National Strategy for Sea and Inland Ports

The Federal Government

DIE NATIONALE HAFENSTRATEGIE

The National Ports Strategy

Modern, safe and high-performing ports geared towards sustainability are a prerequisite for and a cornerstone of economic success, security, the successful implementation of Germany's energy and climate objectives, as well as the general prosperity of our country. To tackle the challenges of our times and strengthen the resilience of our national economy, we need sea and inland ports that are fit for the future.

The National Ports Strategy sets the framework for this and defines strategic goals designed to support the ports in the upcoming transformation process.

The German ports of the future are

- competitive at national and international level,
- part of the transport infrastructure to defend national and allied territory,
- sustainable hubs for the transformation of the energy system,
- facilitators of climate-neutral shipping and industry,
- important hubs for the modal shift,
- guarantors of legal cargo handling and transparent trade flows,
- high-performing and efficient thanks to innovative technologies and procedures,
- resilient to internal and external threats as well as the adverse effects of climate change,
- resilient to physical and cyber attacks,
- resilient to criminal interferences,
- attractive, diverse and forward-looking employers,
- optimally interlinked by rail, road and waterways as well as by nationwide fibre-optic and mobile communications networks.

Making the German sea and inland ports fit for the future is the shared responsibility of all stakeholders. To this end, a long-term port and infrastructure policy is needed which is implemented in close coordination between the Federal Government and the federal states within their respective competencies. It is also paramount that port companies and port administrations, shipping companies, haulage contractors, logistics companies and industry have specific options for action at their disposal.

This document explains where the German ports stand today, which challenges and opportunities they face and how these may be tackled and exploited through coordinated strategic action. Only if all stakeholders work in unison can Germany as a port location be strengthened in the long run.

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I

Motivation and objective of the National Ports Strategy

With many ties worldwide and a strong industrial foundation, Germany is an economic powerhouse. Despite its relatively compact area and scarcity of natural resources, Germany is one of the world's leading economies and the strongest economy of the European Union.

Unlike the USA and China, which both have large domestic markets, the success of German businesses is largely dependent on the import of raw materials and intermediate goods as well as the export of goods.

As hubs of maritime and continental supply chains, the German sea and inland ports are of major significance both economically and strategically. They supply Germany as well as parts of Europe and, by enabling external trade, provide an indispensable foundation for our prosperity. In addition, they constitute important elements of Germany's infrastructure and an attraction for local and international tourism. The economic success of our ports essentially depends on optimally designed structures both inside and outside of ports. To this end, it is vital that transport operations and supply chains be shaped in a sustainable and social way, which also includes the ports as hubs.

Upgrading the German ports in consideration of current and future needs warrants the necessary attention both at national and European level. The Federal Government and the 16 federal states have agreed to make the success of German ports a permanent priority.

With 20 sea ports on the North Sea and the Baltic Sea and around 100 public inland ports, Germany boasts a high-capacity freight transport network and a strong ports industry. Several hundred port operators handle, store and forward goods. Sea and inland ports connect different modes of goods transport, thus ensuring the supply of industry, trade and the population. Ports are an integral part of our transport infrastructure for the purpose of defending national and allied territory, especially in the event of crises or states of tension and defence. On the one hand, they help to maintain regular and unhindered traffic flows and transshipment of goods. On the other, they are absolutely essential for deploying military staff and material of the Bundeswehr. They are thus of particular significance not only in light of the current geopolitical situation, but also to ensure Germany's national resilience within the alliance in the long term.

Sea and inland ports are traditionally also centres of energy generation and terminals for energy sources. Since 2023, it has been enshrined in law that increasing the share of renewable energy sources in general and offshore wind energy in particular is of outstanding public interest. Upgrading the German sea ports in consideration of the many and varied technological needs of and functions required for the transformation of the energy system is thus a central objective of the National Ports Strategy. The resulting value creation for the sea ports, brought on especially by offshore wind energy, creates a future-oriented field of activity for the German sea ports and market potentials both at national and European level. This also applies to the yet to be established infrastructure for the hydrogen economy.

Furthermore, sea and inland ports concentrate logistics and value creation processes and provide good and modern jobs at the respective location and in the surrounding regions. A total of 1.35 million people in Germany are employed in the port-related industry. Nationwide, the ports secure up to 5.6 million jobs either directly or indirectly.[1]

The German ports are undergoing a profound transformation process. The crises of the past three years, such as Brexit, the COVID-19 pandemic in combination with China's zero-COVID policy, and Russia's war of aggression against Ukraine, have illustrated that disturbances of the global logistics chains lead to market upsets and declines in prosperity. The German economy, which is dependent on imports and exports, is particularly hard hit by this.

Economic, geoeconomic and especially geopolitical-systemic competition calls for strong, concrete and quick responses. To further increase the resilience of the economy as a whole, ensure sustainable economic growth and, if necessary, contribute to national defence tasks, the German ports have to be competitive both at national and international level and able to act independently. To this end, it is necessary to establish an appropriate framework, for instance by ensuring uniform conditions of competition, strengthening cooperation between ports, researching and developing innovative port technologies, and finally by establishing a consistent port and infrastructure policy.

The Bundeswehr make a major contribution to protecting and defending Germany as well as its partners and allies. To ensure that the Bundeswehr and Germany remain a reliable partner, we need to create conditions that guarantee Germany's ability to act even in crises and, in particular, make it possible to deploy staff and material of the Bundeswehr and allied forces without delay and as demand requires.

The protection of the environment, nature and climate as well as adaptation to climate change have become existential tasks for humankind. In order to tackle the triple crisis posed by climate change, the extinction of species and environmental pollution, all sectors, including transport and logistics, have to focus on sustainability. This includes increasing the share of renewable energy sources and upgrading power grids and import infrastructure for green energy sources (hydrogen and its derivatives in line with the National Hydrogen Strategy, with special consideration given to the environmental hazards of ammonia). This process must be accelerated in order to reshape the industry within the current reinvestment windows in a climate-neutral way. The German ports can serve as logistical hubs for this. An 'Action Plan for Climate-Friendly Shipping' will be drawn up as a strategic framework and dovetailed with the National Ports Strategy in order to support the lasting defossilization of national waterborne transport.

The digital transformation is changing existing business models. In the ports industry, logistical processes can be made even more efficient, faster and more sustainable by employing innovative technologies and methods. It is critical that we harness the full potential of this digital transformation process and use it to enhance competitiveness, secure jobs and protect the environment. To do so, we need to establish the necessary

[1] Federal Ministry of Transport and Digital Infrastructure (BMVI): *Untersuchung der volkswirtschaftlichen Bedeutung der deutschen See- und Binnenhäfen auf Grundlage ihrer Beschäftigungswirkung,* 2019 (Study on the importance of the German sea and inland ports to the national economy based on their job creation impact, 2019)

digital infrastructure as well as the relevant legal framework with a focus on data and cyber security and promote applied research and development.

The digital transformation also has an impact on employment opportunities in the ports sector by creating new, future-oriented job profiles. Demographic change in Germany also poses new requirements to be met by the job market. In order to adapt to these changes and strengthen the ports industry as a modern and diverse employer, we need adjustments in the training, further education and qualification of employees.

At the same time, the world population continues to grow, from currently about eight billion to an estimated ten billion people by 2050. This places additional demands on the transport and logistics sectors when it comes to supplying the global population and economy through international trade, which Germany is strongly involved in. The infrastructure for the transport of goods, data and persons has to be maintained, adjusted and modernized.

However, the tremendous challenges Germany is facing also offer major opportunities. This also holds true for the ports. On the one hand, they are affected by problems caused by change, global crises and economic upheavals. On the other hand, they have the potential to contribute to solving precisely these problems by becoming hubs of sustainable green logistics and by playing a key role in paving the way for the transformation of the energy system and the industry.

While implementing the relevant measures, it is imperative that we minimize adverse impacts on the environment and the job market as far as possible and maximize the positive effects on prosperity and social justice. Structural change and transformation processes must be shaped proactively, and the sizeable public and private investment this requires to transform the energy system and digital infrastructure on the North Sea and the Baltic Sea as well as in inland ports needs to be facilitated and encouraged.

In view of the new challenges and opportunities, the governing parties gave the mandate to prepare a National Ports Strategy in the coalition agreement for the 20th parliamentary term:

"We will develop a National Ports Strategy and promote close cooperation between our ports. The Federal Government is committed to its shared responsibility for the necessary port infrastructure." [2]

(lines 1707 and 1708)

Since 2009, the Federal Government has been using the national ports strategies as its main policy instrument for ports. The current National Ports Strategy of 2015 was adopted by the Federal Cabinet on 20 January 2016. It is set for ten years and contains seven areas for action with 155 individual measures that have largely been implemented by the Federal Government, the federal states and the ports sector or are in the process of being implemented as permanent measures.

The National Ports Strategy lays down strategic goals and measures to be taken in order to further strengthen the German ports and make them fit for the future. The measures are designed to kick-start substantial changes with the aim of achieving the strategic goals as quickly and concretely as possible. The implementation of all measures is subject to the respective amount of funding available.

[2] Translation of the quote provided by the Language Services Division of the Federal Ministry for Digital and Transport

While drawing up the guidelines for the development of the National Ports Strategy, **five fields of action** were identified which the Strategy should focus on:

1. **Strengthen Germany's competitiveness as a port location**
2. **Make ports sustainable hubs for the transformation of the energy system, climate-neutral shipping and industry as well as for modal shift**
3. **Actively shape and drive the digital transformation**
4. **Secure and future-proof training and jobs**
5. **Maintain, upgrade and protect transport and communications infrastructure in line with demand**

When drafting the National Ports Strategy, four guiding principles have to be taken into account:

- **The National Ports Strategy serves to develop a uniform vision.**
  With the EU, the Federal Government, the federal states, local authorities, port authorities and port companies, there are multiple stakeholders who are more or less directly involved in the development of the sea and inland ports. Additional stakeholders such as shipping companies, haulage contractors, commerce, industry and employees depend directly on port activities. All these parties have an interest in the success of our ports.

- **The National Ports Strategy must take the diversity of the ports on the North Sea and the Baltic Sea as well as the inland ports into account.**
  There are different port regions, every port is organized and structured differently and the fields of activity of the ports vary from the handling and storage of goods to passenger handling, supplying the modes of transport with energy and providing support in tapping natural resources.

- **The National Ports Strategy defines numerous measures to achieve the national and international climate and environmental targets.**
  It is committed to the principle of sustainability and will contribute to achieving the climate targets set out in the Paris Agreement. The Strategy is based on the 17 Sustainable Development Goals (SDGs), which the member states of the United Nations have undertaken to achieve by 2030 at the latest.

- **The National Ports Strategy defines measures designed to improve the resilience of ports to threats.**
  Due to the changing geopolitical security situation, ports once again gain special significance in the context of crises and the defence of national and allied territory. Protecting the ports requires advance measures that allow us to make ports resilient to potential threats.

Our vision:

- The sea and inland ports will continue to reduce their emissions and, at the same time, will become increasingly digital and efficient.

- They are in healthy competition with other port locations and businesses. Wherever possible and sensible, the German ports will increase mutual cooperation.

- The Federal Government, the federal states and the ports sector will increase the security and resilience of the ports to protect their function as critical infrastructure for supplying the German and European population and as logistical hubs for the socioecological transformation.

- The ports will adapt to the consequences of climate change and will be greenhouse-gas-neutral by 2045. In doing so, they will contribute to reaching the climate targets and ensuring that their activities do not have a negative impact on the environment, especially water and marine protection.

- The port companies will make their range of services sustainable and expand it from their German locations.

- New job profiles will be created. Port logistics will provide and secure attractive jobs subject to collective agreements and ensure Germany's and Europe's participation in international trade, which is expected to keep on growing.

- The ports industry will employ modern handling, transport and information technologies and serve additional trade routes.

- The port companies are aware that their logistical importance also makes them targets for infiltration by criminal networks and corruption and will take appropriate measures to reduce these risks.

- The ports are able to make a contribution to crisis management and the defence of Germany and its partners and allies, for instance by developing and implementing strategies and routines that allow them to remain capable of action and resilient to internal and external threats.

- The German ports sector helps to tackle the major challenges facing our society. The Federal Government and the federal states will support the industry by means of a policy that removes competitive disadvantages for the maritime industry and promotes innovation. This should be based on specific, ambitious and sustainability-focused goals. The Federal Government's Future Research and Innovation Strategy is an example of this.

- In the next decade, the German sea and inland ports, in cooperation with all stakeholders, aim to take on a leading role worldwide in terms of economic output, innovation and sustainability.

The National Ports Strategy, which is the foundation for the vision described above, consists of two parts: a strategic part and an operational part, which lays out the measures to be taken to achieve the defined objectives.

II

Strategic part

1. Strengthen Germany's competitiveness as a port location

1.1 Current situation

The German sea and inland ports are high-performing and flexible terminals. They are of outstanding significance for the national economy, managing crises and defending Germany and its partners and allies. While there is a broad range of handling facilities for all types of cargo, there is hardly any free space for heavy goods, which is for instance needed for the construction of offshore wind farm components (such as converter platforms) or handling of wind turbine components.

Sea ports are affected by losses in market share and productivity.

In recent years, the German sea ports have lost market shares in important segments such as container handling, but also in general cargo. In addition, exogenous factors such as the COVID-19 pandemic have shown how quickly further bottlenecks can arise in operational processes. This has further reduced productivity and interrupted global supply chains. One of the challenges is that many companies in the urban hinterland – unlike the ports – do not work round the clock.

Inland ports need more space and simplified approval procedures.

Cargo handled by inland ports in combined transport and by rail is increasing. Waterborne transshipment, however, has been on the decline for several years now. Besides effects related to the structure of goods caused by the transformation of the energy system, it is mainly conflicts between urban and port developments which have led to a decrease in port areas in the last decades.

In addition, approval of the storage and handling of goods in the ports is subject to a growing number of requirements. Moreover, approval procedures for deploying new handling technologies, using brownfield sites and parking areas and complying with user requests concerning new products or changes in quantity have become increasingly complex and long-lasting. Some of the procedures are so time-consuming and costly that they collide with practical port logistics and can make operations uneconomical. Rail freight operations in the inland ports are also affected by this. The result is that the modal shift potential of the inland ports cannot be fully exploited and transport operations are shifted back to heavy goods vehicles on the roads.

Ports have long since become more than just terminals.

Ports are changing: the evolution of ports from mere terminals and logistics hubs to industrial and commercial sites is continuing. New establishments of port-related industrial, commercial and logistics companies necessitate more space in the ports and the surrounding area, including for heavy vehicle traffic. In addition to the many qualitative requirements placed on the development of ports, such as a high-capacity infrastructure to ensure supply with renewable energies and natural resources close to consumption points, it is also important to take environmental, nature and climate protection concerns as well as positive employment effects for the regions into account.

Ports play an important role in Germany's crisis management and the defence of its territory and that of its partners and allies.

Due to its geographical location, Germany is a transit country at the heart of Europe. It thus represents a central and major hub for transporting goods. This is also a crucial factor in times of crisis or states of tension and defence, for instance when it comes to deploying armed forces and military material within Europe. Under such circumstances, the ability to keep logistics operations running takes on particular importance. Feeder lines for large quantities of personnel and material, including handling and transfer to road and rail transport, must also be taken into account.

Organized crime at German ports is on the rise.

As hubs of international goods transport, ports often become a gateway for smuggling illegal goods such as drugs, weapons and forged products. They are thus also targets for infiltration by criminal networks. Criminal organizations approach terminal staff working for liner agencies, haulage contractors or other service providers and attempt to get them to cooperate by means of bribery or threats.

Numerous public and private sector stakeholders play a key role in protecting the security of our ports, from port authorities to shipping companies and other service providers. These stakeholders must be aware of their responsibility in combating the smuggling of drugs and weapons as well as criminal infiltration. They should have sufficient means at their disposal to track containers and safeguard the port areas. In addition, they should have possibilities to appropriately survey their staff in order to prevent bribery attempts by criminal networks and external powers.

As measures aimed at increasing the security of individual ports bear the risk of displacement effects, a uniform approach across ports and national borders is called for where possible. The European Commission's road map to fight drug trafficking and organised crime contains various proposals, such as the establishment of a European Ports Alliance. In addition, Germany is a member of the 'Coalition of European countries against serious and organised crime', which aims to strengthen the resilience of logistical hubs such as ports across national borders.

Competition between port locations and other stakeholders

It is necessary to create conditions that allow the German sea and inland ports to compete with other port locations in Europe on a level playing field. Germany's competitiveness as a port location has to be strengthened. To develop appropriate measures for this goal, we first need to consider the different levels of competition and factors contributing to a port location's competitiveness.

Competition takes place mainly between sea ports. Neighbouring ports in a region compete primarily for the transshipment of supraregional goods, but there is also competition between different shipping routes and port regions (ranges). Competition in the inland is more differentiated. Inland ports not only compete with the sea ports in the vicinity, but also with industrial and logistics locations on greenfield sites, which are mostly only accessible by road. Strategic development of inland ports can therefore make an important contribution to preventing further soil sealing, shifting transport operations to inland water vessels and rail and relieving road infrastructure and thus also to climate change mitigation. This requires overarching and coordinated measures to ensure that transport operations are actually shifted to waterways and rail, and road transport in turn is reduced.

In addition, there is competition for customers and contracts between companies in the ports industry, terminal operators and service providers such as shipping lines, haulage contractors or customs agencies. They offer their services at various port locations.

Factors influencing the competitiveness of the ports

The competitiveness of port locations depends on many aspects. Apart from a good port infrastructure (such as quay walls, areas and tracks) and a corresponding superstructure (such as cranes, warehouses and handling equipment), key factors include good hinterland connections as well as accessibility via waterways. However, the handling costs and efficiency of terminal operators are also decisive when it comes to competing with other port locations.

Other cost and time factors include the organization of processes for performing statutory tasks such as customs clearance, veterinary protection, food and feed safety and security. The competitiveness of ports is furthermore determined by the amount of transport route-related costs such as port dues, shipping dues (Kiel Canal) and pilotage.

All of this affects pricing and determines the attractiveness of the conditions German port locations and companies are able to offer to their often internationally active customers. High quality, reliability and high performance also increase the attractiveness of ports. This requires high-quality training and good working conditions.

However, enhancing the resilience of logistical hubs to interferences by criminal organizations will become another increasingly important factor determining the competitiveness of ports.

Central task: strengthen ports as critical infrastructure in the long term

Ports are partially considered critical infrastructures. Therefore, where third parties are involved in the form of investments or stakes, we need to not only examine national security interests and the interests of the respective country, but also coordinate closely at European level to ensure the security of the European port infrastructure. As key logistical hubs for supplying the population with goods and for the socio-ecological transformation, the ports, especially the sea ports, play a critical role for the German and European economies.

To ensure that they can continuously perform this role, the ports, as well as the hinterland infrastructure, must be protected from physical and cyber attacks. This applies all the more in view of the current geopolitical era and is given attention in the European Economic Security Strategy of 20 June 2023. Regular risk analyses by port operators and supervisory authorities are required to this end. They implement the identified risk management measures immediately.

One of the core tasks of the National Ports Strategy is to create the economic, regulatory and infrastructural conditions necessary for global transport chains to be handled via the German sea and inland ports and to be aligned with the interests of the German economy in the long run. The ports are to be supported at all levels of competition while respecting their diversity. To this end, the sea and inland ports and their hinterland connections must be provided with financial resources appropriate for their strategic significance.

In general, we need to increase value creation, pay due regard to security, environmental, nature and climate change concerns, and secure and further develop jobs. Another objective is to identify new business areas (while respecting ecological requirements), ensure efficient and coordinated administrative governance and strengthen the cooperation between ports. Finally, we need to maintain and upgrade the port and hinterland infrastructure. A future-proof sustainable maritime policy in Germany requires a clear, consistent approach as well as coordinated strategic action in line with national interests.

1.2 Strategic goals

Increase benefits, reduce costs, harmonize framework conditions – Germany has the most efficient cost and service structures in all handling segments.

Creating and maintaining a level playing field

- Create and maintain a level playing field at international, European and national level, especially with regard to tax regulations and their application to different stakeholders in maritime supply chains

- Improve, deregulate and accelerate port-related planning and approval procedures in both infrastructure and operations (for instance in cargo handling) in a qualitative, environmentally sustainable way. This also includes speeding up and simplifying the onward transport of large and heavy goods by road.

Establishing and benefiting from cooperations

- Commitment by stakeholders to cooperate and establish cooperations between ports where this makes economic and ecological sense and is permissible under competition law

- Make use of cooperation and coordination at national and international level to strengthen port and business locations and mitigate climate change, for instance take a harmonized approach to introducing ambitious requirements as well as incentivization schemes for climate and environmental protection

- Implementation of (EU) provisions according to uniform standards

- Harmonize port-specific regulations, standards and provisions at municipal and federal state level so that the customers and businesses of the ports sector can employ their strengths in the best way possible and thus maintain and strengthen their position in the European competition and in international trade

Supporting land use planning and development

- Forward-looking land acquisition for handling, logistics and establishment of port-related industrial and commercial businesses

- Consideration of future-proof measures to protect important infrastructure

- Cross-departmental coordination to include and catalogue port infrastructure and inland waterways in national defence plans

Crisis management and defence

- Cooperation between port operators, local authorities, federal states and the Federal Government with the goal of increasing the resilience and protection of ports and port facilities as well as maintaining logistics operations in general, but especially in times of crisis and states of tension and defence

Cooperation between the Federal Government and the federal states and between the individual federal states

- Close cooperation between the Federal Government and the federal states (EU port policy, EU infrastructure policy and coordination with regard to funding programmes) in order to maintain and further strengthen the locational advantages of the German ports (e.g. hinterland connections)

- Coordinate port development plans and port-related infrastructure investments between the Federal Government and the federal states

- Strengthen cooperation between coast and inland states and explore possibilities for collaboration

- Combat drug trafficking and organized crime in close cooperation

2. Make ports sustainable hubs for the transformation of the energy system, climate-neutral shipping and industry as well as for modal shift

2.1 Current situation

The German ports play a key role in the transformation of the energy system, the transformation of the economy as well as the defossilization of maritime transport and hinterland transport on the roads, railways and waterways.

2.1.1 Sustainable hubs for the transformation of the energy system and for climate-neutral shipping and industry

The transformation of the energy system means shifting from fossil energy sources that are harmful to the climate and the environment towards renewable energy sources. In the Federal Climate Change Act, Germany has pledged to become greenhouse-gas-neutral by 2045. In addition, emissions have to be reduced by at least 65% by 2030 and by at least 88% by 2040 compared with 1990 levels. For the different sectors (including the energy supply, transport and buildings sectors), the Federal Climate Change Act determines annual emission levels until 2030. The targets for the share of renewable energy sources were raised considerably in the last year. Offshore wind energy, for instance, is to be increased by at least 30 gigawatts (GW) by 2030, at least 40 GW by 2035 and at least 70 GW by 2045. By the climate neutrality year 2045, almost 30% of Germany's gross power is to be generated by offshore wind energy. In order to achieve the Federal Government's targets for 2030, the current installed capacity has to be quadrupled, which equals an increase in offshore wind energy by 22 GW. Across Europe, we aim to generate 300 GW of offshore wind energy by 2050. The National Hydrogen Strategy estimates the German demand for hydrogen in 2030 at up to 130 terawatt hours (TWh). This means that, even if we take into account fossil hydrogen consumption that cannot be fully substituted for green or CO_2-free hydrogen, Germany will be highly dependent on importing hydrogen by as early as 2030 to cover this demand (approx. 45 to 90 TWh of hydrogen, depending on different calculations). This corresponds to an import share of 50 to 70% of national consumption levels.

The distribution of energy imports will change due to developments in climate policy. This will necessitate an adaptation of port infrastructures, as each energy source imported via the ports has specific requirements. In the long term, we can assume that the import of fossil energy sources via German ports will decline in favour of the import of hydrogen and its derivatives. For the German ports, the transformation of the energy system represents a massive and multifaceted process. Neither at national nor at European level will the areas and quay walls that can currently be used for heavy loads in the sea ports be sufficient to cover the many and varied needs arising from this transformation, which will increase dramatically towards the end of this decade. In addition to the significant land requirements for installing new offshore wind farms, areas will be needed for production sites, transmission system operators, operation and dismantling of offshore wind farms, and the future hydrogen economy.

Substantial changes can also be expected in view of the climate goals adopted by the International Maritime Organization (IMO) in the summer of 2023, according to which international maritime shipping has to become climate-neutral by around 2050, and the relevant regulations at EU level (e.g. the FuelEU Maritime Regulation, the EU Emissions Trading System (EU ETS) and the Alternative Fuels Infrastructure Regulation (AFIR)).

Ports as terminals for energy sources

Germany does not have sufficient fossil energy sources itself. That is why it is still dependent on petroleum and coal imports, which largely enter the country via shipping and the ports. This makes the ports not only logistical hubs for the energy supply sector and industry, but also relevant actors in the transformation of the energy system and industrial change. On our path to climate neutrality, their significance will only increase, for instance when it comes to delivering green energy sources (hydrogen and its derivatives in line with the National Hydrogen Strategy) and handling components for wind turbines and other goods that are crucial for the transformation of the energy system, such as cable reels and large transformers for the expansion of the power grid.

Ensuring the supply of energy and raw materials via the ports in the long term is also essential for the transformation of the industry. The Federal Government is currently developing a Carbon Management Strategy (CMS), in which ports can play an important role. It therefore makes sense to connect the ports to the planned European CO_2 infrastructure as early as possible in order to be able to tap the potential this holds for the German industry and the ports.

Ports as energy suppliers for shipping and energy consumers

Besides their function as terminals for energy sources and components for the expansion of renewable energy sources and the power grid, ports play another important part in the transformation of the energy system: they are suppliers for shipping. The climate change targets place new demands on ports in this role. Suitable framework conditions are needed for German ports to be able to supply shore-side electricity as well as sustainable renewable fuels and energies and thus help strengthen Germany's competitiveness as a port location and accelerate the defossilization of shipping.

The developments in the cruise and passenger shipping sectors will also play an important part when it comes to introducing sustainable technological innovations – both on board and in the ports. Developing battery- and hydrogen-based energy supply systems and upgrading the relevant harbour infrastructure in the cruise shipping sector will provide considerable impetus to merchant shipping, too, and may benefit the German ports in regard to regional economy, tourism and public image. The Alternative Fuels Infrastructure Regulation (AFIR) determines the required shore-side power output for ships at berth until 2030 while the FuelEU Maritime initiative prescribes the use of shore-side electricity for container and passenger ships above 5,000 gross tonnes (GT) as of 2030.

Finally, ports also consume energy. It is therefore vital to identify scope for energy savings and harness possibilities for ports to generate energy themselves and provide energy from renewable sources. The objective is for the German ports to be among the most efficient, competitive and climate- and environment-friendly energy consumers of the global ports industry. We aim to keep reducing emissions significantly, which includes air pollutants as well as noise emissions. The goal is to achieve greenhouse gas neutrality by 2045.

2.1.2 Ports as hubs for modal shift

Shifting traffic to alternative, greenhouse gas neutral modes of transport will make a significant contribution to achieving the German climate targets. The Federal Government has set itself the goal of increasing the share of rail and waterways in the modal split to 25% and 12% respectively by 2030. As multimodal hubs for the movement of goods, the sea and inland ports are the drivers and lifeblood of the transformation of the transport system. Today, a quarter of Germany's rail freight is already handled in the ports.

Using the possibilities of shifting transport to rail and waterways

Both rail and waterways offer excellent opportunities for modal shift that were hardly taken advantage of in the last 15 years. It therefore makes sense to include the ports in a Short Sea Shipping strategy.

While measures must be taken to increase the capacity of the federal railway infrastructure in order to transport more goods by rail, especially in combined transport, the federal waterways also have considerable untapped capacity. This applies in particular to shifting the main leg of the carriage of abnormal loads. A wide range of sizeable German industry products could be shipped from the production sites in a more environmentally friendly manner using the waterways. The same applies to the relocation of large troops for the purpose of defending national and allied territory.

Ports help to expand wind energy and power grids.

The sea and inland ports as well as the waterways are paramount to achieving the expansion targets for wind energy and power grids as they offer great potential to relieve the road infrastructure. To expand wind power, in particular, we need to transport many large components, for instance for wind turbines. These goods are perfectly suited for the main leg by waterway and represent important cargo with great future potential for the ports.

According to the first draft of the Onshore Wind Energy Strategy published by the Federal Ministry for Economic Affairs and Climate Action (BMWK) on 22 March 2023, wind turbine components are to be transported by waterway wherever possible. It may therefore be necessary to take environmentally and ecologically sustainable measures in the area of the terminals for components of these turbines and cable drums, and establish hubs for wind turbines and cable drums on the waterways. These measures are recommended in the Federal Ministry for Digital and Transport's final report on shifting the carriage of abnormal loads from the road to rail and waterways.

An infrastructure that is developed in line with needs (see field of action 5) and a competitive framework for environmentally friendly modal shift (see field of action 1) are, along with accompanying measures, prerequisites for tapping and harnessing the full potential of rail and waterways, acquiring new goods categories and developing new fields and models of business.

2.2 Strategic goals

Support the transformation of energy and raw material imports, reduce energy consumption, increase sustainability, promote environmentally friendly modal shift – in the global ports industry, the German ports are leading in terms of environment- and climate-friendliness.

Transforming energy and commodity imports and supporting the defossilization of shipping

- Encourage cooperation between potential German port locations in the TEN-T core network for terminals and infrastructures, taking into account actual market demand in the short and long term alongside other developments. Location decisions are to be taken from a national perspective and subject to a demand analysis and transparent criteria. Criteria may include connections to the gas or hydrogen network, questions of environmental, nature, water and marine protection, land take issues, and, in the case of fossil infrastructures, the possibility of future use with renewable fuels of non-biological origin (RFNBO) and hydrogen and its derivatives in line with the National Hydrogen Strategy that goes beyond the use of e-LNG.

- Encourage cross-border cooperation and corridor-based approaches by the Federal Government and remove obstacles to the development of the necessary infrastructure

- Continue to develop ports as logistical hubs for the import of hydrogen and hydrogen derivatives in line with the National Hydrogen Strategy and the expansion of wind energy (as places of storage and loading, a starting point for the deployment and, as of 2030, the dismantling of offshore wind farms, and as a base for service and maintenance work)

- Defossilization of shipping by providing the necessary infrastructure for renewable energy sources and fuels. Extend Germany's lead in building shore-side electricity systems

- Further develop and harmonize incentivization schemes to increase environmental protection and climate change mitigation in shipping

Reducing energy consumption, defossilization and improving sustainability in the ports

- Ports help to reduce air pollutants and, on their path to defossilization, aim to become greenhouse-gas-neutral by 2045

- Define and implement the role of ports in an extensive circular economy. Develop and harness the potential of ports in the context of the circular economy (especially ship-generated waste and sewage or cargo residues)

- Increase biodiversity on brownfield sites and in harbour basins

Promoting environmentally friendly modal shift; making ports sustainable hubs

- Make ports hubs for energy and resource security and the supply of renewable energies and raw materials

- Continue to develop ports as logistical hubs for the expansion of wind energy (as places of storage and loading, a starting point for the deployment and, as of 2030, the dismantling of offshore wind farms, and as a base for service and maintenance work)

- Develop ports to become hubs within the planned European CO_2 infrastructure in the scope of the Federal Government's Carbon Management Strategy (CMS)

- Make the German ports market leaders in technologies for the transport, handling, storage and bunkering of renewable energy sources and renewable fuels

- Dovetail the National Ports Strategy with the relevant energy and environment policies and the defossilization strategies of the different modes of transport (including the System Development, Import, Hydrogen, Raw Materials, Carbon Management and National Water Strategies, the future National Marine Strategy, etc.) and ensure that the sea and inland ports are included in these in line with their functions. All measures should be based on existing research programmes and findings.

- Develop modern, practice-based sets of regulations for the construction, operation and approval of facilities as well as tailored financial instruments to drive the uptake of the required technologies in the German ports

- Shift more and more transport operations to rail and waterways and strengthen the multimodal potential of ports. Upgrade the apron and port infrastructure in line with needs and establish a competitive framework to shift transport to rail and waterways

3. Actively shape and drive the digital transformation

3.1 Current situation

The digital transformation is bringing about continuous and fundamental change in industry and society, not least due to the emergence of increasingly efficient digital technologies. The rapid speed at which information technology has developed in recent years has allowed for some radical changes in devices, processes and business models. In certain areas, the efficiency, productivity and quality of processes, products and services could be improved considerably. Businesses in all economic sectors are competing for the best way to use the new possibilities, which governments worldwide must provide the best framework for. This also applies to the digitalization of maritime logistics.

The processes underlying the digital transformation have to be shaped such that they bring maximum value and benefit to Germany as a logistics centre and business location as well as to the people employed here. This also means providing good jobs and making targeted use of the advantages the transformation has for environmental protection and climate change mitigation.

Setting the course for continued digital transformation of the ports

The digital transformation of the ports is already underway. More and more individual procedures are being interlinked. It is therefore vital to tap the potentials of digitalization and to (further) develop possible applications. Businesses and policymakers have to establish the framework necessary to this end. We need a secure, high-capacity digital infrastructure, a beneficial legal framework for digital applications (for instance in data processing and connectivity), and technical norms and standards.

Given the increasing automation of port logistics, the possibility to participate in decision-making processes is a key element when it comes to shaping a modern work environment, attracting a skilled workforce and successfully transforming straining and hazardous areas of work. Automation makes it necessary to process and secure data relating to individual work processes and ensure stable and secure data communication, including comprehensive data storage.

Bringing the Digital Decade to the ports

Modern, innovative port technologies and the corresponding port infrastructure can only be established if research establishments cooperate with potential users from the ports sector. Taking measures based on relevant research and development findings can pave the way for the digital transformation in the ports, thereby ensuring Germany's progressiveness and competitiveness as a port location.

In its Digital Strategy, the Federal Government has developed a clear vision for the process of transforming society, industry and science. In line with the European Union's 2030 policy programme

'Path to the Digital Decade', the Digital Strategy outlines the vision for digital progress until 2030: nationwide fibre-optic connections to the home and the latest mobile communications standard, digital administrative services for a modern and inclusive state, and innovations from science and research that benefit all citizens. The National Ports Strategy will be dovetailed with the Federal Government's Digital Strategy and the EU's 2030 policy programme for the Digital Decade.

3.2 Strategic goals

Infrastructure and legal framework – the general conditions for the German ports industry and its business models reflect state-of-the-art technology and innovation.

- Continue and intensify research and development of port-related technologies, logistics and services in consideration of socio-economic and ecological impacts. Establish funding programmes for innovative port technologies and digital test beds in ports. Transfer the findings gained to regular and standardized applications

- Harness the innovation and optimization potentials of ever more complex logistics by introducing new digital services and process innovations and by smartly interlinking them. Speed up innovations in ports, with process partners and at interfaces

- Continuously adjust legal framework to foreseeable technological developments and establish new regulations where appropriate

- Establish a flexible and effective framework allowing ports to counter cyber risks and hybrid attacks and ensure cybersecurity measures

4. Secure and future-proof training and jobs

4.1 Current situation

The German ports, handling companies and other port-related service providers offer good jobs in a challenging and dynamic environment. However, the work environment at the ports is constantly changing on account of multiple factors: digital transformation and automation, the transformation of the energy system, the shift towards alternative propulsion systems and fuels, and changes in logistics processes as well as demographic change. At the same time, port logistics face a shortage of labour. Although structural change places high demands on employees, it also offers new opportunities.

Playing a part in shaping the transformation of work

The qualifications of the workforce have to be adapted accordingly. While manual labour jobs are on the decline, there are more and more jobs involving monitoring and controlling responsibilities. A considerable effort is required to reach the common objective of shaping the impacts of technological change on employment in a positive way and securing good jobs for the workforce. We must maintain and continue to develop good working conditions secured under collective agreements. The social partners have the crucial role of using the transformation process in the ports to shape the developments in the interest of the workforce and making ports fit for the future.

4.2 Strategic goals

Expand the labour pool, position ports as future-proof places of work, promote young professionals, take qualification measures – businesses and their employees adapt to constant change and drive technological innovation.

- Support the training, further education and qualification of the workforce taking transformation, digitalization and automation processes as well as demographic change into account

- Maintain and strengthen education and training systems and institutions and align the contents to be conveyed with the challenges of the future. Promote ma-co (maritimes competenzcentrum GmbH) as a joint further education institution of the social partners

- Establish qualification standards and requirements for the jobs of the future

- Promote working in the ports and make it more attractive. Improve the public image of the ports industry as a diverse and forward-looking employer

- Include parties involved in decision-making in the planning and implementation of technological innovation processes as early as possible

- Develop perspectives for shipyard locations in order to provide jobs related to green tech (including the wind and hydrogen economy) and climate-neutral shipbuilding in the future

5. Maintain, upgrade and protect transport and communications infrastructure in line with demand

5.1 Current situation

Efficient transport, port and communications infrastructure forms the basis for successful port development. Existing infrastructure must be evolved. Efficient hinterland connections by rail, road and waterway are required so that ports in global transport chains are accessible from both the seaside and the shoreside.

In 2020, one quarter of freight transport in Germany was handled by rail (17.9%) and by inland waterway vessel (6.9%). With their handling facilities and sidings, the German inland ports – just like the German sea ports – are intermodal freight transport hubs. Port hinterland traffic currently makes up a quarter of rail freight traffic and is expected to increase further. Hinterland connection schemes for rail and waterway are therefore of particular importance.

The sea ports and their hinterland connections are also of strategic importance, especially in view of the defence of national and allied territory and Germany's significance as a logistics hub.

Already today, port infrastructure in structurally weak regions can be funded under the Joint Federal Government/Federal State Scheme for the Improvement of Regional Economic Structures (GRW). Since the reform of the Joint Federal Scheme, the federal states have been able to grant higher rates for infrastructure projects that contribute to making the economy climate-neutral and generally sustainable.

Efficient connections are a competitive advantage

Germany as a port location benefits from its good connections to the rail, road and waterway networks. Efficient road and rail connections are a decisive competitive advantage for the country's sea ports that needs to be maintained and strengthened. The German sea ports are also the biggest rail freight terminals in Europe. It is in the interest of the economy and of environmental and climate protection to maintain this network, expand it in line with demand and enhance its performance and reliability, taking into account the necessary conversion of rolling stock to alternative drivetrains and the necessary electrification of rail networks.

The efficiency of the seaward approaches to the German sea ports and their hinterland connections is a key factor for their success. Realizing upgrading projects on the seaward approaches is therefore of great importance for the development of the ports. The German inland ports are currently also affected by inadequate resilience and stability of transport routes. Planning and approval of transport infrastructure measures must be considerably accelerated and designed to be environmentally friendly, and the reliability of transport infrastructure must be significantly improved.

Environmental factors and climate change impact the functionality of ports.

The consequences of climate change, such as rising sea levels, storm surges and high and low water events due to periods of heat, can already be felt today. They can significantly impair the functionality of sea ports and inland ports and therefore also have a negative economic impact.

Port infrastructures are generally built for a useful life of 80 to 100 years. Within this period, environmental and climate-induced changes take effect. The technical requirements to be met by the infrastructure as a result of environmental factors and climate-induced changes need to be integrated in the planning, maintenance and upgrading strategies, and necessary adaptations need to be made early in time.

Upgrade efficient hinterland connections

Transport and communication infrastructure is a field of action which must be considered holistically, taking all modes of transport into account, and which must be planned in line with demand. As freight volumes are expected to increase in future, hinterland connections, in particular in the federal railway and federal waterway networks, need to be upgraded, too, and the efficiency of the trunk road network needs to be maintained, while a particular focus is put on the rehabilitation and modernization of bridges. Moreover, requirements for deploying personnel and material of the Bundeswehr and of allied forces in the context of national and allied territory defence must be taken into account. It is also important to clearly identify the current challenges resulting from limited capacities of the modes of transport, identify optimization potential as specifically as possible and set an ambitious time frame for the targets. Rail freight transport must be explicitly established as a key competitive advantage of the German sea ports in all major transport policy instruments of the Federal Government and of the federal states, especially in the design of the Deutschlandtakt.

The inland and sea ports are also of great importance for ferries, excursion boats and cruise ships. Transport to and from Sweden, Norway and Finland is handled by freight and passenger ferries. Hinterland connections for freight and passenger road transport must be secured accordingly.

Ensure the accessibility of ports

In its coalition agreement, the Federal Government committed itself to facilitating comprehensive accessibility for people with disabilities in Germany. This was confirmed by the Cabinet decision on the Federal Accessibility Initiative. With this in mind, accessibility for all travellers should also be taken into account when upgrading, converting or building new cruise terminals and landing stages for excursion boats or when providing services.

5.2 Strategic goals

Secure funding, accelerate implementation – transport and communication infrastructure is a top priority.

The Federal Government and federal states assume joint responsibility for port infrastructure

- Ensure structural maintenance, replacement and upgrading of port infrastructure within the scope of responsibilities

- Protect port infrastructure and guarantee its use in times of peace, crisis and war

- Avoid unnecessary duplicate infrastructures, but ensure redundancies that keep the system running

- Increase the resilience of ports

- Consider accessibility for people with disabilities in all construction measures at German ports with passenger transport

Maintain and upgrade transport infrastructure

- Structural maintenance, optimization and needs-based as well as environmentally friendly upgrading and new construction of the waterway, road and rail hinterland connections as well as the seaward approaches to the sea ports to ensure reliable and resilient connections to the ports, taking into account the future effects of climate change (low water)

- Streamline and accelerate planning and approval procedures to the extent possible and take environmental concerns into account to swiftly realize projects which have received the go-ahead for construction. Involve potentially affected parties in the projects before the official planning process to speed things up

- Support a high level of participation by German ports in European funding programmes such as the Connecting Europe Facility (CEF) in order to achieve the highest possible financial returns from the CEF to Germany. Participate in EU partnerships such as the Zero-Emission Waterborne Transport platform and the Smart Networks and Services Joint Undertaking in order to benefit from international expertise and establish research findings at national level

- Review and reassess the need, relevance and financing of all projects with relevance to German sea ports and inland ports from the Düsseldorf and Ahrensburg lists

Develop climate-resilient and environmentally friendly ports

- Improve climate resilience as well as environmental and climate friendliness of existing and planned port infrastructure and port management as key factors for the future viability of ports

- Develop sustainable strategies for maintaining reliable and efficient approaches to the sea ports in coordination with the federal states, work towards reducing the amount of sediment to be disposed of and the amount of pollutants in sediments

- Support research and development for climate-neutral, climate-resilient and environmentally friendly ports as well as the application of research findings and new technologies (e.g. the use of electric tugboats) in ports

- Strengthening of port railways by the Federal Government as a prerequisite for increasing the rail share of the modal split in Germany as a whole

Expand digital infrastructure

- Expand the network infrastructure, in particular nationwide fibre-optic coverage and state-of-the-art mobile communications standards in ports as well as along federal waterways, also taking IT security aspects into account, and thereby promote the increased use of IT systems in shipping and their protection against cyber attacks

The strategic goals formulated here for the individual fields of action are intended to help realize the vision of an efficient, innovative and environmentally friendly port location.

The top priority is to strengthen the competitiveness of German sea ports and inland ports on the basis of sustainable design, i. e. in compliance with the relevant national, European and international acquis on environmental, water and marine protection. Only if competitive conditions are nationally and internationally standardized and fair can the ports fully develop their performance potential in the interests of society as a whole and do justice to their strategic importance. In addition, they must step up in their role as important players in the transformation of the energy and transport systems, digitalize their business models and operational processes, position themselves as attractive and future-oriented employers and be able to realize an optimal multimodal transport infrastructure.

The strategic goals provide the framework. In order to achieve these effectively and bring about change, specific measures are required. These are listed in the following document. It is designed as a "living document" and is regularly developed and updated. New measures can be added, and measures that have already been implemented can be removed in order to ensure that the document is as up to date and relevant as possible.

Glossary

Ahrensburg List
The Ahrensburg List was agreed by the transport ministers of the northern German federal states in September 2008 and defines infrastructure measures that are of great importance to these states. They include the upgrading of heavily used hubs, sea port hinterland connections and main transport arteries.

Alternative Fuels Infrastructure Regulation (AFIR)
EU regulation whose main objective is to ensure sufficient access to a network of charging and refuelling infrastructure for road vehicles and ships powered by alternative fuels

Bunkering
The takeover and storage of fuels for the propulsion systems and own use of the ship

Carbon capture and storage
Permanent storage of CO_2 in deep geological layers of rock to reduce CO_2 in the atmosphere

Clydebank Declaration
Signed by more than 20 states – including Germany – at the UN Climate Change Conference in Glasgow (COP26) in 2021. The Declaration aims to create zero-emission shipping corridors.

Connecting Europe Facility (CEF)
An important EU financing instrument to promote growth, employment and competitiveness through infrastructure investments at European level. The CEF comprises three sector programmes in the areas of energy, transport and digital.

Düsseldorf List
The Düsseldorf List features infrastructure projects of which the federal states of North Rhine-Westphalia, Bavaria, Hesse, Rhineland-Palatinate and Baden-Württemberg expect to make a contribution to the strengthening of hinterland connections to and from sea ports. It was submitted to the Federal Ministry of Transport, Building and Urban Development, as it was called at the time, for the first time in November 2013. An updated version was submitted to the Federal Ministry for Digital and Transport in May 2023.

Renewable fuels of non-biological origin (RFNBO)
Refers to liquid or gaseous fuels of non-biogenic origin that are produced using renewable energy. This category also includes green hydrogen, for example.

EU ETS rules
The EU Emissions Trading System (EU ETS) is a key market-based instrument to reduce greenhouse gas emissions in the EU. The EU ETS rules will be expanded to the maritime sector as of 2024.

European CO_2 infrastructure
Infrastructure that ensures the transportation of CO_2 from the place of emission (e.g. industrial sites) to corresponding storage sites in the EU as part of carbon capture and storage efforts.

FuelEU Maritime
EU regulation on the use of renewable and low-carbon fuels in maritime transport; aims to reduce the greenhouse gas intensity of energy consumed on board ships by up to 75% by 2050 by promoting the use of more environmentally friendly fuels on ships.

Main leg
Main section in a freight transport chain – located between the initial and terminal hauls. This classification of the logistics chain is only valid for combined (multimodal) transport operations and grouped consignments that are not handled directly.

Hinterland transport
Also referred to as inland traffic to and from sea ports. Designates the transport of export goods to sea ports and the transport of import goods in the opposite direction by road, rail and inland waterway.

IMO Strategy on Reduction of GHG Emissions from Ships (2023)
The International Maritime Organization (IMO) is a specialized agency of the United Nations which establishes global rules for shipping. In July 2023, the 175 IMO member states adopted in consensus a new strategy to reduce greenhouse gas emissions. It stipulates that GHG emissions from international shipping are to reach net zero by or around, i. e. close to, 2050 (2023 IMO Strategy on Reduction of GHG Emissions from Ships).

Converter platforms
Substations that are often installed in connection with offshore wind farms on the high seas. They are needed to enable electricity to be transmitted over longer distances using direct current and to minimize transmission losses.

Shore-side electricity/shore-side electricity systems
The supply of a ship with external power during a layover from local power grids. Ships that draw shore-side electricity do not use their engines, which often consume fossil fuels, during a layover. The upgrading of shore-side electricity systems, i. e. the infrastructure required to obtain shore-side power, can therefore help to reduce emissions.

Level playing field
Common rules and standards which create equal and fair conditions of competition for all market players.

Modal split
Share of the individual modes of transport in the total transport volume. The modal split, or market share, provides information on the use of means of transport and the kilometres travelled per person or tonne.

Range/range of ports
Ports within a region that are combined in a group. The ports in a range are in competition with each other.

Natural flood storage areas
Areas that serve to retain rainwater or to attenuate a flood wave on bodies of water. They are related to soil sealing and development of areas, in particular in urban areas and on bodies of water. Natural flood storage areas contribute to reducing the effects of flooding.

Short sea shipping
Refers to maritime freight transport between ports in Europe as well as ports in Europe and ports in non-European countries with coasts on the inland seas bordering Europe.

Smart Networks and Services Joint Undertaking (SNS JU)
Established in 2021 as a legal and funding entity as part of the ten European Partnerships to step up the green and digital transition. Enables the pooling of EU and industrial resources in smart networks and services. It also fosters alignment with member states for 6G research and innovation, and deployment of advanced 5G networks. The SNS JU has an EU budget of €900 million for the period 2021–2027.

Zero-Emission Waterborne Transport platform
A partnership co-funded by the EU with the aim of developing disruptive and economically viable solutions through research to reduce greenhouse gas emissions as well as air and water pollution from shipping

III

Measures part

The implementation of all proposed measures is subject to the availability of budget funds and funding competencies

1. Strengthen Germany's competitiveness as a port location

Strategic goals	Measure	Time horizon	Responsibility
Creating and maintaining a level playing field			
Create and maintain a level playing field at international, European and national level, especially with regard to tax regulations and their application to different stakeholders in maritime supply chains.	1.1 Import turnover tax: **examination** of the "due-date model" in force since December 2020 and evaluation of the German Maritime Centre (DMZ)'s study. Discuss possibilities of **improving the import turnover tax collection procedure.**	As soon as possible	Federal Government/ federal states
	1.2 Advocate at EU level for a **uniform EU-wide interpretation of the tonnage tax** and restrict it exclusively to waterborne freight transport between two ports.	By 2028 at the latest	Federal Government
	1.3 Simplify EU state aid law to **facilitate funding of port suprastructures;** the current GBER, for example, prohibits the funding of heavy-duty crane systems (as they are suprastructures) and thus impairs the objective of modal shift, among other things.		Federal Government/ European Commission
	1.4 Draft a **European Port Strategy.** (Note: decision of the Bundestag.)		Federal Government
	1.5 **Concentrate approval projects** for or in ports in one specialized approval authority per federal state in order to promote the development of expertise and thus faster, better-quality and legally secure decisions.	Ongoing	Federal states

Strategic goals	Measure	Time horizon	Responsibility
	1.6 Ensure that existing barriers and disincentives to the **environmentally friendly modernization of mobile handling technology** in ports are removed. To achieve this, the bundling of environmental permits must be changed from a discretionary provision to a general rule. In addition, there must be an exemption from the permit requirement under traffic law and the subsequent areas of law for the use of mobile handling machines in the port area.		Federal Government/ federal states
	1.7 **Review immission control and water legislation requirements for the handling of goods in ports** with the aim of reducing barriers to the handling of port-related goods in ports without lowering environmental standards. In particular, the classification of aquatic pollutant substances according to categories of water risk (section 3 and Annex 1 of the Regulations Governing Installations that Handle Aquatic Pollutant Substances (AwSV)) should be reviewed.	2025	Federal Government
Improve, deregulate and accelerate port-related planning and approval procedures in both infrastructure and operations (for instance in cargo handling) in a qualitative, environmentally sustainable way. This also includes speeding up and simplifying the onward transport of large and heavy goods by road.	1.8 Review and standardize **planning and approval procedures** and reduce processing times. This also includes speeding up and simplifying the transport of large and heavy goods transshipped to the road in order to shorten the storage-in-transit period in the port.	2024	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
Establishing and benefiting from cooperations			
Commitment by stakeholders to cooperate and establish cooperations between ports where this makes economic and ecological sense and is permissible under competition law.	1.9 Conduct a **feasibility study on cooperation between ports** taking legal and financial aspects into account.	2028	Federal Government/ federal states
Make use of cooperation and coordination at national and international level to strengthen port and business locations and mitigate climate change; for instance take a harmonized approach to introducing ambitious requirements as well as incentivization schemes for climate and environmental protection.	1.10 Explore (legal) **leeway for harmonization.** Accelerate harmonization and cooperation.	Immediately	Federal Government
	1.11 Harmonize **environmental, labour and social standards** of port regulations to a future-proof level.		Federal states
	1.12 Harmonize port regulations and port legislation at federal state level with the aim of establishing **uniform requirements for all federal states** (e.g. when implementing new environmental and climate protection requirements).		Federal states
Implementation of (EU) provisions according to uniform standards.	1.13 In terms of national implementation in the port sector, the Federal Government/federal coastal states working group focuses on **dovetailing legislation at EU, Federal Government and federal state level.**	Ongoing	Federal Government/ federal states
Harmonize port-specific regulations, standards and provisions at municipal and federal state level so that customers and businesses of the ports sector can employ their strengths in the best way possible and thus maintain and reinforce their position in the European competition and in international trade.	1.14 Develop **common framework standards** to promote qualitative competition and exploit synergy effects between the ports.	Ongoing	Federal states/ Federal Government

Strategic goals	Measure	Time horizon	Responsibility
Supporting land use planning and development			
Forward-looking land acquisition for handling, logistics and establishment of port-related industry and businesses.[3]	1.15 **Reserve land for companies relevant to the transformation of the energy and transport systems;** municipal pre-emption rights are suitable instruments for this purpose.	Immediately	Federal states
	1.16 Examine the possibility of **a general exemption rule for areas within (public) ports** in sections 78 and 78a of the Water Resources Act (WHG), which generally exempts these areas from being designated as flood-plains or from planning and use prohibitions.	2025	Federal Government
	1.17 Check **de minimis limit for natural flood storage area compensation** for construction measures in areas within the port area that are not relevant in terms of flow in the event of flooding.	2025	Federal states/ Federal Government
	1.18 Permanently ensure that the ports sector and the businesses established in the port area can fully use the **port areas defined as special areas** under the Federal Land Utilization Regulations (BauNVO) without being prevented from doing so by closer residential property development and the requirements this entails, e.g. under emissions law.	2025	Federal states/ Federal Government

[3] Insofar as spatial planning law is affected, the measures are subject to the proviso that a weighting or prioritization of certain spatial uses – in this case ports – only takes place in the course of a case-by-case, location-specific planning act that weighs up all conflicting interests, but not through federal acts. In this respect, the planning autonomy of the federal states and local authorities must also be observed.

Strategic goals	Measure	Time horizon	Responsibility
	1.19 Generally classify inland ports as **nationally significant** and include them in regional planning at state level in order to secure port areas for port-related use. The process should be based on the existing regulations and ongoing processes in Baden-Württemberg, Rhineland-Palatinate and North Rhine-Westphalia.	2028	Federal states
	1.20 **Identify land requirements, provide land.** Identify additional land reserves in connection with national responsibilities at all port locations. Determine areas required for LNG.		
	1.21 **Secure existing port areas,** taking into account development potentials and possible expansions/new emission requirements by making provisions in (planning) law.	By 2025	Federal states/ Federal Government/local authorities
	1.22 Strengthen and strongly secure existing structures and expansion potentials against competing uses. Prioritize future-oriented uses, if necessary with deep-sea access, for example relevant use for the transformation of the energy system, energy supply and the circular economy.		
	1.23 **Joint transfer of federal ports of refuge** that are no longer used as such to subsequent use together with the federal states and local authorities concerned.	Immediately	Federal states/ Federal Government

Strategic goals	Measure	Time horizon	Responsibility
	1.24 **Involve port-related companies** at commercial port locations in plans, projects and use scenarios of spatial significance and consider their interests.	Ongoing	Federal states
	1.25 **Protect land suitable for handling** against use that is not port-related.	Ongoing	Federal Government/ federal states/ local authorities
	1.26 Protect ports and port facilities with appropriate measures that can be extended as part of land use, land expansion if necessary.	Ongoing	Operators
Crisis management and defence			
Cooperation between port operators, local authorities, federal states and the Federal Government with the goal of increasing the resilience and protection of ports and port facilities as well as maintaining logistics operations in general, but especially in times of crisis and states of tension and defence.	1.27 Based on current and future legal bases (e.g. KRITIS umbrella act), affected operators of facilities and systems are called upon to take, implement and provide evidence of appropriate measures.	Ongoing	Operators/ local authorities/federal states/Federal Government

Strategic goals	Measure	Time horizon	Responsibility
Cooperation between the Federal Government and the federal states and between the individual federal states			
Close cooperation and coordination between the Federal Government and the federal states (on EU port policy, EU infrastructure policy and with regard to funding programmes) in order to maintain and further strengthen the locational advantages of the German ports (e.g. hinterland connections).	1.28 In consultation processes on EU regulations and EU directives that provide for the construction of facilities or infrastructure in ports (e.g. shore-side electricity systems or reception facilities and degassing facilities for ships), the Federal Government and the federal states continuously and explicitly advocate a **corridor-based and thus needs-based approach** towards the EU Commission so that bad investments in the form of redundant, unused facilities (unnecessary multiple infrastructures) can be avoided.	Ongoing	Federal Government/ federal states
Strengthen cooperation between coast and inland states and explore possibilities for collaboration.	1.29 Set up a **Federal Government/ federal state task force** under the lead responsibility of the Federal Ministry for Digital and Transport (BMDV) to discuss possible cooperations between ports and the question of financing as well as energy issues and develop solutions, possibly expanding the Federal Government/federal coastal states working group.	Immediately	Federal Government/ federal states

2. Make ports sustainable hubs for the transformation of the energy system, climate-neutral shipping and industry as well as for modal shift

Strategic goals	Measure	Time horizon	Responsibility
Transforming energy and commodity imports and supporting the defossilization of shipping			
Energy and raw material imports Encourage cooperation between potential German port locations in the TEN-T core network for terminals and infrastructures, taking into account actual market demand in the short and long term alongside other developments. Location decisions are to be taken from a national perspective and subject to a demand analysis and transparent criteria. Criteria may include connections to the gas or hydrogen network, questions of environmental, nature, water and marine protection, land take issues, and, in the case of fossil infrastructures, the possibility of future use in terms of renewable fuels of non-biological origin (RFNBO) and hydrogen and its derivatives in line with the National Hydrogen Strategy that goes beyond the use of e-LNG.	2.1 Provide sufficient **space for storage facilities and tank farms** to store energy sources and for the production of green energy sources (electrolysers).	Ongoing	Federal states/ local authorities
	2.2 Provide the **space and berths** required for energy sources such as renewable aviation fuels of non-biological origin or others. Develop strategies for the conversion of land used for conventional commodities (including coal, oil, ores) with a view to transforming the energy supply.	Ongoing	Federal states
	2.3 **Assessment** of the **port infrastructure** required to achieve the goals of the transformation of the energy system and the infrastructure that is already in place – study on the energy port of the future (‘Energiehafen der Zukunft’)	Immediately	Federal Government

Strategic goals	Measure	Time horizon	Responsibility
Support the defossilization of shipping Defossilize shipping by providing the necessary infrastructure for sustainable renewable energy sources and fuels. Extend Germany's lead in building shore-side electricity systems.	2.4 Early **expansion of storage and bunkering capacities** for renewable fuels of non-biological origin (RFNBO) to enable the defossilization of shipping.	Ongoing	Infrastructure operators
	2.5 Ports implement the requirements of European regulations, e.g. AFIR, FuelEU Maritime, RED at an early stage.	Ongoing	Infrastructure operators
	2.6 Participate in the creation of **harmonized and high environmental and climate standards** and coordinate the development processes of various regulations and the regulations themselves, taking into account differences inherent in the sector and mode of transport.	Ongoing	Federal Government/ federal states
Further develop and harmonize incentivization schemes to increase environmental protection and climate change mitigation in shipping.	2.7 Participation of ports in **green shipping corridors** (Clydebank Declaration and G7 commitment/Climate, Energy and Environment Ministers' Communiqué of 2023).		
Reducing energy consumption, defossilization and improving sustainability in ports			
Ports help to reduce air pollutants and, on their path to defossilization, aim to become greenhouse-gas-neutral by 2045.	2.8 Expand **transport infrastructure for alternative drivetrains in the ports** in order to decarbonize port logistics. Establish a nationwide high-power charging infrastructure and, at the same time, upgrade power grids. (Note: for HGVs or terminals, for example.)	Based on corresponding strategy	Federal states/ local authorities/port operators

Strategic goals	Measure	Time horizon	Responsibility
Define and implement the role of ports in an extensive circular economy. Develop and harness the potential of ports in the context of the circular economy (especially with regard to ship-generated waste, waste water and cargo residues).	2.9 Equip ports with **sophisticated systems for the collection and disposal of ship waste and waste water, including scrubber sludge and washwater** and, in particular, gaseous cargo residues; make areas available; speed up authorization procedures.	Immediately	Federal states/ local authorities/port operators
	2.10 **Implement** existing **regulations;** monitor compliance with obligations to ensure that available disposal facilities are actually used.	Immediately	Federal states/ Federal Government
Increase biodiversity on brownfield sites and in harbour basins.	2.11 **More natural design of embankments** as far as possible (ecologically sensible and economically justifiable) with alternative bank protections.	Ongoing	Federal states/ local authorities/port operators
Promoting environmentally friendly modal shift; making ports sustainable hubs			
Make ports hubs for energy and resource security and the supply of renewable energies and raw materials.	2.12 Strategic planning to quickly **establish the necessary port infrastructure** for the landing and onward transport **of hydrogen derivatives in accordance with the update of the National Hydrogen Strategy as well as of renewable fuels** in German ports and establish a stakeholder dialogue.	Ongoing	Federal Government
Continue to develop ports as logistical hubs for the expansion of wind energy (as places of storage and loading, a starting point for the deployment of offshore wind farms and, as of 2030, the dismantling of these, and as a base for service and maintenance work).	2.13 Implement the **paper of the Federal Ministry for Economic Affairs and Climate Action (BMWK) outlining the core principles of onshore wind energy** ('Windenergie-an-Land-Strategie'); for example: develop waterway network routes including handling points for wind turbines and cable drums in the main leg as well as establish hubs for wind turbines and cable drums on the waterway.	Immediately	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
	2.14 Invest in ports for **service and maintenance of offshore wind farms.**	Immediately	Federal Government/ federal states/ industry
	2.15 Invest in **construction ports** to implement 70 GW of offshore wind energy in the North Sea (300 GW in states bordering the North Sea).	Immediately	Federal Government/ federal states/ industry
	2.16 Invest in suitable ports for the **construction of converter stations for offshore wind farms.**	Immediately	Federal Government/ federal states/ industry
Develop ports under the Federal Government's Carbon Management Strategy (CMS) to become hubs of the planned European CO_2 infrastructure.	2.17 Create a regulatory framework for the **transport and handling of all foreseeable alternative energy sources** for all locations. Ports can also play an important role in transport as part of the Federal Government's Carbon Management Strategy (CMS).	By 2028	Federal states
	2.18. Plan ports as hubs for carbon management under the Carbon Management Strategy through appropriate links to European CO_2 networks.		
Make the German ports market leaders in technologies for the transport, handling, storage and bunkering of renewable energy sources and renewable fuels.	2.19 Create nationwide uniform regulations on the handling of fuels (production, storage, transport, refuelling as well as safety and distancing rules) to cut red tape, taking international and European regulations into account. This also includes examining simplifications to existing national regulations (e.g. DIN, BImSchV, labour law) and comparisons with competitors (e.g. Netherlands or Belgium).	Immediately	Federal states/ Federal Government

Strategic goals	Measure	Time horizon	Responsibility
	2.20 Approve **bunkering facilities** for renewable fuels of non-biological origin (RFNBO).	Immediately	Federal states
	2.21 Drive forward the expansion of **charging infrastructure and refuelling/bunkering infrastructure** for mobile port equipment and for all hinterland modes of transport.	Ongoing	Federal states
	2.22 Include **strategic construction and development planning** of port infrastructure for **alternative fuels** in an amendment to the National Strategic Framework for the Deployment of Alternative Fuels Infrastructure (NSR) as part of AFIR implementation.	Ongoing	Federal Government
Dovetail the National Ports Strategy with the relevant energy and environment policies and the defossilization strategies of the different modes of transport (including the System Development, Import, Hydrogen, Raw Materials, Carbon Management and National Water Strategies, the future National Marine Strategy, etc.) and ensure that the sea and inland ports are included in line with their functions. All measures should be based on existing research programmes and findings.	2.23 **Integrate the ports sector** appropriately in the development processes of other federal government strategies.	Ongoing	Federal Government
	2.24 Identify sources and sinks for the future **import and distribution of new fuels** from renewable sources (e.g. ammonia, LOHC, methanol) and investigate the network capacities available for their transportation by rail and waterway.	2025/2026	Federal Government
	2.25 Develop **import infrastructure for hydrogen** with terminals and pipelines (e.g. HyPerLink) and onward transportation by water, also taking into account sustainability aspects in accordance with the update of the National Hydrogen Strategy. Promote pilot projects for concrete implementation and application.	Ongoing	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
	2.26 Advocate clear, EU-wide framework conditions for the handling and storage of hydrogen, ammonia, LOHC and methanol, based on ambitious sustainability criteria.	Ongoing	Federal Government
Develop modern, practice-based sets of regulations for the construction, operation and approval of facilities as well as tailored financial instruments to drive the uptake of the required technologies in German ports.	2.27 Harmonize the **legal framework for the handling, use and transport of hydrogen** and hydrogen derivatives, taking into account sustainability standards in accordance with the update of the National Hydrogen Strategy.	As soon as possible	Federal states/ local authorities/Federal Government
	2.28 Develop a **financing concept** for the upgrading of the **port infrastructure** to support the **transformation of the energy system,** possibly in the Federal Government/federal state task force that is to be set up (measure 1.29).	Soon	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
Shift more and more transport operations to rail and waterways and strengthen the multimodal potential. Upgrade the apron and port infrastructure in line with needs and establish a competitive framework as well as infrastructure conditions to increasingly shift transport to rail and waterways.	2.29 Implement measures to **optimize the approval process for abnormal road transports (GST),** e.g. integration of waterway and port data into the Procedural Management for the Transport of Abnormal Loads (VEMAGS). Implement measures to set financial incentives for those involved in abnormal load transports to shift them to waterways and rail. Implement measures to **increase the attractiveness of a modal shift** in the area of infrastructure, e.g. designation of micro-corridors for abnormal transports as a safe connection from ports to the national road network in all federal states. Implement measures to increase the attractiveness of a shift in the area of information provision, e.g. current database for GST-appropriate handling facilities on federal waterways and in ports.		Federal Government/ federal states
	2.30 Transfer **Exemption Regulations to Section 36 (6) of the German Road Traffic Registration Regulations (StVZO)** to certain bulk freight transport operations on the initial and terminal hauls to and from ports. In a first step, evaluate the expert study commissioned by the Federal Ministry for Digital and Transport and perform transfer tests for the purpose of evaluation.	By 2025	Federal Government

Strategic goals	Measure	Time horizon	Responsibility
	2.31 **Define micro-corridors** on roads between ports and higher-order transport network in dialogue with the ports and federal states (simplification of the approval process for initial and/or final road haulage).	Immediately	Federal Government/ federal states/ infrastructure managers
	2.32 Start a **strategic dialogue on multimodal freight transport to strengthen intermodal transport.**	Immediately	Federal Government/ freight transport associations/industry
	2.33 **Strengthen multimodal transport** with waterway as main leg to enforce existing regulatory provisions. Note: waterway (StVO for GST) and rail (port railways).	Ongoing	Federal Government/ federal states
	2.34 Develop a **Short Sea Shipping Strategy** including inland waterway transport with a focus on determining the modal shift potential of parallel road freight transport on coastal and inland waterways.	Immediately	Federal Government/ federal states

3. Actively shape and drive the digital transformation

Strategic goals	Measure	Time horizon	Responsibility
Continue and intensify research and development of port-related technologies, logistics and services in consideration of socio-economic and ecological impacts. Establish funding programmes for innovative port technologies and digital test beds in ports. Transfer the findings gained from these to regular and standardized applications.	3.1 **Promote widespread use** of tried, innovative **digital technologies.**	Ongoing	Federal Government/ federal states
	3.2 **Simplify funding programmes** and set up or update them in such a way that SMEs and smaller ports can also participate.	Ongoing	Federal Government/ federal states
	3.3 Support **projects** in the field of (highly) **automated/autonomous shipping** in the port, inland and maritime navigation sectors by providing the necessary maritime infrastructure.	Ongoing	Federal states/ Federal Government
	3.4 Review to which extent upgraded or new digital applications can be used for **intensified cooperation between ports** and agree to implement possible appropriate measures to increase the degree of horizontal networking and coordination of the individual locations, including across national borders, e.g. by better connecting individual port community systems.	Ongoing	Federal states
	3.5 Hold **regular specialist exchanges** on funded projects in order to better dovetail research and development activities and manage them in a targeted manner in line with requirements.	Ongoing	Ports sector/ academic institutions

Strategic goals	Measure	Time horizon	Responsibility
Harness the innovation and optimization potentials of ever more complex logistics by introducing new digital services and process innovations and by smartly interlinking them. Speed up innovations in ports, with process partners and at interfaces.	3.6 Define and standardize **digital exchange formats** between the various stakeholders in the port handling process and the development of software solutions for the digital exchange of information between stakeholders (analogously to the Federal Government's Digital Strategy; https://digitalstrategie-deutschland.de/static/fcf23bbf9736d543d02b79ccad34b729/Digitalstrategie_Aktualisierung_25.04.2023.pdf).	Ongoing	Ports sector/ federal states/ Federal Government
	3.7 Strengthen **data exchange** through comprehensive digitalization of entire (multimodal) logistics chains, including terminals and shipping/ferry lines, e.g. between supply chain participants.	Ongoing	Ports sector/ logistics service providers/ public sector
	3.8 Digitalize and connect port logistics so that berths can be booked in advance and procedural changes can be responded to flexibly, e.g. to improve "just-in-time arrival" and save fuel and CO_2 emissions as a result of optimized travel speeds in port calls.	Ongoing	Ports sector
	3.9 Define open interfaces and standardized data exchange formats (open source) for the technical data implementation of digital consistency.	Soon	Ports sector/ federal states/ Federal Government
	3.10 Provide a joint cross-modal platform on electronic freight transport information (eFTI) in accordance with EU Regulation 2020/1056. (see also eFTI4EU, Germany is a project partner).	By 2026	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
	3.11 Identify the points of contact for the **electronic freight documentation** (eFTI) of public bodies, the ports sector, logistics and transport companies. (See also eFTI4EU, Germany is a project partner.)	By 2026	Federal Government/ federal states/ ports sector
	3.12 Establish a **joint information management system** to provide early notification of faults or repair work.	Soon	Infrastructure operators
	3.13 **Implement** and update the projects under the Federal Government's **Digital Strategy** with reference points to the ports, e.g. customs, police and port authorities.	Soon	Federal Government/ federal states
	3.14 Integrate public port administrations into the digital structures of port logistics.	Soon	Port authorities/federal states
Continuously adjust legal framework to foreseeable technological developments and establish new regulations where appropriate.	3.15 Establish the legal and technical prerequisites so that NSW[4]/ EMSW[5] data can also be used by private economic operators.	Soon	Federal states/ Federal Government

[4] National Single Window; https://www.national-single-window.de/public/home
[5] European Maritime Single Window; https://transport.ec.europa.eu/transport-modes/maritime/eu-wide-digital-maritime-system-and-services/european-maritime-single-window-environment_en

Strategic goals	Measure	Time horizon	Responsibility
	3.16 Create a **legal framework for smart shipping applications** and, in future, autonomous shipping, which in particular enables deviations from the current personnel regulations for inland vessels. In particular, this requires changes with regard to the minimum safe manning requirements set out in the Regulations for Inland Navigation Personnel (BinSchPersV) as well as the approval of ships set out in the Regulations for the Inspection of Inland Navigation Vessels (BinSchUO).	By 2025	Federal Government
	3.17 Create a legal framework to enable automated or autonomous handling activities in port areas in future. This concerns, among other things, construction and equipment specifications as well as approval procedures for handling equipment such as cranes or reach stackers.	Soon	Federal states/ Federal Government
	3.18 Record, review and adapt the relevant legal provisions so that the positive effects of digitalization and associated new business models can unfold; the aim is to create digitally compatible laws that guarantee a reliable legal framework for the digital transformation and thus also legal certainty with regard to data access and exchange rights (including liability issues).	Ongoing	Federal Government/ federal states
	3.19 Develop and establish **standards for digital infrastructure** and processes, including telecommunications and network security – taking existing systems into account.	Ongoing	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
Establish a flexible and effective framework allowing ports to counter cyber risks and hybrid attacks and ensure cybersecurity measures[6].	3.20 Increase the number of and appropriately **connect port cybersecurity officers** across locations.	Ongoing	Port authorities/federal states
	3.21 Develop expertise, IT and interfaces with a view to the cybersecurity of ports. Proactive implementation of the requirements for protection against cyber risks by the ports sector.	Ongoing	Federal states/ Federal Government/port authorities/ ports sector
	3.22 Consider aspects of port cybersecurity in new and existing research and funding programmes, with a particular focus on SMEs.	Ongoing	Federal Government/ federal states
	3.23 Shape the new requirements of the NIS2 Directive and the KRITIS umbrella act with regard to the use by ports together with the industry and the federal states. Support the industry and the federal states in implementing the new requirements. Relevant points: define affected companies and activities; risk assessment; cost-benefit assessment; division of labour between authorities and companies; provision of resources for implementation; harmonization; provision of a single point of contact for companies and bundling of official responsibilities, where objectively possible.	Ongoing	Federal Government/federal states/port authorities/ ports sector

[6] The term cybersecurity refers to measures that serve to defend computers, servers, mobile devices, electronic systems, networks and data against malicious attacks.

4. Secure and future-proof training and jobs

Strategic goals	Measure	Time horizon	Responsibility
Support the training, further education and qualification of the workforce and adapt these to transformation, digitalization and automation processes as well as to demographic change.	4.1 Recruitment of young talent through **advertising and promotion** of STEM subjects in schools, STEM training and STEM degree programmes.	Permanent task	Federal states/ ports sector
	4.2 Establish a **pool of skilled labour** and set up patent programmes.	Immediately	Federal states/ ports sector
	4.3 Promote **dual vocational training.**	Permanent task	Federal states/ ports sector
	4.4 Develop and intensify **dialogue formats/platforms and cooperations** between ports and schools.	Permanent task	Federal states/ ports sector
	4.5 Offer **continuing professional development options for teachers** with a focus on professions in the port and the economic importance of ports.	Permanent task	Federal states/ ports sector
	4.6 Develop **basic vocational training programmes** for school dropouts.	Immediately	Federal states/ ports sector
	4.7 Develop and implement a **skilled labour strategy for the sector.** Consider the entire spectrum, from simple forms of training to university degrees, as well as practical questions of recruitment in times of increasingly scarce qualified personnel.	Immediately	Federal states/ ports sector

Strategic goals	Measure	Time horizon	Responsibility
	4.8 Establish an **operationally oriented dialogue and transformation platform** for employees in the ports sector, with the participation of employers in the ports sector, the Federal Employment Agency, the social partners (ver.di & ZDS), the chambers of commerce, political representatives and education providers in the German ports sector supported by the social partners. Responsibilities include – Determine inter-company skill and qualification requirements and simultaneously screen qualification potential of existing employees. – Derive potential short- and medium- to long-term personnel exchange potentials between the participating companies (no to low/medium to high qualification requirements) and coordinate/implement corresponding qualification measures. – Additional joint training and qualification of basic future skills beyond company requirements to ensure high adaptability of employees and companies. In the case of small partner companies, support and consolidate with joint coordination of qualification measures.	Permanent task	Ports sector/ social partners/ chambers of commerce/ Federal Government and federal states

Strategic goals	Measure	Time horizon	Responsibility
Maintain and strengthen education and training systems and institutions and align the contents to be conveyed with the challenges of the future. Promote ma-co (maritimes competenzcentrum GmbH) as joint further education institution of the social partners.	4.9 Continue the **IHATEC PortSkill 4.0 project** with a special focus on the socio-economic impact of technological processes.	Immediately	Federal Government/ ports sector/ trade unions/ ma-co
	4.10 Further develop qualification and continuing education to better meet the **challenges of the digital transformation.**	Immediately	Ports sector/ federal states/ Federal Government
	4.11 Determine training requirements. Adapt training content as required (dual vocational training and degree programmes).	Permanent task	Ports sector/ federal states/ Federal Government (where applicable)
	4.12 Identify **future requirements for teaching staff** (higher education and vocational schools) and develop strategies to meet these requirements.	Permanent task	Ports sector/ federal states
	4.13 Develop a suprastructure and infrastructure synchronized with the individual port companies at the education providers of the German sea ports, where **practical training and further education** can be offered.	Immediately	Ports sector/ ma-co
	4.14 Establish **cross-company training centres for management development and cluster competencies,** e.g. with the participation of ma-co (maritimes competenzcentrum GmbH).	Immediately	Ports sector
	4.15 Establish a **supraregional, structured dialogue/network** between the parties involved on the following topics: shortage of skilled workers, development of new relevant courses of study and training occupations, cooperation with universities, in particular on job profiles in the field of engineering.	Permanent task	Port sector/ trade unions/ federal states/ Federal Government

Strategic goals	Measure	Time horizon	Responsibility
Establish qualification standards and requirements for the jobs of the future.	4.16 Develop and define **require-ments/qualification standards** for the jobs of the future (reference to federal INOTEC programme).	Permanent task	Ports sector/ federal states
Promote working in the ports and make it more attractive. Improve the public image of the ports sector as a diverse and forward-looking employer.	4.17 Develop campaigns and formats to **directly address students at universities,** including social media.	Permanent task	Ports sector/ federal states
	4.18 Participate in **recruiting days and job fairs.**	Permanent task	Ports sector
	4.19 Offer low-threshold internships.	Permanent task	Ports sector
	4.20 Develop a basic vocational training year for the ports sector.	Immediately	Ports sector/ federal states
	4.21 **Joint external presentation of the participating companies** as a port-specific, attractive and innovative partner association of the ports sector – organized as a social partnership.	Permanent task	Ports sector
Include parties involved in deci-sion-making in the planning and implementation of technological innovation processes as early as possible.	4.22 Design and establish a **social dialogue** in the ports sector at national level.	Permanent task	Ports sector/ social partners
Develop perspectives for shipyard locations in order to provide jobs related to green tech and green shipbuilding in the future.	4.23 Expand special locations for in-ter-company apprenticeship training (Federal Government/ federal state funding) for the shipping/offshore wind sector. Expand maritime universities of applied sciences in cooper-ation with the federal states.	Immediately	Industry/ federal states

5. Maintain, upgrade and protect transport and communications infrastructure in line with demand

Strategic goals	Measure	Time horizon	Responsibility
Federal Government and federal states assume joint responsibility for port infrastructure			
Ensure structural maintenance, replacement and upgrading of port infrastructure within the scope of responsibilities.	5.1 Develop a **strategy** for the **financing of port infrastructures** to fulfil national tasks, possibly in the Federal Government/federal state task force that is to be set up (measure 1.29).	By the end of the parliamentary term	Federal Government/ federal states/ industry
	5.2 In addition to the ports that focus on the handling of goods in global trade, also take into account the **island and Halligen ports and their correspondent ports,** which primarily serve the provision of public services and support these with special measures. Flesh out future of federal ports.	Ongoing	Federal states
	5.3 **Improve the legal framework conditions for maintenance measures,** for example from an ecological point of view, without reducing environmental standards.	Ongoing	Federal Government
Protect port infrastructure and guarantee its use in times of peace, crisis and war.	5.4 Check the **protection of the infrastructure** and ensure its permanent condition.	Ongoing	Infrastructure operators/ federal states/ Federal Government
	5.5 Check the **protection of personnel** and users of the ports and ensure its permanent condition.	Ongoing	Infrastructure operators/ federal states/ Federal Government

Strategic goals	Measure	Time horizon	Responsibility
Increase the resilience of ports.	5.6 Examine the impact of climate change on the ports and have them develop **adaptation strategies to climate change** on the basis of standardized data (KWRA and current data basis, e.g. from the German Strategy for Adaptation to Climate Change (DAS) basic service). Take into account the requirements for climate, nature, environmental, civil and disaster protection as well as military defence concerns, especially those of allied forces in transit.	Soon	Infrastructure operators
	5.7 **Improve the resilience of existing and planned port infrastructure as well as of port management** and waterway infrastructure to the impacts of climate change in the context of the overall societal dialogue on climate resilience and nature conservation in waterways.	Ongoing	Infrastructure operators/ federal states/ Federal Government
Maintain and upgrade transport infrastructure			
Structural maintenance, optimization and needs-based as well as environmentally friendly upgrading and new construction of the waterway, road and rail hinterland connections as well as the seaward approaches to the sea ports to ensure reliable and resilient connections to the ports, taking into account the effects of future climate change (low water).	5.8 Prepare a **network condition report.**	Immediately	Federal Government
	5.9 Develop a **joint sustainable strategy** for the transfer and reduction of sediments.	Immediately	Federal Government/ federal states
	5.10 **Ensure the accessibility and connection to international sea routes of German sea ports and inland ports as well as emergency anchorages for defence purposes** and take appropriate account of the ease of shipping traffic as an important cornerstone of the competitiveness of German ports in consideration processes.	Ongoing	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
Streamline and accelerate planning and approval procedures to the extent possible to swiftly realize projects which have been given the go-ahead for construction. Involve potentially affected parties in the projects before the official planning process begins to speed up the process.	5.11 Implement the **pact for planning, approval and implementation acceleration** between the Federal Government and the federal states.	Immediately	Federal Government/ federal states
	5.12 **Standardize specialist requirements. Examine the possibility of a cut-off date regulation** for the up-to-dateness of environmental data and environmental assessment procedures.	Immediately	Federal Government
	5.13 Reduce the **average duration of planning and approval procedures** for transport infrastructure projects in Germany by 50%.	By 2030 at the latest	Federal Government/ federal states
	5.14 Adopt **planning law in conformity with European law** to eliminate distortions of competition between EU member states.	By autumn 2025/by the end of the current parliamentary term	Federal Government
	5.15 Use **Building Information Modelling (BIM),** also across Federal Government and federal state responsibilities.	Immediately	Federal Government/federal states/local authorities
	5.16 Make use of **acceleration potential** within the existing legal framework and lay the foundations for this with a positive error culture, modern administrative management and the active promotion of decisions.	Ongoing	Federal Government/ federal states/ associations
	5.17 Improve personnel capacities for planning and approval procedures. Use **interdisciplinary teams** to increase the competence of the authorities and avoid erroneous and thus legally contestable approval decisions.	Ongoing	Federal Government/ federal states

Strategic goals	Measure	Time horizon	Responsibility
	5.18 For replacement structures, check whether **sequential planning and approval of similar projects** (e.g. replacement structures of very similar bridges) can save time and personnel capacities.	Ongoing	Federal Waterways and Shipping Agency (GDWS)/project developers
Support a high level of participation by German ports in European funding programmes such as the Connecting Europe Facility (CEF) in order to achieve the highest possible financial returns from the CEF to Germany. Participation in EU partnerships such as the Zero-Emission Waterborne Transport platform and the Smart Networks and Services Joint Undertaking in order to benefit from international expertise and establish research findings at national level.	5.19 Support ports in **filing applications.**	Ongoing	Federal states
Check and reevaluate the demand for, necessity of and financing of all projects from the Düsseldorf and Ahrensburg lists that are relevant to German sea ports.	5.20 Prioritize projects to **eliminate bottlenecks.**	Immediately	Federal Government
Develop climate-resilient and environmentally friendly ports			
Improve climate resilience and the environmental and climate friendliness of existing and planned port infrastructure and port management as key factors for the future viability of ports.	5.21 Develop **individual adaptation strategies** that identify climate risks and hazards on the basis of standardized data (e.g. the 'Climate and Water' basic service of the German Strategy for Adaptation to Climate Change (DAS)). Show how these risks and hazards can be countered.	Ongoing	Infrastructure operators
	5.22 Create **reserves in the transport systems** (redundancy).	Ongoing	Industry
	5.23 Take into account the **Federal Government's Climate Impact and Risk Assessment** (KWRA) as well as the climate risks and recommendations for dealing with them addressed therein.	Immediately	Each for their area of responsibility

Strategic goals	Measure	Time horizon	Responsibility
Support research and development for climate-neutral, climate-resilient and environmentally friendly ports as well as the application of research findings and new technologies (e.g. the use of electric tugboats) in ports.	5.24 Bring new research findings into (test) applications more quickly.	By mid-2024 at the latest	Federal Government
Strengthening of port railways by the Federal Government as a pre-requisite for increasing the rail share of the modal split in Germany as a whole.	5.25 **Amend the Long-Distance Rail Freight Network Funding Act (SGFFG)** to enable the expansion and new construction of port railways in line with EU requirements. Facilitate the conditions for the unobjectionable premature start of construction.	As soon as possible	Federal Government
	5.26 Maintain **co-funding by the federal states** and extend it to federal states that do not yet co-fund.	Ongoing	Federal states
	5.27 Involve ports as partners in the **infrastructure planning relevant to them,** especially for upstream infrastructure such as shunting tracks and marshalling yards.	Immediately	Federal Government
	5.28 Consistently **implement priority projects to eliminate bottlenecks** in the ports' rail hinterland connections.	Immediately	Federal Government/ DB
	5.29 Contribute to **needs-based cross-border infrastructure and technical interoperability.** On the basis of the results of federal transport infrastructure planning, continue to support the development and construction of trans-European transport networks – with special consideration of ports as central components. Promote cross-border projects for cooperation between ports in border regions.	Ongoing	Federal Government

Strategic goals	Measure	Time horizon	Responsibility
Expand digital infrastructure			
Expand the network infrastructure, in particular nationwide fibre-optic coverage and state-of-the-art mobile communications standards in ports as well as along federal waterways, also taking IT security aspects into account, and thereby promote the increased use of IT systems in shipping and their protection against cyber attacks.	5.30 Establish and guarantee **cybersecurity** with regard to the networks.	Ongoing	Federal Government/ industry

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