction’ gives a picture of the national network of cycling and walking routes in relation to the Netherlands’ Nature Network. Thereby, in the Explanatory notes, the tasks for the various compartments of the environment are specified in greater detail.

Role of national government

National government bears system responsibility for the safety and health of the nation’s citizens and result responsibility for the quality of air, soil and water. National government is also responsible for guaranteeing a good-quality living environment and for tackling nuisance and risks caused among others by industrial activities, substances, radiation and noise, on the basis of international and national legislation. All environmental strategies on the basis of the Environment and Planning Act must take account of the environmental principles: prevention, preventive action, tackling at source, ‘the polluter pays’ and ‘prevention is better than remediation’, the inclusion of cumulative risks for people and the environment in all decision-making processes, the application of the prevention principle in the face of new, still uncertain risks for people and the environment, and ensuring transparent consideration in all decision-making processes. With regard to the structuring of the living environment in a manner that fosters health, national government will encourage knowledge development and the cooperation needed to bring this about. To ensure that the Netherlands satisfies the EU agreements in this field, national government is directing, encouraging and implementing a series of measures. National government is responsible for a programmatic set of measures through to 2050, the aim of which is to establish future-proof large waters with high-quality nature, hand in hand with a powerful economy.

Tackling the problem of soil subsidence is a relatively new area of activity. The precise distribution of responsibilities must still be fully elaborated.
National Interest 4: Guaranteeing and fostering a healthy and safe physical living environment

Air quality

Concentration of fine particulate matter and nitrogen dioxide in the Netherlands (RIVM)

- Concentration of fine particulate matter (PM$_{10}$) higher than the recommended value (Annual average 20 µg/m$^3$)
- Concentration of nitrogen dioxide (NO$_2$) higher than the threshold value (Annual average 40 µg/m$^3$)
- Concentration of fine particulate matter higher than the recommended value and concentration of nitrogen dioxide higher than the threshold value

Sources: National Institute for Public Health and the Environment, European Space Agency
National Interest 4: Guaranteeing and fostering a healthy and safe physical living environment

Environmental safety

Business parks and high-risk activities
- Business park (IBIS)
- Cluster with high concentration of businesses with hazardous substances and in BRZO* category**
- Cluster with high concentration of businesses with hazardous substances**

Housing demand (Forecast population development Statistics Netherlands 2017-2040)
- Strong growth (more than 10%)
- Growth (2.5% to 10%)
- Shrinkage to stable (-10% to 2.5%)

*BRZO: Businesses subject to the Major Accidents (Risks) Decree
** Selection of clusters is made by the Vereniging Delta Metropool (Delta Metropolis Association) based on the map of 'Businesses with hazardous substances' on page 95 of the Bosatlas for Safety.

Sources: IBIS, Bosatlas for Safety, Statistics Netherlands
National Interest 4: Guaranteeing and fostering a healthy and safe physical living environment

A living environment that encourages exercise, sport, play and interaction

Sources: Stichting Wandelnet (Walking Network Foundation), Stichting Landelijk Fietsplatform (National Cycle Platform Foundation) Voortgangsrapportage Natuur (Nature Progress Report)
5. Ensuring that housing stock matches housing demand

Housing is a basic human need. Everyone in the Netherlands must be able to live comfortably, for a reasonable price, irrespective of whether that means renting or buying. Alone, with your family or with others, in a house with garden or balcony, and in peaceful or more lively surroundings, depending on the individual wishes. Against that background, housing stock that matches people’s current and future housing demand is therefore a national interest. Good-quality housing means a pleasant, liveable environment, with enough homes for everyone, in every phase of life: from student bedsits through to (care) homes for life. Good housing also means a justified expectation of quality from builders and landlords, who carry out their work well and in a transparent manner, an expectation that government will act to tackle excesses. It also means that housing must be affordable with suitable homes for every budget and an affordable transition to clean energy in every home. In other words, quality relates not only to the home itself but also the residential and living environment.

Task

The growth in the number of residents and households calls for equivalent growth in housing stock (above all in and around urban regions) in a pleasant, liveable environment. Between 2019 and 2030, around 1 million new homes will have to be built or created via transformation. Certain regions are faced with shrinking population numbers. The map ‘Quantitative demand’ gives a picture of housing demand (Statistics Netherlands (CBS) forecast through to 2040). In these regions, the task is to retain good-quality housing stock for example through demolishing or renovating poor-quality homes. The map ‘qualitative assessment of the living environment’ gives a picture of the qualitative task based on the Life Quality Barometer (Leefbarometer) 2016. At the same time, the build quality of the housing stock has major consequences for the energy requirement and the emission of CO₂. One key challenge is to make a low-CO₂ built environment that is climate resilient and nature inclusive in 2050.

Role of national government

The primary responsibility for the built environment, housing stock and quality of life lies with municipalities and provinces. The role of national government is to lay down the framework, where necessary to impose sanctions, to make resources available – for example via housing allowances and mortgage tax deduction – and to work alongside municipalities and provinces to overcome (supralocal) obstacles. At the same time, national government is responsible for investments in accessibility, which in many cases are linked to large-scale area developments.
National Interest 5: Ensuring that housing stock matches housing demand

Municipal boundaries
Industrial estates

Forecast population development in the Netherlands per municipality, projected on existing built environment

- Severe shrinkage (up to -10%)
- Shrinkage (-2.5 to -10%)
- Stable (-2.5% to 2.5%)
- Growth (2.5% to 10%)
- Strong growth (more than 10%)

Source: Statistics Netherlands Population Forecast 2016-2040
National Interest 5: Ensuring housing stock that matches housing demand

Qualitative assessment of the physical living environment, based in the Leefbaarometer (Life Quality Barometer) scores 2016 per neighbourhood

- Far below standard
- Well below standard
- Below standard
- Poor
- On standard
- Above standard
- Good
- Very good
- Excellent

Source: Leefbaarometer (Life Quality Barometer)
6. Guaranteeing and achieving a safe, robust and sustainable mobility system

Without a smoothly functioning mobility system, our economy and our society will literally grind to a halt. Both economic and social interests are served by good accessibility at every level. The cohesive functioning of the total system of roads, railways, waterways, infrastructure for walking and cycling, multimodal hubs and stations, ports and stations, now and in the longer term, is of national interest. Traffic and the transport of people and goods must be safe, affordable and reliable, must offer acceptable journey times and travel alternatives and must have the least possible negative impact on the environment. Those aspects of infrastructure networks that are of supraregional importance for overall accessibility are viewed as part of the main infrastructure (main road network, main rail network, main waterways network).

The term safety refers to road safety, social safety and external safety. It is of key importance on the road, on the railways, in the water and in the air. In a robust mobility system, journey times are predictable and reliable, including the seamless transition between the various travel modalities. At the same time robust also means that the mobility system is futureproof (including climate resilience).

The emissions of fine particulate matter and other air pollutants, and noise nuisance from traffic must be minimised (see national interests 10 and 8).

Task

Access for people and goods is under ever increasing pressure. In, around and between our cities, this problem is caused by the fact that at certain times of the day, demand exceeds the capacity of the various networks. In certain rural areas, population shrinkage means that demand for public transport is declining, so that public transport in its traditional form – with fixed routes and regular timetables – has become too expensive to operate effectively.

The task consists of:

1. The smart and safe structuring of (traffic) space. Everyone, both passengers and transport operators, must be able to make safe use of the various networks and modes of transport. This calls for social safety, road safety and safety of the infrastructure (engineering structures) itself.

2. Preventing and solving (predicted) bottlenecks on roads, railways and waterways. People and goods must be able to reach their destination within a socially acceptable timeframe, even if the system is disrupted by incidents. This for example requires:
   - the better utilisation, expansion (see also national interest 7) and the successful combination of the various national, regional and local networks (also including pedestrian and cycle networks) and improving transfer and transhipment points;
   - providing space for the development of ports and the transport, reception, transhipment and handling of goods.

3. Achieving the targets for the emission of CO₂ (equivalents), as laid down in the Climate Agreement (draft 2018). Efforts are focused on electrification and the smart and efficient use of the mobility system. Where this is not possible, attention will be focused on clean, advanced fuels. The ambition is also to reduce the emission of fine particulate matter and other air pollutants by mobility, and to further reduce noise nuisance from traffic.

4. Finding a new balance between air transport on the one hand and noise nuisance, safety, emissions and harm to health, on the other.

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Role of national government
This interest exceeds the territorial, administrative and indeed all other aspects of municipal, regional and provincial government, because the total network of roads, railways, waterways and multimodal hubs and stations, ports and airports must be viewed in combination. The overarching (economic and social) interest is served by good accessibility at all levels (in other words more than just the network of national infrastructure) and for that reason must be secured at national level. The national government is therefore responsible for the system. For specific elements of the network and specific themes (for example transport safety), policy can of course be elaborated at regional level. National government will encourage innovations in mobility through cooperation with private, societal, scientific and public partners.

7. Maintaining and developing the main infrastructure for mobility
A smoothly functioning mobility system requires the securing and development of the main infrastructure for the transport of persons and goods via road, rail, air, sea and water. Uninterrupted networks for the whole of the Netherlands, interconnected with foreign networks must be guaranteed. In terms of territory, this interest exceeds municipal, regional and provincial level.

Task
National and international accessibility is an area of focus. The question is whether the Netherlands can retain its strong position as a consequence of a combination of an increase in building development around infrastructure networks and the airports, massive growth in demand for mobility on the main networks and international links. The ageing of the infrastructure and the resultant major replacement and renovation tasks represent a huge challenge. The task is to create and expand the infrastructure where bottlenecks cannot be avoided through other measures, and to maintain, rejuvenate, renew and improve the sustainability of existing infrastructure networks. The maintenance and development of the main infrastructure is essential in order to continue to guarantee the equality, reliability and availability of the networks. The maps ‘Maintaining and developing the main infrastructure – on land and sea – and in the air’ give a picture of the current demand for space for the main infrastructure.

Role of national government
National government is responsible for the construction, management and maintenance of the main infrastructure. National government ensures the coherence and functioning of the network from a national, international and regional perspective.
National Interest 7: Maintaining and developing the main infrastructure for mobility

On land and sea

Existing (inter)national mobility system
- (Inter)national railway
- (Inter)national motorway
- (Inter)national waterway

Development of main links in the (inter)national mobility system
- (Inter)national main rail link
- (Inter)national main road link
- (Inter)national main inland shipping link

Sources: Rijkswaterstaat, Eurostat, TENT-T Core Network, Contours for of the future of Public Transport 2040

Airports and seaports
- Seaport or inland shipping port with > 10 million tonnes goods transhipment/year
- Seaport or inland shipping port with > 70 million tonnes goods transhipment/year
- Seaport or inland shipping port with > 400 million tonnes of goods transhipment/year
- Airport under development
- Airport with more than 0.2 million passengers/year
- Airport with more than 10 million passengers/year
- Airport with more than 60 million passengers/year

Sources: Rijkswaterstaat, Eurostat, TENT-T Core Network, Contours for of the future of Public Transport 2040
National Interest 7: Maintaining and developing the main infrastructure for mobility

In the air
Low flying areas
- Protection of low flying area

Communication, Navigation and Surveillance
- CNS protection area
- Radar protection

Protection area airport safety and access
- Military protection area
- Civilian protection area

Source: Air Traffic Management Infrastructure and Water Management (I&W)
8. **Guaranteeing good access to the living environment**

Around 2 million people in the Netherlands have a disability. Because everyone must be able to participate in society, good access to the living environment including homes, buildings, public transport and public space is of national importance. An accessible environment invites people to participate in more outdoor activities, makes it easier to meet people and for example for people to do their own shopping.

**Task**

In practice, there are numerous obstacles to the use of public space, buildings and public transport. The task is to improve the accessibility of buildings, public transport and public space (also for the emergency services) and to ensure the availability of sufficient suitable homes and forms of housing for people with a disability.

**Role of national government**

The role of national government is to ensure that the obligations based on the UN Convention on the Rights of Persons with Disabilities are fulfilled. National government ratified this Convention on 14 July 2016. The implementation of the UN Convention is included in the coalition agreement 2017-2021 ‘Confidence in the future’.

9. **Ensuring national security and offering space for military activities**

Security is a basic precondition for a prosperous Netherlands. The purpose of our armed forces is to protect our country. The Netherlands is a hub for people, goods and data. National security is essential to a resilient society and to the protection of our vital infrastructure and the digital security of our country. The Defence organisation makes a vital contribution to the security of our airports, ports and other essential infrastructure. These contributions are based on three core tasks of the Defence organisation according to the Constitution:

- Protection of our own national territory and that of our alliance partners;
- Protection and fostering of the international rule of law and international stability;
- Support for the civilian authorities in enforcing the law, disaster relief and humanitarian aid, both national and international.

**Task**

In order to be able to implement its operational tasks, the Defence organisation requires sufficient space to exercise and train its members. The armed forces have been expanded and modernised. Potentially, this development will result in greater demands on the environment. The predicted growth in Defence activities must be catered for. The map ‘Ensuring national security and offering space for military activities’ gives a picture of the existing demand for space for defence activities.

**Role of national government**

Pursuant to article 2.19 of the Environment and Planning Act, national government is responsible for ensuring the functioning and condition of the infrastructure and other facilities for national security and defence against the consequences of activities involving the infrastructure and other facilities.
National Interest 9: Ensuring national security and offering space for military activities

Military use at sea
- (Low) flying zone at sea
- Shooting range/unsafe zone
- Training area minesweeping

Military use on land
- Military site or site with military property
- Military port
- Military airport
- Military airport with joint civilian use
- Transmitter/receiver installations, including radar stations
- Low flying areas above land
- Low flying route, fighter aircraft
- Low flying routes helicopters and propeller-driven aircraft

Sources: Structural Vision Infrastructure and Space, Defence
10. Mitigating climate change

The Paris Agreement\(^4\) undertakes to mitigate the threat of climate change by keeping the global temperature rise well below 2 degrees Celsius above pre-industrial level and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius, in order to significantly reduce the risks and consequences of climate change. Additionally, it was agreed to reach the global peaking of emissions as quickly as possible, and subsequently to reduce emission levels. In the second half of the century, the aim is to have achieved a balance between anthropogenic emissions and reservoirs of greenhouse gases. The Netherlands has committed to this agreement. It is of national importance to achieve the internationally agreed goals, and to meet the contributions to mitigating climate change laid down in the Climate Act (Klimaatwet).

**Task**

The objective has been translated into the task of reducing emissions of greenhouse gases by at least 49% in 2030 and 95% in 2050, as compared with 1990.

**Role of national government**

The role of national government is to create the conditions that enable societal actors to limit the emissions of greenhouse gases and to increase the storage of CO₂. This also applies for the activities and possessions of national government itself.

11. Achieving a reliable, affordable and safe power supply, which is low-CO₂ in 2050, and the necessary main infrastructure

Vital functions in society are dependent on the reliable supply and exchange of energy. Energy must be affordable for all. Energy must also be generated, transported, stored and used safely. In order to achieve the targets laid down in the Paris Climate Agreement\(^4\), and to realise 95% less greenhouse gas emission in 2050 (as compared with 1990), there must be a transition to low-CO₂ power supply. We must save energy and make our power supply sustainable, so that we can reduce the emission of greenhouse gases. The energy transition is also essential from the geopolitical viewpoint, as well as contributing to a healthier living environment. At the same time, over the next few decades, conventional energy sources will continue to play an important role in our energy system. The main infrastructure for the generation, production, conversion, storage and transport of energy is part of this national interest. The national distribution network for electricity will continue to develop in order to facilitate the energy transition. High-voltage connections of 110 kV and higher are part of the national high-voltage grid.

**Task**

A low-CO₂ energy system calls for more space than a fossil-based system and requires fundamental adaptation among others to the heat and electricity system. This in turn places greater demands on the energy network. One key point of attention is the combination of supply and demand. The task therefore lies in guaranteeing a reliable, affordable and safe power supply, replacing fossil energy sources by renewable sources (including energy saving), adapting the networks for heat, gas and electricity and creating the space required for the generation, conversion, storage and transport of energy. The map ‘Achieving a reliable, affordable and safe power supply, that is low-CO₂ by 2050, and the accompanying main infrastructure’ gives a picture of the existing supply, the designated areas and the potential for the transport and generation of renewable energy.

**Role of national government**

The role of national government is twofold. Firstly, it relates to creating the necessary conditions for the production, generation, transport, conversion, storage and use of energy, and for the capture and storage of CO₂, in a reliable, affordable and safe manner. Secondly, it calls for efforts to secure the upgrading of the energy transition. This applies both onshore and offshore, and relates to the above ground and underground environment. In this process, national government will work closely alongside provinces and municipalities, civil society organisations and other stakeholders. This is for example reflected in the national Climate Agreement (draft 2018)\(^5\). The role of national government is expressed in the laying down of targets for the reduction of greenhouse gases and the setting out of conditions and designating areas for energy activities, after considering all other interests.

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\(^4\) The Paris Agreement (also known as the Paris Accord or Climate Agreement) is part of the Climate Convention signed on 12 December 2015.
National Interest 11: Achieving a reliable, affordable and safe power supply, that is CO₂-neutral by 2050, and the accompanying main infrastructure

High voltage grid
Existing national infrastructure (incl. not-reversible expansion plans)
- High voltage connection 450 kV
- High voltage connection 380 kV
- High voltage connection 220 kV
- High voltage connection 150 kV
- High voltage connection 110 kV
- Cable from offshore wind farm to landing point

Renewable electricity
Existing volume
- Offshore wind farm
- Onshore wind turbine

Designated large-scale offshore wind energy areas
- Wind energy area route map 2023
- Wind energy area route map 2030
- Other designated wind energy area

Described large-scale onshore wind energy areas
- High-opportunity area for large-scale wind energy

Renewable heat
Existing supply
- Geothermal drilling

Potential geothermal
- Average to high potential

Nuclear power stations
Existing supply
- Nuclear power station

Reservations
- Nuclear power station reservation

Overview of Dutch offshore wind farms
- Existing wind energy area
- Designated wind energy area

Sources: TenneT, Route map offshore wind energy 2030, Windstats.nl, Structural Vision onshore wind energy, TNO, Structural Vision Underground Environment, Structural Vision Infrastructure and Space
12. Guaranteeing the main infrastructure for the transport of substances via (pipe)lines

The network of pipelines for the transport of (hazardous) substances, including the gas infrastructure, is important for the economy and society of the Netherlands, on a European scale.

Task
As a consequence of developments in and the increased sustainability of the economy and society, changes will take place in the substances transported via pipelines. The task will be to reserve sufficient capacity to maintain and develop a robust, efficient, reliable and safe main network of pipelines for the transport of hazardous substances. An additional task will be to ensure that this network is structured in such a way that it results in negligible risks for people and the environment. The map ‘Guaranteeing the main infrastructure for the transport of substances via (pipe)lines’ gives a picture of the existing main network of pipelines.

Role of national government
The network of pipelines for the transport of (hazardous) substances is important for the economy of the Netherlands on a European scale. National government wishes to spatially facilitate the construction of these pipelines on land and by sea, preventing obstacles and ensuring good connections to the international network. Given the (inter)national scale and importance of an uninterrupted network, this is a task for national government.
National Interest 12: Guaranteeing the main infrastructure for transport of substances via (pipe)lines

Main network onshore pipelines
- Pipeline strip
- Indicative route
- Border crossing
- Indicative border crossing
- Indicative shore landing point

Main network offshore pipelines
- Gas pipeline
- Oil pipeline

Productie
- Production platforms
- Subsea platforms
- Gas fields (productive)
- Gas fields (non-productive)
- Gas fields (exhausted)
- Oil fields (productive)
- Oil fields (non-productive)
- Oil fields (exhausted)

Industrial clusters
- Large-scale industrial areas

Sources: Structural Vision Pipelines 2012-2035, SVIR
13. Achieving a future-proof, circular economy

In order to keep our economy future-proof and to make it more sustainable, the transition to a circular economy is of national importance. A circular economy is aimed at keeping raw materials in the production chain for longer. The aim is to ensure optimum use and reuse of resources, with the highest value for the economy and the least possible damage to the environment. As well as tackling threats, a circular economy also creates possibilities for economic innovation. It creates opportunities for businesses in the form of new (international) markets, increased cooperation in production chains and reduced consumption of natural resources leading in turn to cost savings.

Task

The growing population and developments in both prosperity and technology have created growing demand for the resources and services provided by nature. The stocks of those resources are becoming increasingly exhausted. Take for example the growing scarcity of fossil fuels, minerals and other natural resources. The task is to transform our economy into an economic system that is based on minimising the abiotic use of natural resources, such as petroleum and antimony. This can be achieved through the reuse of products, product components and (high-value) raw materials and the replacement of abiotic resources with renewable resources. In other words, a stable ecological system with sufficient biodiversity is an essential precondition for a circular economy.

Role of national government

The role of national government is to create the frameworks that ensure a level playing field for businesses to make this possible and to provide room for experimentation for technological innovations. A second role of national government is to create the conditions according to which the extraction of minerals can be achieved in an affordable, reliable and ecologically viable and safe manner. This of course refers to those minerals that are part of the circular economy.

14. Guaranteeing water safety and climate resilience (including vital infrastructure for water and mobility)

This national interest comprises the following elements:

Water safety

It is of national importance that water safety be guaranteed. That safety can be achieved by focusing on flood prevention and mitigating the consequences of potential flooding by means of water-robust spatial planning and sound contingency planning. The central focus on water safety is prevention, based on the strengthening and maintenance of primary flood defences, dunes and storm surge barriers.

It is of national importance that sufficient space be reserved for sand dredging for coastal and water safety (including the future strengthening of flood defences). The policy is aimed at ensuring that for everyone protected by primary flood defences, the risk of death due to flooding is equal to or less than 1:100,000. Ensuring that sufficient space is also reserved close to flood defences for future strengthening work is another element of national importance. Additional protection is offered at those locations where there is a risk of large groups of victims and/or large-scale economic damage and/or serious damage due to the failure of vital and vulnerable infrastructure elements of national importance.
Task
In the Netherlands, rising sea levels, higher river discharge volumes, the intensification of peak precipitation and increased risk of extreme heat and periods of drought can result in additional risks for water safety. This risk is further exacerbated in the Netherlands by soil subsidence. The task consists of:
• Maintaining, strengthening and reserving sufficient space for primary flood defences, dunes, coastal foundations and storm surge barriers, to prevent flooding. The aim is that all primary flood defences will satisfy the new standards in 2050;
• Reserving sufficient space for sand dredging to maintain the coastal foundations and to ensure water safety;
• Maintaining and reserving sufficient space for the rivers and river-widening measures;
• Mitigating the consequences of flooding via smart spatial planning and good contingency planning.

The map ‘Guaranteeing water safety and climate resilience (including vital infrastructure for water and mobility) gives a picture of the strengthening task, water safety and sand dredging areas.

Role of national government
National government bears system responsibility and is responsible for setting standards and laying down frameworks for the prevention of flooding and for contingency planning. Alongside the water authorities, national government is working to strengthen the primary flood defences in the Flood Protection Programme (Hoogwaterbeschermingsprogramma).15

Climate resilient and water robust
Reducing CO2 emissions will not be sufficient to prevent all climate change. Climate change means an increased risk of water nuisance, heat, drought and flooding. The resultant rise in sea levels and increased intensity of precipitation and periods of drought lead to risks for our economy, health and safety. Moreover, the process of soil subsidence also influences (the costs of) water level management and our soil-based national heritage.

It is of national importance for the Netherlands to adapt to these changes. A climate-resilient Netherlands is equipped to cope with these consequences of climate change, including sea level rise and soil subsidence. In many cases, climate adaptation will also impact the use of space for other functions and tasks.

Task
The task is to adapt our living environment to the consequences of climate change and to ensure that the Netherlands is structured to be climate resilient and water robust in 2050. This includes such elements as the capture of extreme rainfall and compensation for heat in urban areas.

Role of national government
In the Delta Plan for Spatial Adaptation (Deltaplan ruimtelijke adaptatie)16 and through the (implementation programme of) the National Climate Adaptation Strategy (Nationale Klimaatadaptatie Strategie NAS)17 and the Administrative Agreement on Climate Adaptation (Bestuursakkoord Klimaatadaptatie)18, national government has reached agreements with provincial and municipal authorities on the way in which these targets can be achieved. In many cases it is the task of the lower tiers of government and private parties to put these measures into practice, backed up by national government, in the form of funding and knowledge development. National government is also responsible for ensuring the climate resilience of its own buildings and infrastructure, including trunk roads, and for vulnerable functions vital to the national interests.

15 Flood Protection Programme (HWBP), see www.hoogwaterbeschermingsprogramma.nl
16 Delta Plan Spatial Adaptation 2018, see https://ruimtelijkeadaptatie.nl/overheden/deltaplan-rua/
17 National Climate Adaptation Strategy (NAS) 2016, see https://ruimtelijkeadaptatie.nl/overheden/nas/
National Interest 14: Guaranteeing water safety and climate resilience (including vital infrastructure for water and mobility)

Strengthening task for flood defences and water safety
- Large-scale strengthening task
- Medium-scale strengthening task
- Limited strengthening task
- No strengthening task
- Strengthening task to be determined and/or current project
- Existing storm surge barrier
- Area where consequences of flooding must be mitigated

Coastal foundations and sand dredging
- Coastal foundation
- Allocated sand dredging area
- Search area sand dredging up to and including 2027
- Reserved sand dredging area for the long term

Source: National Water Plan, Infrastructure and Water Management (I&W)
15. Guaranteeing good water quality, sustainable drinking water supply and sufficient availability of freshwater

The availability of sufficient freshwater for societal and economic functions (drinking water, food production and processing and industrial processes, shipping, nature, etc.) now and in the long term is of national importance. Critical use functions must be protected in periods of water shortage in accordance with the legally specified water consumption hierarchy (verdringingsreeks). It is of national importance to the Netherlands that we maintain and ensure good-quality water (surface water and groundwater). Good water quality is essential for the use of that water for a variety of functions. In addition, it is a contributory factor to a series of European obligations (WFD19, MSFD20, Natura 2000) and the national tasks in respect of nature and biodiversity. Drinking water is one of the necessities of life, and sustainably securing a sustainable public drinking water supply is of national importance. In addition to the availability of freshwater and the quality of drinking water sources, the quality and delivery reliability of drinking water itself must be guaranteed.

Task

Over time, the natural availability of sufficient water is decreasing, which could result in growing shortages of freshwater. In addition, demand for water is rising, in many places. Demand for drinking water is expected to grow considerably, through to 2050. The task lies in maintaining and fostering a healthy and balanced water system, and ensuring that the water that is available is used effectively and economically. It is also about protecting current drinking water sources and designating additional strategic stocks and national groundwater reserves in order to satisfy the demand for drinking water in the longer term. The task is to ensure that sufficient measures have been taken by 2027 to achieve the goals of the WFD (Water Framework Directive; Kaderrichtlijn Water KRW).

Dewatering and susceptibility to drought in weak soils leads to further soil subsidence and water quality problems. For that reason, reducing soil subsidence is yet another task for this national interest.

The maps ‘Freshwater supply’, ‘Drinking water supply’ and ‘Water quality’, show a further explanation of this national interest. The map ‘Freshwater supply’ gives a picture of the tasks and measures for a sustainable and efficient supply of fresh water. The map ‘Drinking water supply’ gives a picture of the space required for sustainable drinking water supply. Lastly, the map ’Water quality’ gives a picture of the chemical quality of water bodies.

Role of national government

Given the vital function of the drinking water and freshwater supply and water quality and the related responsibility at all levels of government for ensuring that supply, national government holds system responsibility.

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National Interest 15: Guaranteeing good water quality, sustainable drinking water supply and sufficient availability of freshwater

**Drinking water supply**
- Water catchment area
- Groundwater protection area
- National Groundwater Reserve
- Drilling-free zone for the protection of existing groundwater catchments
- Drilling-free zone for the protection of existing and future groundwater catchments

Source: Structural Vision Underground Environment
National Interest 15: Guaranteeing good water quality, sustainable drinking water supply and sufficient availability of freshwater

Water quality

Chemical quality of water bodies
The chemical quality of a water body is determined on the basis of the environmental quality requirements for 41 substances. A water body meets the requirements if all substances satisfy the standard.

- All substances satisfy the standard
- One substance does not satisfy the standard
- More than two substances do not satisfy the standard
- Not determined

Source: Summary Catchment Area Management Plan (Stroomgebiedbeheerplan)
National Interest 15: Guaranteeing good water quality, sustainable drinking water supply and sufficient availability of freshwater

**Freshwater supply**

*Tasks (National Water Plan)*
- Major task guaranteeing supply of freshwater and limiting declining groundwater levels
- Limited task guaranteeing supply of freshwater and limiting declining groundwater levels
- Dealing with salinisation
- Limiting demand for water buffer IJsselmeer
- Preventing low water levels in rivers (summer)
- Limiting demand for water buffer IJsselmeer

*Short-term measures*
- Efficient and economic use of water (also long-term measure)
- Structural increase in freshwater supply
- Smart water management
- Practical trial longitudinal dams
- Expanding alternative supply routes 1.5 m³/s
- Bypass for small-scale water supply
- Bernisse-Brielse Meer management optimisation
- Volkerak Zoommeer management optimisation
- Improving saltwater-freshwater separation in locks
- Increasing capacity of the Noordervaart from 4 to 5 m³/s

*Medium and long-term measures*
- Further expansion of structural freshwater supply
- Water-saving measures, Maas locks
- Transport of water for Waal and Maas rivers
- Upscaling of longitudinal dams
- Expanding alternative supply routes 24 m³/s
- Expanding buffers/small to large-scale alternative supply
- Alternative robust freshwater supply catchment area
- Increasing capacity of Noordervaart channel from 5 to 6 m³/s
- Connecting Liemers area
- Adaptation of low water discharge distribution
- Replacement of Maeslant surge barrier beyond 2070

Source: National Water Plan (original key has been abbreviated)
16. Guaranteeing and strengthening an attractive spatial-economic establishment climate

A competitive, sustainable and circular economy right across the Netherlands is the foundation stone for the prosperity of the country, now and in the future. The Netherlands is a world leader and one of the most dynamic and competitive knowledge economies in the world, and wants to be a frontrunner in the development, application and export of smart and sustainable products, technologies and services. In this way, the Netherlands will reinforce its position in the top five most competitive economies in the world, and can become a pioneer for the sustainable economy. The development of new (key) technologies and digitalisation in production processes will deliver a new boost to Dutch industry. This in turn requires an excellent (inter)national spatial economic network and establishment climate with space for entrepreneurship, innovation, experimentation and knowledge development. A key element of an excellent establishment climate is the availability of space that meets the demand, including aspects of the physical living environment such as digital connectivity, business locations, accessibility and quality of the living environment and nature. This must be combined with an internationally outstanding attractive, safe and healthy living environment. National parks can play an important role in this respect.

Task

In a globalising world, no country can be sure of its competitive position. The Netherlands, however, does have an excellent starting position. The task remains to ensure an excellent establishment climate with optimum (international) accessibility, an attractive, green, safe and healthy living environment, and the availability of space for commercial activities that meets demand, while avoiding excesses and shortfalls. In that connection, environment policy will facilitate sustainable growth of 2% in Gross Domestic Product (GDP) per annum, while retaining a position in the top five most competitive economies in the world.

The map ‘Guaranteeing and strengthening an attractive spatial-economic establishment climate’ gives a picture of a number of indicators for an attractive spatial-economic establishment climate.

Role of national government

The role of national government in this particular interest is to create the conditions in the living environment whereby the spatial economic establishment climate is and remains attractive. That includes encouraging the creation of clusters and cooperation between businesses, centres of knowledge, fieldlabs, start-ups and educational institutions, as laid out in the top sector policy and innovation policy. These policies represent a clear boost for the development and application of new technologies and the growth of new business.
National Interest 16: Guaranteeing and strengthening an attractive spatial-economic establishment climate

International hubs
- Internet Exchange Point
- Greenport
- Seaport or inland shipping port > 10 million tonnes of goods transhipment/year
- Seaport or inland shipping port > 70 million tonnes of goods transhipment/year
- Seaport or inland shipping port > 400 million tonnes of goods transhipment/year
- Airport under development
- Airport with more than 0.2 million passengers/year
- Airport with more than 10 million passengers/year
- Airport with more than 60 million passengers/year

Clusters of jobs and industry
- Large-scale industrial area
- Business estate/industrial area/greenhouse cultivation
- Urban area with concentration of jobs (>30 jobs/ha)
- Other urban area

Infrastructuur
- (Inter)national railway
- (Inter)national motorway
- (Inter)national waterway

Digital connectivity
- International data center
- Data cables

Sources: Statistics Netherlands, VDM, RWS, Eurostat, TENT-T, Dutch Data Center Association, Greenports Holland. Data from airports and seaports or inland shipping ports is derived from annual summaries 2017.
17. Achieving and maintaining high-quality digital connectivity

An excellent digital infrastructure offers opportunities for digitalisation and innovation, and in that way guarantees a favourable entrepreneurial and establishment climate, and greater prosperity. It is of national importance that now and in the future, sufficient accessible, reliable and rapid networks continue to be available. The reliability, efficiency, affordability and security of these networks must be guaranteed for the whole of the Netherlands (including rural areas).

**Task**

Without further investment, modern networks are not sufficient to handle the Internet traffic generated by the new economy. The Netherlands must be a digital frontrunner in Europe. The task is to make our digital networks among the best in Europe, and to facilitate the establishment of clusters around the Amsterdam Internet Exchange and other major concentrations of data centers.

The map ‘Achieving and maintaining high-quality digital connectivity’ gives a picture of the current distribution of datacenters and data cables, across the Netherlands.

**Role of national government**

The role of national government in this interest is to offer the conditions that allow the realisation of high-end digital connectivity, and to guarantee the reliability, efficiency, affordability and security of these networks.
National Interest 17: Achieving and maintaining high quality digital connectivity

Source: Dutch Data Center Association
18. Developing sustainable food and agricultural production

It is of national importance that agriculture and horticulture, as the biggest users of space in rural areas, are able to make the transition to circular agriculture, in which agriculture and biodiversity support and strengthen one another. In such an environment, Dutch agriculture and horticulture can sustainably supply high-quality products, specifically foodstuffs and other agricultural products, including raw materials such as biomass for the circular economy, while maintaining a balance and future-proof earning model for the sector. Productive soil and a smoothly functioning soil-water system are of vital importance for circular agriculture, also with a view to limiting soil subsidence. As managers and users of the rural environment, the agricultural and horticultural sector will have to make real contributions to the quality of the living environment, and deliver ecosystem services that contribute extensively to fulfilling a whole range of national tasks. This depends entirely on a healthy and smoothly functioning soil-water system. To make this possible, regional livestock farming will have to become more soil-bound, agriculture and horticulture will have to operate in a way that maintains the good condition of soil and water quality (with practically zero emissions into the environment) and strengthened biodiversity in the area of land in agricultural use, and in nature areas close to agricultural land. In areas where pressure on the environment from agriculture (nature, public health, drinking water supply) is too high, targeted measures will be implemented to reduce the burden. Examples are financial compensation for the reorganisation in livestock farming (warme sanering), which has been started during this Cabinet period, and the administrative agreement on Groundwater Protection Areas aimed at limiting the leaching of nitrates into specific groundwater protection areas.

Task

The task is to facilitate and bring about the transition to circular agriculture. Peat pasturelands are faced by three major problems: a. Emission of CO₂ equivalents, b. Future perspective for agriculture, nature and landscape. c. Soil subsidence. Developing an integrated approach to these problems (in combination with the Climate Agreement) is part of this task.

The map ‘Developing sustainable food and agricultural production’ gives a picture of the current distribution of agriculture and horticulture.

Role of national government

The role of national government in respect of this interest is to enable the turnaround towards sustainable food production. To make this possible, national government is deploying all available policy instruments. Actual implementation will often be based on a regional approach. The tasks of national government cannot be considered in isolation from the efforts of provincial and municipal authorities and civil society actors in fulfilling the joint tasks in rural areas.
National Interest 18: Developing sustainable food and agricultural production

Soil-bound agriculture
- Grazing livestock farming (grass and corn)
- Arable farming (grain, beet, potatoes and other crops)
- Horticulture (bulbs, tree nurseries, fruit growing and open field horticulture)

Non soil-bound agriculture
- Greenport
- Greenhouse cultivation
- Concentration of intensive livestock farming (pigs, poultry, goats and other animals)

Sources: Statistics Netherlands Soil Statistics, Greenports Holland
19. Preserving and strengthening cultural heritage and landscape and natural qualities of (inter)national importance

Preserving the core qualities of both urban and rural areas is of national importance. This is reflected in the conservation of valuable, open and vulnerable landscapes and built environment elements, based on their core qualities. In the process of (urban) growth, concentration, transformation or shrinkage, account must be taken of unique areas, structures and objects, archaeological monuments, built and laid-out monuments, urban and village conservation areas, and (nominated) world heritage and reconstruction areas. These core qualities can also be utilised in spatial tasks and transformations, for example through the implementation of spatial design. National parks can make a contribution to major spatial tasks on condition the conservation of the unique values in these areas is guaranteed. This in turn will contribute to an attractive living environment with a good establishment climate.

Task

The landscapes so typical for the Netherlands are slowly losing their identity as a consequence of gradual erosion of the characteristic landscape elements. One cause of growing pressure on the landscape is the uncontrolled spread of warehouse-type buildings as a consequence of growth in the economy and the transport sector, vacant agricultural buildings, soil subsidence, and economies of scale in agriculture. The task is to develop, preserve, strengthen and utilise cultural heritage and (inter)national unique landscapes and natural qualities in area development and transformation processes. We are working towards a recognisable living environment with a clear character.

The map ‘Retaining and strengthening cultural heritage and landscape and natural qualities of (inter)national importance’ gives a picture of the current distribution of world heritage and national heritage sites across the Netherlands.

Role of national government

On the basis of the European Landscape Convention, national government bears system responsibility for the nation’s landscapes. This national interest is put into practice in cooperation with provinces, that share this joint responsibility. The role of national government in this interest is to create the (statutory) frameworks for preserving cultural heritage and landscape and natural qualities for the long term. National government supports other government authorities and civil society parties and will put this interest into practice in its own activities and properties. National government is responsible for results in a number of policy fields that together influence landscape quality or are focused on the preservation of specific landscape qualities. These include national policy for large waters and cultural heritage in the North Sea. National government is also jointly responsible for protecting important open spaces, such as the Green Heart, the Wadden Sea, the Veluwe and the National Parks.

Responsibility for the preservation of cultural heritage and world heritage is the task of all governments, pursuant to the obligations arising from the Granada Convention, the Valletta Convention, the European Landscape Convention and the World Heritage Convention. National government is responsible for a correctly functioning system (of laws) for heritage and the living environment.

21 In 1994, the Netherlands signed up to the Granada Convention which states that protection of the architectural heritage is an essential objective of spatial planning; not only in the elaboration of plans but also the preparation of developments
22 In 1992, the Malta Convention was signed in Valletta, regulating the way in which archaeological heritage is treated, by the European Union.
23 The Member States of the Council of Europe signed the European Landscape Convention in 2000.
24 The aim of the 1972 World Heritage Convention is to preserve heritage of unique and universal value for humanity, for future generations.
National Interest 19: Retaining and strengthening cultural heritage and landscape and natural qualities of (Inter)National Importance

World Heritage
- Built heritage
- Cultural landscape/archaeology
- Nature

World heritage nomination/on previous list
- Built heritage
- Cultural landscape

National heritage
- National listed building with archaeological value
- Town or village conservation area
- Reconstruction area
- Protected country estate

Sources: Cultural historical GIS, Dutch Cultural Heritage Agency
20. Improving and protecting biodiversity

It is of national importance that efforts be made to achieve the European (conservation) targets by which the Netherlands is bound. Preservation and recovery of biodiversity in the Netherlands make an important contribution to the quality of the living environment. Wherever possible, the Netherlands will encourage natural processes in order to better achieve the conservation targets for species and habitats (for example in the Nitrogen Management Programme (Programma Aanpak Stikstof PAS)25 and the Programmatic Approach for Large Waters (Programmatische Aanpak Grote Wateren)26).

The PAS25 contributes to achieving the nature objectives derived from the European Birds Directive and Habitats Directive. The PAS contains source-based measures that will result in a reduction in nitrogen deposition, and recovery measures which will result in reinforcement of the natural values in Natura 2000 areas. As a result of these measures, new economic activities that do generate nitrogen emissions can be admitted in and around Natura 2000 areas.

Use functions should preferably be undertaken in locations where they match the characteristics and functioning of the natural groundwater system. In such locations, fewer technical backup measures are needed, for example with regard to the application of fertilisers, crop protection or dewatering, which could have negative environmental effects. Biodiversity will benefit as a result. Biodiversity is important because of the intrinsic value of nature and the relevance of nature for society. This relevance for society is expressed in numerous different ways, such as clean water, clean air, the supply of food and biomass, opportunities for recreation, exercise and relaxation, a cooling effect during warm periods and living enjoyment.

Task

The task is to assist the recovery and strengthening of biodiversity as laid down in the Birds Directive and Habitats Directive. One element of this task is the creation of 80,000 hectares of additional nature, between now and 2027, as agreed by national government with the provinces in the framework of the Nature Pact27. As well as creating more good-quality areas of nature, the task is to ensure that natural resources – our natural capital – are utilised in a sustainable manner and that other users no longer shift responsibility to nature, but themselves make a contribution to nature and biodiversity. In this way, in the event of major developments such as changes in agriculture, the energy transition and the expansion of residential areas and infrastructure, account will be taken of nature (nature-inclusive development). To realise the targets of the Water Framework Directive, sufficient measures have been taken by 2027. In implementation of the strategy document Valuable and Connected from the Dutch Ministry of Agriculture, Nature and Food Safety (LNV), ties will also be established with the Biodiversity Recovery Delta Plan28.

The map ‘Improving and protecting biodiversity’ gives a picture of a number of areas of nature subject to international and national protection.

Role of national government

In the Administrative Agreement on Nature29 and the Nature Pact27, the land-based policy on nature is decentralised, as laid down in the Nature Conservation Act (Wet Natuurbescherming) (that became effective in 2017). National government remains responsible for the implementation of the European Birds Directive and Habitats Directive, and international agreements such as the Bern and Bonn Conventions, the Convention on Biological Diversity and other treaties and regulations. National

government provides the statutory frameworks with instruments and standards for nature conservation, and wherever necessary provides guidance, for example in the agreements in the Nature Pact. With the set of statutory rules from the current Nature Conservation Act and soon the Environment and Planning Act, a situation will have been created in which new spatial developments take place within the European frameworks of the Birds and Habitats Directive, and at least a minimum level of protection is achieved.

National government has a role in knowledge development, monitoring and evaluation. It is responsible for designating Natura 2000 areas and granting permits on the basis of the Nature Conservation Act (as from 1 January 2021 the Environment and Planning Act) with regard to activities in the national interest (such as the construction of main roads, main railways, airports and military sites). The provinces are the competent authority for granting other permits pursuant to the Nature Conservation act (as from 1 January 2021 the Environment and Planning Act).

National government is responsible for improving biodiversity via the WFD, and for taking all necessary measures. National government and the provinces are jointly responsible for the implementation of nature policy for the large waters. National government is responsible for generic policy for achieving the WFD targets for groundwater and surface water in general, and for specific structural and management measures in the main waterway system.

Because municipalities have primary responsibility for the quality of the living environment, of which nature and landscape form an integral part, they too play a crucial role in the conservation of the nature targets via their environment plans and other instruments.
National Interest 20: Improving and protecting biodiversity

Sources: Natura 2000, Marine Strategy Framework Directive (MSFD)
21. Developing sustainable fishery

It is of national importance that the fishing industry is able to make the switch towards more sustainability and tackling wastage, while taking up ever less space.

Task

The task is to achieve an economically and ecologically sustainable future for fishery. That requires the facilitation and realisation of the transition to more selective fishery with less seabed disruption and fewer emissions, while maintaining a balance with a future-proof earning capacity for the sector.

The yield from fishery is particularly high in the southern North Sea. Pressure on space is increasing heavily in this area, above all as a result of the expansion of offshore wind farms. Moreover, the ban on pulse fishing and potentially the Brexit will have major consequences for the fishery sector. The task therefore lies in achieving a sustainable future for fishery, while taking account of these developments.

Another question facing the fishery sector is whether and how functions can be combined. Is it for example possible to combine wind farms with forms of fishery and aquaculture (farming of seaweed, shellfish and crustaceans and algae) or passive fishery? And what opportunities are there for aquaculture, to enable the production of exclusive and/or regional products?

Role of national government

The role of national government in this interest is to facilitate the turnaround to a sustainable and future-proof fishing industry and to create the necessary conditions. It is essential that national government remains alert to fostering the best possible combination of fishery with other societal tasks.

National Interest 21: Developing sustainable fishery

![Map of fishery yield in the North Sea](image)

Value of fish catch (in euros) between 2008 and 2017 (x 1000)

- 1.5 <= 3
- 3 <= 6
- 6 <= 15
- 15 <= 30
- 30 <= 60
- 60 <= 150
- 150 <= 300
- > 300

In the remainder of the North Sea area, the yield is 0 <= 1.5 or unknown.

Source: Wageningen Marine Research
3.3 From tasks to priorities

To emphasise designation of the tasks facing the living environment in the Netherlands, each task must be specified individually. Hence their individual description in the paragraphs above. However, we must recognise that in many cases, there are interfaces between the various tasks, in particular if they affect specific areas. It often emerges that these tasks cannot be tackled in isolation. Wherever a cohesive, cross-sectoral, integrated approach is needed, this calls for a different strategy, and that is where the importance of the NOVI strategy becomes clear. For example, despite the need to build more homes, accessibility and quality of life in cities must be improved. We want to maintain a strong agricultural sector, but at the same time reduce environmental burdens, recover biodiversity and make rural areas suitable for a low-CO₂ power supply.

Four priorities
The relationship between all of these tasks is reflected in four priorities. These are complex, extensive and urgent tasks that emerge from or relate to major transitions. They will call for political and societal choices if any progress is to be achieved in these priorities in a way that enjoys broad support and contributes to the quality of the living environment.

1. Creating space for climate adaptation and energy transition
Climate change, the energy transition and the undertakings in the Climate Agreement (draft 2018) have a major impact on the physical living environment and require considerations and far-reaching choices in the structuring of our physical living environment (both above and below ground). The measures for mitigating the negative consequences of climate change and bringing about the energy transition must be integrated, despite the enormous pressure on space from other interests and tasks.

2. Sustainable economic growth potential
Based on our strong international competitive position, we must work towards a new (sustainable and circular) socioeconomic earning model, and continue to guarantee an excellent establishment climate with an attractive, safe and healthy living environment with sufficient physical space for commercial activity. Developments in favour of a sustainable and competitive establishment climate call for a joint approach alongside other key tasks such as house construction, access, energy transition, the environment, prosperity and social welfare.

3. Strong and healthy cities and regions
Providing an attractive environment in which to live, work and relax calls for choices according to broad-based considerations: a combination with accessibility, health and safety, climate adaption, strengthening and conservation of cultural values and increased sustainability in the built environment. All are essential; it is not only a question of the availability of sufficient high-quality housing, but above all the provision of that housing in an attractive residential environment. The aim is to create cities and regions that form a healthy habitat in which as many functions as necessary and possible are combined.
4. Future-proof development of rural areas

Natural systems and the landscape are under considerable pressure in certain regions. At the same time, rural areas face numerous tasks such as the transition of agriculture, the energy transition, climate adaptation, soil subsidence and expanding urbanisation.

The aim of the NOVI is to formulate national policy choices (at strategic level) as clearly as possible, both with a view to the long term and taking account of shorter-term urgent requirements. Interests must be carefully considered based on the three consideration principles (see 4.1). Where choices at national level are not yet fully crystallised in the NOVI, or where this is not yet the wisest strategy, an indication is given of the most appropriate (regional) process for clarifying the necessary choices at a later stage, based on the principles outlined in the NOVI. Within these four priorities, attention will be focused on the mutual dependencies and interplay of tensions between the themes and tasks that are so heavily intertwined, such as the quality of the living environment, health, cultural heritage, water, soil and (national) security.
4. Setting the course

The tasks arising from the national interests for national government have been translated into four integrated priorities. We are creating space for climate adaptation and energy transition. We are encouraging sustainable economic growth potential. We are working to ensure strong and healthy cities and regions. And we are encouraging the future-proof development of rural areas. Within these priorities, we operate three consideration principles that help us in making policy choices.

4.1 Consideration principles

The central focus of all considerations between the various interests is the balanced use of the physical living environment in all its facets (above ground and below ground). The most important area of tension within those considerations is between protection and development. These two do not exclude one another by definition, and in some cases can even complement one another, but cannot always be combined. In certain situations they are completely incompatible. Achieving the optimum balance between the two constantly calls for the careful consideration of dissimilar interests. At the same time, those very interests cannot be made fully objective. As a result, political choices must be made, that enjoy broad-based support from society. The choices in question are therefore dependent on location, time and other circumstances. In order to set the course, we make use of three consideration principles in the NOVI, namely:

1. Combinations of functions take precedence over single functions;
2. Characteristics and identity of an area are the central focus;
3. Shifting of responsibilities is prevented.

re 1. Combinations of functions take precedence over single functions

By means of the NOVI, we are seeking to maximise the combination of functions, with a view to the most efficient and carefully considered possible use of our space. At the same time we wish to strengthen the quality of the living environment and the identity of the Netherlands. This requires greater inventiveness and creativity both above ground and in the underground environment, on water, and in the air. It is a question of combination, intensification and transformation. In the Netherlands, we need plans that are developed according to a more integrated approach. Plans in which the full range of interests are taken into account, right from the start, and in which the above ground and underground environment are dealt with, in one and the same context. These plans add more value to our living environment than single sectoral plans. If it appears that integration is undesirable or unnecessary, then this must be made plausible.

re 2. Characteristics and identity of an area are the central focus

The optimum balance between conservation and development and between competitive capacity and quality of life differs from area to area. Certain tasks and interests are more important to one area than another. Appreciation of what already exists and the impact of possible changes may be perceived differently, from place to place. In integrating new functions, account must be taken of the quality of the soil, water, air and nature. The already existing qualities and development opportunities as perceived by local residents and users are not identical everywhere. This should be reflected in the way in which the tasks are tackled, in each specific area. In the past, too much attention was focused on a single mode of operation, all across the Netherlands. In the NOVI, we aim to make an explicit distinction between individual areas, both in terms of development (for example economic clusters call for a different approach than areas of nature) and in protection (in areas where the Netherlands is below sea level,
water safety takes precedence). The perceived (cultural and historical) identity and the opportunities offered by an area, and the appreciation of the characteristics that make up a district, landscape, town or village must all be reflected in the choices made.

**re 3. Shifting of responsibilities is prevented**

It is essential that as far as possible our living environment satisfies the possibilities and needs of today’s generation of residents, without negatively impacting the opportunities and needs of future generations. In other words, we must avoid shifting responsibilities to the future. The same applies to the shifting of responsibilities to other locations. As far as possible we must prevent interventions in one area having any negative impact on other areas and the people who live and work there. First and foremost, measures must be aimed at preventing damage (to health) and pollution, and this must take precedence over the repairing of damage after the event (the principle of prevention and precaution). A fair balance must be achieved between the benefits and costs of measures, and anyone who does experience any negative impact must be duly compensated. Pollution for example should preferably be tackled at source, and in arriving at any decision, the accumulation of risks for people and the environment must be considered.
4.2 From priorities to policy choices

4.2.1 Priority 1
Space for climate adaptation and energy transition

Climate change, energy transition and the national and international climate goals have a huge impact on the physical living environment, and demand considerations and far-reaching choices in the structuring of our physical living environment (both above and below ground). These transitions must be integrated, despite considerable pressure from other tasks and interests.

Policy choice 1.1
In 2050, the Netherlands is climate resilient and water robust. In (re)development processes, a greater risk of damage and victims due to flooding and extreme weather must be avoided wherever reasonably achievable. We retain and reserve sufficient space for future water safety measures.

A climate resilient Netherlands is geared to the consequences of climate change and sea level rise. Climate adaptation calls for important choices and robust designs for both urban and rural areas, in respect of the quality of the living environment. Particular attention is required for the vital elements of our infrastructures (such as energy, telecom, IT facilities, national security, main infrastructure, water and healthcare facilities).

To allow a flexible and adaptive long-term water safety strategy, we are making choices. In designing the Netherlands we retain and reserve sufficient space for future water safety measures, while already taking climate adaptation measures to cope with ever more extreme weather conditions.

Coastal zone
The Cabinet contributes to a cohesive programme of development, protection and management of the Dutch coastal zone, as elaborated in the Coastal Pact (Kustpact)\(^1\). The objective of the Coastal Pact

Water safety in the coastal zone

Dual use of space: In the multifunctional flood defences in Katwijk, underground parking facilities have been created beneath the promenade.

record and implement agreements between parties for identifying the best possible balance between protection and preservation of the core qualities and collective values of the coastal zone on the one hand and the development of that zone, on the other.

In close consultation with other marine functions and along the coast, the Cabinet has ensured the availability of sufficient sand dredging locations on the North Sea. These are essential to satisfy the demand for sand for maintaining the coastal foundations of the North Sea. Investigations are underway to determine when other strategies will become relevant, for coastal reinforcement (such as using natural processes). Coastal flood defences will be maintained according to the principle ‘soft where possible, hard where necessary’.

**Southwestern Delta and Wadden area**

The development of the Southwestern Delta is aimed at strengthening the balance between safety, economy and ecology. The same applies to the Wadden area, although this development also aims to ensure the long-term accessibility of the islands and the (industrial) ports, while strengthening the landscape and cultural and historical qualities.

**River area**

The river area faces a huge and urgent water safety task, that has emerged from new water safety standards and the rise in river discharge levels due to climate change. The government has developed an integrated programme to deal with these tasks in the field of water safety, low water levels, water quality, nature, ecology, shipping and freshwater, by introducing measures that will result in a sustainably functioning system of rivers.

In the Rijnmond-Drechtsteden area, essential tasks have emerged due to climate change. The storm surge barriers, in particular the Maeslandkering and the Hollandsche IJsselkering, play a crucial role.

**Water safety in the river area**

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**Stress test**

To prevent additional risks of damage and victims in the face of extreme weather conditions, far-reaching developments in the physical living environment will be preceded by stress tests. On the basis of plans and measures, we will reduce the risk of flooding in the framework of water safety policy. Those same plans and measures will be deployed to limit the possible consequences of flooding drought and heat.
Policy choice 1.2

The North Sea offers opportunities for the integration of renewable energy. To achieve the targets for full renewable energy in 2050, and given the limited space on land, it is essential that the majority of wind farms be installed in the North Sea. Space at sea, however, is also scarce: as well as demand for space for energy, space is needed for shipping, fishery, air transport, defence training areas, sand dredging, oil and gas production and recreation. This must all be combined with the task of nature recovery. The overall task is to achieve the ideal societal balance in the spatial development of the North Sea within the parameters of a healthy ecosystem.

The North Sea is one of the most intensively used seas in the world. At this moment, this scale of activity is primarily determined by the intensive shipping traffic from and to the port of Rotterdam and to other major international ports around the North Sea, fishing, military training areas and oil and gas production. Over the past decade, this demand for space has been intensified through the addition of reserves for ecologically protected areas and wind energy production areas. The map ‘North Sea: Use functions of national importance and/or laid down in an international treaty’ provides an overview of claims for space on the North Sea. Based on current understanding, wind energy is the most cost-effective means of generating renewable energy in order to meet the targets from the Paris Climate Agreement for 2030 and 2050. It is essential that a large number of wind turbines be installed on the North Sea, since the space for such turbines on land is limited.

Wind turbines on the North Sea

In order to restrict the take-up of space on land, the focus is on the generation of wind energy on the North Sea. This picture shows the Princess Amalia Wind Farm.

Shortage of space

As a consequence of all these developments, space in the North Sea is in shorter supply than ever. There are also growing concerns about the capacity of the ecosystem, in combination with the effects on this system as a consequence of climate change. We are already faced with the task of turning around the decline of the North Sea ecosystem into a situation of recovery. As a consequence of the history of its creation, and of the rich maritime past, the North Sea itself is rich in archaeological cultural heritage, that also enjoys protected status.

All of the above developments nonetheless offer possibilities for earning models and export opportunities on the basis of innovative technology and synergetic effects, through the multifunctional and innovative use of the space available. There are for example already ideas, research and first-stage experiments in the field of combining wind farms with aquaculture, and alternative forms of fishery, the strengthening of nature with oyster banks, the generation of energy from the sun and tidal flows, and the storage of energy and CO₂ in empty gas fields.
International
Both the uses of the environment and the nature of the North Sea extend across the entire international North Sea Basin. The image, as outlined above, of an ever busier North Sea and the resultant issues relating to the sharing out of the already scarce space and the pressure on the ecosystem, are also emerging in the neighbouring countries, to a greater or lesser extent. Research, assessment and policy development for the North Sea are to a large extent a matter for international and even global programmes at EU and OSPAR level.

In the Dutch sector of the North Sea, outside the 1 km coastal strip, the only administrative organisation is national government. Within the context of international policy frameworks, it is the task of national government to identify the appropriate societal balance in the development of all uses that place demands on space in the North Sea, in balance with a healthy ecosystem. The ambition is to arrive at sustainable and safe use of the North Sea that contributes to the societal, economic and ecological goals of the Netherlands. This must take into account the fact that investments in the economy and the related infrastructure and recovery and development of the ecosystem are long-term objectives. This in turn requires clearly formulated future-proof choices with solid societal ownership for the longer term with regard to the combination, zoning and prioritisation of use, investments in sustainability and knowledge, adaptive policy and the efforts aimed at international consultation, cooperation and policy development.

Landfalls
In establishing a societal balance on the North Sea, the relationship with the spatial and economic development of the adjacent parts of the Netherlands must be considered, together with the spatial impact on land. Offshore wind energy will make landfalls at a limited number of sites along the coast, for connection to the national high voltage grid (for electricity) or gas network (for molecules such as hydrogen). In selecting the routes and landfall locations, we take into account spatial impact on land, and the existing network, natural environment and living environment. To make optimum use of offshore energy, landfall locations will wherever possible be further concentrated at sites of energy-intensive commercial activity. This prevents the unnecessary transport of energy to the hinterland, with the necessity for creating a new infrastructure, and the space required for that infrastructure. If it proves meaningful to continue to expand the growth of offshore wind energy to 2050 in response to growing demand for electricity, other landfall locations further inland may become necessary. Other possibilities for the energy infrastructure are also being investigated for industrial clusters located further inland, such as Chemical Cluster Emmen and Chemelot, whereby one specific point of attention is maintaining a level playing field for energy costs.

These clusters of energy-intensive commercial activity are themselves undergoing an energy transition and a transition to circular production methods. This in turn has consequences for the requirements imposed by these companies on the physical living environment. Sometimes more space is needed, or other types of connection, thanks to the creation of new chains. In addition these changes also have consequences for example for residential locations or nature in the immediate vicinity.

Choices on the North Sea
The choices for the North Sea through to 2030, with further options through to 2050, will be laid down by national government in the North Sea Programme (Programma Noordzee) 2022-2027, on the basis of a Strategic Environmental Assessment (SEA). To ensure a solid administrative basis with societal ownership for the choices for the long term, national government wishes to sign a North Sea Agreement (Noordzeeakkoord) with the various interests groups and stakeholder organisations, in 2019. National government intends to include the undertakings in the North Sea Agreement with regard to primary choices and primary courses for spatial policy on the North Sea in the final NOVI.
Airport

Space is not only in short supply at sea, but also in the sky above. The search for a possible location for an offshore airport is restricted by the already initiated rollout of offshore wind farms (in the framework of the Energy Agreement (Energieakkoord) and the Route Maps (Routekaarten) 2023 and 2030 for the Climate Agreement (Klimaatakkoord) (draft 2018) in accordance with National Water Plan (Nationaal Waterplan) 2016-2021 and the climate ambitions. It is already fixed Cabinet policy to implement the ‘route maps for offshore wind’ and to fulfil the further climate ambitions for 2015. At the request of the Dutch House of Representatives, a quick scan has been undertaken for a possible offshore airport site. Whether this quick scan will indeed be followed up, and in what form, has not yet been decided. This decision will take place in the autumn of 2019 in the run-up to the Air Transport Memorandum (Luchtvaartnota). The decision will then also be taken on whether to include this subject in the North Sea Agreement.

Policy choice 1.3

We are making the energy infrastructure suitable for renewable energy sources and reserving the necessary space.

The transition to renewable energy will demand more space for the transport, distribution, conversion and storage of energy, both above and below ground. The map ‘National infrastructure power supply’ gives a picture of the current large-scale national energy infrastructure on land, and existing and designated wind energy areas. Instead of a small number of relatively large ‘point sources’ (power stations) and one-off transport of energy, we will see larger numbers of often decentralised sites, varying widely in size (solar, wind and geothermal energy) and two-way traffic (for use and production) for energy. The conversion and storage of energy will also become more important, and will take up more (and indeed more widely distributed) space. In this respect, water can play an important role.

National Programme for the Energy System

National, provincial and municipal governments are reserving the necessary space for the energy infrastructure in relation to other tasks, characteristics of the local environment and the existing infrastructure. By including the impact of energy projects on the living environment and nature in the necessary plans in time, and in an integrated manner, a number of the obstacles can be avoided. This will

Large-scale national energy infrastructure

National government is drawing up a National Energy System Programme (Nationaal Programma Energiestysteem) to set aside space for the national energy main infrastructure.

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be necessary both for the production of renewable energy and in order to satisfy the growing demand for energy. This vital energy infrastructure must be made to be climate resilient, and flood resistant. National government is drawing up a National Energy System Programme to set aside space for the national energy main infrastructure. Quality of the living environment and cost reduction both play an important role in this programme. The national programme will be harmonised with the National Regional Energy Strategies Programme (Nationale Programma Regionale Energiestrategieën - RES)³.

**Policy choice 1.4**

We will fulfil the renewable energy task taking account of the quality of the environment, as far as possible in combination with other functions. Regional energy strategies will be drawn up to integrate the onshore regional energy task.

In consultation with the energy sector, users and other stakeholders, provincial and municipal authorities will use the RES strategy documents to integrate onshore renewable energy. Government, market parties and civil society organisations are working together in mutual trust on achieving the targets laid down in the RES strategies, on schedule. National government is involved from the point of view of ensuring that the energy transition is given the space it needs in a manner that is both favourable and cost-efficient for the living environment (spatial efficiency and cost efficiency). The Climate Agreement (Klimaatakkoord) (draft 2018)¹³ has set a target of 35 TWh by 2030 and laid out the available budgetary capacity. The regions will also consider other interests. The National RES Programme serves as a platform for mutual cooperation and comparison, so that the various parties can learn from and challenge one another. This Programme also includes the monitoring of the targets, as agreed in the Climate Agreement (draft 2018).

**Examples of the integration of wind turbines**

- Clustering of wind turbines: Westermeerwind wind farm, Urk.
- Wind turbines in long lines in large-scale landscapes: Zeewolde.
- Wind turbines in industrial clusters: Vlissingen.

**Choices for the integration of renewable energy**

Suggestions in the RES strategy are:
(In the map ‘Principles for sound consideration in regional energy strategies’, the following points are mapped out.)

1. **Preference for large-scale clustering**

Large-scale clustering of the production of renewable energy (using wind turbines, possibly in combination with solar fields) will reduce the shifting of spatial responsibilities and contribute to reduced costs. Wherever possible, this is the preferred option. However, there is an explicit consideration with regard to other values, such as landscape characteristics, national security, nature, cultural heritage, water and soil and support in society and at administrative level.

³ National Regional Energy Strategies Programme, see www.regionale-energiestrategie.nl
A precondition is that local residents are truly closely consulted, can influence the use and where possible can benefit from the revenue. It is essential that attention be focused on nature-inclusive design and management for renewable energy projects, in order to prevent disruption or harm to nature and biodiversity, as far as possible. There are also possibilities for reinforcing nature, for example by introducing underwater nature around wind projects on the water.

2. Preferred order for solar pv

Op dit moment worden in toenemende mate zonneparken in veldopstelling ontwikkeld, soms ten koste van de kwaliteit van het landelijk gebied. Om te stimuleren dat locaties zorgvuldig worden uitgekozen, heeft het Rijk in samenwerking met medeoverheden en andere stakeholders een voorkeursvolgorde uitgewerkt.

The consideration principles in the NOVI result in a preference for solar panels on roofs and facades of buildings. Integration on rooftops and facades not only contributes to the combination of functions; because they are placed on existing buildings, the introduction of solar panels at these locations will generally have less influence on the characteristics or identity of an area\(^3\)

According to those same principles, unused sites in built-up areas are the next preference. In order to satisfy the outlined energy targets, it may prove that locations in rural areas are also needed. In that case, too, the preference will be to identify smart functional combinations. Although areas of nature and agricultural areas are not entirely excluded, the clear preference is on land with another primary function than agriculture or nature, such as water purification installations, waste dumpsites, inland waterways or land under national government management (for example Rijkswaterstaat, ProRail, the National Forestry Agency (Staatsbosbeheer), wherever possible including motorways and railway banks and verges.

This preferred order has no sequential element. Once the possibilities for solar pv have been investigated, a start can immediately be made on putting the chosen possibilities into use. This preferred order will be included in the Regional Energy Strategies (RES)\(^{32}\).

As part of the RES process, the quality of the chosen sites will be assessed in the National RES Programme. This assessment will include an examination of how spatial interests have been considered in respect of one another. For solar pv applications, a determination will be made whether the preferred order from the NOVI was correctly applied in these considerations.

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4 This differs from location to location. In historical town and village centres, these aspects are often already considered, from the point of view of cultural heritage.
Moreover, the Living Environment Buildings Decree (BBL - Besluit Bouwwerken Leefomgeving)\textsuperscript{5} will be revised, giving municipalities more options for promoting solar pv on roofs and facades. The subsidy scheme SDE++ will also be adapted wherever it can contribute to complying with this preferred order.

3. **Energy saving, heat networks and other use of existing gas pipelines**

The heat transition in the built environment calls for a strategy at regional and local level. Within this strategy, energy saving is a vital first step (also since it helps restrict the scale of interventions in the environment). For the remaining heat demand, alternatives for heating with natural gas will have to be implemented, such as residual heating, geothermal and aquathermal sources, renewable gases and all electric solutions. The choice of alternative heat supply depends on many different aspects, including the availability of sources of heat, the heat demand, the technical building options for insulation, the costs, the possibilities for combining the heat transition with other social tasks (‘smart combination’) and spatial aspects.

Where heat networks are introduced, the spatial planning for those heat networks will have to be carefully considered and combined with other functions in the shallow underground environment. Municipalities are responsible for the planning, construction and phasing out of networks of cables and pipelines. Maintenance and management of the various infrastructures are in the hands of network operators and heat supply companies. Wherever possible, these activities will be combined with other social tasks, such as climate adaptation. In activities in the underground environment, the principles of the Structural Vision for the Underground Environment (Structuurvisie Ondergrond)\textsuperscript{6} will be taken into account. In order to ensure the availability of sufficient clean groundwater for drinking water now and in the future, the provinces will designate additional strategic supplies (ASVs - Aanvullende Strategische Voorraden) (and the necessary protection regime). In considering the use of geothermal sources, account will also have to be taken of these ASVs on a regional scale.

The RES strategies also look into possibilities for the production of renewable energy from the underground environment (geothermal heat, soil energy), the temporary storage of energy and aquathermal energy. Wherever possible, these activities will be combined with other societal tasks, such as the construction and maintenance of sewer systems, cables and pipelines. Wherever necessary, governments will reserve space for ‘backbones’ between local heat networks.

From a spatial perspective, renewable heat production often offers the advantage of requiring fewer visible installations than would be needed for renewable electricity. This is for example clearly the case where there is much residual heat available from industry, and at locations where there are opportunities for geothermal heating. By using these resources via heat networks, space can be saved for the production of renewable energy (wind or solar) that would be needed for heating houses and other buildings, elsewhere. In other words, this added advantage of heat networks ties in with the consideration principle ‘preventing the shifting of responsibilities’. Also for that reason, heat networks must be carefully investigated, and their benefits explicitly set off against other options.

\textsuperscript{5} Decree of 3 July 2018, containing rules on buildings in the physical living environment (Buildings in the physical living environment Decree- Besluit bouwwerken leefomgeving).

\textsuperscript{6} Ministry of Infrastructure and Water Management & Ministry of Economic Affairs and Climate, Structural Vision for the Underground Environment (STRONG), The Hague 2018.
Innovations in renewable energy

Groningen Aterro Green Gas: Pilot that links huge regional supply with national demand.

Hydrogen refuelling station for public transport, Delfzijl.

80% battery recharging in just 20 minutes at fast-charge stations.

Kipster chicken farm supplies electricity for bicycles.

Thermal energy from surface water: Blue Energy on the Afsluitdijk. In this trial installation, energy is extracted from the difference in salt concentration between freshwater and seawater.
North Sea: Use functions of national importance and/or laid down in an international treaty

Protected nature areas
- MSDF area: Central Oyster grounds
- MSDF area: Friesian Front
- Natura 2000 area

Defence
- Military training area

Oil and gas production
- Production platforms
- Helicopter routes

Sources: Route map offshore wind energy 2030, I&W, Rijkswaterstaat, Defence
National infrastructure for energy supply

National high-voltage network*
- High-voltage connection 450 kV
- High-voltage connection 380 kV
- High-voltage connection 220 kV
- High-voltage connection 150 kV
- High-voltage connection 110 kV
- Cable from offshore wind farm to landing point

National pipeline network
- Pipeline strip
- Indicative route

Existing large-scale offshore windfarms
- Wind farm

Designated large-scale offshore wind energy areas
- Wind energy area route map 2023
- Wind energy area route map 2030
- Other designated wind energy area

Designated large-scale onshore wind energy areas
- High-opportunity area for large-scale wind energy

*National high-voltage network including irrevocable expansion plans

Sources: TenneT, Structural vision Pipelines, Route map offshore wind energy 2030, Structural Vision onshore wind energy
Principles for sound consideration in regional energy strategies

1. **Preference for large-scale clustering**
   Consideration with regard to values, such as landscape characteristics, national security, nature, cultural heritage, water and soil and social and administrative support still to be made.

2. **Preferred order for solar pv**
   Use unused roofs and sites in existing built environment to protect agriculture and nature as far as possible.

3. **Preference for energy saving, heat networks and other use of existing gas pipelines**
   - **Existing heat infrastructure**
     - Heat network
     - Geothermal drilling
   - **Potential residual heat**
     - Industrial area, industrial estate or horticulture under glass

   - **Potential geothermal energy**
     - Average to high potential
   - **Potential aquathermal energy**
     - High Potential

   **Figure 7 from report 'National potential aquathermal energy':**
   Potential Thermal Energy from Surface Water:

4.2.2 Priority 2
Sustainable economic growth potential

The economy for the future is sustainable, circular, knowledge-intensive and internationally competitive. The result is considerable profit in terms of jobs, innovation, new business activity and employment and export opportunities. The Netherlands maintains its position in the top five most competitive countries in the world. In the future, too, the Netherlands attaches real importance to an open economy and sound ties with the economy of the surrounding countries and on a global scale. Since our cities both large and small are important for our economy, the optimum balance between living, working and mobility in and around these cities is of huge economic importance. All regions of the country offer a wide variety of economic activities and that in turn calls for a good establishment climate.

Global competition and rapid changes in the economy mean that the Dutch economy must continue to innovate and adapt to new circumstances. The spatial conditions and the physical living environment as a whole play an important role in that respect. They are able to encourage and facilitate a dynamic economy and create space for economic transitions, sustainable innovations and start-ups. Developments that bring about a sustainable and competitive establishment climate call for an approach that is combined with other tasks, such as housebuilding, accessibility, the energy transition and the natural environment. A sound and internationally competitive establishment climate not only requires good connectivity and space for people and companies to work and do business, but also calls for a good quality of life in a living environment that offers residents an extensive and qualitative range of choices in terms of facilities for living, exercise, recreation, interaction and relaxation. National parks can make an important contribution. The challenge lies in successfully combining the transition to a sustainable economy in our economy with the maintenance and development of our solid international competitive position. This is vital as the foundation stone for prosperity, employment and wellbeing, in the future.

Policy choice 2.1
The character of the Dutch economy is changing, and by 2050 is entirely circular and CO₂-neutral. The Netherlands occupies a solid position in the top five most competitive economies. A healthy and safe living environment and an attractive establishment climate throughout the country contribute to a sustainable capacity for growth of 2% of the Gross Domestic Product (GDP). National government invests, facilitates with knowledge and research and imposes requirements on the use of circular resources.

Circular economy

The growing shortages of certain raw materials and the harmful consequences of the extraction of natural resources mean that we must both reduce and improve the efficiency of the consumption of raw materials. It is essential that all natural resources remain in circulation and that ‘waste’ becomes a thing of the past. The challenge lies in designing and structuring industrial activities in a new way, so that materials, products and processes are designed that no longer cause any harmful emissions or other risks throughout their lifecycle and therefore result in negligible risks to health (known as ‘safe by design’).

Even a sustainable circular economy will cause environmental burdens and will take up space, if only due to the environmental safety and the related risks that are also inherent in a circular economy. It is essential that a good balance be achieved between the advantages and disadvantages of circular production, and savings in the consumption of raw materials and energy, set against the environmental burdens of the recovery and reuse of materials.
Example of the change to a CO₂-neutral economy

Rilland wind farm Zeeland.

**Use of space**
The space in the environment available for industry, transport and distribution and other economic clusters must be handled with care. The space already in use for industrial and port functions must continue to be available for the planned transition, unless alternatives become available. As far as possible, the current use of space must be optimised by opting for more compact solutions, and combining functions. The amount of space needed in the future is still uncertain. Wherever necessary, provincial and municipal authorities will provide additional space for the further development and transition to a sustainable, circular economy by the five energy intensive industrial clusters (Port of Rotterdam/Rijnmond, Port of Amsterdam/IJmond/ North Sea Canal area, Eemshaven/Delfzijl, Vlissingen/ Terneuzen, and Chemelot/Zuid-Limburg), our airports and other seaports, Brainport Eindhoven, the greenports and the digital (international) infrastructure, including datacenters.

**Accessibility**
To extend and strengthen the economic leading position of the Netherlands, and to achieve sustainable economic growth, wherever necessary, government will provide room for development and invest in the further improvement of the national and international spatial economic network, sustainable mobility, optimum international access, and improving mobility between and within our cities. In the face of ever growing pressure on space and the infrastructure, it is crucial that our cities remain accessible, liveable and attractive, if we are to maintain our international competitive position.

**Policy choice 2.2**
Focus on the use of renewable energy sources and changed production processes. Retaining space for ports and industrial areas.

**Smart industry**
New developments such as robotisation, digitalisation and clean production processes call for a new approach. The advent of ‘smart industry’ means that production processes that in the past disappeared to low-wage countries are now being re-established in the Netherlands. This relates to the fact that production and logistics chains are now organised to be so smart, effective and efficient that production in the Netherlands is viable, once again. This process is known as reshoring. For some time, both the ‘old’ and ‘new’ economy will continue to coexist, and the transition must be implemented cautiously, taking account of the various natural values, economic interests, the preservation and reinforcement of landscape quality, housing quality and environmental safety and standards. The transformation must fit into the environmental space available.
Energy-intensive industry
Renewable energy sources must be found for all energy-intensive industries, including datacenters. The transition from the import, consumption and processing of fossil fuels to renewable energy will call for a transformation in our ports and industrial areas. Given the expected long period of transition, a variety of energy systems may continue to coexist for a number of decades, a fact that could raise the demand for space: space for storage, transhipment, transport and consumption of both fossil and non-fossil based fuels. Provincial and municipal authorities will play a key role in assisting businesses in the transition from linear to circular production processes.

Choices for ports and industrial areas
Major landfalls for renewable energy generated offshore are located close to the ports and industrial areas along our coastlines, including Eemshaven, the North Sea Canal area, Rijnmond and Vlissingen/Terneuzen. In all of these areas, additional space is actively available for (new) energy-intensive industries. This approach makes it unnecessary to connect underground cables that make their landfall to high voltage stations sometimes far in the hinterland, thereby having to cross valuable landscapes. Another advantage is that it is precisely in these energy-intensive clusters that the transition to a sustainable circular economy is most urgent. A combination with the energy landfalls from offshore wind can accelerate that process, with additional opportunities for the use of residual substances (including heat) for the surrounding area.

It is particularly true for the ports of Rotterdam and Amsterdam that the transition relates closely to the broader task of urbanisation. The growth of production and transhipment in the port, and the more intensive use of land in the port area may clash with the local development and building plans. The functioning of the port may not be threatened as a result. Any loss of space for port functions as a result of urban transformation must be compensated for, wherever possible. To meet sustainable energy needs of industrial clusters located further inland, such as Chemical Cluster Emmen and Chemelot, consideration will also be given to alternatives in renewable electricity supply, rather than a direct connection to wind energy generated offshore. Retaining their competitive position and maintaining a level playing field for these clusters are important points of focus. Consideration will therefore also be given to the possibilities of the pipeline infrastructure and cross-border energy infrastructure.

Given the expected worldwide growth in the transport of people and goods, it seems likely that the Netherlands, as home to Europe’s largest and fourth largest port, and third largest airport, will be required to accommodate at least part of that growth. It will nonetheless be essential that a sound balance be maintained between transport, economy and the environment, urban economy and growth, and the quality of life.

The use of residual materials and residual heat in the construction sector
The use of residual materials by industry and residual heat by horticulture, offices and homes will impose requirements in terms of proximity between suppliers and consumers. For the construction sector (house building and civil engineering construction), the challenge lies in not only making new structures and homes climate resilient and energy neutral, but also building with the largest possible proportion of reusable materials, and in a nature-inclusive manner. By building homes, offices and other buildings to be adaptable and flexible, wherever possible, they will remain attractive for future generations and will still be suitable for functions other than their intended residential function, in the future. In selecting new establishment locations for both suppliers and consumers of residual substances and residual heat, the level of take-up and the availability of those residual materials and heat will be an important criterion. In construction projects, the reuse of materials and of construction and demolition waste will be made compulsory.
Future vision on the circular economy in the design study 'The Region of the Future' of the BNSP and NVTL

Vintage Urbanisation: Circular manufacturing industry on the banks of the Schie in Delft.

Zuid-Houtland: Towards a circular building economy based on building in wood.

The transition for agriculture and horticulture
The Netherlands has seven regional horticulture clusters known as greenports, in which horticultural businesses work closely together in developing an integrated approach to a variety of area-specific tasks, that go beyond the limits of the horticultural sector. The objective is to bring about the essential area developments that will facilitate climate-neutral and circular horticulture, in collaboration with other sectors. Examples include the construction of regional heat networks and non-fossil based heat sources, the use and capture of CO₂ from industry, expanding the capacity for combining water storage and purification, and an infrastructure for an optimum ‘fresh’ produce network, that ties in well with the mainport infrastructure.

Example of sustainable agriculture and horticulture

Growing orchids according to the ‘gas-free greenhouse’ principle in Ter Aar.
Policy choice 2.3
The aim is to optimise national and international accessibility for cities and core economic areas essential to our economy by removing missing links in the infrastructure, and combining national infrastructure systems.

In the competition to attract and retain internationally operating businesses, the establishment climate and business climate are playing an increasingly important role. Cities and urban regions are essential to the Dutch economy and their importance is expected to grow even further, in the future. To secure the international competitive position of the Netherlands, it is crucial that our cities and urban regions remain accessible, healthy, liveable and attractive. The maps ‘International links and hubs’ and ‘Economic core areas and links’ provide a picture of the international networks and (urban) regions as drivers for the Dutch economy.

Spatial Economic Development Strategy
The (conurbation) strength of the network that consists of the five largest cities and four metropolitan regions (Metropolitan Region Amsterdam (MRA), Metropolitan Region Rotterdam The Hague (MROD), Metropolitan Region Utrecht (MRU), Metropolitan Region Eindhoven (MRE) and other cities in the Netherlands and abroad is of vital importance to the Dutch economy. These network cities are able to attract international knowledge, labour and capital. Each of the urban regions occupies its own strong and recognisable position, and is part of the joint network with other cities in the Netherlands and abroad. The growth in the number of residents, businesses and employment opportunities in the large urban regions is leading to huge pressure in particular on the housing market and mobility in these regions. In that sense, from a spatial economic perspective, this area differs from other urban regions in the Netherlands, due to the urgency, complexity and scale of the tasks it faces. Strengthening these cities and metropolitan regions will therefore require the strengthening of the connectivity of top locations, improving the digital infrastructure and the transformation of (inner) city areas. These tasks are further described in the Spatial Economic Development Strategy (REOS - Ruimtelijke Economische Ontwikkel Strategie) of national government, the large cities, the affected provinces and the appropriate Economic Boards. This metropolitan development is of huge importance for our competitive position and as a result for the current and future economic position and development of the Netherlands.

Optimum national and international networks
It goes without saying that the Dutch economy is more than just the four metropolitan regions. Throughout the Netherlands, we earn our keep from high-quality, innovative and export activities.

Existing national, international and regional links

The Betuwe dedicated goods railway line and the A15 motorway near Herwijnen.
The small and medium-sized enterprise sector is of huge economic importance, and is spread right across our country. National government encourages developments throughout the country and is for example active in encouraging the maintenance and continued creation of optimum national networks and Trans European Networks (TENs), including the main road network, a high-quality rail infrastructure with good regional and international intercity connections, a smoothly functioning network of waterways, and energy and pipeline structures that offer sufficient capacity, and a state-of-the-art data infrastructure.

Air transport

International access and a leading position for Schiphol Amsterdam Airport are of vital importance both for the people of the Netherlands and for our competitive position and for the commercial activities and jobs that relate directly or indirectly to the airport. Nonetheless, the development of airports such as Schiphol, Lelystad, Rotterdam and Eindhoven clearly impact the living environment, public health and the natural environment. The efforts of the Cabinet and other stakeholders are therefore aimed at re-establishing a sound balance between nuisance, emissions, health burdens and (spatial) restrictions that are generated by the airport on the one hand, and guaranteeing the essential functioning of air transport for our country, on the other.

Growth in air transport

Schiphol Amsterdam Airport is of huge importance to the competitiveness of the Dutch economy.
Choices for air transport

Air transport handles a huge demand, despite the restricted capacity at airports and in the airspace above Western Europe, in particular. The importance of the quality of the international network for transfer passengers at Schiphol, and direct links to Europe from regional airports has become almost self-evident. If these developments are to be sufficiently maintained, safety must be guaranteed in air transport both on the ground and in the air.

It is unclear how the scale and character of air transport and the international transport of goods and passengers will develop. Alternatives are being investigated within and for air transport, but the effect of other future forms of mobility is not yet certain. The sector is already joining forces to work in an action plan for train travel as a sustainable alternative for short and middle distance travel.

Now and in the future, the development and scale of air transport will result in considerable tensions between the demands of the natural environment, sustainability and the residential and living environment on the one hand, and the dynamic development of air transport and the economy on the other. Housing development around Schiphol is in itself a subject of discussion. The dynamic nature of the city of Amsterdam and its metropolitan region is considerable, as is the importance of Schiphol for the Netherlands. There must be space for housing and for flying (and for the related safety and noise contours). As a consequence, there are specific zones in which building is restricted or not possible at all. The aim is to ensure that these zones are not made unnecessarily large.

Choices are made in the programmes contained in the Air Transport Memorandum 2020-2050 (Luchtvaartnota) and the Airspace Review (Luchtruimherziening), that are relevant not only to the air transport sector but also to the climate, health, safety, the economy and the user space on the ground. During the course of these programmes, the space presently reserved around Schiphol, the five regional airports (designated as being of national importance) and military airports will be maintained.

Policy choice 2.4
Governments are investing in an attractive, healthy and safe living environment in cities and regions, and fostering a distinctive and attractive establishment climate.

Economic activities and those who have enjoyed higher education are concentrated in cities and urban regions, thereby accelerating economic dynamism, but also increasing pressure on the living environment. This applies in particular to our country’s largest cities. Cities are a source of much innovation, not only among start-ups, living labs and research institutions, but also as a result of meetings at attractive locations in the city. The earning capacity of the Netherlands is however not restricted to the large cities. Throughout all regions of the country, there is a wide variety of economic activity, for which a good establishment climate is essential.

Cities and urban regions are important to our economy. This above all applies wherever there is an attractive and healthy environment, and a diversity of economic functions, educational institutions and other facilities. The cities, their numbers of residents, their cultural and economic activities have grown quickly, over the past few years. This growth offers opportunities for the whole of the Netherlands. The quality of life in the cities must continue to be a point of focus, in order to achieve an even higher Royal Haskoning DHV, Towards a sustainable and competitive economy (Naar een duurzame en concurrerende economie), in-depth report, October 2017. standard.

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7 Royal Haskoning DHV, Towards a sustainable and competitive economy (Naar een duurzame en concurrerende economie), in-depth report, October 2017.
Accessibility and quality of campuses

For the Netherlands – with its internationally appealing cities, urban networks and attractive varied landscape – there are clear chances for creating a distinctive establishment climate with an attractive, healthy and safe living environment. These are key establishment location factors for attracting well-educated (international) employees. With the transition towards an economy driven increasingly by knowledge and services, the quality offered by a city is growing in importance. The size of cities (mass and density) can offer advantages due to the concentration of economic, social, political and cultural organisations in densely populated areas, but also due to the presence of universities, research institutions, facilities aimed at consumers, sector organisations and government organisations.8.

Regional access and a smoothly functioning system of home-work travel are essential for the economic performance of our cities and metropolitan regions. There is clear demand for sufficient development space for a high-quality selection of work locations. The availability of good and affordable housing and a healthy, clean, safe and attractive living environment is an increasingly important determining factor for economic success. Sustainable urban growth and innovations in mobility are essential preconditions for the growth of the urban economy.

This will require additional effort in the urban regions in order to raise the level of quality of the living environment, the natural environment and accessibility, since that in turn will foster an attractive establishment climate. Government can offer space for such initiatives and for social entrepreneurship, with a view to encouraging innovation and the further development of our sustainable knowledge economy. Increased sustainability in mobility is achieved in urban regions by improving public transport, creating more space for cyclists and pedestrians, refusing access to polluting vehicles and increasing the charge capacities of electric cars.

8 Otto Raspe et al, The economy of the city in the global competition (de economie van de stad in de mondiale concurrentie), 2013.
Projects to encourage an attractive establishment climate

City Lounge: Rotterdam wants more people to live and work in the city centre, an objective that can be encouraged through more attractive outdoor space. Picture: The already completed Grote Kerkplein.

With the Brainport Eindhoven Regional Deal, the level of facilities throughout the region will receive a major boost. Partly funded by the deal, the light art festival GLOW can make an even clearer contribution to the attractiveness of the city for talent.

Policy choice 2.5
Institutional, technical and operational obstacles and bottlenecks in regulations that hinder good-quality cross-border (rail, air, water and road) links must be overcome.

There is a clear need for a cross-border perspective for sustainable and vital area development, housing, working, infrastructure (mobility) and general facilities with specific attention for dynamic development in the border regions. A raft of healthcare, residential, employment and educational relationships have already been established with our neighbouring countries. There are also clearly visible cross-border effects in relation to water, nature and landscape. Climate adaptation is one example of a cross-border task. To make the optimum possible use of cross-border cooperation, agreements will have to be reached at national government level.

Industry in Terneuzen and Vlissingen enjoys closer ties with its counterparts in Western and Eastern Flanders than in the Netherlands. The economy of Zuid-Limburg benefits from improved cooperation in the international city diamond based around Heerlen - Maastricht - Aachen - Hasselt - Liege. The cross-border exchange of labour potential is often inhibited by differences in certificates, regulations and fiscal systems. Cross-border public transport for home-work travel also faces numerous challenges. For that reason, Regional Environmental Strategies (see chapter 5) are often developed in consultation with at least the Flemish and Walloon Districts of Belgium, and the German Federal States North Rhine-Westphalia and Lower Saxony.
Policy choice 2.6
In cooperation with other levels of government, the network operators and the private sector, national government is creating space for the establishment of datacenters and for the roll-out of new networks.

Spatial Strategy for Datacenters
Datacenters and state-of-the-art digital infrastructure are of vital importance to the earning capacity and establishment climate in the Netherlands. They are motors for innovation and generate new societal opportunities in every region of our country. According to the Spatial Strategy for Datacenters (Ruimtelijke Strategie Datacenters), datacenters can be established wherever:
1. renewable energy is available via existing (and future) sustainable energy networks;
2. residual heat can be supplied to heat networks for delivery to urban areas, and
3. the requirements imposed by market parties on digital connectivity can be satisfied.

Data cables and network
Landfalls for new international data cables via the North Sea will continue to be facilitated, and further elaborated in the North Sea Programme, in order to guarantee international connectivity. The further development of the current mobile network (4G) to a new generation (5G) network is vital for a whole raft of new developments relating to telephony, mobile Internet, smart cities and smart mobility. The necessary frequencies will be auctioned off by national government. For the rollout of the new network, (far) more space will have to be set aside for aerials and masts, as compared with the current situation.

Policy choice 2.7
Locations of new offices, business parks and large wholesale and retail outlets must be matched to the traffic and transport network, appropriately geared to demand from businesses, and should contribute to the strengthening of the economic vitality and quality and attractiveness of our cities and the country as a whole.

Shops
There is a clear mismatch between the supply and demand of shop space. At various locations, the size and quality of the shop stock is below par, and partly due to the advent of Internet shopping, is under considerable pressure, leading to numerous vacant properties. This applies in particular to areas experiencing population shrinkage, and anticipation areas (anticipeergebieden) in post-war urban districts and neighbourhoods. At some locations, the number of m² of floor surface will have to be reduced, and the remaining shopping stock reclustered.
Elsewhere, new, up-to-date concepts and facilities can make a targeted contribution to the desired quality of life for local residents and support area development.

Offices
At various locations there is still evidence of high levels of low occupancy in the office market. At the same time, certain businesses and institutions are unable to find suitable accommodation. There are clear shortfalls at popular locations. There is also a lack of modern buildings that match current demand. In business parks, too, there is often a mismatch between supply and demand. The growth of the economy and new employment opportunities will continue to boost demand for commercial locations.

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Business parks
For business parks, too, supply and demand are often mismatched. In some provinces supply easily
outpaces demand and/or does not meet the demanded quality. Business parks are often outdated and
poorly connected to the main road network.

Clustering of offices

The clustering of businesses around hubs can improve the economic vitality of the region. Picture: Business people on the Zuidas.

Shortages and surpluses of office space, shops and business parks can for the most part be prevented.
Carefully estimating the demands on space and the level of supply at regional level is of key
importance. The clustering of commercial activities at locations around infrastructure hubs can improve
the economic vitality of a region. This policy serves a national interest, but must be implemented at more
local level. (Supra)Regional governments can thereby prevent both surplus space and shortfalls, and in
their planning can take account of landscape qualities. As far as possible, the uninterrupted development
of large-scale storage and distribution centres of uniform appearance in ribbons along trunk roads must
be avoided.

Policy choice 2.8
New tourist attractions should preferably be established outside existing top locations and close to public transport or existing connections to the main road network.

Tourism and recreation are increasingly important for the economy of the Netherlands, but are also responsible for huge pressure on our capital city and a number of other (historical and coastal) locations, and their local infrastructure. To ensure that tourism and recreation develop successfully, and to reduce the pressure on our capital city, tourist locations must be distributed across the country by means of targeted marketing and cooperation between regional and local governments. To respond to the growing pressure from recreational and tourist visitors, it is essential that the public space be structured attractively, in a manner that is also clear to visitors, with optimum road and public transport connections, good enforcement of law and order and – wherever possible – the national distribution of tourist attractions.

The spread of tourism

Rotterdam is a successful cultural destination and is becoming increasingly popular among tourists.
International links and hubs

**International main links**
- International main rail link
- International main road link
- International main waterway link
- Telecom cable with more than 10,000 Gb/s capacity
- Telecom cable with more than 3,000 Gb/s capacity
- Telecom cable with more than 1 Gb/s capacity

**International hubs**
- Internet Exchange Point with more than 1,000 Gb/s max throughput
- Internet Exchange Point with more than 4,000 Gb/s max throughput
- Internet Exchange Point with more than 6,000 Gb/s max throughput
- Seaport or inland shipping port > 10 million tonnes goods transhipment/year
- Seaport or inland shipping port > 70 million tonnes goods transhipment/year
- Seaport or inland shipping port > 400 million tonnes goods transhipment/year
- Airport with more than 0.2 million passengers/year
- Airport with more than 10 million passengers/year
- Airport with more than 60 million passengers/year

Sources: TEN-T Core, Cablemap.info. Annual Overviews 2017 for the relevant airports and seaports and inland shipping ports.
Economic core areas and links

Existing economic core areas
- Urban network
- University (of applied science research)
- Innovation campus
- Data center
- Concentration of jobs in built-up area
  - 0-10
  - 11-50
  - 50+

Existing infrastructure
- (Inter)national railway
- (Inter)national motorways and ferry links
- (Inter)national waterway
- International telecom cable with capacity greater than 10,000 Gb/s
- International telecom cable with capacity greater than 3,000 Gb/s
- International telecom cable with capacity greater than 1 Gb/s
- International high-voltage 450 kV connection
- Offshore wind energy landing point

Existing international hubs
- Internet Exchange Point
- Greenport
- Seaport or inland shipping port with more than 10 million tonnes goods transhipment/year
- Seaport or inland shipping port with more than 70 million tonnes goods transhipment/year
- Seaport or inland shipping port with more than 400 million tonnes goods transhipment/year
- Airport under development
- Airport with more than 0.2 million passengers/year
- Airport with more than 10 million passengers/year
- Airport with more than 60 million passengers/year

Sources: Delta Metropolis Association, DUO, Buck, Dutch Data Center Association, CBS, RWS, ESRI, Eurostat, Cablemap.info, TEN-T Core, Public Transport Future Image Draft. Annual Overviews for airports and seaports and inland shipping ports, Greenports Holland.
4.2.3 Priority 3
Strong and healthy cities and regions

In spite of all their differences in dynamism and the tasks facing them, we want our cities and regions, to make the optimum contribution to a strong Netherlands, while still offering a healthy and climate resilient environment to everyone who lives, works and spends time there. These major tasks are so intertwined that they require a more integrated approach.

Policy choice 3.1
Our cities are developing sustainably thanks to a cohesive approach to housing, working, mobility, healthcare and quality of the living environment.

Priority for quality of life
Three quarters of the Dutch population lives and works in urban areas, and our cities are essential to our economy. It is vital that our cities are healthy, attractive, safe and clean places in which to live and work, that they offer good-quality affordable housing and that residential and working locations are easily accessible. The relatively limited size of Dutch cities can be advantage, also in terms of the proximity between home and work. Nature is always nearby and sufficient facilities are available, within easy reach. These features contribute to the quality of life in the broadest sense of the word. There are opportunities for creating room for more people, businesses and activities in our cities, while at the same time improving the quality of the living environment and fostering a good human health. In general, it is both more efficient and more sustainable to combine functions in our cities, a process that generally lies in with the demands and needs of the residents and users (of city services). But it is not self-evident. The quality of the residential and living environment for our citizens must be improved. Real advances must be achieved with regard to the natural environment, strengthened biodiversity and improved healthcare. Moreover, it is essential that we guarantee accessibility. All these tasks require a carefully considered and area-specific contribution from many parties, and an additional boost.

Healthy cities and regions
It is important that the residents of cities and regions are able to live, work and relax in a healthy environment. That in turn calls for a good quality living environment in terms of soil, water, air, noise, odour and external safety, whereby spatial interventions always take account of health needs. Mobility and movement play an important role in the functioning of any city. Clean traffic and transport systems that encourage people to exercise can help make cities healthier. Against that background, a mobility system must be encouraged that promotes active forms of transport (cycling and walking) and the use of public transport. Public open space must also offer sufficient room for relaxation, exercise and play, and encourage interaction between the city’s residents.

The living environment can make an important contribution to encouraging a healthier lifestyle (exercise, relaxation, no smoking areas and healthy food supply) and improving the health potential of vulnerable groups (in particular the elderly and people with low socioeconomic status). Fostering public health via the living environment will therefore be made a priority in districts and neighbourhoods with poor public health records. This requires enhanced, recurring cooperation between the spatial domain and the social health domain.

Planting and water in and around our cities
The presence of planting/vegetation and water in and around our cities is a key factor in improving the quality of urban life and the attractiveness of the city. It contributes to the quality of the residential environment and relaxation of city dwellers and their opportunities for recreation and healthy exercise.
It also plays an important role in tackling and mitigating the consequences of climate change. City gardens and playgrounds can also help foster greater social cohesion in city districts.

With that in mind, all levels of government are focusing greater attention on greening up the cities and adding water, increasing opportunities for recreation and wherever possible accentuating the natural values of urban green areas. In consultation with local residents, government authorities in urban regions have to draw up plans for re-greening the built environment. An urban policy that combines compact development with green accents represents a major design challenge. The development of an urban green fund in which public and private financial resources are brought together could form the basis for an active and cohesive approach to strengthening urban green areas.

The presence of planting and water

Residents of cities are able to live, work and relax in a healthy environment. Picture: Outdoor swimming by the city beach in Groningen.

Cultural heritage as a carrier for attractive cities and regions

Built cultural heritage (in other words built archaeological and laid-out monuments, village and urban conservation areas and cultural heritage landscapes) plays an important role in the physical living environment, both in our cities and regions. Such urban and village conservation areas are often key determining factors in the attractiveness of towns and villages, as are historical buildings such as churches or more modern heritage such as factories that have lost their industrial use. Government authorities use the opportunities offered by heritage in transformation projects, as carriers and sources of inspiration for urban developments. Over the past few decades, the way in which heritage has been treated has become increasingly focused on preservation through development, thereby creating added value for the environment. As a consequence, the focus of heritage management has shifted increasingly towards use as opposed to merely conservation. Heritage is the source of the story of the history of the Netherlands, and as such helps explain the identity of a particular location. By combining heritage with the societal tasks and presenting it as a carrier for development, it can make an important contribution to the quality of cities and regions. This aspect represents an important task for the design disciplines. Adapting and responding to the new transitions such as climate adaptation, energy transition, sustainability and urban growth and shrinkage are inevitable and sometimes far reaching, but in a certain sense they are also a constant, against the background of the nation’s history.

Broad, tailor-made consideration

Sustainable urban development calls for space and measures for living and working, for accessibility, for climate adaptation, for renewable energy, water safety, more nature and for a healthy living environment (safety, noise, air quality, soil and a structure that invites healthy behaviour).
The overarching aspect of all these elements is the need to combine the preservation and development of an urban environment that is perceived by its residents as attractive and valuable. In healthy cities, as far as possible the living environment is structured in such a way that it allows people to exercise, play, enjoy sport, interact and relax. Smart combinations allow new functions to be added, without taking up much additional space.

The aim is concentrated urban development. The result should be space and quality for living and working as demanded by society now, and which is economically and spatially efficient, and prevents unnecessary travel distances. New area developments offer opportunities for a sustainable structure with a perfectly adapted mobility system. At the same time, in the existing built urban environment, major steps forward can be achieved through selective concentration, greening up and increasing the sustainability of the mobility system.

**Future visions on integrated urban development in the design study ‘The city of the future’ by the BNA**

Policy choice 3.2
National government employs an integrated urbanisation strategy

Urbanisation calls for carefully considered and area-specific tailor-made development, starting from a broad approach. In line with the three consideration principles, the priority must be the overall quality of the living environment as a basis for the choices to be made. On that basis, consideration can be given to how to do the greatest justice to all relevant spatial physical tasks. As part of the process, a flexible and rapid response must be guaranteed to new wishes and developments in society.

The opportunities for urban development differ from place to place. The scale and character of the tasks are different in each region. In some areas the greatest problem is accessibility, while in others, the quality of the natural environment, and the overall spatial attractiveness or the green environment form the greatest obstacles. In yet other areas, housing shortages and major problems on the housing market are prevalent, or a shortage or surplus of shops, offices and business parks. In most cases, a combination of these tasks plays a role, and the challenge lies in finding sufficient locations to house them all. In some locations, the risks and restrictions are so considerable that new residential functions are undesirable or even impossible, or require sometimes costly alterations. Take for example environmental safety in...
relation to hazardous activities and hazardous transport, or areas with high natural and landscape values, or very low-lying polders with their water management issues. In other areas restrictions are few, and there is plenty of space for new functions. However, these two categories do not apply to most locations; instead, an integrated approach is needed, that rises above the interests of a specific sector. By drawing up an integrated consideration plan in advance, and successfully involving the local citizens, businesses and other stakeholders in good time, it is possible to prevent the initiated plans and desired developments turning out to be impossible or undesirable, at a later stage.

Choices for urban development

Given the scale of the demand for space, and its limited availability in urban areas, it is wise to adopt an area-specific and integrated urban development strategy for each urban area, that takes account of a number of elements:
I. Quality requirements from the surrounding area
   Draw up an integrated picture of the existing and expected quality of the living environment (and the spatial and environmental quality shortcomings, and the related obstacles) in and around the city, and specify the area-specific ambitions and requirements for achieving a good quality living environment in the broadest sense of the word. This certainly includes air quality, noise, soil, environmental safety, cultural heritage, nature and biodiversity, climate resilience, water management and landscape quality.

II. Spatial-physical needs
   Chart out the demand for housing, offices, business parks, logistic functions, shops, cultural and other facilities and the accessibility requirements for each of those functions in both quantity and quality, including any particular obstacles in these fields.

III. Opportunities for urban development
   In assessing the opportunities for accommodating these needs, focus specific attention on the relationship between the desired quality of the living environment and the needs in terms of physical and environmental space. Also identify the requirements imposed by the adaptation to climate change (including heat stress, water capture) and nature and biodiversity.

In creating new locations for urban development, the following steps are essential elements of this strategy:
A. Together, government bodies decide on the required housing stock in the region, that ties in now and in the future with the quantitative and qualitative housing demand (in terms of affordability, residential environments and types of housing) in the region (in as much as in line with the provincial and national demand). The same applies to the space required for business parks, offices and facilities (see policy choice 2.7). The map ‘Housing demand through to 2040’ provides a picture of the quantitative housing demand through to the year 2040.
B. The demand for space for living, working and facilities is preferably met within existing urban areas, by developing underused space and transforming outdated areas (or areas that have fallen into disuse). This is only possible within the legislative and regulatory frameworks for air quality, noise, odour and environmental safety. The aim is to tackle urban development as a means of raising the quality of the living environment higher than the minimum statutory requirements. This not only applies to improving health (improving air quality, reducing noise nuisance, fostering health), but also climate adaptation (water capture) and improving the quality of (and access to) urban green, nature and landscape. In the map ‘Relationship between mobility and urban development in respect of quality of the living environment’ a number of elements of environmental quality and the built-up area around public transport hubs (D) are reproduced, to illustrate the considerations that have to be made.

C. Where this is not possible, given the statutory and regulatory frameworks referred to in B., and the quality and attractiveness of cities and urban regions as a whole, urban development locations will be considered outside existing urban areas. The same requirements apply to the development of these locations, as to those inside existing urban areas.

D. Both within and outside existing urban areas, the first choice goes to locations that achieve the highest score from the point of view of proximity and/or good connections to the (existing or future developed) (public transport) network. The capacity of the existing traffic and transport network, and its connectivity play a key role, with additional attention for connections to the public transport and bicycle network. Areas close to and around public transport hubs will be utilised to the maximum extent, as concentrated living and working locations. The map ‘Existing urban areas and public transport hubs’ gives an insight into those urban areas that are located within cycling distance of a public transport hub.

E. In planning new urban development locations (both within and outside existing urban areas), the available options will be used for:
   • production and use of renewable energy (connection to heat networks/use of geothermal and residual heat)
   • adaptation to climate change (mitigating heat stress and sufficient water capture).
   Greening up plays an important role in this respect.
   • conservation and strengthening of nature and cultural values in the living environment (increased biodiversity, sufficient nature and development of cultural heritage)
   • the contribution to the transformation of outdated areas.
This strategy also applies wherever growth must be accommodated in non-urban areas. In these cases, urban area should be taken to mean existing built-up area.

This strategy is elaborated in the Urban Development and Housing programme (programma Verstedelijking en Wonen), together with provincial and municipal authorities, in order to arrive at a balanced approach. As part of this programme, an assessment will be made of whether and how this policy line (or parts of it) should be placed in an instruction line.

Given their relationship with a number of national interests (including interests relating to climate, the natural environment, sustainability, quality of the living environment and accessibility) and the related role of national government, that same national government is actively involved in the overall elaboration of this strategy of urban development. In collaboration with municipalities, provinces, metropolitan regions and other relevant stakeholders, additional choices will be made concerning possible area developments, for example via the area-specific accessibility programmes for the metropolitan regions Amsterdam (MRA), Rotterdam The Hague (MRDH) and Utrecht (MRU).

Search areas for large-scale development locations within the housing market regions under the greatest pressure are:

- Metropolitan region Amsterdam (MRA): the eight regional ‘key areas’ identified by the MRA including Havenstad and Almere (further decisions will still have to be taken concerning the location Kronenburg)
- Metropolitan region Utrecht (MRU): Merwedekanaal zone, Utrecht Science Park/Rijnsweerd, and the (wider) A12 zone;
- Metropolitan region Rotterdam The Hague (MRDH): The Hague CID/ Binckhorst, Rotterdam Stadionpark and A16 zone, additional? zone Urban Development Alliance Zuid-Holland;
- Metropolitan region Eindhoven (MRE): Eindhoven rail zone (including Eindhoven International Hub XL, Strijp S and Strijp T);
- City of Groningen: Sugar factory site and Eemskanaal zone.

The above developments cannot be achieved without investments in national and above all urban traffic and transport networks. These network investments will be decisive for the choice of location and the development phases, given the high related costs. Use will be made of the urban development strategy outlined here, that will be followed jointly by national and regional authorities.

Also outside these locations, there is clear growth in a number of cities/regions. At these locations, national and regional government are working together in line with this urban development strategy.

**Policy choice 3.3**

The housing stock in the regions matches the demand for numbers and types of housing, residential environments and price class

It is essential that people who wish to live in urban regions are also able to live in locations where there are plenty of jobs. If homes are built in regions where the demand is high, this can help to prevent unnecessary mobility. The map ‘Housing demand through to 2040’ provides a picture of the volume of housing demand through to the year 2040. The objective is to provide housing stock that matches the demand for housing in the region, and that offers sufficient differentiation in terms of type, residential environment and price class (with specific attention for the middle segment). We will make sure there is sufficient planning capacity, on time. Authorities in urban regions must together ensure that homes are available for all target groups (including middle income groups, families and the elderly) and must reach agreements on the distribution of social housing. We encourage social coherence by guaranteeing sufficient differentiation in terms of types of housing and price classes, the development of mixed residential/working environments and public space that is structured in a manner that is safe, accessible, attractive and healthy.
Differentiation in residential environment

The Krasse Knarrenhof in Zwolle is an example of a residential project aimed at self-sufficiency.

Housing deals
National government reaches agreements in what is known as housing deals with the housing market regions that are under the greatest stress (the metropolitan regions Amsterdam, Rotterdam The Hague, Utrecht, Amersfoort and Eindhoven and the city of Groningen) in order to accelerate and expand the rate of housing production. At the same time, quite apart from the growing population numbers, these regions are above all faced by major obstacles in terms of accessibility. For a number of these regions, national and regional government are working together on urban development strategies that include integrated choices for housing, employment and mobility, among other aspects.

Projects for expanding the housing stock

The Startmotor in Rotterdam-Zuid is an initiative that offers young people a safe arrival point in the city from which to start their housing career. It serves as a community where young people live together with shared facilities, and that offers assistance and support where necessary.

The Antillenstraat in Groningen: Urban housing by the waterfront, in social rented accommodation.
Policy choice 3.4
Urban development will be concentrated, while the large open spaces between urban regions will retain their open character. The areas of green in the city and in the suburbs will expand both in terms of size and number, are of good quality and contribute to the health of the population and increased quality of the living environment.

On a national scale, the Dutch urban regions form a polycentric network separated by open space, but with an excellent network of links between them. To ensure continued access for city dwellers to areas of green and nature, it is essential that the basic form of this structure and the open spaces in the network such as the Green Heart be preserved. At the same time, excellent links between the urban regions are essential, in order to fully utilise the strength of the network.

High-density projects

Holland Park: Housing diversity in a high-density development close to the Diemen Zuid station.

Wonderwoods: City centre housing in a high-density development close to Utrecht Central station.

Sluisbuurt Amsterdam: New residential district with a mix of functions and high-rise urban residential environment.

Groene Kaap: Varied selection of rented accommodation on the densely developed Pols van Katendrecht in Rotterdam.
The peripheries of our urban areas require additional attention. The spatial quality in these areas is often uncertain. At some locations there is an attractive transition between residential areas and green urban rambling areas. At other locations, there are clear signs of cluttering, and major quality improvements are needed. Urban peripheries and the surrounding countryside are areas in which space must be handled with greater care, in accordance with the wishes of local residents and users. Retaining existing or developing new functions can deliver added value to local residents in the environment (space for exercise, recreation, nature-inclusive cities with green ribbon structures, ecological linking zones, climate buffers, etc.). All these elements can strengthen the quality of the city and of the surrounding countryside.

Policy choice 3.5
Climate resilient development of cities and regions

Future scenarios suggest that extreme weather conditions will become increasingly common, possibly leading to victims (mainly due to heat stress) and considerable damage (>€70 billion by 2050) all as a result of climate change. The effects of climate change must therefore be mitigated or at least maintained within manageable boundaries. Many climate risks will not actually emerge until later on in this century, but even now more extreme weather types are increasingly common. Alongside medium to long-term alterations, short-term measures are already becoming necessary in our urban areas.

Climate adaptation must be part of spatial interventions and investments that are made necessary by other developments and major transitions. Such an inclusive policy is not yet self-evident. Compact urban developments in combination with preparations for the consequences of climate change call for a carefully conceived and well-balanced structure for the use of public and private space. A balanced choice of locations must be made for new spatial plans (for housing and infrastructure). In fulfilling the major building task facing the Netherlands, it is essential that other tasks be fully integrated. Unfavourable locations in terms of water management or soil subsidence must be avoided (deep polders, fragile soils, desiccation and salt seepage) or its effects must be mitigated. New developments behind the dykes and dunes will as far as possible be implemented in a manner that does not increase flood risks. Greening up plays an important role in that connection.

Example of the greening up of the urban environment

Urban areas can also contribute to the climate adaptation and healthcare goals. The picture shows the Raadhuisplein in Emmen, with much space for planting and water.
From 2020 onwards, the authorities will be required to assess decisions on the development and structuring of the urban environment according to the consequences for climate resilience. Every six years, cities will carry out a stress test to map out the risks and consequences in respect of heat, drought and flooding. The first stress test must have been carried out by 2020. On the basis of the results, choices can be made for locations for spatial development, as well as identifying where additional measures have to be taken in the existing built environment. The entire built environment must be designed to be water robust and climate resilient by 2050.

Design study ‘Region of the Future: Zuid-Houtland’

Building a house costs a great deal of energy and raw materials. Over the coming period, large numbers of new homes will be built in the Randstad conurbation. We also aim to achieve the transition to a CO₂-neutral and circular economy, with agricultural production better integrated in nature. The underlying question for the NOVI is what if we could combine all of those objectives in one? And can this also be achieved in Zuid-Holland, the most densely populated province of the Netherlands?

The Zuid-Houtland team of the NOVI project Region of the Future40 started sketching designs and calculations, and came up with a surprising answer: build with wood! Instead of producing CO₂ by building in concrete, why not build in wood, and in that way store CO₂ in your home. The introduction of wood also increases the efficiency of the construction flow. Wood can in part be grown in newly planted forests, in the most undervalued parts of the peat pastureland, where there are serious oxidation problems. This approach will also create more opportunities for recreation, and new residential landscapes.

The Province of Zuid-Holland is enthusiastic about this concept, and is currently in discussion with municipalities, builders, developers and other parties including the National Forestry Service (Staatsbosbeheer).

Policy choice 3.6
The mobility system (for passengers and goods) in, around and between our cities delivers good accessibility. We ensure that the various transport modalities are well interconnected, and are used according to their specific qualities. The urban mobility system contributes to a healthy living environment and a healthy lifestyle.

Mobility is an essential element of any urban development. Building without carefully considering the location and mobility solutions can have negative consequences for the accessibility of our cities and regions. Certainly in the absence of alternative means of transport, new residential and working areas quickly lead to a sharp rise in car movements on already busy roads. Against that background, choices about the development of housing locations and working locations and mobility must be the result of strategic harmonisation. At the same time, we must do justice to the relationship between collective and individual transport for both short and longer travel distances. The only way we can guarantee that our towns and cities remain accessible and offer a suitable quality of life is by following a cohesive multimodal approach.

Example of station development

High-density development around stations makes it possible to increase the range of public transport services on offer.

Changing mobility behaviour

In expanding urban areas, pressure is rising on the mobility system. In compact cities, more people are able to move around more easily and more efficiently by bicycle, on foot and by public transport. The result is less demand on space, lower CO₂ emissions and energy consumption, improved air quality, less noise nuisance and better health. The mobility system should encourage this type of mobility behaviour. In and around our cities, we will structure our mobility system to be more integrated and sustainable, while ensuring that each transport modality is utilised according to its specific qualities.

Example of encouraging a change in mobility behaviour

The red carpet in Amsterdam creates more space for pedestrians.
System leap in the public transport system
To expand urban regions with high density development, as well as more efficient use of existing networks, a system leap in urban public transport systems will be needed, in order to allow even more dense development and sustainable mobility. High-density development makes efficient, high-quality public transport possible, in the same way that high-quality public transport makes compact development possible. In the Future Picture for Public Transport 2040 (Toekomstbeeld OV 2040)¹², three spearheads have been outlined for the further development of public transport, partly relating to this principle, but above all with a focus on the value of public transport, and low-threshold travel.

Smart mobility
Above all outside our urban regions, and for some parts of the urban regions, the car is and remains the most important means of transport. First and foremost this demands that the quality of the existing network be maintained, and that the network be carefully integrated. However, space for network expansion is restricted, both physically and financially. The capacity of the existing network can be better utilised by investigating the various options and through smart mobility solutions. Wherever necessary, the infrastructure will be expanded. Much traffic enters our urban regions by road. More transfer and transhipment possibilities can be created by adapting the existing infrastructure.

Transport hubs
To achieve the successful integration of the transport system, and to offer passengers user-friendly transfers, the transport modalities must be linked together at strategic points at the periphery of our cities and regions. Various levels of government are reserving space for (the development of) hubs at the edges of our cities and regions and are joining forces to integrate the transport systems and develop these hubs. The task lies in making the hubs not only efficient transfer points but also attractive destinations. Subject to the right programming, this will massively reduce the demands on mobility and transfer numbers. For the largest urban regions, these are elements of the accessibility programmes currently being drawn up.

Example of a transport hub in the region

Transport modalities are brought together at strategic locations. Picture: NS Station Sassenheim with a large free carpark and excellent bus, car and bicycle connections.
For urban distribution, too, the authorities will have to set aside space for transhipment activities at the city periphery. Social parties are working to introduce an urban distribution system according to which the city centres of the 30 to 40 largest municipalities will be stocked and supplied emission-free, from 2025 onwards.

Within expanding urban areas, more structural investment will have to be made in urban accessibility. At the same time, the quality of connections between urban regions will have to be improved and where necessary expanded. Both aspects are essential, given the huge task in house building and the growth of the cities.

Accessibility programmes
Municipalities, provinces, water authorities and national government will be forced to make area-specific considerations. Within those considerations, the consequences for the mobility system and the necessary measures to be taken will have to be explicitly included in any spatial decision making. This is already the case for example in the Accessibility programmes for the Metropolitan region Amsterdam (MRA), Metropolitan region Rotterdam The Hague (MRDH) and Metropolitan region Utrecht (MRU).

Innovations in the mobility system

The Municipality of Eindhoven is organising a ‘Mobility as a Service’ pilot, with a focus on sustainable and CO₂ emission-free mobility movements.

Demand-based mobility combines high-quality public transport and residential locations. Picture: Shared car for the neighbourhood in Breda.

In compact cities, parcels are delivered by bicycle. Picture: Introduction of electric delivery bikes in the centre of Arnhem.

Hydrogen buses make clean and emission-free public transport possible. Picture: Hydrogen bus in the Groningen Drenthe region.
Policy choice 3.7
We strengthen the vitality and quality life in areas facing shrinking population numbers

Despite the fact that the Netherlands is growing overall, a number of parts of the country are faced by falling population numbers. In addition to the outpacing of the birth rate by the death rate, this is a consequence of the migration of above all well-educated often young people to the larger towns and cities. We can and must not try to restrict this choice by young people, in favour of better (economic) development opportunities. For that reason, in collaboration with municipal and provincial authorities, national government is working to strengthen the vitality and quality of life in areas facing falling population numbers in different ways. These efforts are focused on developing and strengthening regional economic future perspectives and a tailor-made set of instruments that offer space for innovation and experimentation. Attention will also be focused on accessibility to, from and within these areas.

The tasks facing population shrinkage and anticipation areas are often the same as in other regions – strengthening the regional economy, accessibility and future-proof houses – but given the demographic context, require a different, and often region or location-specific approach, and a new operational perspective. For example, increasing the number of visitors, rather than attracting new residents.

In a combined approach by the government, civil society organisations, entrepreneurs and local residents, an (economic) future perspective is being formulated that responds to the opportunities for the region based on the specific regional qualities and the space available for new developments and tasks.

At the same time, healthcare, education and public transport facilities in these regions are under pressure. Regulations must offer sufficient capacity to combine the various facilities (for example education and care, public transport and other transport services), to experiment (for example autonomous vehicles on call) and to support societal initiatives. Wherever necessary, the relevant government authorities will adapt their regulations.

In areas facing shrinking population numbers, on the one hand there is a call for demolishing buildings due to the surplus of overall housing numbers, while on the other there is a shortage of homes for the elderly, young people and singles. This task is not one the market is willing to tackle, since it is not sufficiently profitable. The essential removal of certain housing could be assisted through the establishment of a fund for restructuring, by municipalities willing to work together.

Many of the shrinkage regions are also border regions. New constructions will be needed in order to fully utilise the potential of these regions. Cross-border cooperation and closer ties with our neighbours can improve the socioeconomic situation on both sides of the border.
Future visions on strengthening vitality and quality of life

Care2Share - Oosterparkwijk, Eastern Groningen: An integrated concept for healthcare and support by combining healthcare funding and tailor-made care provision; a subscription to the good life.

Wijk als (t)huis, Geleen-Zuid and de Kluis: An appeal to restructuring neglected residential districts as a coherent living environment in which cars give way to space for meeting and interaction.

Mark Us Familiehuis, Sittard: This residential concept re-empowers families by creating family homes around shared courtyards, where they live together, under one roof.

De Hofjes van Carnisse, Rotterdam: Courtyards as meeting places between the city parks, care centres and primary shopping streets. A city district in which the elderly have the opportunity to play an active role in a productive, urban community.
Housing demand through to 2040

Municipal boundaries
Industrial estates

Forecast population development in the Netherlands per municipality, projected on existing built environment

- Severe shrinkage (up to -10%)
- Shrinkage (-2.5 to -10%)
- Stable (-2.5% to 2.5%)
- Growth (2.5% to 10%)
- Strong growth (more than 10%)

Source: Statistics Netherlands Population Forecast 2016-2040
Existing urban areas and public transport hubs

Urban development and public transport access
- Existing urban area within 10 minutes by bicycle from a railway station and within 10 minutes on foot from a light-rail station
- Other existing urban area

(Inter)national main links
- Main rail link (Public Transport Future Policy)

Existing infrastructure
- Railways
- Motorways
  - Train stations
  - Light-rail/metro stations

Sources: Statistics Netherlands, Calculation Delta Metropolis Association, Public Transport Future Image Draft
Relationship between mobility and urban development in respect of quality of the living environment

Zoom in to illustrate a number of indicators for quality of the living environment that must be considered in urbanisation in regional level.

This example shows the Province of Noord-Holland, where the Public Transport Hubs Programme has been established: "The province has opted for new development around stations so that existing space in the urban area and public transport can be optimally utilised. [...] New residential and non-residential building development must above all take place within the existing built-up area and around train stations."

Existing infrastructure and public transport hubs

- Public transport hubs (60 train stations + 4 bus stations)
- Subway station
- Railways
- Underground rail line
- Motorway
- Regional roads

Urbanisation and access
- Built-up area within cycling distance from public transport hub (within 3,000 m)
- Other built-up areas
- Non built-up area within cycling distance of public transport hub (within 3,000 m)

Potential obstacles for urbanisation

- Natura 2000
- Unesco heritage
- Schiphol contour
- Noise contours main railway network and trunk roads
- Industrial estates with environmental category higher than 3


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4.2.4 Priority 4
Future-proof development of rural areas

The Netherlands aims to develop its rural areas to be future proof. This means that land use is in balance with natural systems and developments in the rural areas are not at the expense of landscape qualities. The result for the Netherlands is a vital agricultural sector, with healthy farms with good economic prospects, working in a healthy environment. Rural areas are the basis for many national interests, including the development of sustainable (cyclic) agriculture for food and agricultural production, guaranteed water security and climate resilience, sustainable drinking water supply and sufficient freshwater, and good-quality surface water and groundwater, the preservation and strengthening of our cultural heritage and landscape and natural qualities, and improved protection of biodiversity.

Policy choice 4.1
In rural areas, the balance between land use and the quality of landscape, soil, water and air is improved.

Soil and water
This is achieved by dealing more carefully with the natural systems in our rural areas, that provide use with a whole range of services and resources. This calls for a better alignment of developments in the above ground environment, the natural processes in the soil and water system and in the underground and natural environment. At present, the way we use our rural areas shifts too much responsibility to the environment.

Cyclic agriculture takes place against a local background. The agricultural function uses the soil and water system in a sustainable manner. The result is a vital system according to which the agricultural function is correctly structured in the right place, leading to a healthier system in which fewer resources are consumed, and fewer emissions generated.

On higher-lying sandy soils, longer periods of drought are leading to the lowering of groundwater levels, and consequently a shortage of freshwater. Freshwater shortages will as far as possible be corrected, within the affected areas. Land use must be matched more closely to the availability and consumption of freshwater. In areas where freshwater shortages threaten (now or in the future), we will not undertake any new developments that demand a freshwater supply – for example industry, intensive agriculture or hydrogen production plants - unless sufficient measures are taken to guarantee a sustainable water supply. We also ensure a sustainable supply of drinking water, with sufficient new and alternative sources to guarantee the availability of sufficient drinking water in the future. Provinces will designate Additional Strategic Supplies (Aanvullend Strategische Voorraden- ASV) with the appropriate protection regime. Climate adaptation will also require the establishment of natural buffers (for example for water capture) in rural areas.
Dealing with natural systems in the rivers area

In the intervening areas, the flow from the rivers means that sufficient water is generally available. The underground environment here is ideal for intensive forms of land use, such as high-production agriculture. River bed erosion in the major rivers does however create its own challenges. In addition, as a result of new safety standards and advancing climate change, the Netherlands is faced with a major and urgent water safety task, in particular in the river area. The ambition is to achieve a powerful combination of dyke strengthening and river broadening, while ensuring that sufficient space is retained for a safe river area. Another aspect of the ambition is to achieve spatial quality within the river area, with high-quality nature. Sea level rise and soil subsidence along the coastline are also causing structural erosion, so constant interventions are needed, in order to retain the overall volume of land.

The sustainability transition within the agricultural sector, the Nitrogen Management Programme (Programma Aanpak Stikstof), and the more efficient use of fertilisers, crop protection agents and freshwater are all essential if we are to achieve the environmental, nature and water targets. At specific locations in the rural area, emissions from agriculture are causing high pressure on local residents, nature, the quality of the soil and water system and air quality. Where the pressure is too high, targeted efforts will be made to achieve the necessary reductions. In these area processes, the provinces and municipalities can take the lead by involving businesses, local residents and other actors. The most urgent tasks face the most vulnerable areas, subjected to the greatest environment burden, for example in the vicinity of valuable nature conservation areas, areas of great cultural value and groundwater protection areas. In areas with a high concentration of commercial activity, or where farms are located close to populated areas, environmental burdens can be considerable, too.

Soil subsidence
Low-lying areas along the coastal strip will be faced with growing levels of salinisation as a result of sea level rise and soil subsidence. At certain locations this can lead to changes in functions, for example from agriculture to nature and water, or to other types of nature or crops. The problem of soil subsidence in peat pastureland is another relevant aspect.

Future-proof rivers with high-value nature successfully combined with a powerful, Parliamentary Paper 27625, nr.422.
Future investigations into raising water levels in peat pastureland

Impression from the draft regional energy strategy for Fryslân: Rewetting peatland areas in combination with other functions such as extensive livestock farming, biomass farming and nature development.

Impressions from the investigation into Wet energy generation to retain peat landscapes: Wet crops contribute to the sustainable preservation of the historical peat pasture landscape, as well as offering opportunities for new functions and qualities.

In parts of the peat pastureland, groundwater levels will have to be raised in the future. A key requirement is that there must be good future prospects for today’s users.
Provinces are organising/facilitating a process in consultation with land users (including farmers), civil society actors, local residents and other government authorities, aimed at preparing a programme for each peat pastureland area (regional peat pastureland strategy). A draft programme is drawn up in 2019, which at least comprises:

- an outline mix of measures aimed at fulfilling the task by 2030;
- a perspective through to 2050, including management aspects;
- agreements on monitoring;
- initial financial calculations;
- follow-up process (practical implementation at polder level);
- links to existing processes;
- role of actors in the area;
- existing instruments and the identification of missing instruments.

It is essential in drawing up the regional peat pastureland strategies that the impact on the physical living environment and the quality of the living environment be taken into account, for the longer term (through to 2050). Any such measures can only be funded within the financial frameworks that apply at the moment when the decisions are taken.

For an overview of these areas, see the map showing potentially vulnerable soils with high environmental burdens.

### Choices in respect of soil subsidence peat pastureland

The problem of soil subsidence in peat pastureland is heavily dependent on the characteristics of the regional soil and water system. The opportunities for dealing with soil subsidence in a cost-effective manner differ from area to area. The Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving) (2016)\(^4\) has elaborated and calculated three measures.

Two technical measures, underwater drainage and level fixation, and the third, transition in land use (due to raised water levels). The outcome is a change in function to nature or wet agriculture.

**Underwater drainage and level fixation**

Underwater drainage slows down soil subsidence and has no consequences for crop yields, dairy farming or the landscape. This measure is not suitable for use everywhere, and results in little change to nature and biodiversity. Level fixation (passive rewetting) also slows down soil subsidence, and is likely to have a favourable effect on nature, but in the long term does call for adaptations in agricultural use due to crop loss or reduced milk production.

**Transition in land use**

The third measure, transition in land use (if water levels are raised) halts soil subsidence, is good for nature and biodiversity, but may have negative economic consequences for agriculture and the cultural historical value of the landscape. There are opportunities for wet agriculture, but a realistic estimate is difficult. Further studies for example via area pilots will have to identify the extent to which these three measures or a combination of the three are a cost-effective means for also limiting CO\(_2\) emissions. At present, soil subsidence in peat pastureland is not only leading to restrictions for agriculture, but also to damage to buildings and infrastructure in towns and villages. As a result, the solution will have to take the form of an integrated approach, in each area. This is influenced by climate-related, economic, housing and natural interests, in both the agricultural sector and in the surrounding towns and villages. The proposed solutions will have a direct influence on the farmers and residents in the affected area.

\(^4\) Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving (PBL)), Balance for the living environment (Balans van de leefomgeving) 2016, The Hague 2016.
Future perspective

One increasingly pertinent question is in which areas existing land use still offers future perspective in the long term, and in which areas current land use is no longer viable. For certain areas, efforts could be focused on introducing innovative (underwater) drainage techniques. In areas where there is no longer-term perspective, a switch to other forms of agriculture or other functions will be necessary, at some point in the future. Taking account of the importance of reducing CO₂ emissions as quickly as possible, the decision could be taken to switch to other wetter forms of land use even sooner, in these ‘borderline areas’. A key precondition is the expected future perspective for the current user.

Based on their responsibility for spatial planning, the role of taking charge of this process lies primarily with the provinces. In consultation with all stakeholders in the area, and in harmony with other relevant area tasks, they can arrive at a cohesive and broadly supported future vision for peat pastureland areas. National government will call upon the provinces to draw up their own visions on peat pastureland. This will put them in a position to identify those areas where there are long-term future perspectives for current land use, and identifying those areas where a switch to other wetter forms of land use is desirable. These area visions will be seen in conjunction with the Regional Energy Strategies that are still to be drawn up, and the stress tests to be undertaken as part of the Delta Programme (2016).

Policy choice 4.2

Biodiversity is protected and strengthened and natural capital is sustainability utilised.

The average quality of Dutch freshwater and terrestrial nature (and biodiversity) has been declining for years. This process is slowly being reversed but stable recovery has not yet been achieved. This reversing trend is above all the consequence of the growth in the area of land allocated to nature in the Netherlands, and the improvement of the quality of water and nature areas. Over the next few decades, the Cabinet wants biodiversity to recover. This will call for a robust and interconnected system of nature areas.

With this in mind, the Netherlands Nature Network (Natuurnetwerk Nederland) will be further protected, expanded and combined, in the future. In accordance with agreements in the Nature Pact entered into with the provinces, at least 80,000 hectares of additional nature will have been created by 2027. The water conditions and environmental conditions of these nature areas will also have been improved. This will offer sustainable protection for biodiversity. Efforts will also be aimed at combining nature and landscape developments with the implementation of large (civil engineering) projects.

Water quality

By 2027, sufficient measures have been taken to achieve the objectives of the Water Framework Directive (Kaderrichtlijn Water). To make this possible, account will have to be taken of the structure of the soil and water systems. Measures will also have to be taken to implement a programmatic approach for the large waters. In the North Sea Programme (Programme Noordzee)¹⁵, attention is focused on the importance of good environmental status of the sea, combined with sustainable and responsible use.

Biodiversity will enjoy sustainable protection

Nature-inclusive agriculture offers space for the recovery of biodiversity and nature.

Nature

By combining the tasks in rural areas, new opportunities will be created for nature. The transition towards circular agriculture, outlined in more detail below, is essential for improving biodiversity and natural recovery, including the improvement of environmental and water conditions. Via an area-specific approach, involving all relevant stakeholders, we can identify the optimum opportunities for nature in combination with agriculture (and vice versa) and other functions.

This ties in with the first consideration principle ‘combined functions take precedence over single functions’ (see 4.1). Together with the provinces, we will also be investigating further requirements for bringing the (international) biodiversity targets within reach, over and above the agreements in the Nature Pact. On the basis of the nature assessment by the Netherlands Environmental Assessment Agency (PBL), the transition of agriculture and additional agreements with the provinces will be reflected in the intermediate objectives and further agreements on fulfilment of the ‘Birds Directive and Habitats Directive’, in 2020. This ties in with the European vision on biodiversity which, explained briefly, specifies that biodiversity and the ecosystem services must be protected, appreciated and appropriately recovered, by 2050.

Urban areas

Not only rural areas but also urban areas can contribute to the nature and biodiversity targets (see also the priority Strong and healthy cities and regions). The urban environment is already an ecosystem for a variety of flora and fauna. Through greening up and the integration of more water in urban areas, nature quality will be improved as well as making a contribution to the climate adaptation and healthcare targets. Here, too, there are opportunities for improving the link between outlying green areas, and the urban landscape.
Future investigations into town and country connections

Urban landscapes in Zuid-Limburg: A vision drawn up on the basis of a design-based approach, that offers a perspective for the areas of Limburg located between the urban and rural environment.

Ringpark Utrecht: An inspiring spatial concept that combines the tasks for housing, accessibility, energy transition, landscape, food production and ecological quality.

Policy choice 4.3
A sustainable, vital and circular system of agriculture and food supply will be established, based on nature inclusivity.

Circular agriculture
The heart of the switch to circular agriculture is that the current chain will change into a system that reduces unnecessary losses to a minimum. Agriculture, horticulture and fishery will become part of a circular food system. Raw material and auxiliary material cycles will be completed at the lowest possible level, be it regional, national or international. Arable farming, livestock farming and horticulture will in the first instance make use of resources from each other’s chains, and residual flows from the food industry and food chains. Crop residues, food residues, process waste and manure will be reused or processed into new products. Recycling businesses will consume as little energy as possible and will rely as far as possible on renewable energy sources. Circular agriculture will respond to local conditions and the agricultural function will use the soil and water system sustainably. The result will be a vital system. Soil and water quality and biodiversity will be encouraged through increased crop rotation, more mixed crops, verges rich in wild flowers and plants, etc.

This development and its practical implementation must be achieved in close cooperation with the affected farms and partners from civil society. National government will support and facilitate this development in a variety of ways, itself reinforced by a new approach delivered by the new Common Agricultural Policy (Gemeenschappelijk Landbouwbeleid GLB). The programme for the Renewal of Manure Policy (Herbezinning mestbeleid) and Sustainable Livestock Farming (Verduurzaming veehouderij) will contribute to the ambitions in the framework of circular agriculture. By deploying the innovative capacity in the Dutch agricultural and horticultural sector, the Netherlands can become an international frontrunner in sustainable, circular agriculture.
The search for new forms of agriculture

Food forest Vlaardingen (Voedselbos Vlaardingen).

Rural areas provide a range of important services for our society, not only in terms of food, biomass and energy, but also experience of the landscape, an attractive residential environment, high-quality employment, space for recreation and tourism, water storage, the purification of air and water, the storage of CO₂, and many more. The transition to circular agriculture and the combination of agriculture and nature mean that in the future, rural areas will provide a far greater contribution to ecosystem services and biodiversity recovery, thereby preventing the shifting of responsibility to the environment.

Future investigation into innovation in agricultural and food systems in the design study ‘Bread and Games’ (‘Brood en Spelen’) by the Board of Government Advisors (College van Rijksadviseurs)

Circular farm Beers: In this model, different links and business models can be ideally combined for economies of scale in the circular transition.

Air bee ‘n bee: By reinstating disappeared historical structures and elements (such as lanes and orchards) in the landscape, suitable environments will be created for the bee population.
**Sustainable livestock farming**

Sustainability measures are most urgently required in the most vulnerable areas subject to the highest environmental burdens, for example close to valuable areas of nature (e.g. those with a large cultural value) and groundwater protection areas, in areas where the concentration of farms is high, or where farms are located close to populated areas. The map ‘Areas with a potentially fragile soil and with high environmental burden’ uses a number of indicators to demonstrate which areas are environmentally burdened, and where the soil is fragile. In areas where pressure from agriculture on the environment (nature, public health) is too high, targeted efforts will be aimed at pressure reduction. At regional level, this will be a task for the provinces. In the coalition agreement, measures have been announced to reduce the risks to public health and the living environment, in areas with very high livestock densities. This ties in with the efforts aimed at bringing about a transition to sustainable livestock farming, and the strategy of the Ministry of Agriculture, Nature and Food Quality (LNV) on circular agriculture. A combined, two-track approach has been agreed with sector parties and provincial and municipal authorities, namely a restructuring track, and a sustainability track. With that in mind, a (draft) Subsidy scheme for rationalisation of pig farms has been submitted to the Dutch House of Representatives, and made available for public consultation. This rationalisation scheme aims to reduce odour nuisance by definitively terminating (locations of) pig farms, and scrapping pig ownership rights, thereby reducing environmental pressure (for example from greenhouse gas emissions).

**Different spatial claims**

In many cases, circular agriculture that maintains its current value requires more space, while there are other claims for that same space in connection with other developments. New functions that require space must not negatively influence the quality of the living environment, any more than necessary. This means that various functions will have to be combined as effectively as possible. At the same time, area development (for example in conjunction with the Inter-administrative programme (interbestuurselijk programma IBP) Vital Rural Development) must guarantee that the right functions are allocated to the right locations. This development could also help strengthen the structure of agriculture itself, so that the best agricultural land remains available to agriculture.

**Design of rural areas**

In order to maintain a vital rural environment, rural areas must be designed in such a way that they offer a pleasant environment for employment, housing and recreation. Fragmentation caused by the discontinuation of farm businesses must be prevented. Measures must also be taken to prevent the uncontrolled spread of distribution centres and landscape cluttering, and to ensure that fertile agricultural land or areas with high landscape and natural values are not built on, or covered with solar panels. In certain areas, however, transformation of rural areas may prove necessary. This requires area processes in which new agreements are reached by all the affected stakeholders, on the overall design and combination of functions in rural areas (in conjunction with the IBP Vital Rural Areas).

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Future investigation into innovation in agriculture and food systems in the design study 'The Region of the Future' by the BNSP and the NVTL.

Precision agriculture permits high-diversity production on a large scale.

Example of nature-inclusive agriculture in the Vexin region of Northwestern France.

Potential adaptation of agriculture (on the basis of soil conditions).
Policy choice 4.4

Unique landscape qualities will be strengthened and protected. New developments in rural areas enhance landscape quality. The uncontrolled growth of distribution centres is undesirable.

Landscape quality

Our society attaches considerable value to the Dutch landscape. Many people live and work in this landscape. It gives people an identity, and is an invitation to enjoy the cultural, historical and ecological values. Landscape quality is a soft value which is difficult to express in monetary terms, but which is of clear (economic) importance. The landscape is sometimes handled carelessly, although in most cases this is not a deliberate decision. It often happens because developments are initiated from the viewpoint of a single interest, with insufficient attention for the quality of the landscape, and limited consultation of local residents or other local stakeholders. The map ‘Diversity of landscape quality’ provides a picture of the Netherlands’ rich cultural and historical landscapes.

Because a whole raft of new developments are demanding more and more space in urban areas, the quality of the landscape is under pressure. The uncontrolled growth of distribution centres, for example (‘verloodsing’) is considered undesirable. For that reason, national and regional government must reach agreement on new locations in their Environmental Agendas (see chapter 5). Preserving and developing our landscape requires additional effort on the part of national government to maintain the good quality of the living environment and to preserve and strengthen cultural heritage and landscape and natural qualities of national and international importance. It is against that background that the unique cultural, historical, landscape and natural qualities of our Dutch landscape are actively preserved and strengthened in developments in rural areas. Wherever possible, we add new qualities such as peace and relaxation, panoramas and the natural look and identity of the landscape. When landscape developments are undertaken, it is essential to take account of the quality of life, and to consider improved accessibility for example in the form of good networks of cycle and walking paths. Where not already an established practice, regional parties will jointly develop an area-specific policy for these unique landscape qualities and their underlying values. Here, too, the characteristics and identity of the area are the central point of focus, according to the consideration principle (see 4.1).
Choices for valuable landscapes

Certain landscapes are of such value to the Netherlands that they deserve additional protection. Nature and landscape qualities must be preserved, and require additional attention.

As part of the national interest of protecting and strengthening cultural heritage and landscape and natural qualities, existing policy has already been elaborated for various different landscapes (for example in respect of world heritage). For a select number of areas, national government aims to deliver additional effort to protect the landscape together with the local residents and other stakeholders. These are landscapes that satisfy one or more of the following criteria:

• Story: landscapes that are readable and contribute to the experience of telling the national story of the creation and spatial differentiation of the Dutch landscape;
• Unicity: landscapes that offer landscape qualities, natural values and/or cultural and historical values that are unique on a national and international scale;
• Scale: landscapes in respect of which the task of preserving their quality exceeds the scale of a merely regional or provincial task;
• Threat: landscapes that are threatened now or in the future by spatial developments.

At least in respect of the following landscapes, national government has focused further action: Coastal landscape, Wadden Sea landscape, the Green Heart, the Veluwe, the IJsselmeer lake, the Southwest Delta and the National Parks. Together with partners from each of these areas, qualities and values have been identified. A number of areas are discussed below. It is conceivable that at some point in the future, the NOVI will identify other landscapes as being of national importance, such as existing or new areas with a UNESCO status.

Coastal Pact and the North Sea
Cooperation on the basis of the Coastal Pact will be continued. As part of this Pact, national, provincial and municipal governments will monitor the development of (recreational) building on the basis of applicable regulations and specific agreements. With a view to protecting landscape qualities on the North Sea, national government will maintain a free view of the horizon, to a distance of 12 nautical miles from the coast.

Wadden Sea
The Wadden Sea area is a landscape unique to the Netherlands. The landscape values and qualities of this area for nature, biodiversity and tourism must not be disrupted for example by the introduction of wind farms and solar parks. This area deserves special protection, and is therefore included in the Decree on the Quality of the Living Environment (Besluit Kwaliteit Leefomgeving).

The Green Heart
The presence of green space in the Green Heart, as a counterpoint to the ring of urban development, is essential for the quality of life and establishment climate of the entire Randstad Conurbation. The open character represents an essential contrast with the large cities that surround it. The Green Heart is under pressure from all sides: the demand for urban development by the large cities, the necessity of rewetting the area to prevent soil subsidence and the generation of renewable energy are constantly pressurising the landscape qualities and biodiversity.
The claims on the landscape have revealed issues concerning the preservation of existing identities and the creation of new identities. The task in this area is to create space for the necessary transition, in a way that does not conflict with the landscape and the identity of the Green Heart in its urban context. The Green Heart is a varied area, that can be divided into different zones. Some of these zones offer opportunities for new developments, while others must focus on preservation of the landscape.

National government is working to protect the landscape qualities of the Green Heart in a sustainable manner, but still recognises opportunities for developments, taking account of the requirements imposed by the sustainability goals. As part of the Our Landscape Programme (Programma Ons Landschap), the Green Heart has been identified as one of the areas in which national government will join partners in an area process to preserve and develop landscape qualities. The goal is to reach future-proof agreements on area planning, so that greater diversity and flexibility can be achieved in the policy for the Green Heart.

**National Parks**

The National Parks of the future are icons for synergy between landscape, nature, agriculture and energy. This iconic status calls for a leap in quality, whereby the initiative lies with the areas, themselves. One objective is broadening boundaries for the National Parks. In the majority of today’s National Parks, only the core natural values are bounded. Broader boundaries for a National Park make it possible for the fragile core natural values within the area to be better protected, while the transition to more human activity takes place in the surrounding landscape. This process of enlargement and increased cohesion between the landscape, the landscape ecology and the cultural history of an area will create greater uniformity. This in turn creates space for individual zoning, and choices between use functions. The cohesive approach lays the foundation stone for the development of an area identity, which can deliver a boost to the spatial quality and economic value of the area. Space for experimentation is at all times a key element of this approach. As a result, the National Parks offer a distinctive, appealing and uniform structure, within which a variety of functions can be achieved as a combination of their quality, in line with the major tasks facing the Netherlands.
Diversity of landscape quality

Cultural history landscape types
- Reclaimed lakes
- Upland
- Coastal zone
- Low moorland
- River area
- Peat colonies
- Sand area
- Marine clay area
- Urbanised area

Terrain type
- Woodland
- Heathland
- Sand
- Water

Landscape characterisation
NAME: Panorama Landscape – RCE
Characterisation of Dutch Landscape in 78 regions

Sources: Cultural historical Landscape Types RCE, Top 10NL, Land Registry Service 2017, Panorama Landscape RCE
Areas with potentially fragile soil and with high environmental burden

Areas with potentially fragile soil
- Area sensitive to salinisation
- No supply of freshwater and falling groundwater levels
- Limited supply of freshwater and falling groundwater levels
- Area subject to soil subsidence

Areas with high environment burden
- High (> 15 µg/m³) ammonia concentration
Ammonia concentration is one of the indicators for air quality. In this map, ammonia concentration is specifically displayed because of its clear relationship with agriculture (intensive livestock farming).
- Chemical quality of water bodies not yet compliant (> two substances do not satisfy the standard) (Catchment Area Management Plans 2015)

Sources: Structural Vision Infrastructure and Space, National Water Plan, Soil Subsidence Map, National Institute for Public Health and the Environment (RIVM)
The ambitions and challenges in the physical living environment are varied, and affect us all. They demand a cohesive approach and new methods of cooperation, with broad societal involvement, and contributions from government, citizens and businesses, civil society organisations and centres of knowledge. Citizens and businesses often want to make an active contribution to improving the living environment and making the way they live and work more sustainable. That requires a government that cooperates and facilitates where possible and directs where necessary. A government that assumes the strength and dynamism of society, and that encourages social innovation.

5.1 How can we work together?

At various locations, we are working on actual projects and programmes in the physical living environment. The structure of the Netherlands is never finished, and is constantly changing in response to newly emerging tasks. The Netherlands is, as it were, in a constant state of renovation. Whether with regard to buildings, infrastructure or nature, the people make this country, and constantly adapt it to satisfy the latest wishes and requirements imposed by society and the living environment.

Governments formulate policy ambitions and policy targets which they link to laws, rules and administrative agreements, and to practical projects and programmes. Increasingly, instead of tackling a single task, we tackle several tasks in conjunction, based on a shared vision. Just that approach has become increasingly necessary, since in many cases the tasks in the physical living environment are heavily interwoven. In line with the philosophy behind the Environmental and Planning Act, the National Strategy on Spatial Planning and the Environment (NOVI) embraces that approach which has intensified over the past few years, and represents the next step along that development pathway.

The motto is: ‘You may be faster alone, but together you will get further!’ With these principles in mind, national, provincial and municipal governments, with others, launched the Interadministrative Programme (Interbestuurselijk Programma – IBP) in 2018, in which ambitions are formulated for jointly tackling a number of urgent societal tasks, including those in the physical living environment. National government has adopted a role in designing this cooperation, not from a hierarchical position but on the basis of equal partnership. Each party contributes to the societal task according to its own expertise, role, position and responsibilities. This is an approach that relates to the challenges of the modern era.

Cooperation between levels (Multi-level governance)

National government has a role in the process of cooperation within the framework provided by the NOVI. The various Ministries shape policy according to their own tasks and responsibilities. Increasingly, the regional level is the most relevant scale for tackling tasks for the physical living environment and making cohesive choices. According to the guiding philosophy of the Environment and Planning Act, general care for the physical living environment is primarily a task for municipalities. The water authorities have functional responsibility for water management, the provinces have a clear statutory task and responsibility for the physical living environment. Given the responsibilities of national government at national level, what is called for is cooperation between the regional and national authorities in the form of combining efforts in the manner that best suits the task in question. In the Delta Programme
for example, a similar approach has been followed by national government, provinces, municipalities and water authorities, with clear contributions from civil society organisations, centres of knowledge, individual citizens and business. At national level, it is vital that the Ministries cooperate more effectively, both in The Hague and in the regions. Moreover, many tasks also include an international component that demands cooperation with neighbouring countries or partly on a European or even global scale. As with the agreements reached in Paris and New York, EU policy has demonstrated that this is most emphatically the case with regard to tasks relating to the environment, sustainability and climate. The same also applies to tasks relating to the large rivers, air transport and shipping, among others.

A cohesive, area-specific and more integrated work approach is increasingly becoming common practice. Experience of that approach has been acquired over the past few years, for example with the Room for the River (Ruimte voor de Rivier) programme, the National-Regional Programme Amsterdam-Almere-Markermeer (Rijk-Regioprogramma Amsterdam-Almere-Markermeer - RRAAM) and a series of other projects including the Az Maastricht traverse and the key projects from other spatial policy memorandums. Various programmes that operate according to this policy are currently underway, including the Interadministrative Programme Vital Rural Areas (Interbestuurlijk programma Vivaal Platteland - IBP-VP), the National Programme Rotterdam-Zuid (Nationale Programma Rotterdam-Zuid - NPRZ), the National Programme for Groningen (Nationaal Programma Groningen), and the living deals and the accessibility programmes (for the three metropolitan regions Amsterdam, Utrecht and Rotterdam The Hague). In other words, a solid foundation in existing policy and current practical implementation programmes is in place, as a solid basis for future development. Our aim with the NOVI is to reinforce, to combine and to broaden these work approaches.

**Principles for cooperation**

The NOVI employs the following principles for cooperation:

1. **We work as one government, together with society**

   The NOVI ties in national government and brings the Netherlands together. Wherever possible, we will work together on practical implementation, and will fairly share the benefits and the burdens. Governments together bear responsibility for the living environment. Each level of government as well as individual citizens and businesses make a contribution from their own responsibility and possibilities. National government is thereby guided by the national interests. This brings together government authorities and stakeholders, and ties in with the strength and dynamism of society.

2. **We focus on the task(s)**

   Tasks for the living environment are not restricted by administrative boundaries, and apply right across scales of action and policy fields. A task-based approach calls for combined action and the utilisation/combination of the resources and networks available, and all the relevant societal initiatives. This approach increases the possibilities for combining functions. Both national and regional authorities can take the initiative for the tasks described in the NOVI, for launching or combining new programmes, and inviting each other to join in wherever valuable and necessary. National government will adopt an open mind, aimed at strengthening cooperation.

3. **Our work is area-specific**

   The tasks become manifest in different ways, in different areas. As a consequence, the choices to be made are often specific to a particular area. An area-specific approach helps to make choices, in partnership with all stakeholders, while focusing on the characteristics of the area. In the approach and its elaboration, public and private parties and the initiative takers most relevant for the area in question are directly involved. The most important foundation stone for cooperation is the combined analysis of the area quality and the design of arrangements and projects. The practical elaboration in the individual areas may differ in scale, scope, approach and in the degree of national government involvement.

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18 Nature and environmental qualities, landscape, cultural heritage, commercial activity, population composition, societal initiatives present.
4. **We work constantly on the tasks according to an adaptive approach**

The targets and ambitions laid down in the NOVI can clearly not be achieved all at once. Understanding of the measures most applicable to the tasks is subject to change. The tasks themselves can change, too. What is needed is a form of practical implementation that is adaptive and flexible, and which focuses on developing new, appropriate forms of approach, and that represents an open invitation to society to fully utilise the innovative capacity of all parties. With that in mind, an adaptive approach is employed, that offers space to adjust the targets and the approach, in the interim.

**Participation and public consultation**

Broad societal involvement by individual citizens, businesses, civil society organisations and initiators is an essential precondition for the success of the combined ambitions. As a consequence, a wide range of perspectives, knowledge and creativity emerge, thereby increasing the quality of the solutions, and mobilising collective action and combined intelligence.

Participation and public consultation demands a tailor-made approach to each task, area and administrative situation. The challenge lies in combining the tasks and the approach with the scale that directly affects most people and at which most people feel involved and at which they have or want to have clear perspectives for taking action.

Essential points to be considered in achieving good participation are:

- be clear on the possible contributions (information, consultation, advice, cooperation, joint decision making, right to challenge) and what is done with them;
- offer clear and understandable information, in good time;
- ensure the involvement of (representatives of) key stakeholders;
- be aware of what people are thinking (for example by means of lifestyle surveys).

**Role of national government**

The work approach just described calls for a clear understanding of the role of and for national government. That role can vary, depending on the task, the area, the context and the desired interaction with other levels of government and society as a whole. We have identified three distinct roles for national government in the practical implementation of the NOVI:

**Cooperation**

Municipalities, water authorities and provinces bear primary responsibility for the living environment. National government works together with other levels of government and societal parties. To protect the national interests, national government focuses primarily on a collaborative role, in partnership with other levels of government and society in general. On the one hand by establishing alliances (director and play maker) and on the other hand as an equal partner.

**Facilitation**

National government creates the necessary space for and seeks to join initiatives from others. Where necessary and desirable, national government helps move those initiatives forward, and encourages new forms of cooperation, innovation, knowledge development and transition. National government has a role as unifier, mediator, expert, knowledge broker and counsellor. This can be achieved for example by organising area dialogues, offering design workshops, providing

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21 One example is the publication of the Manifesto ‘Pioneering work on societal tasks’ (‘Pionieren aan de maatschappelijke opgaven’) from the Stimulation Fund for creative industry (Stimuleringsfonds creatieve industrie), Rotterdam 2018. According to a 10-point plan, illustrated with examples from the City Labs, this manifesto clarifies the value of City Labs for the NOVI.
financing in the form of stimulation grants and offering space for experimentation and innovation. The Crisis and Recovery Act (Crisis- en Herstelwet) which came into effect in 2010 is just one example.

**Directing and setting out frameworks**

If the national interest or specific task cannot only be effectively tackled through cooperation and facilitation, then national government can take on a more managerial role, in setting out the necessary frameworks. National government aims to achieve the national interests and targets by:

- realising projects based on its own responsibilities;
- designating or excluding areas for particular purposes (for example in the vicinity of Defence sites, infrastructure, Natura 2000 and national parks), in accordance with national and international frameworks;
- setting standards and threshold values, for example in the form of requirements for environmental safety and standards for noise, water quality, environmental safety and air quality, and imposing the necessary restrictions;
- using instructional rules to encourage or discourage desirable or less desirable developments.

In other words, national government creates space and sets targets, cooperates and facilitates where possible, and directs where necessary.

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**5.2 Instruments**

The Environment and Planning Act provides the instruments according to which the NOVI can be developed and implemented in practice. This – together with other practical resources – is reflected in the figure showing the NOVI Policy Cycle. In the NOVI Implementation agenda (Uitvoeringsagenda NOVI), in outline, we elaborate how the strategic policy choices from the strategy on spatial planning and the environment will be tackled in practice, thereby ensuring clarity among others on the deployment of legal, financial and other instruments.

At the moment of publication of the NOVI, the Environment and Planning Act had not yet come into effect. Until that time, existing legislation such as the Spatial Planning Act (Wet Ruimtelijke Ordening) and the Water Act (Waterwet) provide the necessary frameworks, and for the time being, national government will continue to employ the existing instruments from those Acts in ensuring the continued and practical implementation of the policy. This for example means that consideration will be given to which elements
of the General Rules for Spatial Planning Decree (Besluit algemene regels ruimtelijke ordening - Barro) will be adjusted.

With regard to the national policy for the physical living environment, a policy cycle will be completed, according to which national government will determine whether policy adjustments are necessary. Where can the work be undertaken in a more integrated or effective manner? Where are there negative impacts? Where is further adjustment necessary, also at programmatic level? This adaptive, cyclic approach relies on effective interaction between the various elements of the policy cycle. That in turn calls for sound process management, both with regard to the policy cycle itself and in respect of interdepartmental harmonisation and consultation.

**Quadrant 1: Policy development**

**NOVI**

The NOVI describes the current status and the desired development of the physical living environment, states how national interests are guaranteed and sets the course for priority tasks. The NOVI also contains the outlines on practical implementation. The outcomes of the SEA (planMER) drawn up for the NOVI provide an insight into the uncertainties, the opportunities and the risks of the various tasks and represent the ‘0 measurement’ that is essential for the periodic monitoring of the specification and realisation of the tasks. The NOVI is an element of a permanent cyclic process. If necessary, the NOVI can be updated annually, not necessarily to the same extent each year, but on each occasion an assessment will be made of whether new tasks have emerged that require an integrated approach. On the basis of the monitoring (every two years) or the evaluation (every four years), more fundamental changes can be made. The Implementation Agenda, cooperation agreements and Regional Agendas (which are discussed later in this chapter) guarantee coherence, instrumentation and programming for the practical implementation of the policy contained in the NOVI and provincial and municipal environmental strategies.

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22 General Rules for Spatial Planning Decree (Barro), Decree dated 22 August 2011 concerning general rules for the protection of national spatial interests, which came into effect in 2018.
Cooperation agreement in the NOVI

The NOVI is a national vision that is inherently binding for national government, while the challenges in the physical living environment in fact call for a broadly supported effort on the part of all levels of government. The NOVI takes on a real importance when agreements are reached on ‘dynamic cooperation with the regions’, based around the central question: how are regional governments willing and able to cooperate, to respond to urgent tasks and to accelerate the necessary transitions in the living environment? To provide a sound answer to these questions, work is underway on establishing cooperation agreements with all levels of government, on the basis of the final NOVI. In outline, these agreements will relate to the allocation of individual roles to individual levels of government. This is a consequence of their different authorities, the rules of play governing cooperation, the establishment of coalitions, the planning and deployment of instruments (such as interadministrative programmes) and resources, and the parameters necessary for tackling the tasks as one government. Commitment to jointly fulfilling the ambitions, targets and policy choices contained in the NOVI is evidently the key underlying principle. National, provincial and municipal governments, and the water authorities will work towards fulfilling the common tasks and each will contribute its own instruments.

Legislation and regulations

The Environment and Planning Act is not merely a summing up of an environmental vision and strategy. Instructional rules are another instrument for the elaboration of national government policy. These are used, wherever necessary, to provide the legal underpinning for the implementation of national government policy. The instructional rules from national government are contained in the Quality of the Living Environment Decree (Besluit kwaliteit leefomgeving - Bkl). Before the Environment and Planning Act comes into effect, the General Rules and the Regulations on Spatial Planning Decree (Besluit en Regeling algemene regels ruimtelijke ordening - Barro en Rarro) are applied, pursuant to the Spatial Planning Act (Wet ruimtelijke ordening – Wro). Consideration will be given to the desirability of adjusting and supplementing specific points in the instructional rules, in accordance with the NOVI.

Quadrant 2: Policy elaboration

Programmes

In the elaboration of the NOVI in policy, programmes play an important role (see explanatory notes to the Environment and Planning Act pages 114 – 123). A programme contains the elaboration of the policy to be implemented for the development, use, management, protection or preservation of one or more elements of the physical living environment and measures aimed at achieving environmental values or
other targets for the physical living environment (as specified in the NOVI) and to continue making a permanent contribution to achieving those values or goals. Governments can also take the joint initiative for an interadministrative programme.

The programmes that emerge from the NOVI can be either integrated and/or area specific. The same applies to programmes that do not emerge – or do not emerge directly – from the NOVI, but which are related. For programmes emerging from the NOVI, the affected Ministers share joint responsibility. The Ministry with initial responsibility is the driving force. The NOVI does not change the tasks and responsibilities of the various Ministers and government members. The programmatic approach and practical implementation will be based on the opportunities and risks identified in the Strategic Environment Assessment (SEA).

**Transitional law**

National government will involve other levels of government in the elaboration of its programmes. In the Implementation Agenda for the NOVI, a number of new programmes are announced. Other policy documents already exist, that were drawn up subject to current regulations, such as structural visions, policy documents and plans.

These are subject to differentiated transitional law, for the four programme types identified within the Environment and Planning Act.

- **For the compulsory programmes** in the law, the compulsory programmes adopted on the basis of the old law will continue to apply under the Environment and Planning Act, on the basis of transitional law.
- **For the conditional programme**, if it emerges from the monitoring that an environmental value is not satisfied or is at risk, the responsible administrative body will be required to draw up a programme.
- **For the voluntary programme** – according to the old law both non-statutory figures and statutory figures such as the aspect structural visions on the basis of the Spatial Planning Act (Wet ruimtelijke ordening Wro) – these had no sequential legal effect on third parties. For that reason, transitional law is unnecessary. Even if they lose their legal status, these policy documents do not lose their relevance. In the elaboration of the national interests, the strategic and relevant sections are described, or reference is made to the policy documents and letters in which they are outlined. In many cases, the new programmes are a voluntary programme.
- **National government programmes** will simply be continued under the Environment and Planning Act.

**Regional Agendas**

The Area Agendas for the current Multiyear Infrastructural Spatial Planning and Transport Programme (Meerjarenprogramma Infrastructuur Ruimte en Transport - MIRT) provide an outline of developments, tasks and intended policy for the coming years, for example in relation to infrastructure, spatial planning and transport (see explanatory notes to the Environment and Planning Act page 114-123). As such, the Area Agendas serve as a basis for discussion of various subjects within the administrative consultation group for the MIRT. These area agendas will be further elaborated as part of the Environment and Planning Act and the NOVI. They will be extended to the status of Regional Agendas. These are the successors to the MIRT Area Agendas.

The subnational scale to which these agendas apply makes it possible to link municipal and provincial visions to the NOVI, and to adopt an integrated agenda. Actual substantive preparations and harmonisation can take place at a different level or scale; the guiding principle will be the actual tasks. For each part of the country, individual agreements will be reached between national and regional authorities.

These call for a flexible, multilayer approach in which it is possible to shift between the various levels (the interaction between municipal and provincial visions and the NOVI). The Regional Agendas will be adopted for each part of the country, and will be established on the basis of practical area elaborations, at regional scale for each part of the country. Together, they will cover the entire country.

Once the joint tasks and the way in which they should be tackled have been placed within agendas, a start will be made on agreements for practical implementation, including the deployment of specific programmes and clear project decisions by national and regional authorities. In this way, the Regional
Agenda fulfils a bridging function between tasks and specific projects. In collaboration with provinces, municipalities and water authorities, national government will be working over the next few years on an appropriate and workable approach. The existing administrative consultation structure of the MIRT will serve as the starting point for the administrative discussions.

For the large waters (IJsselmeer area, Wadden area and Southwestern Delta), wide ranging Area Agendas will be drawn up, under the supervision of the Ministry for Infrastructure and Water Management. The Area Agendas for large waters are equivalent to the Regional Agendas. Harmonisation between the two sets of agendas is essential.

**Long-term planning**

The aim of these new agendas, based on a shared vision of the tasks, is to offer starting points for mutually harmonised decisions by government bodies and for societal players on developments in the physical living environment in the area in question. The four integrated priorities from the NOVI are the essential building blocks for determining the contribution by national government to the Regional Agendas. As was the case for their predecessors the Area Agendas, the Regional Agendas play a central role in consultation and agreements on projects and programmes from the Multiyear Infrastructure, Spatial Planning and Transport Programme (MIRT), but emphatically have a wider scope. They bear a clear relationship to all relevant national and regional programmes for the physical living environment.

Cooperation between national, provincial and municipal government and civil society actors is essential. In implementation of the Regional Agendas, the various levels of government will deploy their own instruments, for example environmental regulations, environmental plans and project decisions.

**Harmonising approaches**

The challenge will lie in also tying in the Regional Agendas with surrounding regions abroad and cross-border programmes and projects (for example the Zeeland-Flanders canal zone and the Euroregion Maas-Rijn). In this sense, a Regional Agenda also serves as a platform for a sound, integrated area-specific approach to the task and the effective harmonisation of the theme-based projects and programmes. This applies not only to cross-border activities, but also to such subjects as the Coastal Pact, the Regional Energy Strategies, the Housing Agenda and area-specific agreements in the framework of the Interadministrative Programme.

**Pilot Regional Agenda Eastern Netherlands**

A pilot study is currently underway for a Regional Agenda for the Eastern Netherlands (Omgevingsagenda Oost). As part of this pilot, in collaboration with the Provinces of Overijssel and Gelderland, experience is being accrued with the layout and approach for future Regional Agendas.

**Joint learning curve**

For the collaborating levels of government, the drawing up of the Regional Agendas is also a learning curve. This Ministry of the Interior and Kingdom Relations will encourage this process in the framework of the integrated approach to the quality of the physical living environment. Experience already accrued in various regions will be taken on board. The idea is a combined learning curve for further improving the integrated and area-specific approach. A number of current programmes have already revealed a smoothly functioning existing learning process (for example in cooperation with the Netherlands Environmental Assessment Agency (Planbureau voor de Leefomgeving – PPL). In such cases, we will make use of and tie in with these learning processes. At the latest by the autumn of 2021, Regional Agendas will be in place for the whole of the Netherlands, in principle in the form of programmes under the Environment and Planning Act.

**NOVI areas**

Various regions have been identified in the NOVI, with extensive tasks, that will require additional attention in the elaboration of an integrated, area-specific approach. For a number of areas with extensive tasks, positive steps have already been taken in existing programmes, such as the accessibility programmes for the Metropolitan Regions Amsterdam, Utrecht and Rotterdam/The Hague (MRA, MRU...
and MRDHo. In those areas where an adequate and integrated solution has not yet been (sufficiently) achieved within existing institutional frameworks, additional attention will be needed. These areas will be designated NOVI areas.

These are areas:
• which combine complex, extensive and urgent tasks and different national interests from the NOVI;
• for which a multiyear approach is needed (also beyond the time horizon of the existing funds and the boundaries of institutional frameworks);
• where a variety of government authorities, market parties and/or societal parties are involved;
• which demonstrably require (additional) efforts on the part of national government.

In applying these criteria, it is essential to avoid unnecessary duplication. Designation as a NOVI area is only meaningful if there is no current combined national and regional programme for the same problem or if a current problem can be integrated in the approach without additional administrative pressure.

Examples are:
• areas which bring together major transitions in the economy and transformation in housing, quality of the living environment and accessibility;
• transition and development of peat pasturceland areas (such as the Green Heart);
• transition from upland sand soils (such as intensive livestock farming areas and their integrated tasks in Eastern Brabant);
• cross-border problems, combined with falling population numbers (for example in Zuid-Limburg);
• the development of Groningen (energy port; future earthquake area, including the development locations in the city of Groningen; extension of the current National Programme).

The first of these categories can for example refer to regional combinations of major development locations in the metropolitan regions Amsterdam, Rotterdam The Hague, Utrecht and Eindhoven (housing combined with quality of the living environment) and transition and transformation of (parts of) the port areas of Amsterdam and Rotterdam23.

Provincial and municipal authorities are specifically invited to come up with their own proposals. Consideration could be given to how existing programmes can be supplemented or extended, in order to integrate problems not yet addressed in the overall approach.

Over the coming period, this instrument will reach maturity within an atmosphere of positive administrative cooperation, according to which a limited number of areas can be selected and instrumented.

As regards the NOVI areas, the task will be to establish a joint national-regional programme for each area, the deployment of national government advisors and as necessary the creation of additional space in the regulatory system. The integrated and combined analysis of the complex and urgent area-specific tasks (for example by means of design-based research) and formulating the desired approach is the core of the process. Even if actions go beyond the boundaries of existing frameworks in order to achieve the objectives, then these too can be investigated.

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23 See also the urban development strategy (priority 3 in Chapter 4).
The added value of design-based research; City of the Future (2019)\textsuperscript{53}

The NOVI tasks demand new working methods. Design-based research can assist in understanding these tasks. Design-based research is able to inspire, and can help innovate and integrate, by charting out multiple futures. On the one hand, this generates possible solutions which can assist in setting the course for integrated and complex tasks, while on the other hand it can boost focus by identifying points of friction, for example by making national tasks more tangible at a local scale.

In the ‘City of the Future’ project, 10 teams investigated five Dutch cities. The question was: ‘How do the tasks of urbanisation and transition come together in a square kilometre?’ Team CIAM XXL and team Socio-Technical City made use of a ‘second ground level’ to combine mobility with urban development and climate adaptation. Team ‘All Inclusive’ revealed how high densities can go hand in hand with high quality of life. Design-based research can also fulfil a bridging role. It links Ministries, municipalities, centres of knowledge, market parties and citizens. In this way, a design team is able to integrate the various interests in its approach, design or strategy. An example of such team is Triangel, that produced a game based on Monopoly, in which various interests can be balanced and the conclusions used as input for a design.
Practical programme implementation

The nature of the approach will differ from all previous programmes, such as the Key projects (Sleutelprojecten). In terms of geographical scale, these were relatively small area developments, which involved not only the drawing up of plans but also the actual development and practical implementation of those plans by the parties. NOVI areas apply to a large spatial scale and are above all focused on programming the practical implementation (the preliminary phase; wherever necessary and possible, project decisions will follow later). From national government, more than one Ministry will be involved; the most actively involved Ministry in the area in question will take the lead, on behalf of national government. For the practical implementation of the choices to be made on these areas, no additional national government funding is (yet) available. Initially, the aim will be to further streamline the deployment of funds within the current frameworks. It will be possible to identify situations in which space for solutions within those frameworks is insufficient. However, in this phase, no drawing rights can be awarded.

Alongside already active programmes, these and other practical area elaboration programmes to be developed will result in a national and regional practical implementation programme that matches the tasks addressed in the NOVI. It is of key importance that wherever necessary, harmonisation is sought with current programmes without changing the responsibilities for the different programmes.

Quadrant 3: Practical implementation

Environment and Planning Act

The Environment and Planning Act can call upon a series of instruments for its practical implementation: general rules, project decisions and environmental permits. For those aspects of policy to be implemented by national government itself, the most widely used instrument will be the project decision. In its role as competent body, national government will involve the NOVI in any decisions on environmental permits.

Funding

There is not only a shortage of space but also of resources. Implementation of the NOVI means accepting spatial choices. That can involve investments by a variety of parties.

The core idea behind the NOVI is that better, more integrated spatial choices will result in greater prosperity in the broadest sense of the word. First and foremost this means that investments should be worthwhile, or they can better be not made in the first place. We will investigate how investments can be better borne by those parties who will enjoy the benefits (the profit principle) and by those parties responsible for negative external effects on society (the polluter pays principle). With regard to government, the costs and investments will have to be integrated in the budgets available at the moment of decision making. The same applies to measures that emerge as being relevant to the fiscal system; both national government and provincial and municipal government operate policy instruments in respect of the tax burden, and measures arising from the NOVI will have to be integrated within the available capacity. Assisted by these instruments, ‘winners’ that emerge from the better spatial choices can contribute to compensating the ‘losers’ of those choices. There will of course still be the issue of distribution: the political choice on whether citizens or businesses that enjoy more or less spatial freedoms as a consequence are required to pay or be compensated, and if yes, to what extent.

This issue of distribution will also have to be dealt with within the budgetary frameworks in place at the moment the decision is taken.

At present, funding is above all linked to (sectoral) programmes and projects, and is deployed in the form of grants or via specific funds. The Council for the Living Environment and Infrastructure (Raad voor Leefomgeving en Infrastructuur – Rli) recommends considering expanding the options for application of integrated spatial-physical tasks54 to take measures aimed at improving accessibility in the Netherlands. This will broaden the focus from investments in infrastructure to also include space for mobility measures. In this way, for example, the dividers between the various modalities will be dropped, creating space to explicitly fund smart measures. From 2030 onwards, as previously recommended by the Rli, the Cabinet

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54 Council for the living environment and infrastructure (Rli), From B to Different. Investing in mobility for the future (Van B naar Anders. Investeren in mobiliteit voor de toekomst), The Hague 2018
believes it should be possible to put these recommendations into practice. The Cabinet is also investigating alternative options for investing in specific areas, for example in the infrastructure. In this regard, the Cabinet is working alongside the G4 (the four largest cities in the Netherlands) in the accessibility programmes and specific case studies. A study group has also been established to investigate alternative financing for Spatial Area Development.

**Knowledge**

The NOVI provides a long-term vision for the future of the Netherlands. The world is in a continuous state of flux, and our knowledge of the future is limited. We must therefore continue to regularly monitor developments and tasks, in order to keep our strategy and vision up to date. A policy that is effective today can become ineffective as circumstances change. New and different measures may become necessary in order to realise the policy objectives. To actually arrive at a cyclic NOVI, we must therefore periodically assess the developments and the measures, and as necessary make policy adjustments. Well-organised learning capacity and a sound knowledge infrastructure are essential elements in enabling all affected government organisations and parties to learn from their experiences, while at the same time accounting for their efforts. The tackling of the tasks and the rapid technological developments also require the development of new knowledge (for example with regard to the process of regionalisation), good access and systematic use of information, and the effective application of the acquired knowledge and skills, at all levels. This will be achieved in a common knowledge and innovation agenda, which is linked to the priorities of the NOVI.

**Quadrant 4: Feedback**

A permanent, cyclic approach essentially requires effective two-way traffic between policy development, policy elaboration, practical implementation and achieving the tasks set. This in turn requires feedback on the results achieved. This feedback will take the form of supervision and enforcement, as well as monitoring and evaluation.

**Supervision and enforcement**

Supervision and enforcement require close ties between the various government authorities and the implementing organisations (such as environmental services, municipal and regional health services/ regional medical services organisations (GGD/GHOR), security regions and managers of real estate and infrastructure) so that signals on practical implementation are received by the policy makers, to allow the necessary adjustments, in time. In this way, we will strengthen both the effectiveness and quality of environmental policy.

**Legislation and regulations**

The practical implementation of national interests will be entrusted to governments via legislation and regulations.

The task for all parties is to focus on their own responsibilities and to prevent risks that threaten the quality of the living environment. As a result, the remediation and management of risks will become increasingly irrelevant, in the long term.

**Subsequent assessment**

In the new system, the majority of assessments will take place subsequently. If environmental values (from the Environment and Planning Act) imposed by national government are not achieved, a compulsory programme will be initiated pursuant to the Environment and Planning Act.

**Monitoring and evaluation**

**Learning programme**

To ensure an adaptive NOVI, the progress of the practical implementation of the NOVI must be carefully monitored, the actual developments and status of transition processes carefully assessed and a sound basis developed for external accounting. This will require a learning-based monitoring and evaluation programme.
Monitor for the physical living environment: NOVI Monitor

The Netherlands Environmental Assessment Agency (PBL) will definitely be converting the existing biannual monitor contained in the Structural Vision on Infrastructure and Space (Structuurvisie Infrastructure en Ruimte - SVIR)\(^6\) into a monitor for the entire physical living environment as described in the NOVI. The landscape monitor\(^7\) elaborated by the Board of Government Advisors (College van Rijksadviseurs) will be integrated, as far as possible. To allow the progress of the match between the provincial environmental visions and municipal environmental visions and the area-specific approach to be correctly observed, the structure of the monitor will be further elaborated in consultation with provincial and municipal authorities. As a result, the local developments will be given a place of their own in the monitor.

The primary focus of study of the NOVI Monitor will be securing the national interests and priorities. As well as monitoring the scope of objectives and effects, progress in respect of the specified transitions and area-specific approaches will be monitored. The NOVI Monitor will also serve as monitor for the achieving of scope of objectives and effects of the societal goals in the Environment and Planning Act.

**NOVI policy evaluation**

As well as monitoring the progress of the policy based on the NOVI, we will regularly evaluate the functioning of the NOVI itself. This policy evaluation is aimed at improving the effectiveness of the policy based on the NOVI, and will be carried out once every four years. The Minister of the Interior and Kingdom Relations will undertake this evaluation in collaboration with the relevant colleagues.

**Accountability**

On the basis of monitoring and evaluation, the policy will be accounted for to the House of Representatives, at which point any necessary adjustments will be made to the vision and its practical implementation.

### 5.3 Implementing the tasks of the NOVI in practice

**Current vision and implementation programmes**

There are already a number of vision and implementation programmes in respect of various policy areas in the physical living environment. The aim of these programmes is to ensure the visionary and specific implementation of policy choices and ambitions as recorded and shared by the Cabinet with the House of Representatives and other levels of government (provinces and municipalities) in agreements, policy documents and letters. These may relate to climate, energy, the economy, sustainability, the environment, housing, water, soil, accessibility, cultural heritage and a range of other (sectoral) policy fields (or specific facets of policy). Each of these current programmes are extremely relevant for the physical living environment and ties in with the tasks and policy choices in the NOVI. Work is carried out within these programmes under the auspices of one or more Ministries, and in cooperation with provincial and municipal governments.

At least the following programmes are affected:

- National Programme for Regional Energy Strategies (RES)
- National Delta Programme
- Spatial Economic Development Strategy (REOS)
- National Digitalisation Strategy
- Programme Netherlands Circular by 2050 (and the related elaboration in regional circular economy agendas)
- Clean Air Agreement

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\(^7\) Board of Government Advisors (College van Rijksadviseurs - CRa), Landscape Monitor: Towards a system of national coverage (Monitor Landschap: naar een landsdekkend systeem, The Hague 2018.)
• Environmental Vision (and a number of related specific environmental programmes)28
• Reassessment of the Nitrogen Management Programme
• Programmatic Approach for Large Waters
• Delta approach to water quality
• Flood protection programme
• Area Agendas Large Waters
• River catchment area management plans
• Flood risk management plans
• Mission-based Top Sectors and Innovation Policy
• Air transport memorandum 2020-2050
• Sketch of Mobility through to 2040 (and the Sustainable Mobility Programme)
• Future Picture of Public Transport
• Integrated River Management Programme
• Accessibility programmes for the three metropolitan regions (MRA, MRDH and MRU)
• Urban development/Housing Programme
• Housing deals with regions under tension with urban development agreements
• National Programme for Rotterdam Zuid
• Regional deals
• Action plan on falling population numbers (in relation to shrinkage areas and anticipation areas)
• North Sea Strategy 2030 and North Sea Programme 2022-2027
• Interadministrative programme
• Vision on Agriculture, Nature and Food: Valuable and Connected
• Soil and Underground Environment Programme
• Our Landscape Programme
• Action Agenda for Spatial Design Programme (ARO)
• Landscape Monitor
• Evaluation of the Nature Pact
• Project ‘Towards achieving higher goals’ (in respect of biodiversity)
• Heritage deal: Cooperation for a valuable living environment
• Regional Development Programme (RVB)
• Sustainable Physical living environment (RWS)
• Ports Policy Document

Responsibility for current programmes
In accordance with previous national government agreements, one or more Ministers is and remains responsible for these programmes, while of course taking account of integration with the NOVI and other structural visions. The government officers responsible from other levels of government will also remain unchanged. It is nonetheless important that these programmes be seen in relation to the NOVI, at the time the NOVI is published. Whenever there are meaningful reasons for doing so, these subjects will also be discussed in the NOVI process, in order to establish substantive links between the various files.

28 With regard among others to: the Natural Resources Agreement (Grondstoffenakkoord), Asbestos Management Programme (Asbestaanpak), Safety Awareness Programme (Bewust Omgaan met Veiligheid), Safe by Design approach, Sustainable Safety (Duurzame Veiligheid), Sustainable Fuel Vision (Duurzame Brandstofvisie), National Programme for Radioactive Waste (Nationale Programma Radioactief Afval).
**New instruments**

For the practical implementation of the tasks set out in the NOVI, alongside the current programmes, we will be developing a number of new instruments (see also 5.1 and 5.2). These include:

- Cooperation agreements for the physical living environment. National government and provinces and municipalities are working towards agreements on a common approach to tackling tasks in the physical living environment, including their practical implementation;
- Regional Agendas and NOVI areas;
- Thematic and/or area-specific programmes, emerging from the course set by the NOVI with regard to the priorities (as described in chapter 5):
  - **Space for climate adaptation and energy transition**
    - National Energy System programme, for developing and implementing a vision for the future energy infrastructure;
    - Programme for the Transition of Industrial Clusters, also including tasks for the circular economy.
  - **Sustainable economic growth potential**
    - Brainport National Action Agenda;
    - Dutch Digitalisation Strategy;
    - Action Plan for the National Digitalisation Strategy;
    - National Spatial Strategy for Datacenters, to ensure sound spatial consideration and harmonisation with regard to the establishment of datacenter(clusters).
  - **Strong and healthy cities and regions**
    - Urban development and Housing Programme.
  - **Future-proof development of rural areas**
    - Our Landscape Programme, aimed at protecting a select number of landscapes;
    - National Parks Programme new style;
    - Peat Pastureland Programme, focused on tackling soil subsidence.

**Coherent organisation**

To ensure that good connections and relationships are established in time, between the various current and new programmes, the Minister of the Interior and Kingdom Relations will organise a coherent programme as part of the NOVI. In this way we will guarantee that national and regional authorities integrate the way in which they provide common answers to the tasks in the physical living environment, and protect the national interests.

**Implementation Agenda**

To ensure implementation of the policy choices and the statements relating to the policy directions to be followed as contained in this NOVI, an Implementation Agenda for the NOVI will be elaborated during the second half of 2019. This Implementation Agenda will specify how the national interests and the statements that set the course for priorities are coherently elaborated and guaranteed. We will then identify the specific instruments to be deployed, the cooperation agreements to be reached and the role of national government and its implementing organisations (Rijkswaterstaat, the Central Government Real Estate Agency (Rijkvastgoedbedrijf), The Netherlands Enterprise Agency (RVO), the National Forestry Service (Staatsbosbeheer) and the Cultural Heritage Agency (RCE). In other words, the agenda will present policy programmes rather than actually ‘breaking the sod’ or otherwise launching implementation projects. The affected Ministers will bear joint responsibility for this Implementation Agenda.

The Implementation Agenda is a living document to which new elements can be added at any time, while still working on practical implementation. The area-specific implementation will take place within interadministrative programmes.
Colophon

A publication of the

Ministry of the Interior and Kingdom Relations

Text
Ministry of the Interior and Kingdom Relations Ministry of Defence
Ministry of Economic Affairs and Climate
Ministry of Infrastructure and Water Management
Ministry of Finance

Design
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