

Vision Map 2050

(Inter)national corridors and hubs for passenger transport

- Netherlands' Urban Network
- (Inter)national rail and road corridors
- Potential corridor
- Airports
- International stations (HSL + IC)

Living and working environments and regional connections

- Living and working environments, from metropolitan to low intensity
- Regional connections and cohesion

Facilities and institutions with regional appeal

- Campus
- University
- Hospital

Economy

- Key sectors based on added value (regional ecosystem)
- Mainports (seaport, airport, brainport)
- Multimodal business park
- Business park with high environmental impact and larger than 200 hectares
- Business park
- Hyperscale data centre
- Existing greenhouse cluster
- Greenport

(Inter)national corridors and hubs for goods and raw materials

- Freight corridors
- Energy corridors (high-voltage grid and hydrogen backbone)
- Seaport of national importance
- Rail-road terminal with international function

Energy-intensive industrial clusters

- Interrelated industrial clusters of national importance
- Sixth cluster

Energy

- Large power plants
- Existing and potential landing points for offshore wind
- Designated areas for large-scale electrolysis
- CO₂ capture
- Existing and potential locations for the new construction of a nuclear power plant
- Existing and designated wind energy areas

Cultural heritage

- Terrestrial UNESCO sites
- Valuable Cultural Landscapes

Nature

- Terrestrial Natura 2000 sites
- Natura 2000 sites on large bodies of water and sea, and MSFD sites

Main water system

- Room for the rivers
- Search areas for (peak) water storage along NZK/ARK
- Freshwater buffers IJsselmeer and Volkerak-Zoommeer

Robust water and soil system in different area types

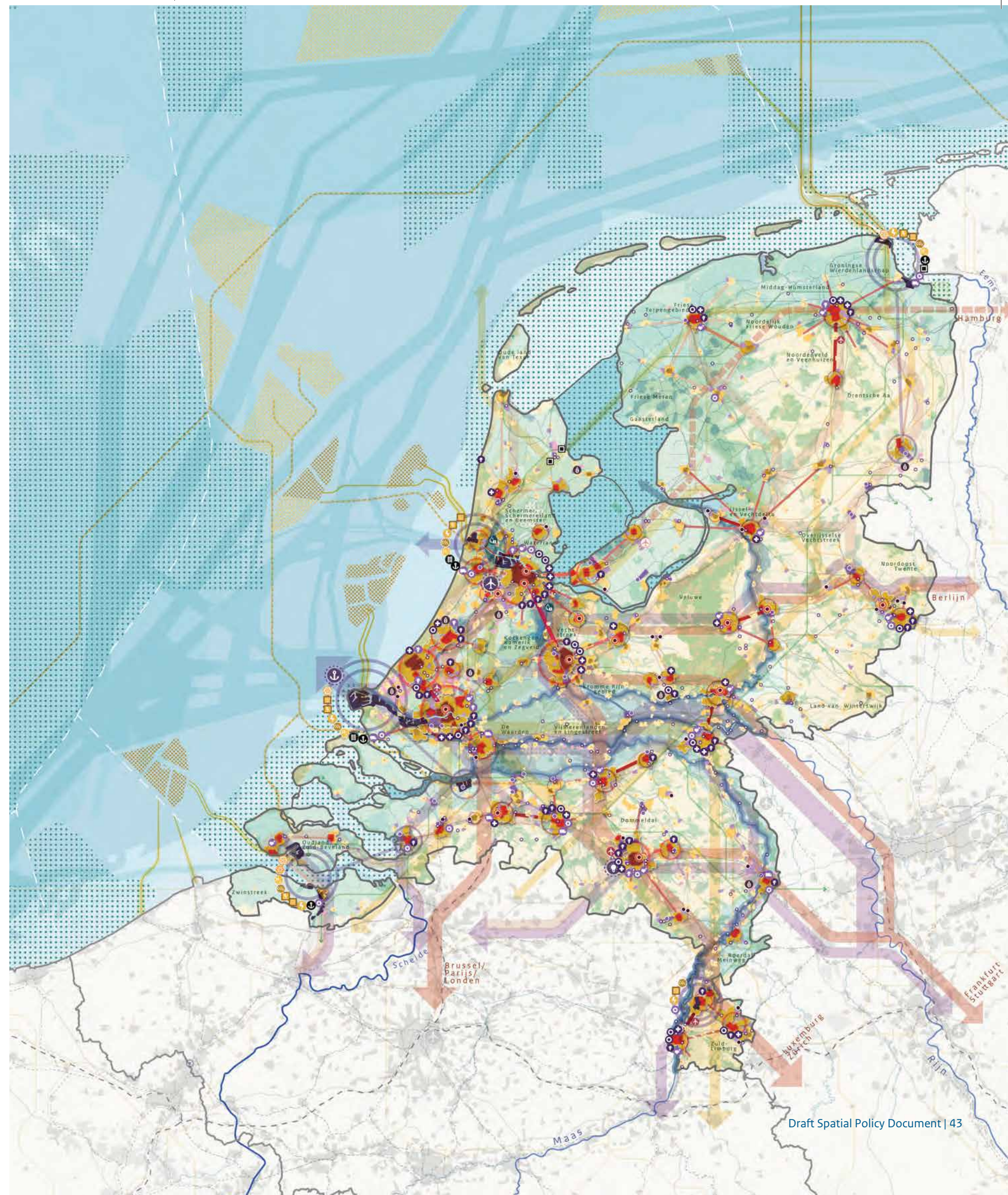
- Higher (sandy) soils
- River clay
- Sea clay
- Peat soils
- Dune landscape

Indicative representation of areas in and/or around which multiple challenges arise

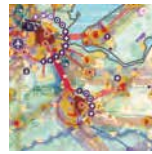
- Natura 2000 sites, peat meadow areas and groundwater protection areas
- Streams

Base map

- Forest
- Wet open terrain
- Dry open terrain
- Built-up area abroad
- High-voltage grid (380kV)
- Hydrogen backbone
- National roads
- Railways
- Rivers

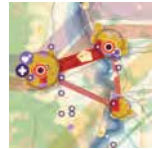


The four themes on the Vision Map 2050



Housing, Work and Accessibility

Thanks to strong connections within the Netherlands and to other countries, all regions will reinforce and complement each other. Within regions, urban hubs of road and rail will become places where housing, employment and public-oriented facilities are concentrated. This will allow us to make use of existing infrastructure and enable its efficient expansion.



Towards 2050, we want to bring more balance to the development of our country by making the best possible use of the strengths and opportunities of the different Dutch regions. This can only be achieved if they remain attractive and recognisable to their residents. Within those regions, we aim for proximity between housing, work and facilities as well as good accessibility and high-quality green spaces in and around the city. New development will, wherever possible, contribute to strengthening agglomeration capacity and improving quality of life. Each region has its own characteristics, challenges, ambitions and corresponding development opportunities.



Economy and Energy

We are committed to protecting, utilising and further developing the existing corridors of road, rail and waterways, as well as the clusters where production and transshipment take place. We prioritise the substantial expansion and reinforcement of energy infrastructure because it is an important precondition for other developments. In the energy-intensive industrial clusters of national importance, port and industrial functions, together with energy functions, will be given priority. We will make the best possible use of space in the North Sea for, among other things, wind energy, shipping and cables for energy and data, in careful balance with nature and fisheries.



Together with the regions, we aim to strengthen the regional economy and make better use of regional opportunities in terms of energy. We examine how each region, on the basis of its own strengths, can contribute to a strong Netherlands and how they can complement each other. As the national government, we will support this development by, among other things, focusing on the right infrastructure for energy, goods and raw materials. To ensure sufficient energy and sites for industry, raw material processing and defence, we must not only make the best possible use of scarce space but also protect it.



Agriculture and Nature

Dutch agriculture is indispensable for food security, the liveability of rural areas and the preservation of our valuable cultural landscapes. It is important to us to provide a perspective for the future, in good balance with the natural system and the changing conditions of the water and soil system.



A robust and resilient natural system is essential for a healthy and safe living environment, food production and drinking water supply. We will deliver at least the effort necessary to ensure compliance with the requirements of the Nature Restoration Regulation. For the development of a robust natural system, alongside restoring existing nature areas, we will place greater emphasis on combining nature development with other tasks and functions.



Water and Soil

Our system of dunes, dykes, major rivers, canals and the freshwater buffers in the IJsselmeer, Markermeer and Volkerak-Zoommeer requires national choices to guarantee water safety and ensure freshwater supply. To this end, sufficient space will be reserved around the main water system for strengthening flood defences, water discharge and water storage.



At the regional level, we see various overlapping water and soil challenges that must be addressed in conjunction. Regions will no longer automatically be assured of sufficient freshwater supply from outside. Therefore, demand and supply of freshwater will be brought into better balance locally. This goes hand in hand with improving soil conditions to ensure that agriculture can continue to rely on adequate water and good soil quality. Taking account of water and soil will largely take shape in the immediate living environment, for example by creating more space for greenery and water in towns and villages, and by strengthening the green-blue fabric of the landscape.

Northwestern European context for Water and Soil

The Netherlands lies in a low-lying delta of several major rivers. As a result, the challenges and solutions are partly linked to this wider context: rising sea levels, melting glaciers and heavy rainfall in other parts of Europe that cause more extreme high and low discharges of the major rivers. This map illustrates the context of the Netherlands within Northwestern Europe for the water and soil system.

Extreme discharges

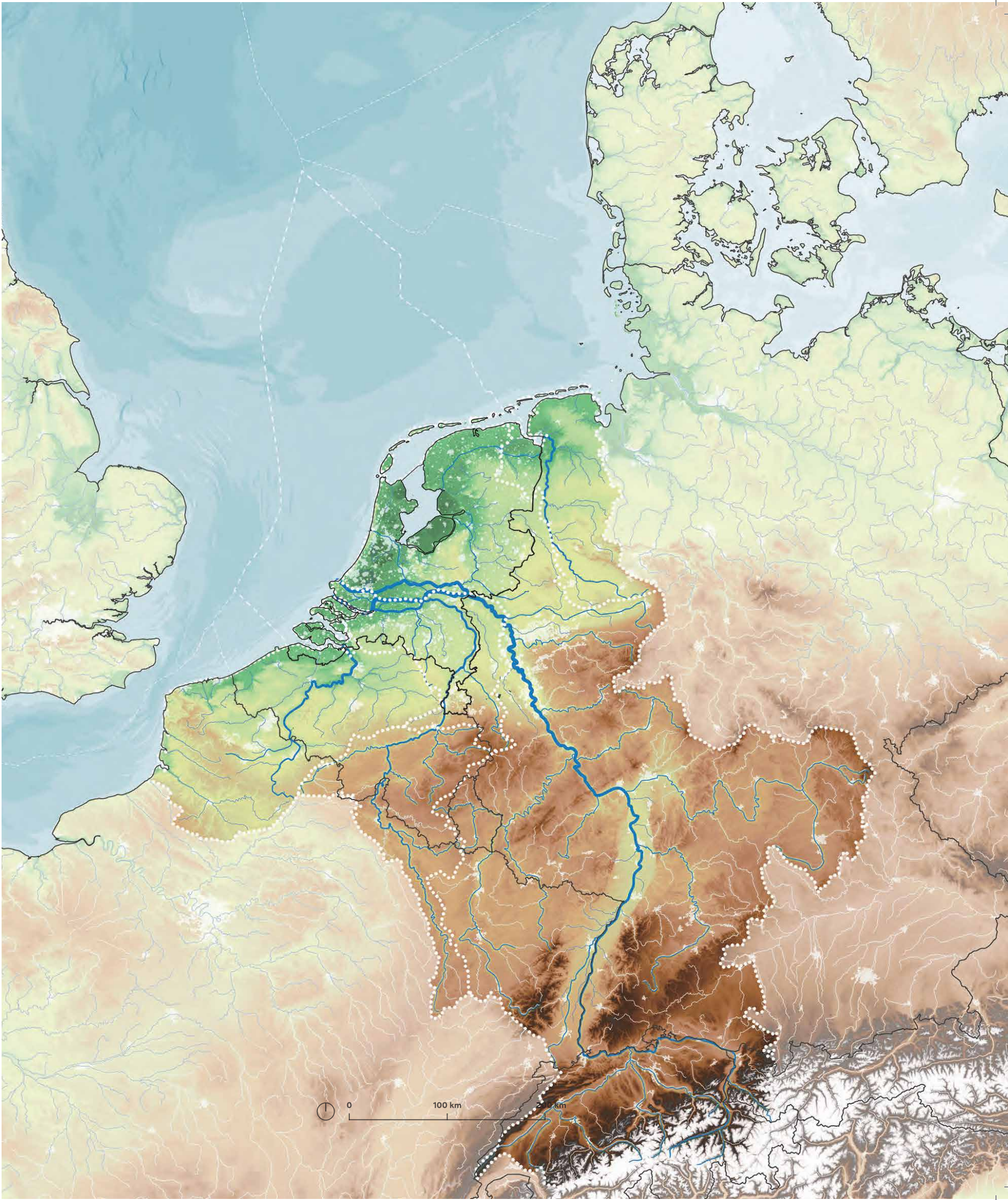
- More extreme high and low discharges of the major rivers in Europe

Water demand and quality challenges

- Increasing demand for water and water quality challenges in metropolitan areas within the catchment areas of the major rivers

Water system





- Surface water of the North Sea
- Catchment areas (Rhine, Meuse, Scheldt, Ems)








Building Block: a future-proof main water system

This map provides an indicative view of the sites and areas that are important for the main water system, including the areas outside the dykes and the (inner-dyke) space around flood defences, space along the rivers for possible river widening, the large search areas for (peak) water storage near the Amsterdam-Rhine Canal and the North Sea Canal area, and the key freshwater storage areas: the IJsselmeer, Markermeer and Volkerak-Zoommeer.




Space for water safety

-  Reserve space around primary defences (dykes and dune system) for future reinforcement challenges
-  Reserve space around the primary flood defences of the IJsselmeer and Markermeer, and take account of future water-level rise outside the dykes
-  No coastal expansion for now
-  Search areas for (peak) water storage along NZK/ARK

Reserving space for the main water system

-  Take account of outside-dyke adaptation to higher water levels in the future
-  Sections where it is being investigated whether, and where, inner-dyke space is needed for future river widening
-  Option for different discharge distribution major rivers Amsterdam-Rhine Canal and North Sea Canal as important water discharge routes
-  Restrictions on land reclamation and construction in the IJsselmeer area
-  Existing reservation zone for inner-dyke river space*
*As part of the Room for the Rivers 2.0 programme, the spatial reservation will be updated


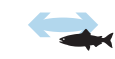
Main system: supply and demand



-  Retain space for national water storage areas (IJsselmeer and Markermeer, Volkerak-Zoommeer)
-  Areas without supply from the main water system
-  Salinisation via river and canal mouths Main water system








Northwestern European context for Agriculture and Nature

Nature in the Netherlands is part of an international system. There are special ecosystems in the Netherlands, in the Northwestern European context. International migration routes for birds and fish pass through the Netherlands. These are the meadow areas, the coastal dunes and sandy coast, the estuaries and the rivers. The soils in the Delta are exceptionally fertile for agriculture. The higher sandy soils are part of a zone of predominantly poor soils that extends into Eastern Europe.

- Migration routes and resting places**
-  Indication of international migratory bird route (African-European flyway)
 -  Indication of international migratory fish route (including salmon, eel, sturgeon)

- Rivers and catchment areas**
-  Major rivers
 -  Catchment area watershed

- Special ecosystems in the Netherlands in a European context**
-  Wet grasslands
 -  Temperate grasslands
 -  Dry grasslands
 -  Coastal dunes and sandy coasts
 -  Estuaries



Integrated theme map of Agriculture and Nature

This map shows the four building blocks that together form the main outline for the development direction of agriculture and nature: a regional coherence of agriculture and nature with water and soil, the (agricultural) areas with multiple challenges, a robust natural system and the clustering of greenhouse horticulture.

Regional Coherence of Agriculture and Nature with Water and Soil

Future-proof agriculture appropriate to the landscape type and changing conditions:

- Higher (sandy) soils
- River clay
- Sea clay
- Peat soils
- Dune landscape

Sustainably preserving and strengthening protected nature

- Terrestrial Natura 2000 sites
- Nature Network Netherlands (indication of large areas)
- Natura 2000 sites and Nature Network Netherlands on large water bodies and sea, and MSFD sites (Marine Strategy Framework Directive)

Areas with specific challenges

This map provides an indicative representation of the areas in and/or around which multiple challenges arise: the areas surrounding the Natura 2000 sites, the peat meadow areas, the stream valleys and the groundwater protection areas. The exact selection, prioritisation and elaboration in areas will take place in ongoing processes between the national government and the provinces. These are therefore not 'designated' areas; that is not the status that can be derived from this map.

- Natura 2000 sites
- Peat meadow areas
- Streams
- Groundwater protection areas:

Clustering of greenhouse horticulture

- Existing greenhouse cluster
- Greenports

Robust natural system, opportunities for combinations with nature around:

- ★ Valuable cultural landscapes
- Terrestrial Unesco World Heritage Sites
- National Parks
- (Agricultural) areas with multiple challenges: (peat meadow areas, areas around Natura 2000 sites, groundwater protection areas, stream valleys)

Opportunities for combination with measures in the main water system:






- Around the major waters and coastal zone
- Around the rivers



Building Block: regional coherence of agriculture and nature with water and soil (water)

This map indicates the changing conditions of the water and soil system, with emphasis on the water conditions. The map also shows a classification of drainage areas derived from PBL, which is indicative of a regional subdivision to be further developed on the basis of the characteristics of the water and soil system.







Changing conditions of the water and soil system

-  Increasing waterlogging (due to seepage and raised water levels)
-  Increasing soil subsidence
-  Increasing salinisation
-  Increasing drought
-  The larger and thicker the circle, the more layers with the above characteristics converge at one location. The circles therefore show where several of these themes are at play simultaneously.





— We are working towards a regional subdivision based on the characteristics of the water and soil system. For illustration, a classification of drainage areas (within the Netherlands) derived from PBL is shown.

Landscape types






Higher (sandy) soils

-  Stream valleys and marshland areas
-  Cover sand areas
-  Push moraine areas
-  Eastern Netherlands Plateau
-  Boulder clay and cover sand areas
-  Loess terraces





River clay

-  Basin areas
-  Stream ridges
-  River terraces
-  River plains




Sea clay

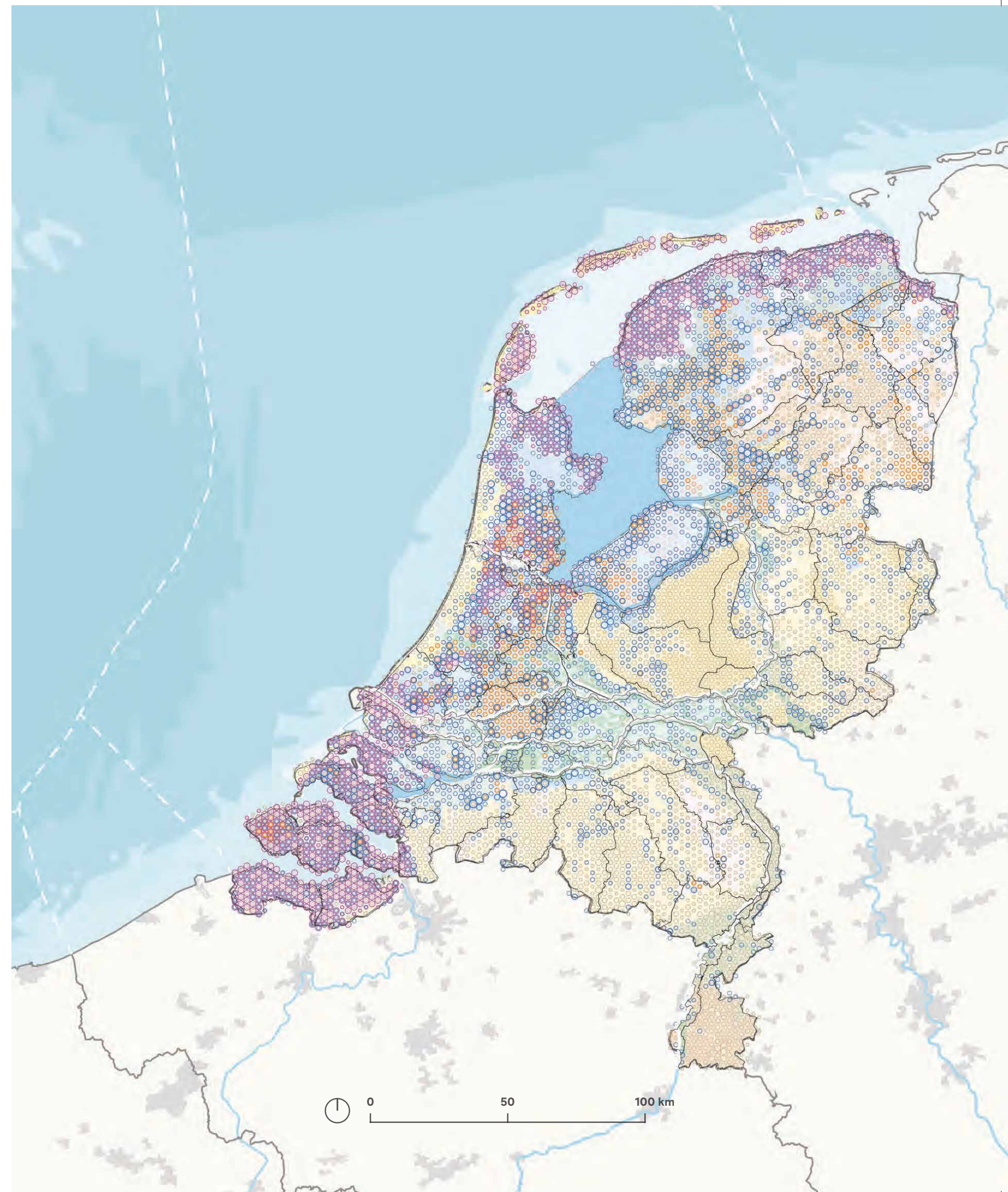
-  Young sea clay polders
-  Salt-marsh basins and levees
-  New land polders
-  Old land polders
-  Drained lake polders

Peat soils

-  Peat extraction areas
-  Peat areas of the river forelands
-  North and West
-  Netherlands peat landscape

Dune landscape

-  Young dunes
-  Beach ridges and old dunes
-  Dunes and tidal flats



Building Block: regional coherence of agriculture and nature with water and soil (soil)

This map indicates the changing conditions of the water and soil system, with emphasis on the soil conditions. The map also shows a classification of drainage areas derived from PBL, which is indicative of a regional subdivision to be further developed on the basis of the characteristics of the water and soil system.

Changing conditions of the soil system

- Increasing soil subsidence due to peat oxidation
- Declining soil fertility and deteriorating soil structure
- Increasing risk of wind and/or water erosion
- Increasing subsoil compaction
- Increasing risk of acidification
- Increasing leaching susceptibility of the soil
- Increasing salinisation
- The thicker the circle, the stronger the changing condition is at that location. The size of the circles helps visualise where multiple changing conditions occur within one area and does not necessarily indicate a prioritisation.

— We are working towards a regional subdivision based on the characteristics of the water and soil system. For illustration, a classification of drainage areas (within the Netherlands) derived from PBL is shown.

Landscape types

Higher (sandy) soils

- Stream valleys and marshland areas
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River clay

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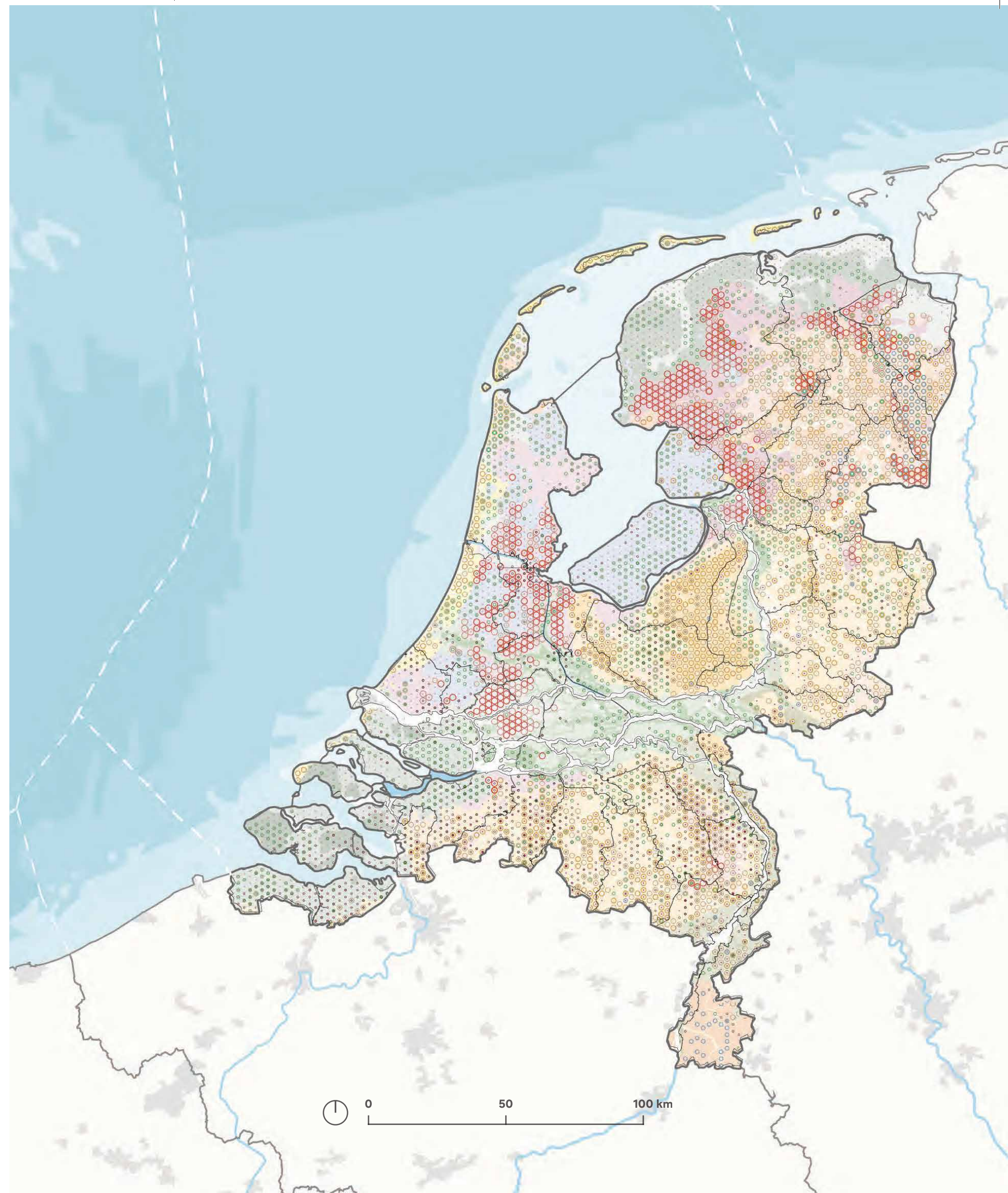
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- New land polders
- Old land polders
- Drained lake polders

Peat soils

- Peat extraction areas
- Peat areas of the river forelands
- West Netherlands peat extraction landscape
- North Netherlands peat extraction landscape

Dune landscape

- Young dunes
- Beach ridges and old dunes
- Dunes and tidal flats



Building Block: clustering greenhouse horticulture

This map shows the larger greenhouse horticulture clusters and Greenports, together with the associated challenges and economic networks.

Greenhouse horticulture clusters



- Existing greenhouse horticulture
- Existing greenhouse cluster

Context of the clusters



- Cluster with freshwater supply challenge
- Cluster with proximity to high geothermal potential
- Cluster with proximity to industry or data centre with availability of residual heat and/or CO₂
- Cluster with proximity to large-scale renewable energy generation (wind, solar, landing points)

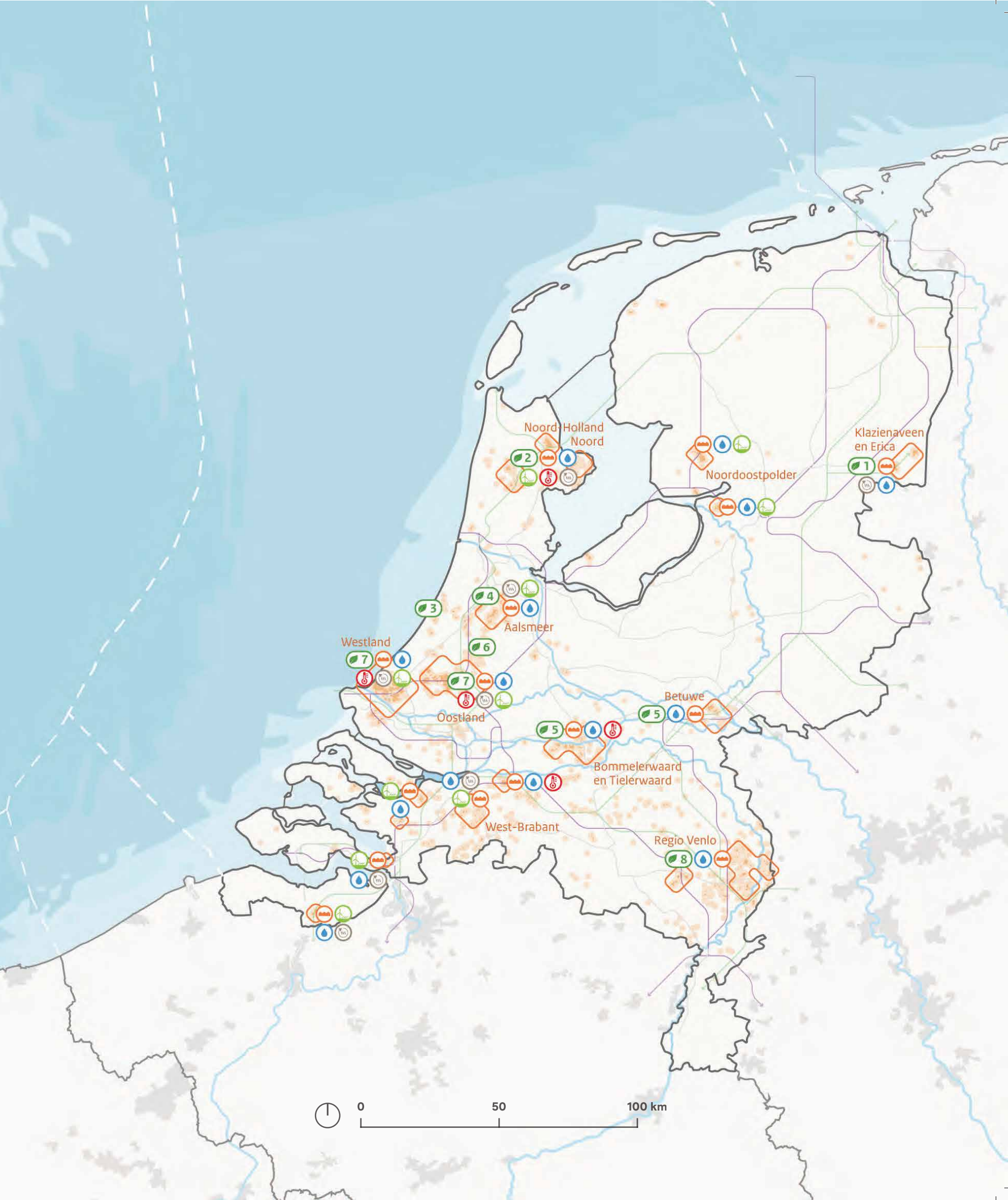
National corridors

- 380 kV network (source: PEH)
- Hydrogen backbone
- Main road network with interregional transport function

Greenports



- Greenport North
- Greenport North Holland North
- Greenport Duin- en Bollenstreek (not a greenhouse horticulture cluster)
- Greenport Aalsmeer
- Greenport Gelderland
- Greenport Boskoop region (not a greenhouse horticulture cluster)
- Greenport West-Holland
- Greenport Venlo



Building Block: robust natural system

In addition to the current protected nature on land and on water, this map indicates several potential opportunities for combinations of nature development with other challenges.

Sustainably preserving and strengthening protected nature on land

- Terrestrial Natura 2000 sites
- Nature Network Netherlands (indication of large areas)
- Terrestrial Natura 2000 sites outside the Netherlands

Sustainably preserving and strengthening protected nature on the water

- Natura 2000 sites and Nature Network Netherlands on large water bodies and sea, and MSFD sites (Marine Strategy Framework Directive)
- Protected marine nature outside the Netherlands

Opportunities for combinations with nature

- Terrestrial Unesco World Heritage Sites
- National Parks
- Valuable cultural landscapes
- Green in and around the city

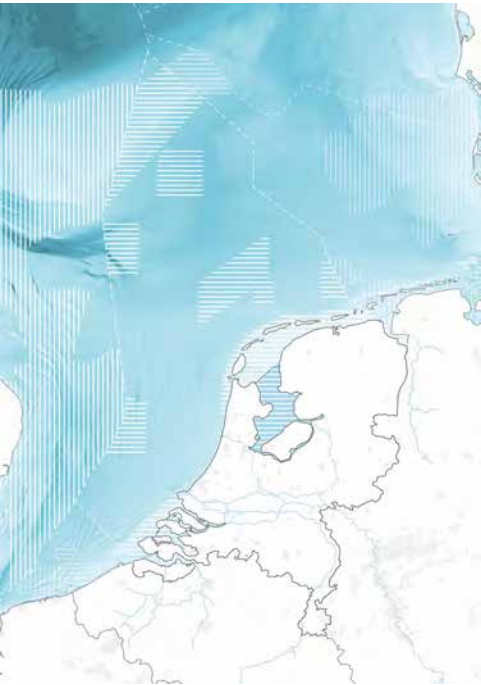
Areas with specific challenges:

- Peat meadow areas, Natura 2000 sites, groundwater protection areas

Streams

Opportunities for combination with measures in the main water system:

- Major waters and coastal zone
- Rivers



Northwestern European context for Economy and Energy

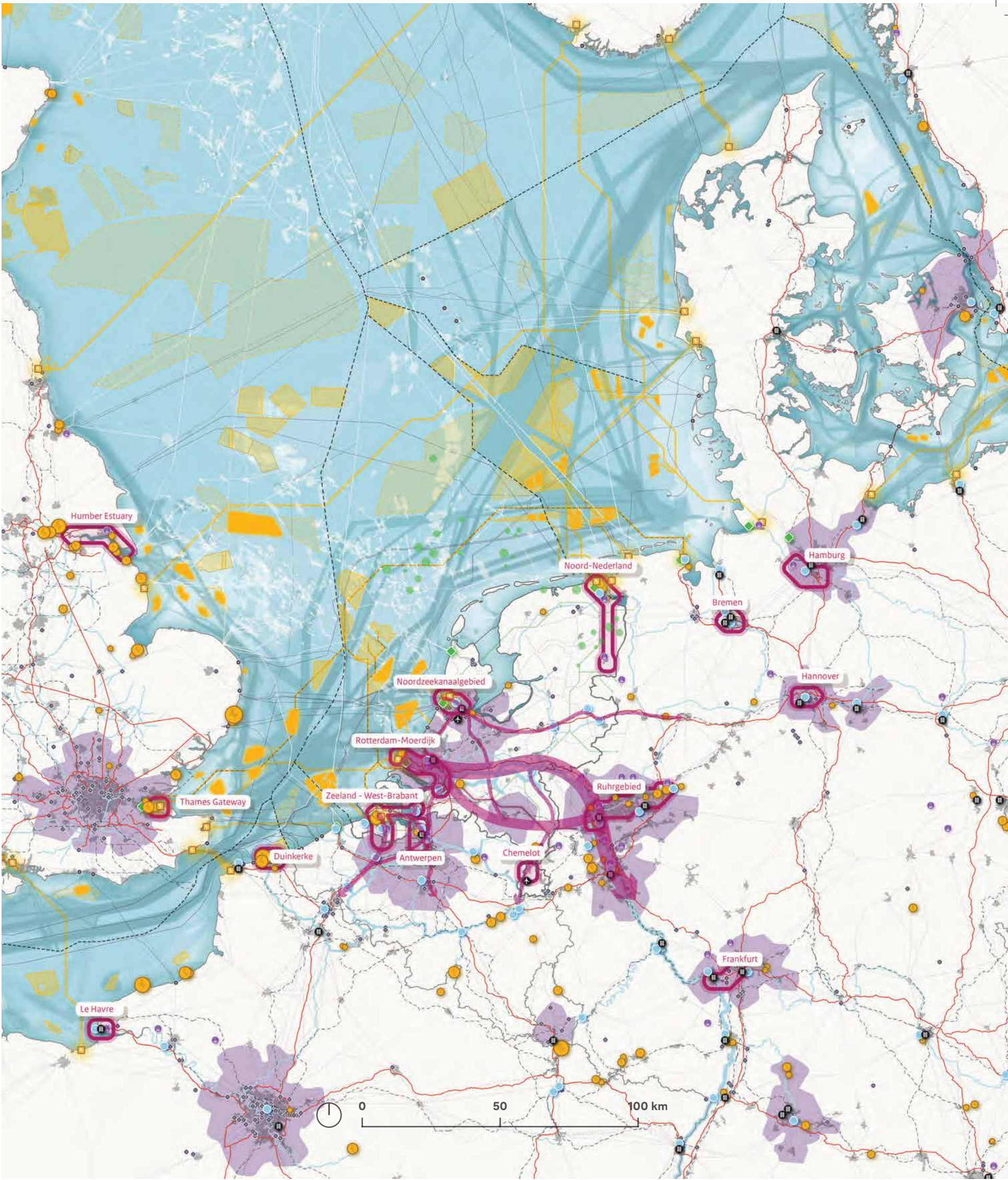
This map shows, for the theme Economy and Energy, how the Netherlands forms part of a Northwestern European system, with the map highlighting the key clusters, hubs and networks for goods, raw materials and energy.

High-quality economic development for a broad and resilient economy

- Energy-intensive industrial clusters
- Economic centres
- Urban-economic core areas
- Airport (TEN-T core network)
- Port (TEN-T core network)
- Rail-road terminal (TEN-T core network)
- Chemical companies
- Data centres
- Main waterway connections (TEN-T core network)
- Main rail connections (TEN-T core network)
- Main road connections (TEN-T core network)
- Indicative assessment of the difference in size of the goods flows (tonnages)
- Terrestrial data connections (source: International Telecommunication Union, 2024)
- Shipping routes at sea (source: Rijkswaterstaat and the European Maritime Safety Agency)
- International data cables + landing points (source: Open Infrastructure Map)
- Exclusive Economic Zone
- Reserved zones for sand extraction (source: North Sea Energy Atlas)

Commitment to a sustainable energy supply to ensure security of supply

- Existing wind energy areas
- Designated wind energy areas
- Search areas for wind energy areas
- Existing and designated offshore HVDC cables
- Realised landing points for Offshore Wind
- Large power plants (source: PEH and Global Energy Monitor)
- Delta Rhine Corridor
- Potential import terminals for hydrogen (source: NRD Programme VAWOZ 2031-2040 and North Sea Energy Atlas)
- Hydrogen backbone
- Possible technical potential for hydrogen storage (source: TNO, EBN and North Sea Energy Atlas)
- Oil, gas and chemical pipelines (North Sea) (source: Rijkswaterstaat and EMODnet)
- Oil and gas field and platform



Integrated map of Economy and Energy

This map shows the four building blocks that together form the main outline of development for economy and energy: future-proofing all business parks and industrial estates for economy, energy and defence; strengthening the regional ecosystems for economy and energy; protecting and further developing (inter)national corridors and transshipment hubs; making the energy-intensive industrial clusters more sustainable, protected and stronger, and making optimal use of the North Sea for economy and energy.

Future-proofing all business parks and industrial estates

- Business parks smaller than 200 hectares
- Business parks with high environmental impact larger than 200 hectares
- Multimodal business parks with high environmental impact larger than 200 hectares (Source: IBIS, 2023)

Strengthening Regional Ecosystems

- Industry
- Wholesale and transport (source: LISA, elaborated by Bureau Louter, 2022)
- Mature campuses (source: Innovatiespotter, 2023)
- Greenports with major hubs
- Sixth cluster (based on CO₂ in EU ETS, Netherlands Emissions Authority, VDM)
- Harnessing opportunities for wind, solar and heat based on regional characteristics (RES regions)

Protecting and Further Developing (Inter)national Corridors and Transshipment Hubs

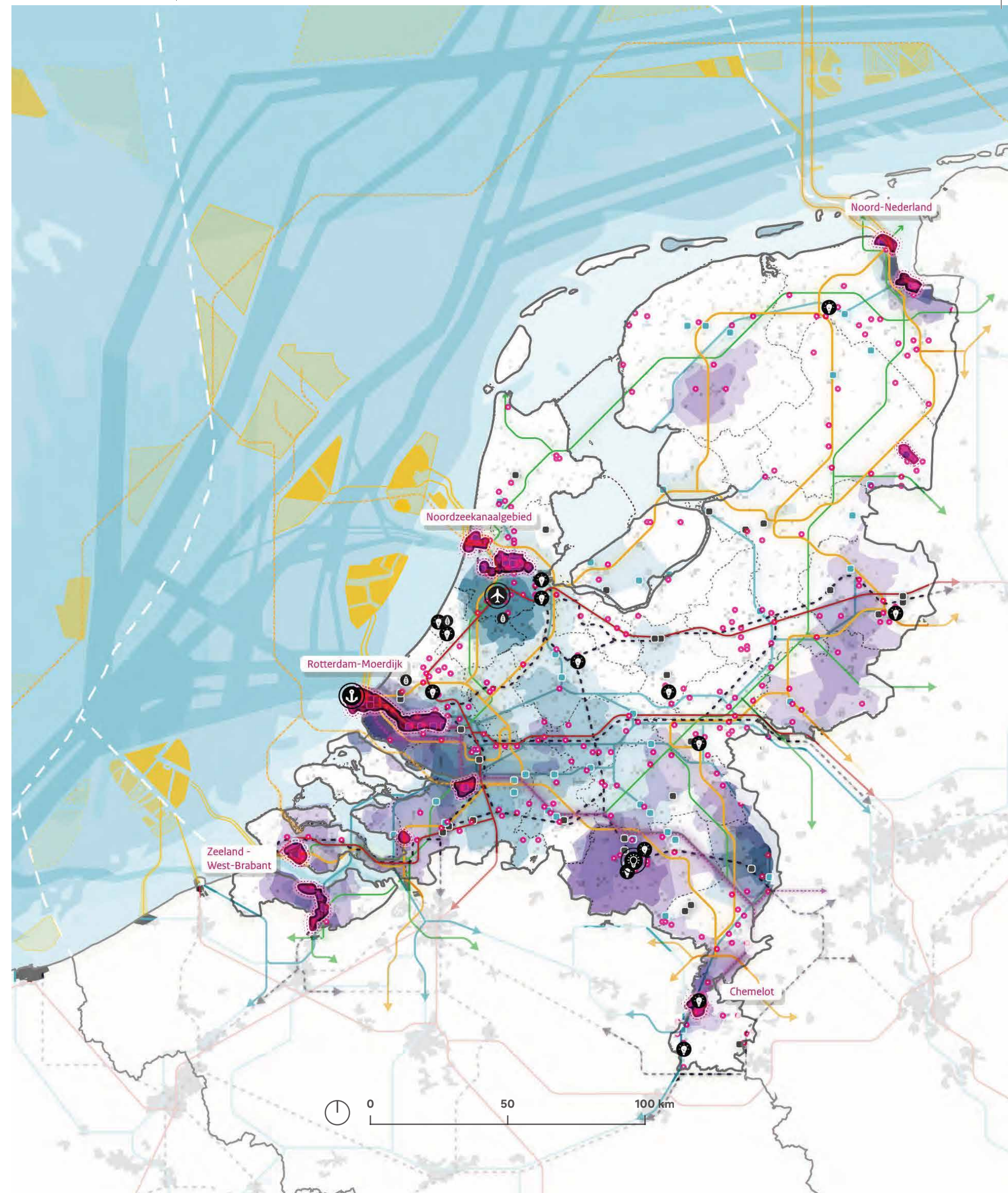
- Mainports NL (seaport, airport, brainport)
- Main roads with an international function (TEN-T core network)
- Waterways with an international function (TEN-T core network)
- Railways with an international function (TEN-T core network)
- 220 kV and 380 kV network
- Delta Rhine Corridor
- Hydrogen backbone

Making energy-intensive industrial clusters sustainable, protected and stronger

- Five energy-intensive industrial clusters

Optimal Use of the North Sea for the economy and energy

- Shipping routes at sea
- ▲ Existing wind energy areas (source: North Sea programme)
- ▲ Designated wind energy areas (source: North Sea programme)
- ▲ Search areas for wind energy areas (source: NRD Programme VAWOZ 2031-2040)
- Existing offshore HVDC cables
- Designated offshore HVDC cables



Building Block: future-proofing all business parks

The map shows all existing business parks in the Netherlands: business parks smaller or larger than 200 hectares, business parks with or without high environmental impact, and multimodally accessible business parks.

Business parks

- Business parks smaller than 200 hectares
- Business parks with high environmental impact smaller than 200 hectares
- Business parks larger than 200 hectares
- Business parks with high environmental impact larger than 200 hectares
- Multimodal business parks

(Source: IBIS, 2023)



Building Block: strengthening regional ecosystems

The map shows various region-specific characteristics that are important for the strategy for economy and energy. For the theme Economy, this map focuses specifically on the production side: the sectoral ecosystems of industry, wholesale and transport, specific locations of importance such as the sixth cluster of energy-intensive companies, large multimodally accessible business parks with high environmental impact, Greenports, research and innovation campuses, and relevant infrastructure. For energy, the focus is on regional opportunities for wind, solar and heat from the Regional Energy Strategies, and on the relevant national and regional networks for electricity and hydrogen.

Regional economic characteristics (production side)

Sectoral ecosystems

- Industry
- Wholesale and transport
(Colour intensity represents the relative value added of the sector compared to the national average. Source: LISA, elaborated by Bureau Louter, 2022)
- Sixth cluster (based on CO₂ in EU ETS, Netherlands Emissions Authority, VDM)
- Greenports with major hubs
- Business parks with high environmental impact larger than 200 hectares
- Multimodal business parks with high environmental impact larger than 200 hectares

Knowledge development

- Mature campuses
- Growth campuses
- Developing campuses
(Source: Innovatiespotter, 2023)

Digital infrastructure

- Data centres larger than 5000 m²
- Data centres (hyperscale)
- Hyper-connectivity clusters (source: Amsterdam Duurzaam Digitaal)

Carriage of goods

- Main road network with interregional function
- Main road network with regional function
- Waterways with regional and (inter)national function

Regional characteristics of energy

RES regions

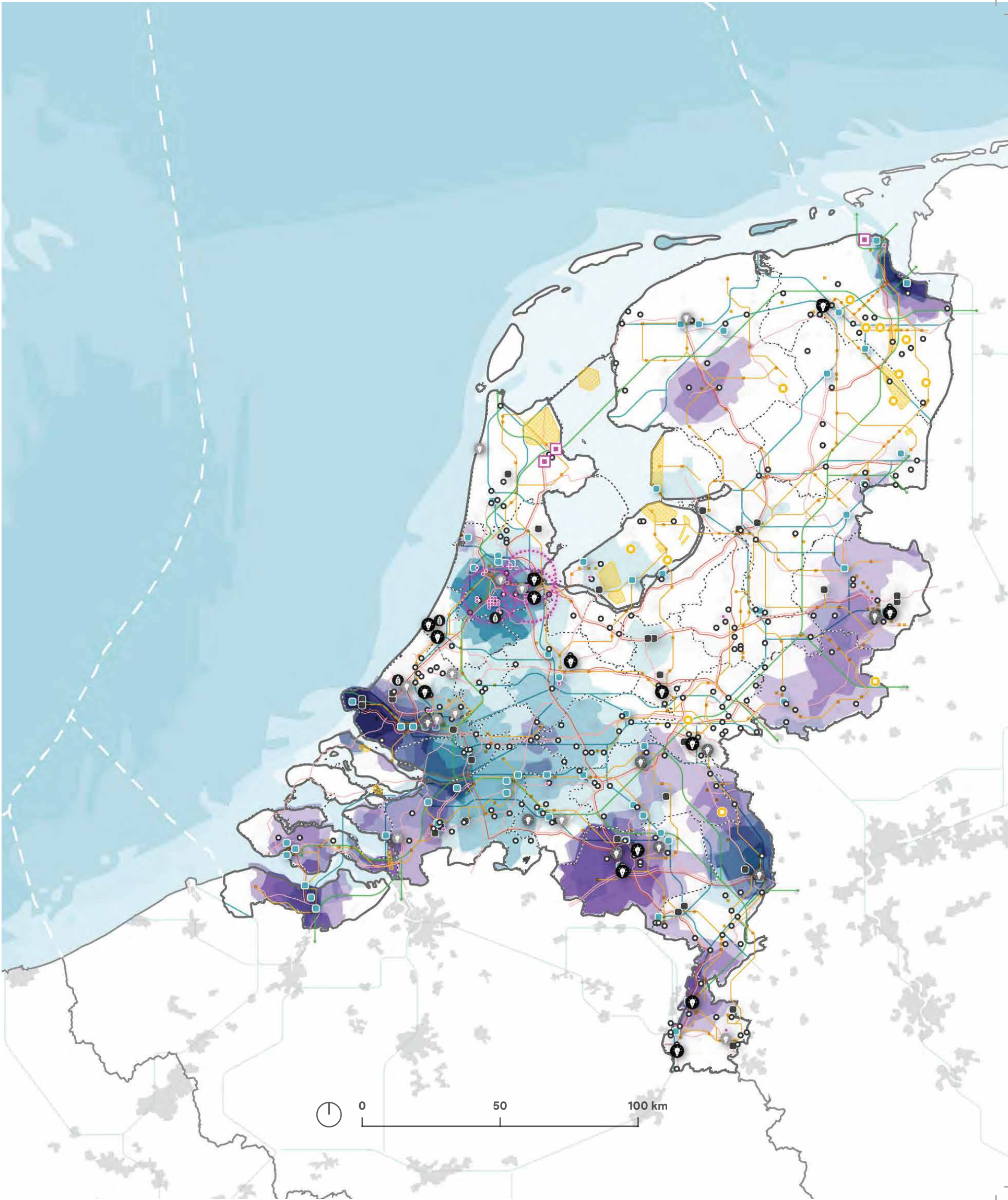
- Harnessing opportunities for wind, solar and heat based on regional characteristics (RES regions)

Electricity

- 110 kV and 150 kV network
- Existing solar fields (> 50 MW)
- Existing wind farms (> 50 MW)

Hydrogen

- Hydrogen backbone



Building Block: protecting and further developing (inter)national corridors and transshipment hubs

The map shows the relevant national and international networks and hubs for goods and raw materials by road, water, rail and pipelines. And the relevant national and international networks and hubs for electricity, hydrogen and CO₂.

(Inter)national corridors and transshipment hubs for goods and raw materials

Corridors

- Main roads with an international function (TEN-T core network)
- Waterways with an international function (TEN-T core network)
- - - Railways with an international function (TEN-T core network)
- Indicative assessment of the difference in size of the goods flows (tonnages)
- Shipping routes at sea
- - - Designated pipeline route (source: Environment and Planning (Quality of the Living Environment) Decree, PEH)

Hubs

- Five energy-intensive industrial clusters
- Ⓢ Mainports NL (seaport, airport, brainport)
- Ⓢ Greenports with major hubs
- Ⓢ Seaports of national importance
- ✈ Airport with an international function (TEN-T core/extended network)
- Ⓢ Port with an international function (TEN-T core/extended network)
- Ⓢ Rail-road terminal with an international function (TEN-T core network)

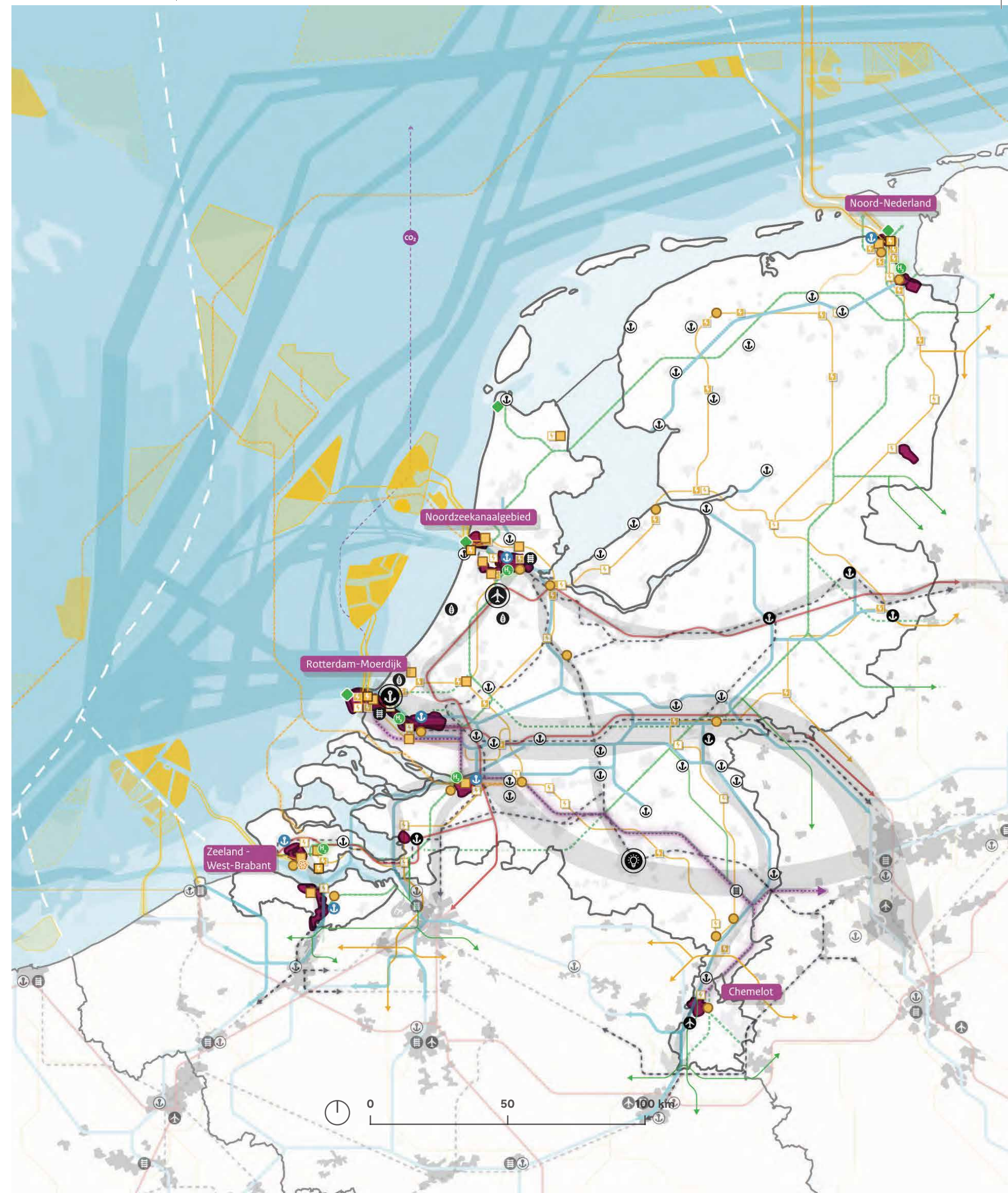
(Inter)national corridors and hubs for energy

Corridors

- 220 kV and 380 kV network
- Existing offshore HVDC cables
- Designated offshore HVDC cables
- Hydrogen backbone
- - - Delta Rhine Corridor
- - - Exploration route for the North Sea CO₂ network

Hubs

- Designated areas for large-scale electricity production
- ⚡ Existing nuclear power plant (Borssele)
- ⚡ Realised landing sites for Offshore Wind
- ⚡ Potential landing point for Offshore Wind (source: NRD Programme VAWOZ 2031-2040)
- ⚡ Existing 220 kV and 380 kV network
- ⚡ New and expanded 220 kV and 380 kV network
- ⚡ Existing wind energy areas (source: North Sea programme)
- ⚡ Designated wind energy areas (source: North Sea programme)
- ⚡ Search areas for wind energy areas (source: NRD Programme VAWOZ 2031-2040)
- ⚡ Designated areas for large-scale electrolysis
- ⚡ Potential landing site for hydrogen (source: NRD Programme VAWOZ 2031-2040)



Building Block: making energy-intensive industrial clusters sustainable, protected and stronger

The map shows the five energy-intensive industrial clusters of national importance, with the different characteristics of each cluster and the international connectivity of these clusters for energy, goods and raw materials.

Energy-intensive industrial clusters

- Interrelated industrial clusters of national importance
- Five energy-intensive industrial clusters
- Sixth cluster (based on CO₂ in EU ETS, Netherlands Emissions Authority, VDM)

Strategic expansion

- Strategic expansion areas that are reserved or under exploration

Economy

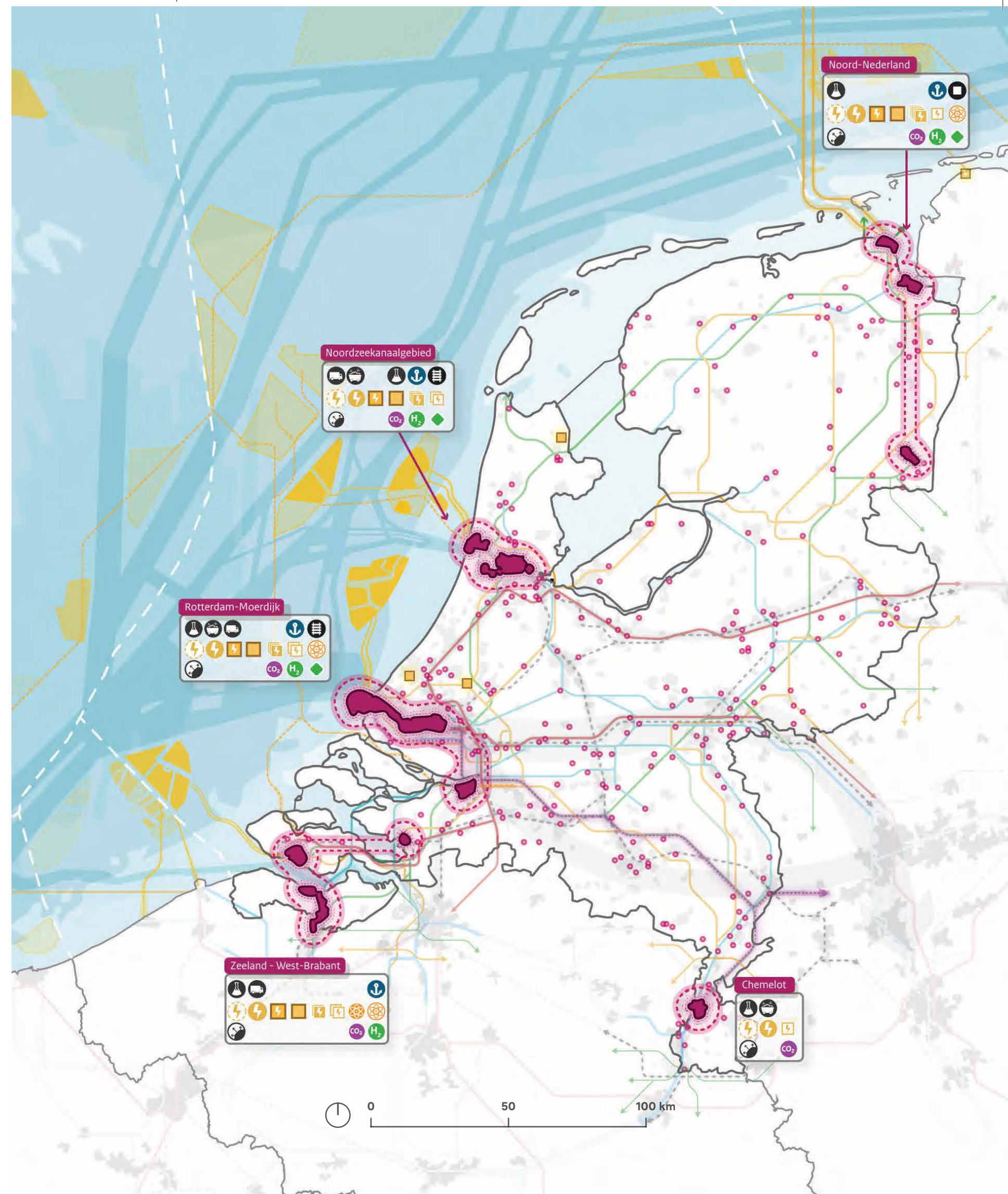
- Chemistry
- Manufacture of metal products
- Means of transport
- Seaports of national importance
- Rail-road terminal with an international function (TEN-T core network)
- Hyperscale data centre

Energy

- Flexibility and buffer functions for energy
- Large power plants
- Realised landing points for Offshore Wind
- Potential landing points for Offshore Wind (source: NRD Programme VAWOZ 2031-2040)
- Existing 220 kV and 380 kV substation
- New and expanded 380 kV substation
- Designated areas for large-scale electrolysis
- Potential landing site for hydrogen (source: NRD Programme VAWOZ 2031-2040)
- CO₂ capture
- Existing nuclear power plant (Borssele)
- Research locations for new nuclear power plants (Sloe area, Terneuzen, Maasvlakte II, Eemshaven)
- Existing wind energy areas (source: North Sea programme)
- Designated wind energy areas (source: North Sea programme)
- Search areas for wind energy areas (source: NRD Programme VAWOZ 2031-2040)

National and international connectivity

- Main roads with an international function (TEN-T core network)
- Waterways with an international function (TEN-T core network)
- Railways with an international function (TEN-T core network)
- 220 kV and 380 kV network
- Existing offshore HVDC cables
- Designated offshore HVDC cables
- Hydrogen backbone
- Delta Rhine Corridor












Building Block: optimal use of the North Sea for the economy and energy





The map shows all the functions for the theme Economy and Energy on the North Sea: what is already in place, plans for the future, and potential for future development.

Energy



Electricity

-  Existing wind energy areas
-  Designated wind energy areas
-  Search areas for wind energy areas
-  Existing offshore HVDC cables
-  Planned offshore HVDC cables (source: TenneT Target Grid 2040)
-  Realised landing points for Offshore Wind
-  Potential landing points for Offshore Wind (source: NRD Programme VAWOZ 2031-2040)
-  Large power plants (source: Global Energy Monitor)
-  Main electricity connections












Hydrogen

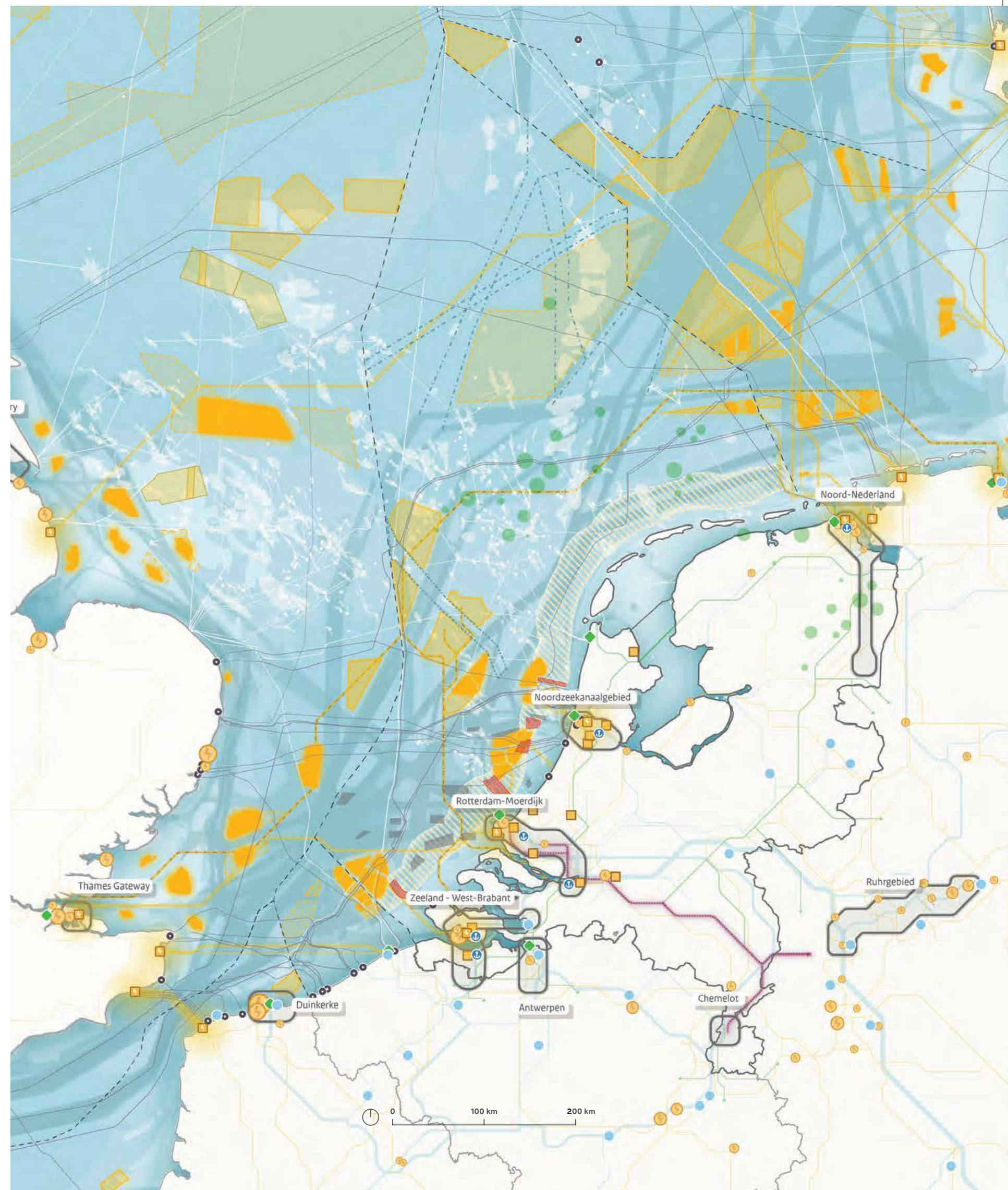
-  Delta Rhine Corridor
-  Potential hydrogen landing point (source: NRD Programme VAWOZ 2031-2040 and North Sea Energy Atlas)
-  Hydrogen backbone
-  Possible technical potential for hydrogen storage (source: TNO, EBN and North Sea Energy Atlas)

Oil and gas

-  Oil, gas and chemical pipelines (North Sea) (source: Rijkswaterstaat and EMODnet)
-  Oil and gas field and platform

Economy

-  Energy-intensive industrial clusters
-  Seaports of national importance
-  Port (TEN-T core network)
-  Main waterway connections (TEN-T core network)
-  Anchorage areas
-  Shipping routes at sea (source: Rijkswaterstaat and the European Maritime Safety Agency)
-  Preferred routes for cables and pipelines (source: North Sea programme)
-  International data cables + landing points (source: Open Infrastructure Map)
-  Indicative route for clearways (source: North Sea programme)
-  Exclusive Economic Zone
-  Reserved zone for sand extraction (source: North Sea programme)



VISTA

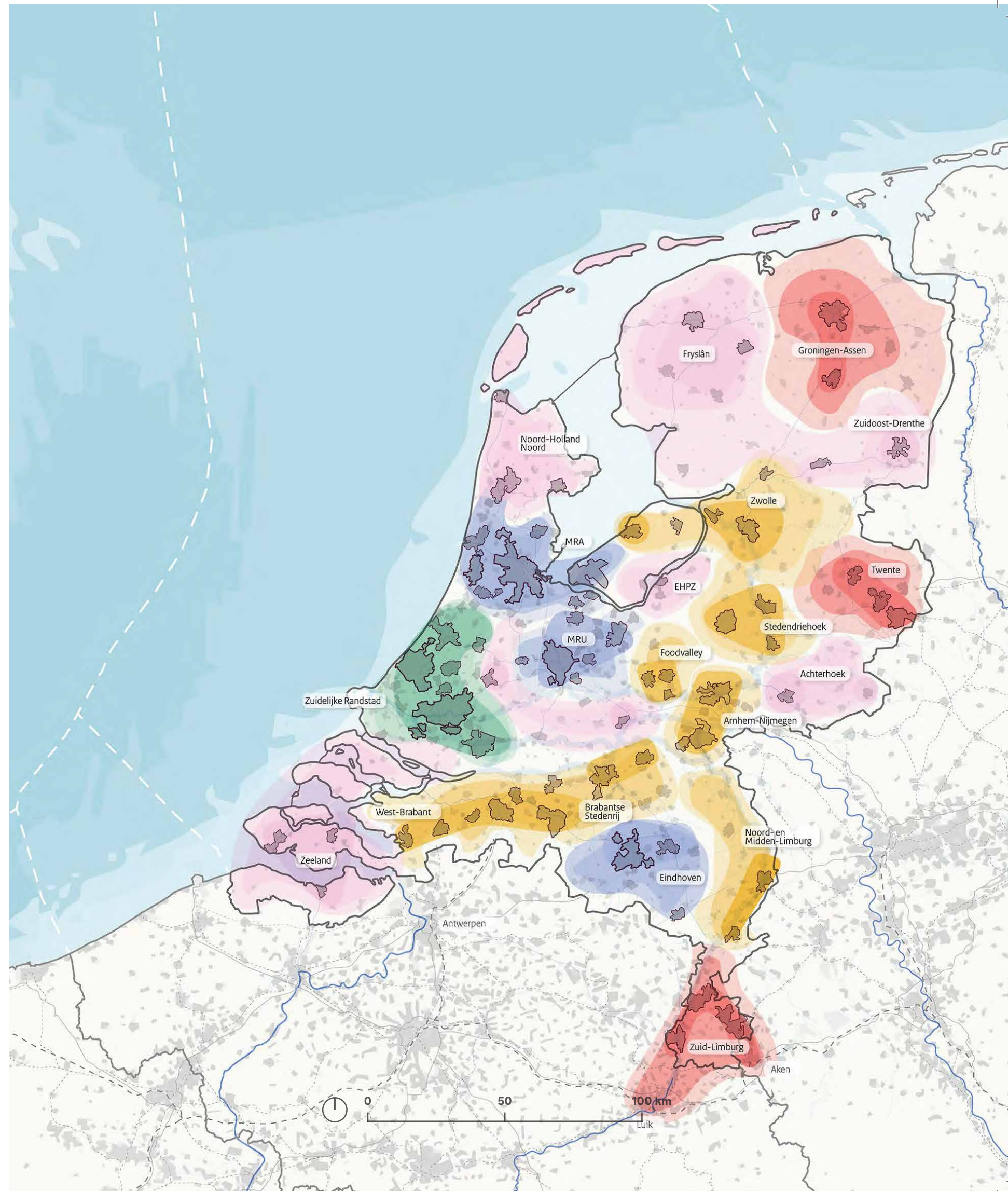
This map shows a division of regions with a locally appropriate strategy: Strengthen, Initiate, Stimulate, Transform or Accommodate.

Regionally differentiated strategy for spatial-economic development

- Strengthen
- Initiate
- Stimulate
- Transform
- Accommodate

Structure of the daily urban systems (Indicative):

- Metropolis
- Regional centre
- Regional core
- Local core



Northwestern European context for Housing, Work and Accessibility

This map shows, for the theme Housing, Work and Accessibility, how the Netherlands forms part of a Northwestern European network of regions and cities. The map shows the major urban and economic core areas and the key mobility networks that interconnect these places.

An interconnected European network

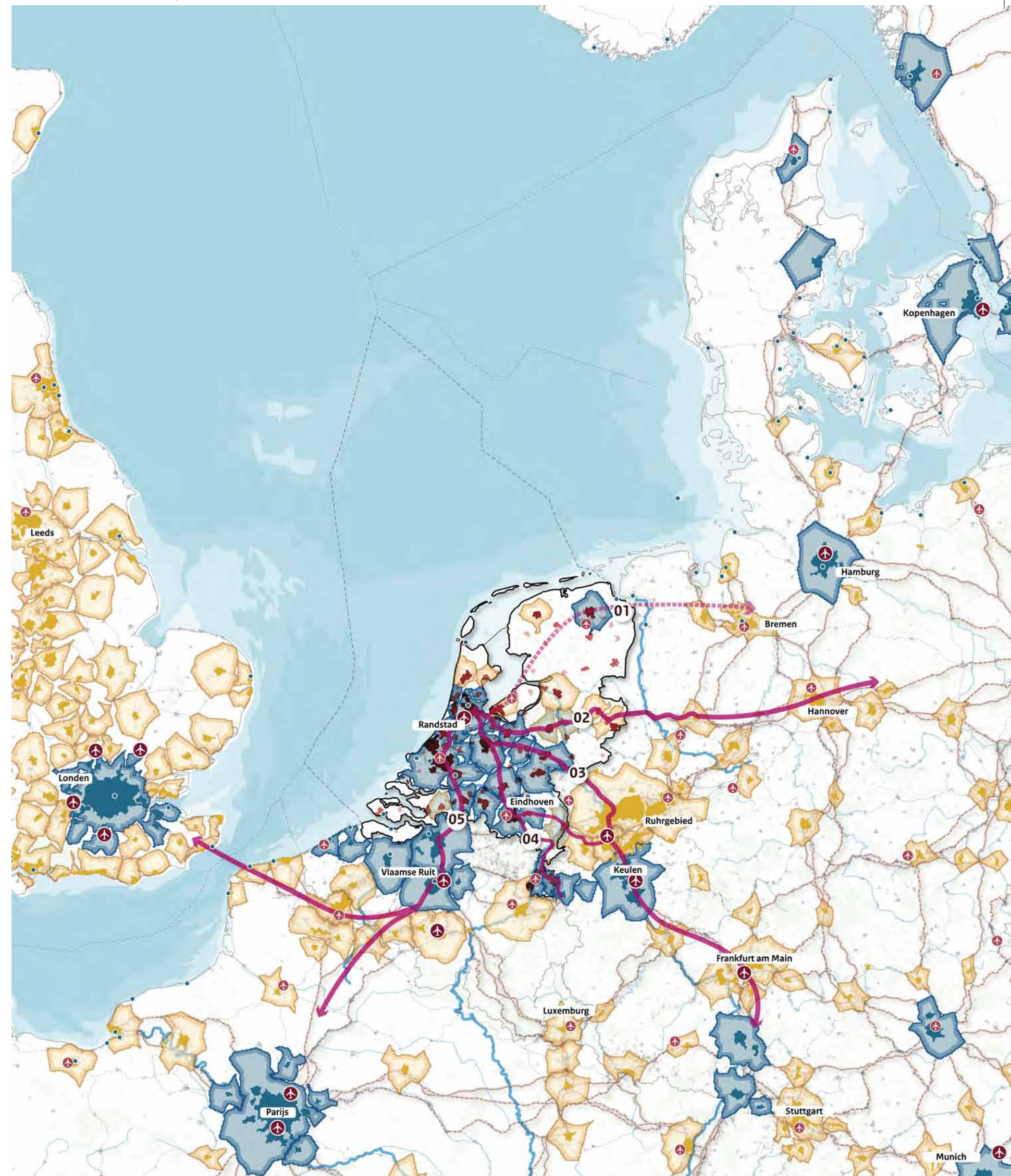
- Existing rail and road corridor in the Netherlands
- - - Desired rail and road corridor in the Netherlands
 01. Corridor towards Bremen
 02. Corridor towards Hanover
 03. Corridor towards the Ruhr region / Cologne / Frankfurt
 04. Corridor towards Liege/Aachen
 05. Corridor towards Brussels/Paris/London
- - - Existing rail and road corridor in the rest of Europe (TEN-T core network)
- road network (TEN-T extended network)
- - - rail network (TEN-T extended network)
- Port
- ✈ Airport (> 10 million passengers)
- ✈ Regional airport (< 10 million passengers)

Regional units of daily urban systems

- An urban area consisting of a city and its surrounding regions, based on daily commuting and economic integration (also known as a city and its commuting zone).
Source: European Commission, Joint Research Centre (JRC)

Strong innovative regions








- Regions that score higher than 125% of the European average in terms of innovation capacity. This is measured on the basis of performance in research and development (R&D), innovation and entrepreneurship, lifelong learning (LLL), and international cooperation.
Source: European Commission: Directorate-General for Research and Innovation



Integral theme map Housing, Work and Accessibility





This map shows the three building blocks that together form the main outline for the development direction of Housing, Work and Accessibility: a development-oriented national network, strong and distinctive regions, and complete and pleasant living environments.

Strengthening the network capacity of the whole of the Netherlands








-  Netherlands' Urban Network: interconnected urban regions at the national level
-  (Inter)national rail and road corridors
-  Potential corridor
-  National roads
-  Rail network
-  International station (HSL + IC station)
-  Airport (under development / > 0.2 / > 10 / > 60 million passengers per year)

Strengthening the agglomeration capacity of regions




An interconnected daily urban system consisting of the Metropolis, regional centres, regional cores, and local centres.

-  XL region
-  L region
-  M region
-  S region







Living and working environments

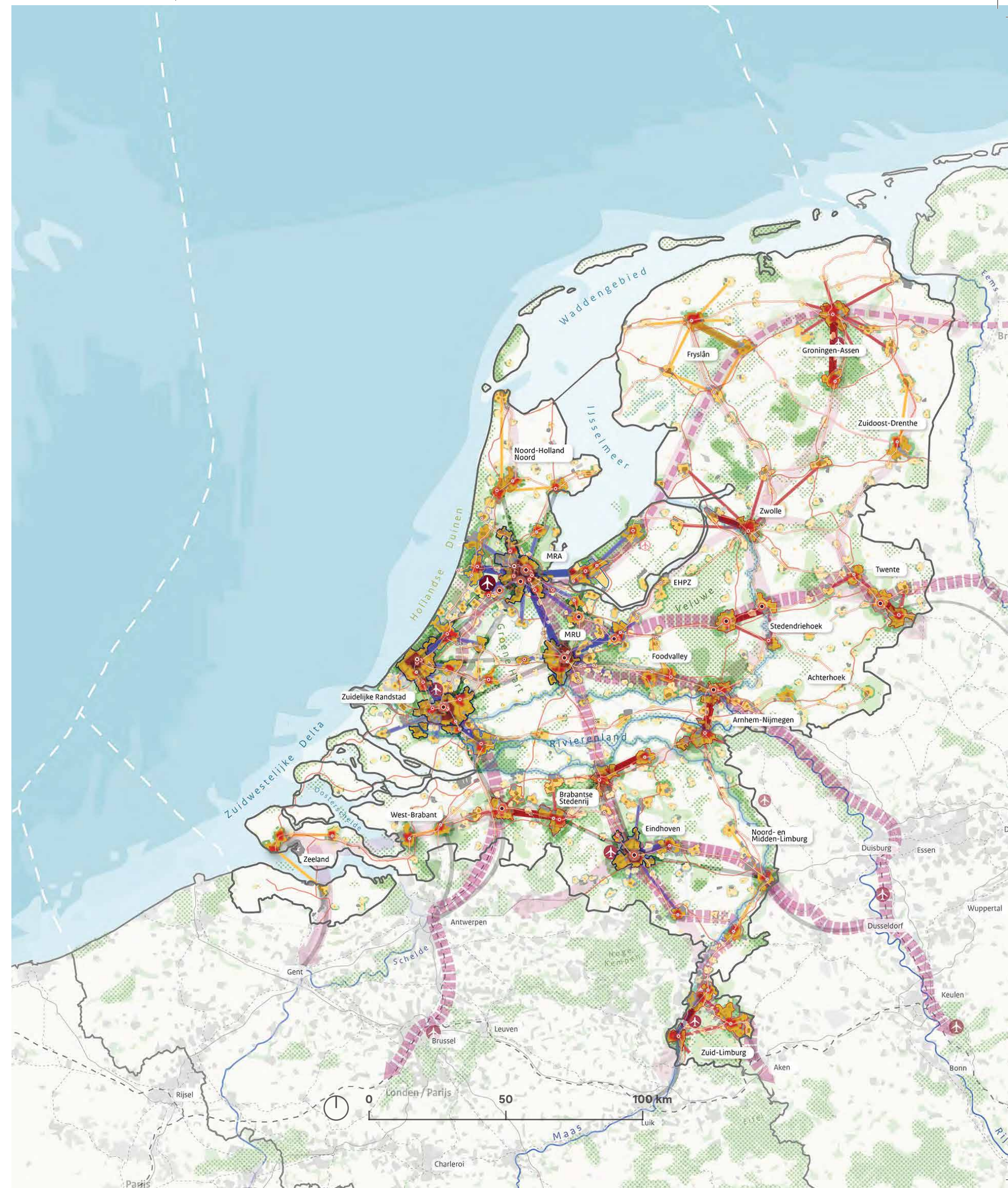
-  Metropolitan living and working environment
-  Urban living and working environment
-  Town/village centre
-  Urban residential environment (+ neighbourhood centres)
-  Low-intensity residential environment (+ neighbourhood centres)
-  Rural residential environment (+ centres)
-  Business park

Station areas

-  Metropolitan station location
-  Highly urbanised station location
-  Urban station location

Landscape framework

-  Important (inter)national landscapes
-  Urban fringes (areas from urbanisation strategy + land use BGT)
-  Recreational function of the urban fringe
-  Nature, agriculture or water function of the urban fringe
-  Natura 2000 and Nature Network Netherlands
-  National parks





Building Block: a development-oriented national network



This map shows the network of main roads, railway lines and stations, which are indispensable for international and interregional connectivity. The map also shows a classification of cities and centres. The map also indicates the various landscape types and valuable landscapes that are important for the coherence between urban development and landscape quality.

A network of connections and hubs with a clear hierarchy:




Important (inter)national corridors

-  Existing rail and road corridor
-  Desired rail and road corridor





National networks

-  National roads
-  Rail network




Points of leverage on the (inter)national network

-  International station (HSL + IC station)
-  Intercity station
-  Airport (under development / > 0.2 / > 10 / > 60 million passengers per year)






Hierarchy of urban areas

-  Metropolis
-  Regional centre
-  Regional core
-  Local core

Mainports, industrial clusters and campuses are logical locations for establishment and provide impetus for economic development

-  Campuses
-  Mainports (seaport, airport, and brainport)
-  Five energy-intensive industrial clusters

Landscape units at the (inter)national level

-  Important (inter)national landscapes
-  National parks
-  Natura 2000 and Nature Network Netherlands
-  Valuable cultural landscapes
-  UNESCO World Heritage Sites







Building Block: strong and distinctive regions








This map shows the regions with a classification (XL regions, L regions, M regions, and S regions) and the relationships between hubs within the regions. The classification of regions and the interrelationship between hubs partly determines how we organise and design space.

Four types of regional systems:

Each with opportunities for the development of housing, employment and facilities, but with different challenges and solutions.




-  The 'XL region': consists of one or two metropolitan cores surrounded by multiple regional centres and/or regional hubs
-  The 'L region': consists of one or more regional centres
-  The 'M region': consists of one smaller regional centre or several regional hubs
-  The 'S region': consists of a diffuse pattern of local centres (or where a regional centre is absent)

Facilities and institutions with a regional profile and economic key sectors (current situation)

-  Campuses
-  University
-  Higher professional education (institutions with more than 250 students)
-  Hospitals (institutions with more than 2,000 jobs)
-  Located near one of the five energy-intensive industrial clusters
-  Key sector based on added value (financial and knowledge services, industry, care sectors, wholesale and transport)
-  Universities (and academic hospitals) just across the border




Connections within the region

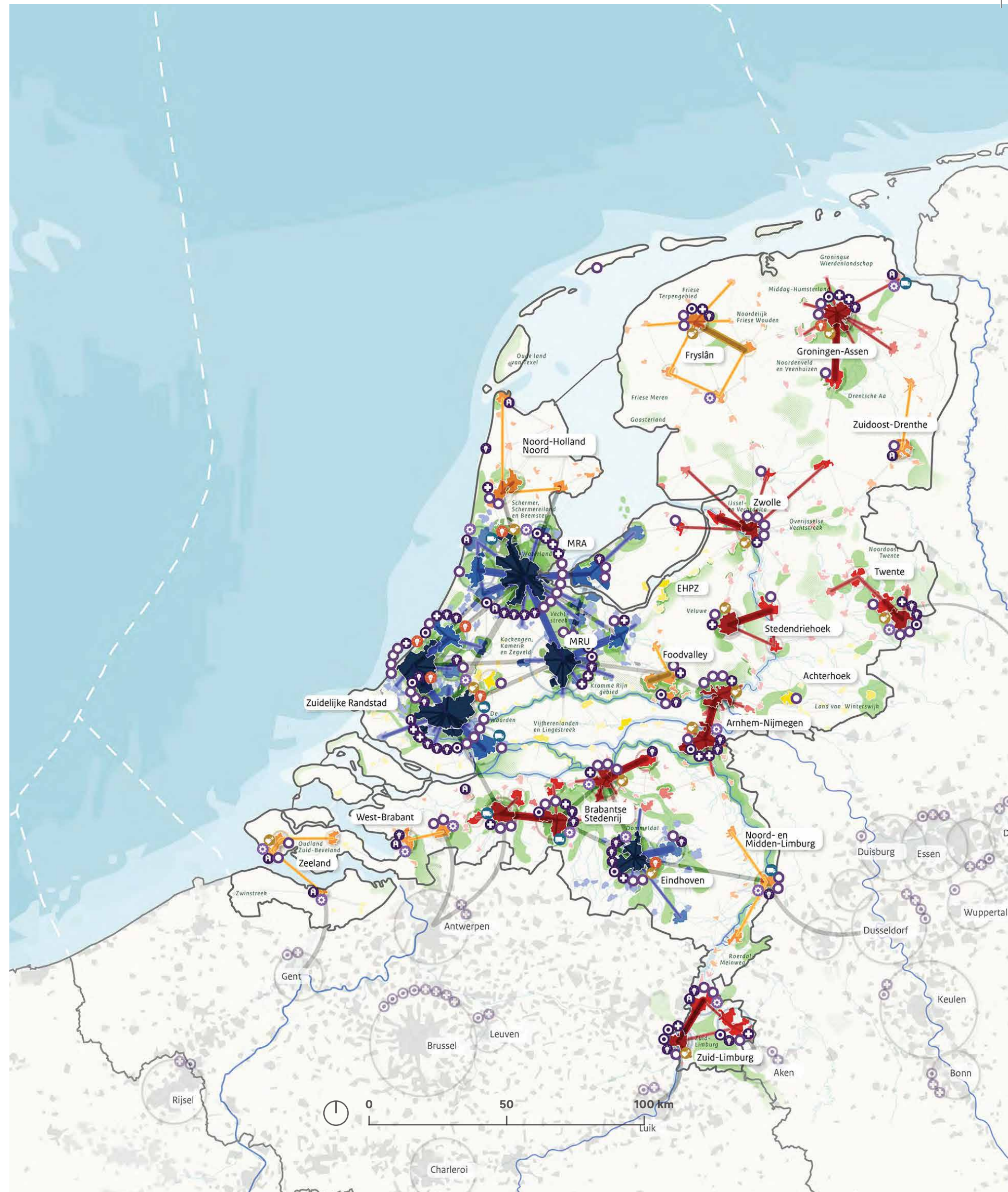
Connections that contribute to strengthening the regional system, such as commuting relationships and accessibility of facilities.

-  Joining forces: an intensive connection between key urban areas that enhances economic and social dynamics. This contributes to a robust regional system with high agglomeration capacity.
-  Mutual reinforcement: a connection in which cooperation between central and regional hubs ensures a broader distribution of housing, employment and facilities. This interaction strengthens regional dynamism and balance.
-  Connection with growing importance: an interaction with areas outside the region that is becoming increasingly significant due to economic opportunities. This opens the region to wider networks and strengthens its position.

 Underlying commuting dynamics of the Daily Urban System (DUS)

Green around the city

-  Regional green/recreation areas (drawn in more concrete detail if explicitly included in the urbanisation strategy; more conceptual forms based on PBL recreation areas, National Parks and (World) Heritage)
-  Land-based National Park
-  Valuable cultural landscapes



Building Block: complete and pleasant living environments

This map gives an indicative indication of the different types of living and working environments, the corresponding station locations where hub development is logical and the green spaces in and around the city.

Living and working environments

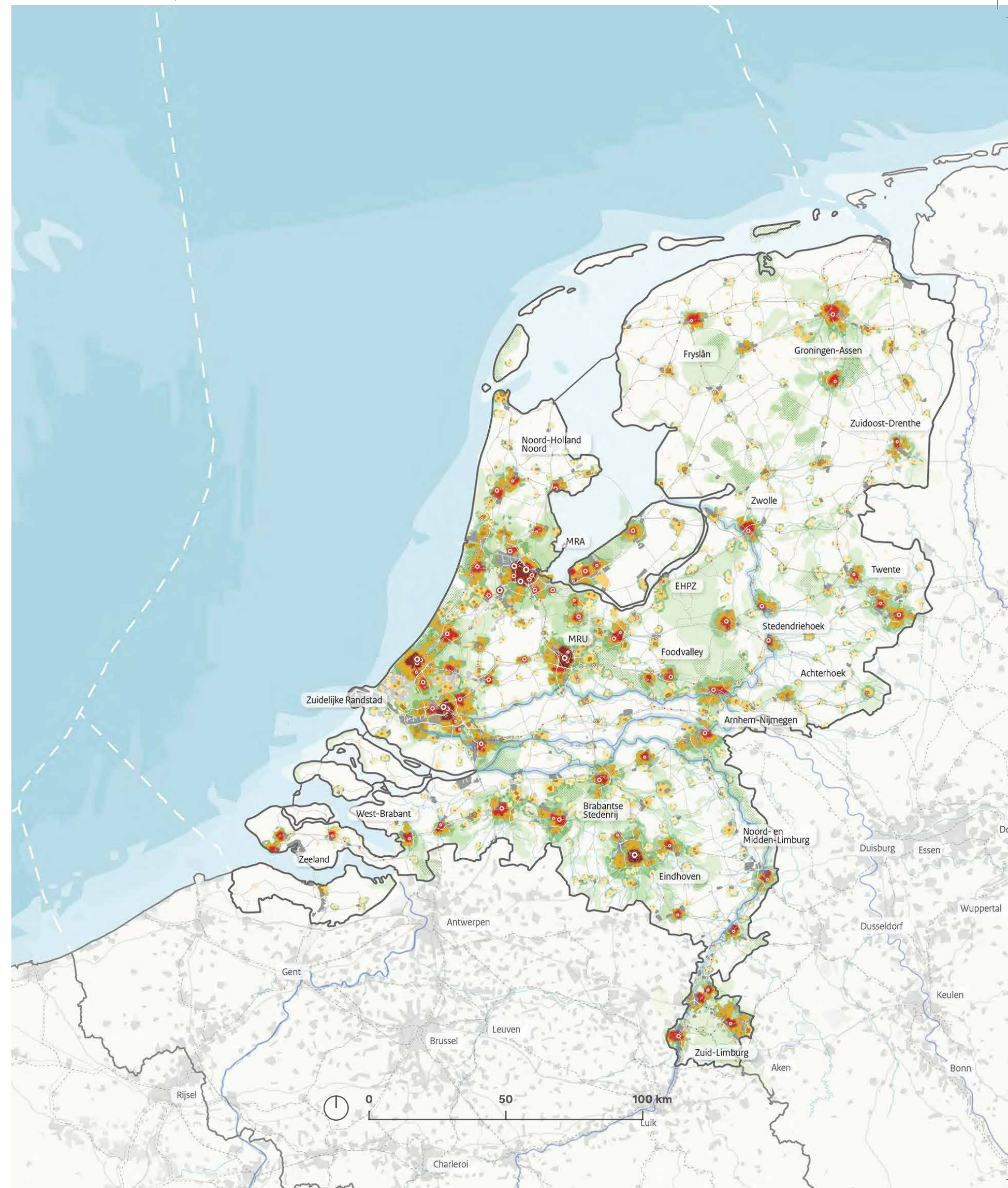
- Metropolitan living and working environment
- Urban living and working environment
- Town/village centre
- Urban residential environment (+ neighbourhood centres)
- Low-intensity residential environment (+ neighbourhood centres)
- Rural residential environment (+ centres)
- Business park

Station areas with potential for hub development

- Metropolitan station location
- Highly urbanised station location
- Urban station location
- Station location

Green around the city

- Urban fringes (areas from urbanisation strategy + land use BGT)
- Recreational function of the urban fringe
- Nature, agriculture or water function of the urban fringe
- National Park



Valuable cultural landscapes

This map provides an indicative depiction of the 27 valuable cultural landscapes and the different landscape types that form the underlying layer for these landscapes.

Valuable cultural landscapes

- | | |
|----------------------------------|---|
| ① De Waarden | ⑮ Noordenveld and Veenhuizen |
| ② Drentsche Aa | ⑯ Noordoost-Twente |
| ③ Dommeldal | ⑰ Oude land van Texel |
| ④ Gaasterland | ⑱ Oudland Zuid-Beveland |
| ⑤ County | ⑲ Overijsselse Vechtstreek |
| ⑥ Groningse Wierdenlandschap | ⑳ Roerdal-Meinweg |
| ⑦ Friese Meren | ㉑ Schermer, Schermereiland and Beemster |
| ⑧ Friese Terpengebied | ㉒ Vechtstreek |
| ⑨ IJssel-Vechtdelta | ㉓ Veluwe |
| ⑩ Kockengen, Kamerik and Zegveld | ㉔ Vijfheerenlanden and Lingestreek |
| ⑪ Kromme Rijngebied | ㉕ Waterland |
| ⑫ Land van Winterswijk | ㉖ Zuid-Limburg |
| ⑬ Middag-Humsterland | ㉗ Zwinstreek |
| ⑭ Noordelijk Friese Wouden | |

Landscape types

Higher (sandy) soils

- Stream valleys and marshland areas
- Cover sand areas
- Push moraine areas
- Eastern Netherlands Plateau
- Boulder clay and cover sand areas
- Loess terraces

River clay

- Basin areas
- Stream ridges
- River terraces
- River plains

Sea clay

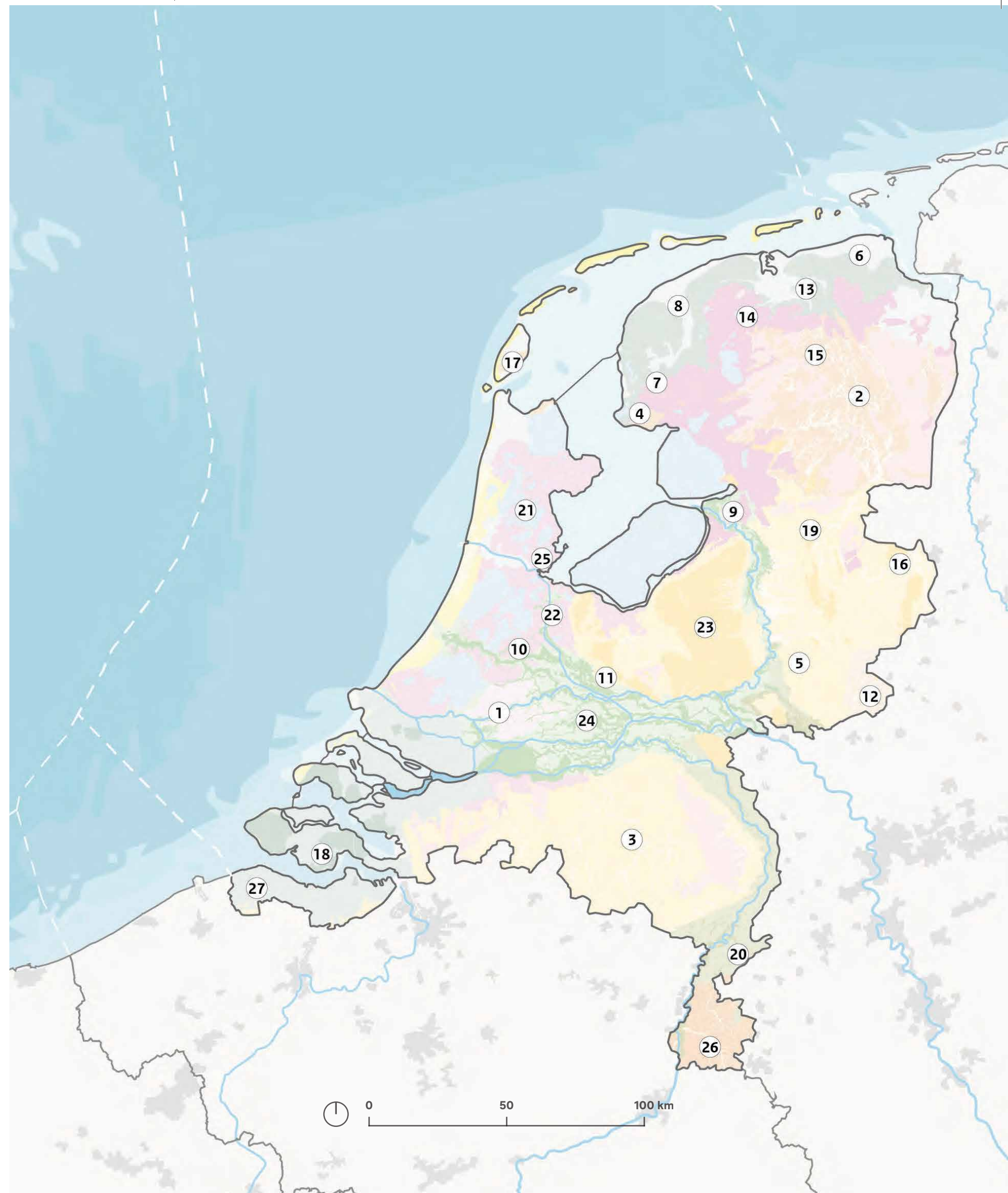
- Young sea clay polders
- Salt-marsh basins and levees
- New land polders
- Old land polders
- Drained lake polders

Peat soils

- Peat extraction areas
- Peat areas of the river forelands
- West Netherlands peat extraction landscape
- North Netherlands peat extraction landscape

Dune landscape

- Young dunes
- Beach ridges and old dunes
- Dunes and tidal flats



Protected cultural heritage

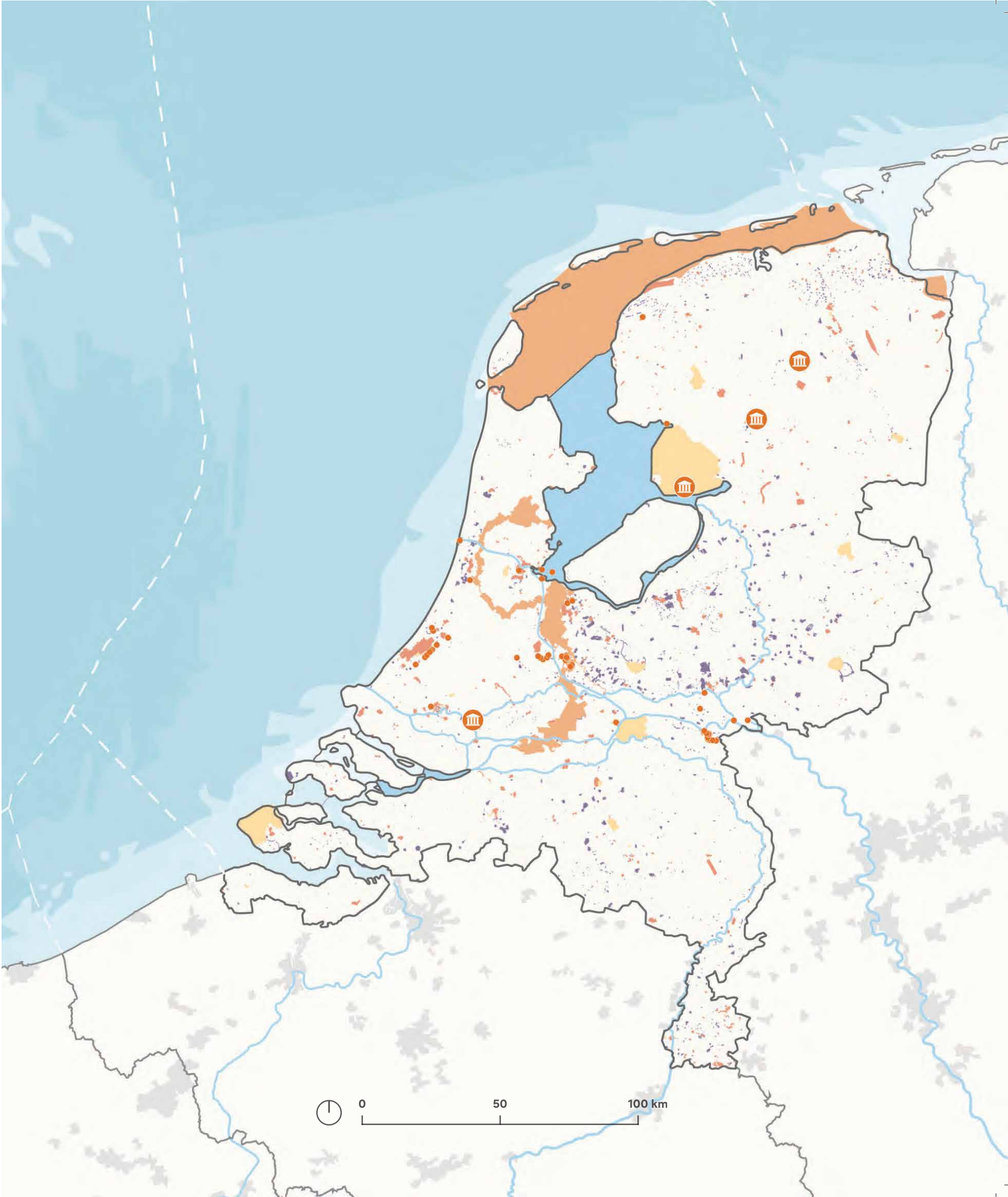
This map shows the (inter)nationally protected cultural heritage: the national monuments, UNESCO World Heritage Sites, reconstruction areas and protected town and village views.

Nationally protected areas

- National monuments (immovable, built, archaeology and landscape design)
- Reconstruction areas
- Nationally protected town and village views

UNESCO World Heritage Sites

- Large World Heritage Sites (Wadden Sea, Dutch Waterlines & Beemster Polder)
- Medium-sized World Heritage Sites (Colonies of Benevolence, Schokland & Mills at Kinderdijk-Elshout)
- Small World Heritage Sites and objects



Environment

This map shows the impact of noise and air quality on health, based on concentrations of particulate matter and nitrogen dioxide, and noise exposure from road, rail, air traffic and industry.

Environmental health risk

Impact of noise and air quality on health, based on concentrations of particulate matter, nitrogen dioxide and noise exposure from road, rail and air traffic as well as industry (Darker: higher environmental health risk)
(source: National Institute for Public Health and the Environment (RIVM), 2020)



Defence

This map shows the preferred alternatives for Defence needs with supra-regional consideration, from the Draft Programme 'Space for Defence'.

Barracks

- Strengthening and concentrating supporting units

Storage

- Additional large-scale ammunition storage site
- New ammunition storage SIC

Training in urbanised areas

- New training ground urbanised areas

Amphibious training

- Expansion of training sites for landing vehicles
- Expansion of training sites for landing vehicles, including breakthrough operations
- Expansion of training sites for landing vehicles, including the option for live firing from vessels

Transport

- Permanent port capacity Host Nation Support

Fighter aircraft

- Civil airport with military co-use

Stationing and corridors unmanned maritime helicopters and cargo drones

- Stationing of drones
- Flight route to and from training areas / Deelen

Helicopters

- Expansion of existing helicopter landing sites
- New helicopter landing sites at training grounds
- Existing low-flying zone for helicopters
- New low-flying zone for helicopters

Air transport

- Short/narrow unpaved runway

Radar installations

- Radar at military airports Outer-Horizontal

Site-specific needs

- Existing need
- New need

