



# Denmark at Work

## Plan for Growth in the Blue Denmark



December 2012

The Danish Government



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# SUMMARY

Denmark is one of the world's leading maritime nations. Danish shipowners and shipping companies are the fourth largest operators of foreign gross tonnage worldwide. A gross tonnage of approximately 62 million is operated from Denmark today.

In addition, with a gross tonnage of more than 11 million, Denmark is the world's nineteenth largest flag State.

The Blue Denmark is thus one of Denmark's strongest commercial strengths. All in all, Danish maritime companies account for 24 per cent of Denmark's total exports with a total production of more than DKK 287 billion or EUR 39 billion, corresponding to approximately 10 per cent of overall production in Denmark.

The Blue Denmark employs approximately 80,000 persons, while at the same time creating indirect employment for about 35,000 persons in other lines of business. Thus, the maritime cluster is of great importance to growth in Denmark.

The Blue Denmark also has a large number of companies whose activities originate in international and Danish shipping. They are, for example, shipping companies, ship-brokers, ports, logistics companies, shipyards and industrial and service companies supplying ships with equipment, components and service. Likewise, the Blue Denmark holds a strong position in the area of supply activities for the offshore industry in the fields of oil, gas and offshore wind.

The foundation for the Blue Denmark is the availability of competent, highly qualified employees with maritime, technical and mercantile training and education.

Employees in companies in the Blue Denmark have an average annual income above that of all employees in Denmark, and employees with vocational craftsman training constitute the largest educational group.

Global trade is expected to increase again after the current economic crisis, and as one of the most environmentally friendly and energy efficient forms of transport, transport by sea plays a decisive role in the global value chains. Thus, Danish shipping still has a potential for growth.

In addition, increased demand for, for example, new solutions for ballast water management, reduction of sulphur emissions to the air and the construction of ships in lightweight materials can support employment in the Blue Denmark.

The expected growth in the offshore area with, inter alia, a ten times increase in the global capacity in the field of offshore wind until 2020 will create more activity and employment in associated maritime supply activities.

These activities are one of the Blue Denmark's strengths, just as the maritime cluster has a unique chance of benefitting from the potential in the Arctic region. The Blue Denmark's servicing of the entire offshore industry can, thus, generate a large number of lasting jobs ashore.

The Blue Denmark is, and must continue to be, known for quality shipping with competitive maritime education and training programmes and high standards of health, safety and social conditions for seafarers.

Denmark has a world-class maritime cluster with skilled companies and employees. At the same time, it is the assessment that the Blue Denmark has a great potential for cre-

ating new growth and lasting jobs. Thus, Denmark can become a maritime growth centre with Denmark at the core of maritime Europe.

The Government's growth plan has been drawn up on the basis of recommendations made by the Growth Team for the Blue Denmark, with contributions from a wide circle of stakeholders from the Blue Denmark.

The growth plan is to create the foundation for utilising the potentials for growth and employment.

**The visions for the growth plan are as follows:**

- Denmark should be the maritime centre of Europe
- Green solutions are the future for the Blue Denmark
- Growth in the maritime cluster should be supported by strong Danish competences

This should be achieved by:

1. The Blue Denmark should be marketed as the core of maritime Europe.
2. It should be attractive to do maritime business in Denmark.
3. Growth should be created through green shipping and green solutions.
4. The Danish maritime strengths should be developed and utilised to create growth.
5. Maritime competences, training and education programmes, research and innovation should support growth.
6. Growth should be based on quality shipping.

International competition is strong in the maritime business. With its growth plan, the Government strives to develop the Danish maritime strength in cooperation with the industry. The period from 2005 to 2009 has witnessed a positive increase of employment in the Blue Denmark of 8,000 persons. If the framework conditions remain stable, the plan can in coming years support an increase in employment of several thousand jobs in the Blue Denmark out of the total anticipated growth in employment.

## **1. THE BLUE DENMARK SHOULD BE MARKETED AS THE CORE OF MARITIME EUROPE**

The Blue Denmark should be known internationally as a European centre with special focus on green shipping and green maritime solutions, but also more broadly as having quality shipping, maritime technical knowhow and, not least, maritime business acumen.

This requires a targeted focus on marketing the Blue Denmark and ambitious efforts to attract foreign maritime companies capable of strengthening the Danish maritime cluster. This will, inter alia, have the form of an outreach effort in relation to foreign maritime companies and the holding of a large-scale maritime conference on green shipping every second year.

The Blue Denmark already has a good reputation to build on, and for example Singapore has shown how even a small country can succeed in creating a global maritime growth centre through determined, sustained efforts.

**Initiatives will be taken in the following areas:**

1. Branding of the Blue Denmark: the core of maritime Europe
2. Greater appeal to foreign maritime companies
3. International maritime conference on green shipping

## **2. IT SHOULD BE ATTRACTIVE TO DO MARITIME BUSINESS IN DENMARK**

Despite the current difficult economic situation in the shipping industry, a considerable long-term potential for growth is anticipated in both the shipping and the equipment industries due to increasing world trade and increasing demand for efficient and environmentally-friendly transport solutions.

The growth potential is especially great in the major growth markets such as the BRIC countries, where Danish shipowners already hold a strong position. For Denmark to convert these possibilities into lasting growth and employment, Denmark must be one of the most attractive countries in Europe from which to do maritime business.

This requires ongoing modernisation and adaptation of maritime regulations to the development in the sector, a clear focus on uncomplicated rules and efficient public administration, as well as upholding and constantly adjusting the good and stable Danish framework conditions in the light of international developments.

It is, moreover, crucial that effective financing solutions are available to the companies in the Blue Denmark.

**Initiatives will be taken in the following areas:**

4. Abolition of national special requirements
5. Reduction of administrative burdens
6. Digitalised contact with the authorities
7. Modernisation of ship registration requirements
8. Improved contractual regulations on international carriage of goods by sea
9. Improved access to Denmark for foreign employees and customers
10. Improved availability of export financing
11. Improved availability of EU financing

## **3. GROWTH SHOULD BE CREATED THROUGH GREEN SHIPPING AND GREEN SOLUTIONS**

The extensive green readjustment faced by international shipping in coming years entails a great growth potential for environmentally friendly and energy efficient maritime solutions.

In this green readjustment, Denmark's maritime cluster should utilise the commercial opportunities offered by future environmental and climate regulation.

At the same time, Denmark's strength should be ensured in relation to the green maritime technologies of the future, for example through shipbuilding in new lightweight materials and the use of alternative ship's fuels such as LNG (liquefied natural gas). In this connection, the public sector has a key role to play as a buyer.

**Initiatives will be taken in the following area:**

12. Clear documentation of climate and environmental performance
13. More energy efficient ships
14. Construction of ships in lightweight materials
15. Environmental improvement of State-owned ships
16. LNG (liquefied natural gas) as an alternative fuel
17. Commercial opportunities in connection with future environmental and climate regulations

#### **4. THE DANISH MARITIME STRENGTHS SHOULD BE DEVELOPED AND UTILISED TO CREATE GROWTH**

Global shipping is still the key focal point in the Blue Denmark, but developments in the cluster have led to the emergence of new strengths.

It is assessed that the increased demand for solutions for managing ballast water and reducing the sulphur content in fuels have created an employment potential for Danish maritime companies. The Blue Denmark cannot afford to miss this opportunity.

Therefore, the Government will establish a partnership focusing on the development of new solutions for climate and environmental modernisation of existing ships: a partnership for maritime retrofit.

At the same time, the development of offshore activities in areas close to Denmark as well as globally means new growth opportunities for the Blue Denmark. The establishment of offshore wind farms, where the global capacity is expected to increase by a factor of ten up to 2020, will create large-scale growth possibilities for, for example, special purpose vessels in terms of start up, operations, safety, maintenance and other associated services.

In order for this growth and those jobs to be Danish, Danish regulations must not constitute an obstacle and qualified manpower must be available.

**Initiatives will be taken in the following areas:**

18. Partnership on maritime retrofit
19. Maritime services for the offshore industry
20. The EU maritime state aid guidelines should support growth
21. Support for maritime activities in the Arctic region
22. Improved access to global markets
23. Blue development in Danish ports

## 5. MARITIME COMPETENCES, TRAINING AND EDUCATION PROGRAMMES, RESEARCH AND INNOVATION SHOULD SUPPORT GROWTH

The strong Danish maritime traditions are based on the availability of skilled and competent employees, aboard the ships, in the shipping industry and in the shore-based industries. In order to strengthen the Blue Denmark, the educational and research efforts should be developed and enhanced.

It is of the utmost importance to the companies in the maritime growth sectors that employees are available with the relevant competences. These include technical employees such as engineers, marine engineers, craftsmen, seafarers and shipping graduates. Therefore, maritime education and training should, to a higher degree, be adapted to the needs in the maritime growth areas.

### **Initiatives will be taken in the following areas:**

- 24. General strengthening of education and training
- 25. Global courses of study
- 26. Strengthened education and training in the offshore area
- 27. New shipping education programme
- 28. Improved transition to master's and MBA programmes
- 29. Flexible in-service training and further education programmes
- 30. Crosscutting maritime research
- 31. Partnership on Lean Ship of the Future

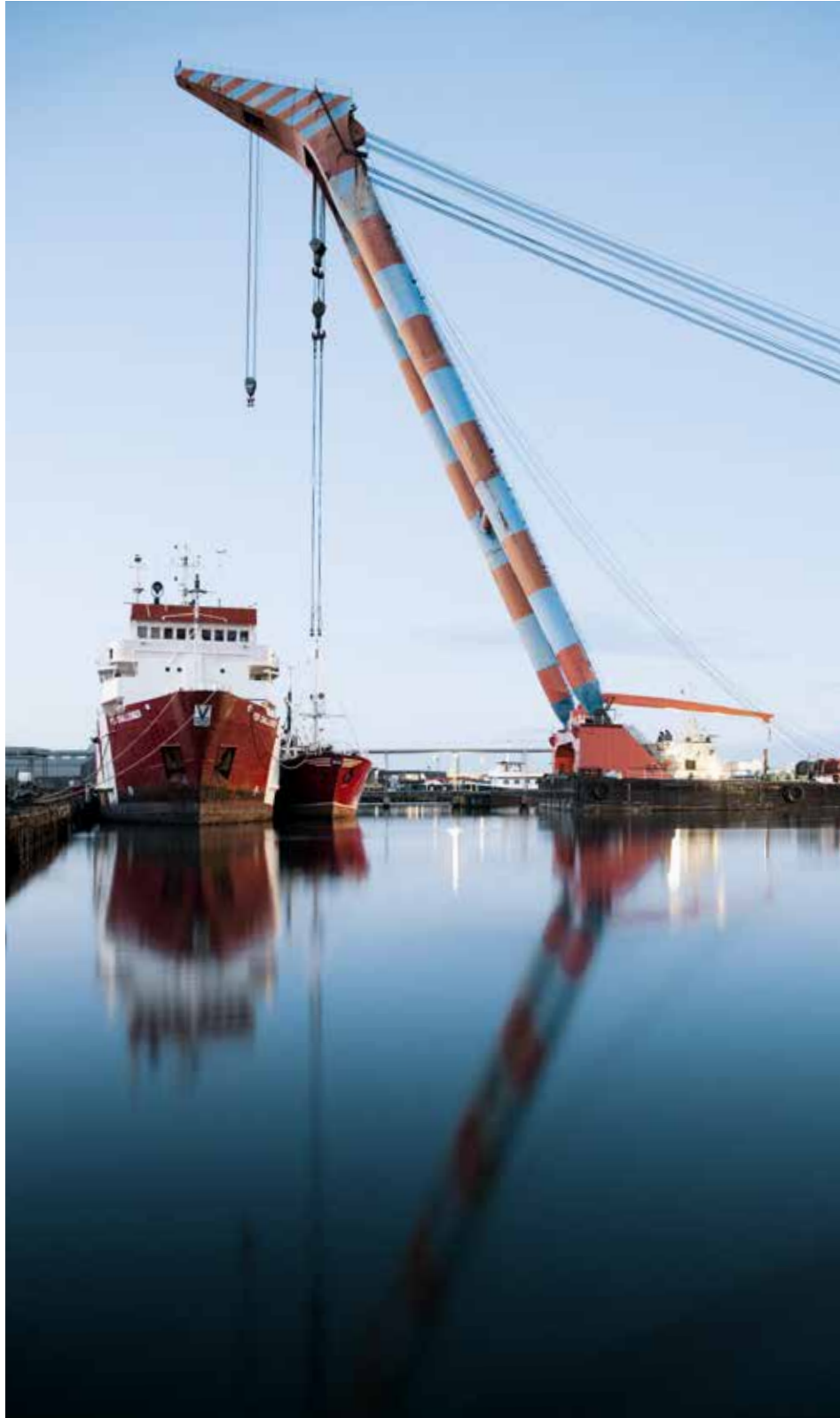
## 6. GROWTH SHOULD BE BASED ON QUALITY SHIPPING

The competitiveness and international recognition of the Blue Denmark go hand in hand with Denmark's reputation for quality shipping. High standards of health, safety and social conditions for seafarers and responsibility in terms of protection and improvement of the environment and climate are key core values.

### **Initiatives will be taken in the following areas:**

- 32. Improved enforcement nationally and globally
- 33. Continued fight against piracy
- 34. Strengthened efforts in the IMO
- 35. Improved efficiency of the pilotage system through increased competition
- 36. Quality standards for equipment and service manufacturers
- 37. International cooperation on new ship designs
- 38. Better representation of foreign seafarers in Danish boards and councils

# POTENTIALS AND CHALLENGES FOR GROWTH IN THE BLUE DENMARK





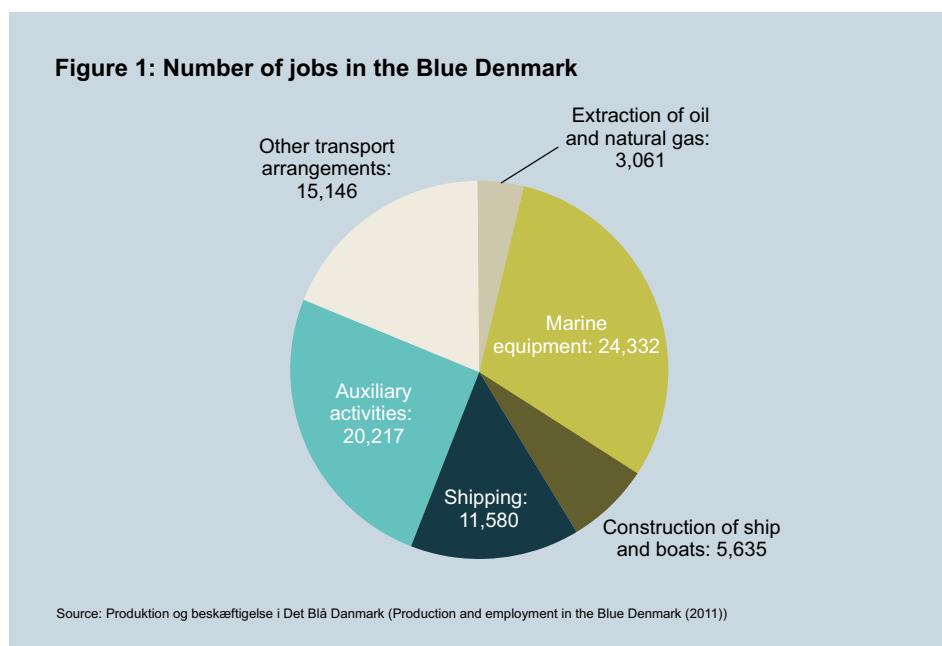
The Blue Denmark consists of a large number of companies that deal directly or indirectly with transport or other activities at sea or are related to the production and operation of ships.

Denmark is known for its shipping trade – the operation of both own ships and ships owned by others – and has large shipping companies which are among the most competitive worldwide.

There are also many companies whose activities originate in the international and Danish shipping industry. They are, for example, shipping firms, shipbrokers, ports, logistics companies, shipyards and industrial and service companies supplying ships with equipment, components and services.

Among them are also maritime supply activities for the offshore industry. Finally, the Blue Denmark also includes maritime authorities, interest organisations and maritime educational and research institutions.

Approximately 80,000 persons are employed in the Blue Denmark. At the same time, the cluster creates indirect employment for approximately 35,000 persons in other lines of industry. The majority of these persons are found in marine equipment manufacturing, including the supply of equipment to ships and auxiliary maritime activities such as ports, cf. figure 1.



Employees in companies in the Blue Denmark have an average annual income above that of all employees in Denmark, and employees with vocational craftsman training constitute the largest educational group. They account for 40 per cent of the employees.

The close links between the highly specialised companies in the Danish maritime cluster have – with the shipping industry as the motor – created a unique cohesion and synergy, competition and cooperation between the companies.

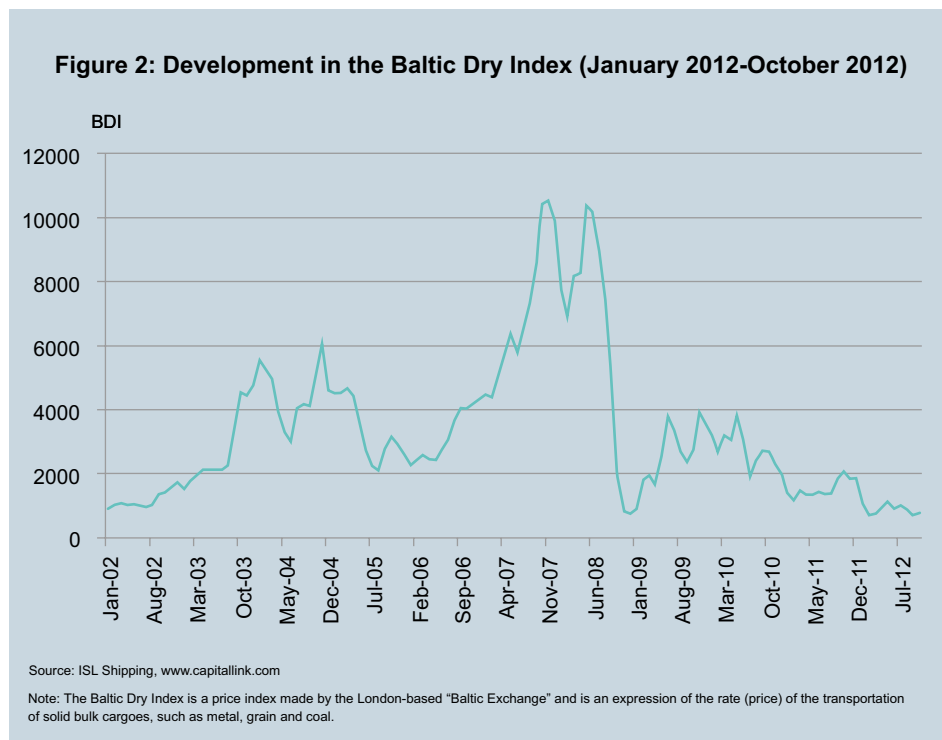
Today, the Blue Denmark is a cluster of knowledge and competence, where the employees' competences, including experience gained at sea and in shipowners' shore-based organisations, are central in terms of the cluster's continued development and well-being.

## CHALLENGES TO THE BLUE DENMARK

The Blue Denmark is faced with challenges in terms of maintaining its competitiveness in relation to maritime companies in other countries. The companies in the Blue Denmark share these challenges with other Danish manufacturing companies, while other challenges are specific to the shipping industry, not least due to its global nature.

Today, international shipping is marked by a slowdown in world trade as a consequence of the international economic crisis. Stagnation of world demand for goods has a great impact on the demand for the transport services offered by the shipping companies in the Blue Denmark.

At the same time, there is an excess capacity because the boom from before 2008 had led to investments in ships on the basis of an anticipated increased need for transport. The result is significantly decreasing freight rates, as shown in figure 2.

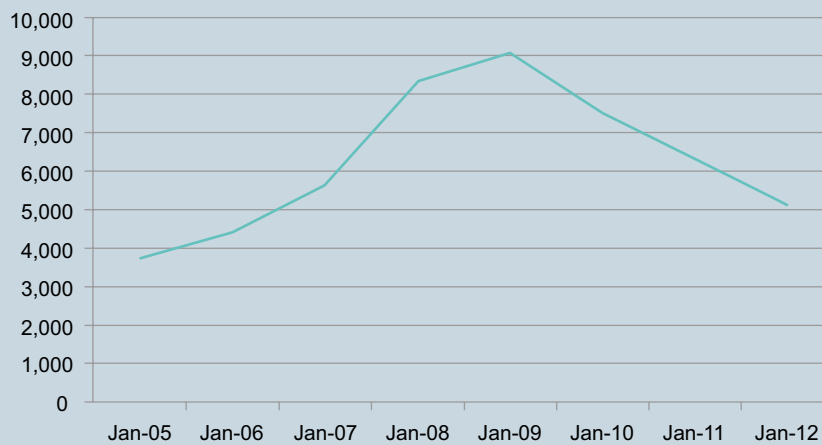


Finally, a high oil price has led to increasing fuel costs. Historically, it is therefore a very challenging situation for the shipowners, including the Danish ones.

The situation is also challenging for the Danish maritime manufacturing companies that produce ship engines, ship pumps, ship components and rescue equipment.

The worldwide decline in the construction of new ships, as shown in figure 3, means lower demand for goods from the marine equipment and service industries, for which reason their sales opportunities should, to a great extent, be considered in relation to existing ships.

**Figure 3: Annual number of new-buildings worldwide**



Source: IHS Fairplay

It is a special challenge to Danish equipment and service manufacturers that they have to compete to an increasing degree with companies domiciled in major shipbuilding nations such as Korea and China.

Usually, these companies can manufacture at a lower price than the Danish suppliers, while at the same time establish cooperative relations with their national shipyards, thus obtaining a head start in developing, demonstrating and selling new equipment.

Traditionally, Denmark has been a strong shipbuilding nation, but today the shipbuilding industry is focused on the construction of small and medium-sized ships, ship repairs and special segments such as fishing trawlers, research ships, ferries, etc. The equipment industry is also challenged by countries in the vicinity of Denmark with lower costs of production.

Denmark also competes internationally as a shipping nation with open registers with flexible framework conditions and a limited focus on quality shipping as well as with quality registers such as Singapore. Here, the shipping industry and a number of related maritime businesses have very competitive framework conditions, just as society in general has a very high level of service towards foreign companies and foreign employees.

## GROWTH POTENTIAL IN THE BLUE DENMARK

In spite of the challenges faced by shipowners and equipment manufacturers, Denmark holds a unique position within the maritime industry. Despite the size of the country and its population, the Blue Denmark has developed into an international maritime heavy-weight, both in a commercial perspective and in terms of driving forward international developments in the shipping industry.

The companies in the Blue Denmark export the majority of their production, and more than 90 per cent of the shipping industry's earnings originate from voyages between foreign ports. The bulk of Danish shipowners' activities is in the USA and China. In addition, the shipowners are active in other high-growth markets, such as Brazil, Russia and India, where many maritime companies have been well-established for a number of years.

This means that Danish maritime companies are present in the parts of the world characterised by growth. The strong international and wide-ranging exposure means that the maritime companies have a great potential for growth as the world's growth regions develop economically.

## SHIP OPERATION

Historically, the business acumen of Danish shipowners through the operation of their own ships has led to Denmark holding considerable competences in ship operation.

Developments have accelerated in recent ten years with, inter alia, the introduction of tonnage taxation, which has created further incentives for operating ships from Denmark, both ships flying the Danish flag and ships flying foreign flags.

Thus, today a gross tonnage of approximately 62 million is operated from Denmark, which is about five times more than the total tonnage in the Danish International Ship Register (DIS) and about twice as much as the tonnage owned by Danish shipowners.

As shown in figure 4, Denmark is today among the world's largest tonnage operators with a considerable ship register.

**Figure 4: Operator countries and ship registers**

**Top 10 – Operator countries**

Ranking	Operator country	Tonnage (1,000 GT)
1	Japan	131,116
2	Greece	100,380
3	China	91,168
4	<b>Denmark</b>	<b>62,517</b>
5	Germany	60,158
6	USA	53,303
7	South Korea	50,162
8	Singapore	32,899
9	Switzerland	31,257
10	Hong Kong	30,574

Source: The Danish Shipowners' Association.  
Danish Shipping Statistics November 2012

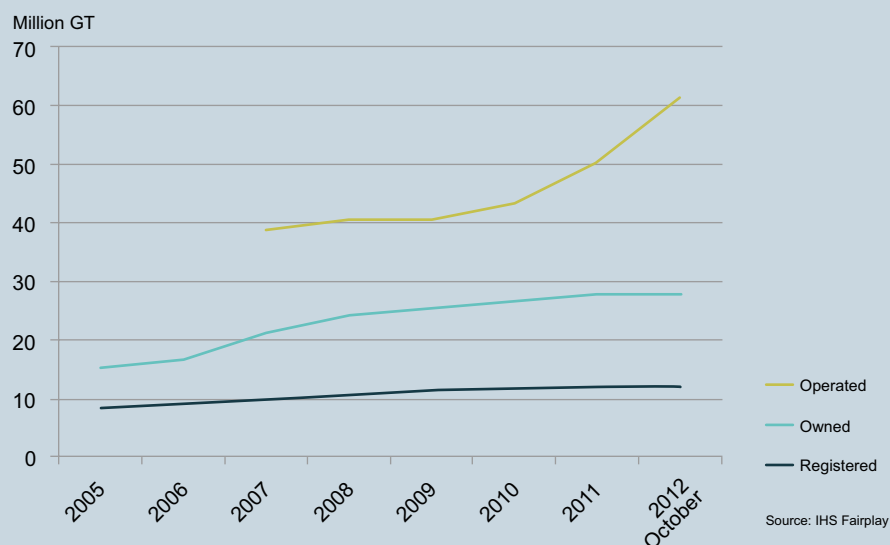
**Top 10 – Registered tonnage**

Ranking	Flag	Tonnage (1,000 GT)
1	Panama	220,953
2	Liberia	128,366
3	Marshall Islands	83,446
4	Hong Kong	77,890
5	Singapore	59,611
6	Bahamas	54,862
7	Malta	44,349
8	Greece	41,414
9	China	41,143
10	...	...
19	<b>Denmark</b>	<b>11,750</b>

Source: IHS Fairplay, October 2012

The development in operated, owned and registered tonnage, respectively, is shown in figure 5. The figures show a significant increase in particularly tonnage operation over a long period of time and that Denmark is an attractive country from which to operate tonnage.

**Figure 5: Development in operated, owned and registered tonnage in Denmark**

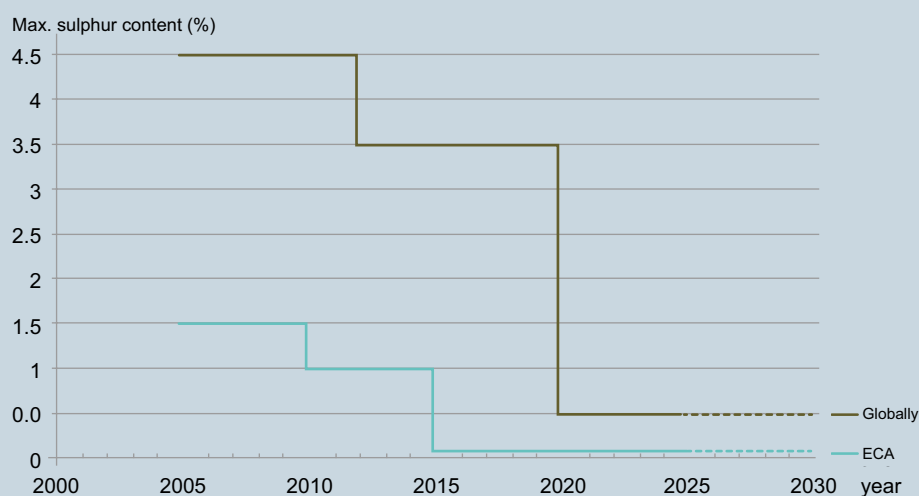


## GREEN SHIPPING AND GREEN SOLUTIONS

The shipping industry is faced with a significant green conversion at present with stricter requirements for ships' environmental and climate characteristics, including requirements for reducing nitrogen oxides (NOx) and sulphur emissions, as seen in figure 6, and requirements for energy efficiency, discharge of ballast water and safe ship recycling.

The development in fuel prices has further increased the need for a green conversion and, consequently, Danish shipowners have generally improved their operational efficiency and, inter alia, focused on optimising ships' energy efficiency. There will be a constant need to continue these efforts.

**Figure 6: Stricter requirements for the sulphur content of ships' fuels globally and in special emission control areas (ECA) in the waters around Denmark**



Energy efficiency presents commercial opportunities to Danish shipping. The Danish shipping industry has proved to be competitive with high-tech, energy efficient ships developed in cooperation with Danish suppliers and shipyards.

The conversion to green shipping also presents commercial opportunities to the marine equipment manufacturers.

New green solutions are being developed and utilised on new-built ships, and as the construction of new ships decreases, repairs, maintenance and retrofitting of existing ships also present commercial opportunities to the equipment industry, so that these ships become more environmentally friendly and energy efficient, thus meeting future environmental, climate and safety standards.

The retrofit market is not affected by economic slumps and booms to the same extent as the new-building market, and demand has been increasing in recent years.

Additionally, in the future great potential is anticipated in the new-building of environmentally friendly and energy efficient ships, for example in terms of ship construction in new materials or the use of alternative fuels. The introduction of requirements concerning reductions of CO<sub>2</sub> emissions in new ships will further this demand.

## OFFSHORE OIL, GAS AND WIND AND THE ARCTIC REGION

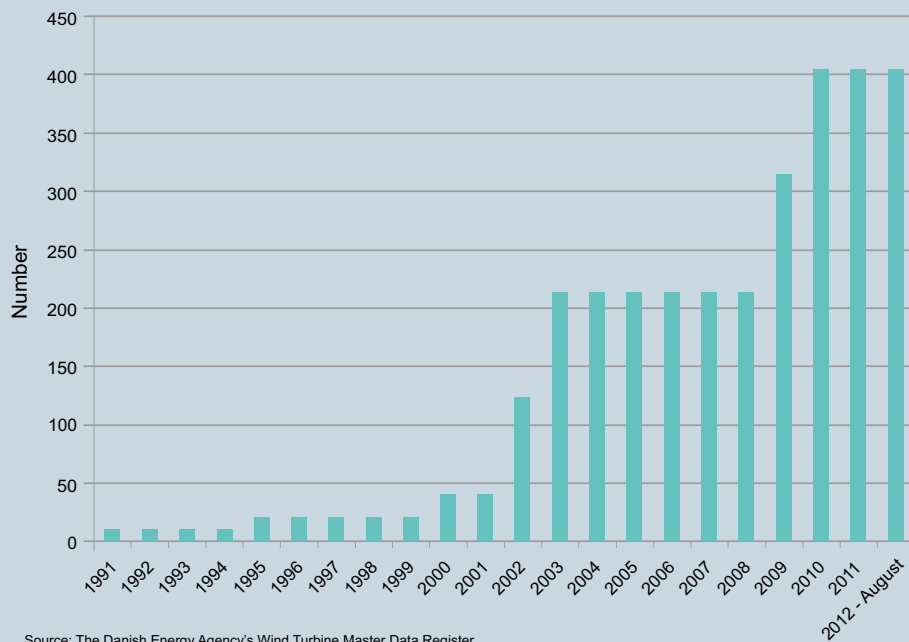
There is a special potential for growth in maritime activities related to the offshore area, which is developing in a very positive direction. This applies to service for offshore oil, gas and wind in, for example, the North Sea and the Arctic region.

The global market for offshore wind turbines is close to Denmark, and new offshore wind farms are being established and planned in the Danish, British and German parts of the North Sea.

Already today, the installation and servicing of offshore wind turbines is presenting good employment opportunities in several parts of Denmark, and the installation of offshore wind farms is expected to increase significantly in the coming years. Likewise, the production of installation ships and equipment for establishing offshore wind farms and the servicing of oil and gas installations is a market with growth potential for the Blue Denmark.

With respect to the number of active offshore wind turbines, there has been a considerable increase in recent years, as shown in figure 7. Today, the global capacity from offshore installations is 4 gigawatt, but it is expected to increase to 40 gigawatt in 2020. At the same time, this constitutes a Danish employment potential if special purpose vessels for the offshore industry are registered in the Danish International Ship Register (DIS).

**Figure 7: Number of active offshore wind turbines**



Shipping activities in the Arctic region are expected to increase in connection with both offshore activities and transit along the so-called Northeast and Northwest Passages north of Russia and Canada, respectively.

Assessments by, inter alia, the US Geological Survey show that enormous, not yet proven, oil and especially gas resources may exist in the Arctic region. Specifically, it is assessed that the Arctic region may contain up to 30 per cent of the world's not yet discovered gas resources and approximately 10 per cent of oil resources. In addition, the breaking up and towing of icebergs may present growth perspectives.

Increased possibilities for activities within offshore and the Arctic region may also lead to increased demand for solutions where Danish equipment and service manufacturers have good opportunities for supplying solutions adjusted to the Arctic polar climate.

Furthermore, increased shipping-related activities will also lead to demands for enhanced safety of navigation in order to protect the environment in the Arctic region.

## THE BLUE DENMARK SHOULD BE MARKETING AS THE CORE OF MARITIME EUROPE





Denmark should be the natural destination for international shipowners and other maritime companies intending to set up, for example, global or regional offices in Europe.

This will require global awareness of the strengths and potentials of Denmark's maritime cluster and the Blue Denmark becoming internationally known and recognised as the maritime centre for quality shipping in Europe. The Blue Denmark is attractive because of the strong business acumen in the cluster combined with cooperation between the companies.

This also requires that Denmark becomes better at attracting foreign maritime companies capable of injecting competences, knowledge and knowhow into the Blue Denmark and thus creating even greater international impact.

Therefore, in terms of growth and employment there is an obvious possibility of improving the branding of the Blue Denmark with a view to attracting foreign maritime companies to Denmark and creating a basis for the export of maritime products and services.

## **1. BRANDING OF THE BLUE DENMARK: THE CORE OF MARITIME EUROPE**

At present, there is no overall branding of the Blue Denmark to attract companies and create focus on Danish maritime export companies. In Singapore, the public sector has focused on branding Singapore as an attractive location from which to do maritime business. Denmark could learn from this.

Just as the Blue Denmark, green solutions constitute a Danish commercial strength. There is potential for strengthening the cluster by creating cohesion between these two strengths.

This could create the preconditions for new growth and employment in Denmark, not least in the light of the increased international focus on the climate and environmental impact of shipping.

### **The Government intends to:**

- Launch targeted and ambitious branding of the Blue Denmark as the core of maritime Europe.
- Initiate marketing collaboration between the Blue Denmark and the branding syndicate State of Green.

## **2. GREATER APPEAL TO FOREIGN MARITIME COMPANIES**

Today Denmark is the fourth largest operator nation in the world, but its position is being challenged by increased global competition from, for example, Singapore. This could be significant to the employment, the maintenance of maritime knowhow and the Danish influence on the international rule formation in the field of shipping.

If Denmark is to maintain and develop its position, it is thus decisive that more foreign maritime companies choose to run their business from Denmark and register their ships under the Danish flag.

Foreign companies should be met with coordinated Danish efforts with both maritime and commercial expertise concerning Danish regulation and framework conditions. This should have the form of cooperation between the Ministry of Business and Growth, the Ministry of Foreign Affairs, the Danish Maritime Authority, Invest in Denmark and Danish embassies.

Likewise, the efforts made to promote investments should be coordinated and encompass the technical knowhow of the Danish Maritime Authority, networks within the maritime sector, Invest in Denmark's competences in attracting investments and the global network of diplomatic missions of the Ministry of Foreign Affairs.

**The Government intends to:**

- Boost the efforts made to attract foreign maritime companies.
- Establish one point of contact for maritime companies.

### **3. INTERNATIONAL MARITIME CONFERENCE ON GREEN SHIPPING**

As part of the branding effort, it is the ambition to host significant international events in the maritime area in Denmark. The purpose should be to emphasise Denmark's ambition to be the core of maritime Europe and a maritime growth centre.

Denmark is in front internationally with respect to green shipping, and the conference should contribute to highlighting Denmark's focus on energy efficient solutions for the maritime industries.

**The Government intends to:**

- Host a large-scale international maritime conference on green shipping in cooperation with the industry every second year.

# IT SHOULD BE ATTRACTIVE TO DO MARITIME BUSINESS IN DENMARK



It is a crucial precondition for Denmark's ability to develop into the core of maritime Europe that it is attractive to do maritime business in Denmark.

Denmark competes with other countries to retain companies and jobs and to attract new activities. It is thus quite decisive that both Danish and foreign companies feel welcome in Denmark.

This requires improved knowledge of the companies' needs and not ignoring these needs. The service offered by the public sector should be improved and the administrative burdens perceived by the companies should be reduced.

At the same time, the framework conditions should be competitive and up to date and capital and financing of, for example, investments in green conversion should be available.

The Growth Team for the Blue Denmark has pointed out that the Danish tax regulations of modern seafarers are comparable to those of traditional seafarers. The Government does not find that it is possible to solve this problem within the present financial frame.

#### 4. ABOLITION OF NATIONAL SPECIAL REQUIREMENTS

Denmark strives for high international health, safety and environmental standards that are sustainable in terms of economy, safety and the environment. At the same time, internationally harmonised regulations are important for Danish shipping, which operates internationally and in international competition.

Danish regulations should be in line with international shipping regulations without compromising the level of safety

##### **The Government intends to:**

- Continue its work to internationalise or abolish Danish technical special regulations for ships.
- Adapt the Danish provisions on noise to new international standards that are expected to be adopted in late 2012.
- Make it easier to gain recognition of mandatory in-service courses, including in medical care, which have been completed in other countries.

#### 5. REDUCTION OF ADMINISTRATIVE BURDENS

Administrative burdens are of importance to competitiveness and efficiency as they tie up the resources of both shipowners and seafarers. The Government will continue its efforts to reduce the administrative burdens originating from IMO, EU and national regulation.

In this connection, the Government has established the "Virksomhedsforum for enklere regler" (Enterprise Forum for Simpler Regulation), which is to identify the areas where companies experience the greatest burdens and make proposals for simplifications. This work also encompasses regulations applicable specifically to maritime companies.

Within the EU, the Government will be actively involved in the EU Blue Belt Project, the purpose of which is to reduce the administrative burdens imposed on ships calling at EU ports.

**The Government intends to:**

- Take specific initiatives to simplify regulations in relation to the areas where seafarers and shipowners experience administrative burdens.
- Continue its active effort in the IMO to reduce administrative burdens.
- Conduct a pilot project on Danish ships showing how it is possible to use electronic certificates on an equal footing with original paper versions with a view to contributing to international regulation.

## 6. DIGITALISED CONTACT WITH THE AUTHORITIES

All communication between the Danish Maritime Authority and the actors in the Blue Denmark should, insofar as possible, be digitalised and conducted in English.

Therefore, the Government will strive to make it possible to submit all reports, applications and other communication with the Danish Maritime Authority digitally insofar as possible, just as all data should be made available to the actors in the Blue Denmark.

In the course of the coming years, the digital platforms will be fully utilised for communication between maritime actors and the authorities.

This will make it easier for seafarers and Danish shipowners to communicate with the authorities.

As the services are digitalised, the Government will make seafarers and companies' own data available to them, for example on relevant platforms such as [virk.dk](#), [borger.dk](#), [dma.dk](#), mobile applications, etc.

**The Government intends to:**

- Ensure that it is possible to forward applications for certificates of competency and minimum safe manning documents and to process them digitally.

## 7. MODERNISATION OF SHIP REGISTRATION REQUIREMENTS

The Danish ship registration regulations constitute a decisive framework condition for Danish and foreign shipowners intending to do business from Denmark. In some areas, the current ship registration regulations are outdated in relation to developments in the maritime field and Danish company law at large.

The rules should be modernised to make it attractive to be a shipowner in Denmark, enhance the possibilities of ensuring ships sailing under the Danish flag and support shore-based jobs in Denmark. In a globalised world, flexible regulations are necessary to avoid companies flagging out, establishing subsidiaries in other countries or the like.

Firstly, the provisions on the nationality of board members and on the composition of boards will be modernised. This will make it easier for companies and shipowners from other countries to register ships under the Danish flag.

Secondly, similar to the requirements in other countries, it should be possible for Danish shipowners to own ships flying foreign flags if the ships are operated from Denmark.

The modernisation should still ensure that ships flying the Danish flag have offices in Denmark and that the general quality requirements of Danish registered ships still apply.

**The Government intends to:**

- Present a proposal for revising the merchant shipping act that will make the provisions on registration more up to date, make it easier to transfer ships to the Danish flag and make it possible for Danish shipowners to own ships flying a foreign flag if they are operated from Denmark.

## **8. IMPROVED CONTRACTUAL REGULATIONS ON INTERNATIONAL CARRIAGE OF GOODS BY SEA**

International contractual regulations are a decisive framework condition as are international safety standards. It is, however, a requirement that the regulations are up to date in terms of, for example, the handling of transport documents and the promotion of digital communication through the use of electronic transport documents. This will create a basis for efficiency improvements and increased growth in the area.

The United Nations has established the basis for modern international regulation of contractual conditions with the Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea (the Rotterdam Rules).

The Rotterdam Rules represent a considerable simplification and efficiency improvement of the design and handling of transport documents. The Rotterdam Rules also make it possible to use electronic transport documents and, thus, to develop procedures involving digital communication meeting the needs of modern trade to a higher degree.

**The Government intends to:**

- Present a proposal for revising the merchant shipping act that implements the Rotterdam Rules.

## 9. IMPROVED ACCESS TO DENMARK FOR FOREIGN EMPLOYEES AND CUSTOMERS

It is of the utmost importance to Danish companies, including maritime companies, that they can attract and retain qualified foreign manpower and that the employees can circulate between Danish and foreign divisions. It is, moreover, important that the clients experience that it is easy to get to Denmark to visit Danish companies.

### **The Government intends to:**

- Review the visa rules under the auspices of the working group established by the Minister for Justice to ensure that the provisions on business and tourist visas are up to date.
- Examine the possibilities of ensuring efficient regulations on the companies' recruitment of international labour in connection with a coming reform of international recruitment, including the possibilities of foreign employees' short-term stays in companies in Denmark.

## 10. IMPROVED AVAILABILITY OF EXPORT FINANCING

The Government has taken several initiatives to improve the availability of financing to Danish companies. Most recently, the Government has presented a new credit package the intention of which is to offer loans to the industry amounting to approximately DKK 12 billion from 2013 to 2015.

### **The Government intends to:**

- Initiate work under the auspices of EKF, Denmark's export credit agency, with a view to clarifying the possibility of offering standardised financing packages for the export of marine equipment, including whether banks financing investments in new-buildings and retrofitting of ships would find such a scheme commercially interesting.
- Examine the possibility of expanding the use of so-called "shopping lines" for major clients in the oil and gas sector, creating a credit facility in a bank for the foreign client that can be used to finance purchases from Danish companies.

## 11. IMPROVED AVAILABILITY OF EU FINANCING

In general, it is possible for Danish companies to procure EU resources from various EU funds and programmes.

Active efforts should be made to ensure that this potential is utilised in the coming EU budget period from 2014 to 2020, where EU budget proposals have been presented concerning a number of programmes of relevance to the Blue Denmark. Among these

are the Connecting Europe Facility (CEF) Programme, the Programme for the Competitiveness of Enterprises and SMEs (COSME) and the Horizon2020 Programme. To these should be added the ten ongoing programmes under the European Investment Fund (EIF), which may, inter alia, help secure venture capital for projects with a high risk and great potential.

**The Government intends to:**

- In connection with the coming innovation strategy, strengthen the cooperation to support Danish participation in the EU programmes and ensure an improved division of work, coordination and synergy between the initiatives that provide support for participation by companies, knowledge institutions and other authorities in EU Framework programmes today.



## GROWTH SHOULD BE CREATED THROUGH GREEN SHIPPING AND GREEN SOLUTIONS



The shipping industry is faced with an extensive green conversion in the coming years and there is an increasing demand for environmental and energy efficient solutions. Danish companies can supply these solutions.

The climate and environmental regulation of the future may present commercial opportunities resulting in growth potential for the Blue Denmark. This requires that the design and implementation of future regulation takes place in a process of close dialogue with the industry in order to support the strengths in the sector.

The Government should, inter alia, provide incentives for companies to develop and make use of new technology, such as new materials, alternative fuels like LNG (liquefied natural gas) and technologies for purifying exhaust gas and ballast water.

At the same time, the authorities play an important role in relation to public demand for ships and transport services and in terms of setting the course for green shipping and green solutions internationally.

## 12. CLEAR DOCUMENTATION OF CLIMATE AND ENVIRONMENTAL PERFORMANCE

Ships owned by Danish shipowners have high climate and environmental standards. Danish shipowners could, thus, have a commercial opportunity and competitive advantage if they could, comparatively and reliably, document the environmental and climate impact of the individual ship to customers demanding environmentally- and climate-friendly transport. This could also lead to increased demand for products from other maritime companies capable of clearly documenting the environmental and climate impact of their equipment.

Already today, a number of regional systems work with their own individual approach to environmental and climate classification of ships, but their dissemination is limited. The Government intends to examine the possibilities of international harmonisation, for example the development of a new, voluntary international standard in the area.

### **The Government intends to:**

- Map, under the auspices of the Partnership for Cleaner Shipping, existing systems for environmental classification of ships, examine the practical challenges to shipowners and customers of environmental classification, and examine the possibility of introducing differentiated port charges on the basis of a ship's environmental characteristics.

## 13. MORE ENERGY EFFICIENT SHIPS

International regulations have been adopted for reducing the CO<sub>2</sub> emissions of new ships, while emissions by existing ships are not yet regulated.

The development of so-called market-based instruments for reducing the climate impact of existing ships, as advocated by Denmark, has proved complicated to implement internationally in the short term.

**The Government intends to:**

- Strive for the IMO to finalise international regulations that aim at improving the energy efficiency of existing ships by means of technical and operational measures until market-based instruments have been implemented.
- Work for proposals on the establishment of an internationally based system for structured monitoring, reporting and verification of ships' fuel consumption, which would provide an incentive to be "first movers" and promote green maritime technology.

## 14. CONSTRUCTION OF SHIPS IN LIGHTWEIGHT MATERIALS

The construction of ships in new materials such as carbon fibre composite or other lightweight materials contains a growth and environmental potential, especially for passenger ships and ferries as the operational economic and environmental advantages of lighter ships are considerable.

Passenger ships constructed of lightweight materials are approximately 30 per cent lighter than similar steel ships. Therefore, ships of this type will need less fuel and emit less CO<sub>2</sub>, SOX and NOX.

However, a number of technical issues, including fire safety, will have to be clarified.

**The Government intends to:**

- Examine the regulations with a view to ensuring the absence of unnecessary barriers to the development of the new market for composite materials before the end of the year.
- Work for the adaptation of the international regulations in the area in light of the technological development.
- Establish a support scheme for green maritime demonstration projects. The support scheme could, inter alia, grant subsidies for building new Danish domestic ferries in lightweight material in the form of subsidy for the extra costs involved in, for example, technological development of prototypes in lightweight materials.

## 15. ENVIRONMENTAL IMPROVEMENT OF STATE-OWNED SHIPS

As part of the efforts for sustainable procurement, the public sector has the possibility of demanding high safety, climate and environmental standards when purchasing ships and ship transport services, for example when tendering for ferry routes. Today, there are no tools that support sustainable procurement in the maritime area as is the case for vehicles,

for example. Improved guidelines are thus needed when the public sector makes purchases in the field of ships.

The guidelines should cover technical challenges, environmental possibilities as well as the current possibilities within the scope of the provisions on tenders in connection with retrofit.

This could help make it considerably easier for public authorities to achieve an overview of the economic and environmental advantages of demanding greener and cleaner shipping.

**The Government intends to:**

- Draw up guidelines for public providers of shipping services which contain advice and best practice highlighting how to include environmental improvements and energy efficiency when, for example, inviting tenders for ferry services or planning to build new ferries.
- Tender projects under the scheme for green environmental technology under the Ministry of the Environment concerning, for example, subsidies for retrofitting technologies not yet commercially available such as particle filters on existing ships.

## **16. LNG (LIQUEFIED NATURAL GAS) AS AN ALTERNATIVE FUEL**

New regulation of the shipping industry's sulphur (SOX) and nitrogen oxide (NOX) emissions and energy efficiency as well as the increasing fuel costs mean that new and more environmentally friendly fuels will be more in demand.

This means that for instance LNG will be increasingly relevant as a ship's fuel, particularly in short-sea shipping in for example the North Sea and the Baltic.

A number of projects have already been launched in the area, among them a pilot project to build and operate two gas fueled cruise ferries for a Danish shipping company that are to engage in service between Hirtshals in Denmark and three cities in the south-western part of Norway, and a project concerning a harmonised approach to the development of an infrastructure of LNG filling stations in the Baltic with the participation of nine ports, including Copenhagen Malmoe Port, the Port of Aarhus and ports in four other countries.

**The Government intends to:**

- Ensure swift, efficient approval procedures concerning LNG bunker stations.
- Support specific projects to establish LNG bunker stations ashore and offshore in Danish ports.

## 17. COMMERCIAL OPPORTUNITIES IN CONNECTION WITH FUTURE ENVIRONMENTAL AND CLIMATE REGULATIONS

In general, Danish shipowners support stricter green global regulations. Future global environmental and climate regulation should therefore also ensure fruitful conditions for "first movers" who choose to install new technology before new regulation enters into force, for example by establishing transitional schemes. This would further the development and implementation of new technology.

A long-term, predictable strategy for future climate and environmental regulation could help create more stable conditions for investments in the development and testing of new technology by both Danish equipment suppliers and shipowners.

Such a strategy could, moreover, form the basis for prioritising public funds for developing and testing new technologies.

A forward-looking strategy could, inter alia, address the areas where significant changes in environmental and climate regulation are foreseen within a ten-year period.

This could take the form of regulation of new areas such as black carbon or tightening of existing legislation. At the same time, the strategy must be expected to identify measures that ensure more efficient enforcement or improved conditions for technological "first movers".

The strategy could also be used as a point of orientation for Danish negotiating positions prior to international negotiations, for example in the IMO, and be used to prioritise the initiation of public-private cooperation on development and demonstration projects with considerable green maritime potential.

### **The Government intends to:**

- Prepare a strategy for green shipping in cooperation with the industry and under the auspices of the Partnership for Cleaner Shipping. This is to identify areas where existing and coming legislation could support growth and competitiveness in Danish maritime companies so as to utilise the commercial opportunities presented by environmental and climate regulation.



THE DANISH MARITIME  
STRENGTHS SHOULD BE  
DEVELOPED AND UTILISED  
TO CREATE GROWTH



Danish maritime companies should be well equipped to grow globally when the European and American economies once more create demand for goods from the major growth markets in Asia and South America. At the same time, the Danish strengths in environmentally- and climate-friendly solutions and offshore should be exploited.

The offshore sector is growing with respect to both offshore oil and gas and offshore wind. This is the case in both the North Sea and in the Arctic region which are assessed to present great potential in the future.

This provides good opportunities for related maritime activities such as service and supply ships and the development of marine equipment and technology. Utilising these opportunities could support employment in the maritime sector for, inter alia, seafarers and other technical personnel.

At the same time, green conversion of the shipping industry could create commercial openings for the green Danish equipment industry. As the new-building of ships decreases, opportunities will arise especially in retrofitting existing ships so that they become more environmentally friendly and energy efficient.

## 18. PARTNERSHIP ON MARITIME RETROFIT

Danish marine equipment manufacturers are leading in terms of environmentally- and climate-friendly solutions. This applies, for example, to solutions that can be implemented on existing ships, thus reducing their environmental impact. Increasing demand for these solutions is anticipated as no large-scale new-building programmes are expected in the coming years.

This could mean a large market for environmental and climate improvements of existing ships. Danish maritime companies stand a good chance of solving this task as Denmark has strong competences in this area.

The partnership should consist of specific projects capable of developing solutions for meeting the increasing demand for optimising processes and implementing green maritime solutions and equipment such as energy efficient bottom paint, equipment for purifying emission gas of sulphur (scrubbers) and LNG (liquefied natural gas).

### **The Government intends to:**

- Establish a "Maritime Retrofit" partnership in cooperation with the industry focusing on specific maritime retrofit projects.

## 19. MARITIME SERVICES FOR THE OFFSHORE INDUSTRY

The work of the Growth Team has stressed that offshore, including the offshore wind turbine industry, is a strongly growing sector at the European and global level. A considerable increase is expected in the number of offshore installations as well as a growth in employment in the area during the coming years.

This creates the basis for an increase in the maritime services associated with offshore, such as supply and hotel ships.

The Government intends to support this development and promote the possibilities for growth and employment in the maritime industries related to offshore.

**The Government intends to:**

- Strive to make the technical and crew-related requirements for Danish wind turbine ships competitive compared to the requirements of other countries.
- Strive to target the requirements for ship's crews as regards the application of special purpose vessels in the offshore area.
- Strive to strengthen Nordic cooperation on the development and growth opportunities of small and medium-sized companies in the maritime industries related to offshore.

## **20. THE EU MARITIME STATE AID GUIDELINES SHOULD SUPPORT GROWTH**

It is important that the framework conditions for the shipping industry follow the development in the field of shipping. The shipowners need flexibility so that it is easier to adapt the company to new growth possibilities and economic change, for example when chartering-in, rather than having outright ownership of the ship.

The design of the EU state aid guidelines for maritime transport is decisive for Denmark's continuous ability to offer the maritime sector stable, attractive and future-oriented framework conditions with a growth potential for quality shipping and maritime competences.

At present, however, the EU maritime state aid guidelines restrict the utilisation of tonnage taxation to shipowners' chartering-in of ships to an inexpedient degree, and a number of maritime activities carried out by special purpose vessels are not covered by the guidelines.

Furthermore, national interpretations often decide whether it is possible to include various activities, for example when ships carry out special activities such as the towing of ships in icy waters. This is inexpedient, not least considering the great growth potential for Danish companies in these areas and the good opportunities for Danish employment on, for example, special purpose vessels.

**The Government intends to:**

- Strive to make the EU maritime state aid guidelines more up to date and in better agreement with developments in the maritime sector, including in relation to the operation of chartered-in ships and the use of special purpose vessels within, for example, offshore.



## 21. SUPPORT FOR MARITIME ACTIVITIES IN THE ARCTIC REGION

The maritime growth potential associated with oil and mineral extraction in the Arctic region and increased commercial maritime traffic in Arctic waters require increased focus on ship construction and safety equipment as well as the competences of the crews. In addition, there is a general need to enhance safety of navigation in these waters to prevent accidents.

The large geographical area makes it difficult to monitor maritime traffic around Greenland and in the entire Arctic region, and expansion of navigable waterways and increased traffic call for increased monitoring in order to enhance safety of navigation.

Today, all large ships are fitted with an Automatic Identification System (AIS) and a satellite-based AIS system is expected to have great potential in Arctic waters.

### **The Government intends to:**

- Present a bill to enhance safety of navigation around Greenland.
- Strive to implement the IMO polar code and ensure that it contains Danish key issues such as coordinated voyage planning for cruise ships as well as life-saving appliances.
- Implement a pilot project on satellite-based AIS monitoring of maritime traffic in Arctic waters.
- Strengthen cooperation with other Arctic states on, inter alia, safety of navigation.
- Arrange a seminar under the auspices of the Danish-Russian Intergovernmental Council on navigational and maritime safety in the Arctic region.

## 22. IMPROVED ACCESS TO GLOBAL MARKETS

As a small, open economy Denmark benefits from free, open market access at home and abroad. Danish shipping is dependent on the barrier-free trade regime that is generally in force for international maritime transport.

Likewise, the marine equipment and service industry needs free and open access to sell products on the shipbuilding markets in, inter alia, South Korea and China. The Government has already concluded new collaboration agreements in the maritime area with South Korea in May 2012 and Singapore in September 2012.

**The Government intends to:**

- Promote Danish views on market access for the maritime industries in the EU free trade negotiations with third countries.
- Conclude and utilise bilateral collaboration agreements with countries of relevance to the Blue Denmark.
- Strengthen maritime relations with China, Korea, Singapore and other shipping nations through visits and joint activities.
- Convene shipping policy seminars and other activities in, especially, Brazil, Russia, India and China in continuation of the Government's growth market strategies and the coming trade policy strategy.
- Employ maritime experts at the embassy in one or more key countries.

## 23. BLUE DEVELOPMENT IN DANISH PORTS

In recent years, great focus has been on creating the best possible conditions for Danish ports so that they can realise their great potential at the heart of the national transport system and as growth centres.

A cornerstone in these efforts is the revision of the port act that was adopted in March 2012 and the major work on the white paper that preceded it.

When the white paper was being prepared, a unanimous group of representatives from the port business recommended, inter alia, the establishment of a national industrial port council to continuously follow developments in the port sector and the significance of the port act in this connection.

An important aspect of the activities of the industrial port council is to monitor the framework conditions that were established with the revision of the port act as the industry and the users of the ports gather experience of the new regulations.

**The Government intends to:**

- Summon the national industrial port council to discuss a strategy for handling goods and goods procedures in the ports to ensure that the ports have the best conditions for contributing to growth also in the future.

MARITIME COMPETENCES,  
TRAINING AND EDUCATION  
PROGRAMMES, RESEARCH  
AND INNOVATION SHOULD  
SUPPORT GROWTH



The foundation of the Blue Denmark is the availability of competent and highly qualified employees, both those with mercantile education and those with technical education and training, including seafarers. To maintain this strong basis, the maritime education and training programmes should constantly be adapted to developments and demands in the maritime cluster.

It is essential for supporting the growth perspectives of the Blue Denmark that the right competences are available. The offshore industry, for example, lacks personnel holding the right competences, and unlike a number of comparable countries, Denmark does not have a mercantile shipping education programme at academic level.

Correspondingly, it is important to bring together and strengthen the maritime research activities. In this connection, close collaboration between research institutions and companies is decisive so that research is utilised actively to support growth and employment.

## 24. GENERAL STRENGTHENING OF EDUCATION AND TRAINING

The industry is continuously influenced by new challenges as a consequence of altered competitive conditions. Therefore, it is a constant, key challenge to ensure the availability of sufficient manpower with the right competences and the capability of meeting and addressing new challenges.

### **The Government intends to:**

- Ensure that the relevant educational institutions and the industry to the greatest possible extent make use of the existing possibilities of collaborating on the development of both ordinary education programmes, including vocational education programmes, and maritime education and further education. It should be ensured that the specific needs for competence are identified and that relevant programmes are developed and initiated. Follow-up will take place in an ongoing dialogue with the Maritime Education Council.

## 25. GLOBAL COURSES OF STUDY

Ingoing and outgoing student mobility contribute to strengthening the quality of the Danish education programmes and thus the ability of the coming workforce to create growth.

A highly educated labour force with international understanding, experience and networks is a precondition for the Blue Denmark's continuous ability to compete globally. At the same time, the Blue Denmark should be able to attract the best international students and employees who can contribute to strengthening the international environments at the maritime educational institutions and in the companies.

Institutions with higher maritime education programmes should therefore focus on opportunities for student exchange and, inter alia, ensure that Danish students are given an opportunity to complete parts of their education abroad.

Crosscutting teaching in English should be strengthened in the maritime education programmes, and there should be instruction in international cooperation and negotiation in relation to the relevant tasks to be performed by the students once they have graduated.

**The Government intends to:**

- Strive to strengthen the existing cooperative agreements on education, on the basis of existing cooperative agreements with other countries, as well as strive to develop new agreements with other countries that could benefit growth in the Blue Denmark.
- Initiate a dialogue with the maritime educational institutions to promote cooperation with educational institutions in countries close to Denmark, including the countries around the North Sea.

## **26. STRENGTHENED EDUCATION AND TRAINING IN THE OFFSHORE AREA**

The availability of manpower with the right technical competences is decisive for growth and employment in the offshore field, especially in areas with many offshore activities. If this manpower is not available, jobs will be lost in Denmark.

There are offshore activities in oil, gas and wind and the many accompanying support activities. With targeted further training in relation to the offshore area, persons with, inter alia, maritime educations could acquire the competences demanded by the offshore industries.

The educational institutions, including the maritime institutions, already offer offshore education and training to the industry, but there may also be a need to include educational elements concerning offshore in several education programmes, either as elective or compulsory elements.

**The Government intends to:**

- Establish a working group with participants from the industry, the educational institutions and the authorities in order to identify the competence demand of the offshore industry and propose initiatives to address these demands. The working group should submit its proposals for initiatives before the end of the first half of 2013.

## **27. NEW SHIPPING EDUCATION PROGRAMME**

The growth of the Blue Denmark is in part due to good maritime business acumen, but today there is no maritime, mercantile education programme at academic level as in several of the countries with which Denmark competes.

Shipping employees work internationally with the purchase and sale, operations and chartering of ships. Consequently, an international education is needed that provides shipping students with their first opportunity of establishing networks with future collaboration partners in other strong maritime nations.

Such a programme should contain internship elements as well as a semester abroad, whether in a company or at an educational institution.

**The Government intends to:**

- Discuss the issue of establishing a maritime mercantile shipping programme at bachelor level with parties from the industry and relevant educational institutions. The goal is to draw up a proposal for such a programme with a view to start up in 2014.
- Utilise the cooperative agreements concluded recently with Asian maritime growth countries such as Korea and Singapore to ensure that it is possible to offer a stay at an Asiatic educational institution as part of the programme.

## **28. IMPROVED TRANSITION TO MASTER'S AND MBA PROGRAMMES**

Up to now, it has not been so easy for maritime graduates to be admitted to master's or MBA programmes. This reduces the possibilities for further education at a high level in the Blue Denmark.

**The Government intends to:**

- Create an improved possibility of transition from maritime higher education programmes to master's and MBA programmes by taking the initiative to review the range of master's and MBA programmes of relevance to persons with maritime education, and to examine the possibility of incorporating special courses or elective subjects in the maritime programmes to ease the transition to MBA or master's programmes.

## **29. FLEXIBLE IN-SERVICE TRAINING AND FURTHER EDUCATION PROGRAMMES**

The Government intends to make it more attractive for skilled workers to take further education while retaining their association with the labour market.

At the same time, the Blue Denmark needs manpower with technical and craftsman competences. These two challenges go hand in hand.

By creating more attractive study possibilities and thus improved transition to further education for persons with craftsman training, it will be possible to increase the availability to the Blue Denmark of manpower holding the right competences.

**The Government intends to:**

- Expand the possibilities for completing more maritime officers' education programmes as full or partly distance learning studies in order to improve the opportunities for further education for persons employed at sea.
- Ensure that the highest possible degree of merit is given in the maritime education system to avoid double learning and blind alleys.
- Encourage the social partners to draw up targeted competence development strategies and courses for employees in maritime occupations.

### 30. CROSSCUTTING MARITIME RESEARCH

In order for the Danish maritime companies to succeed in global competition, they must constantly develop their products and services. The Blue Denmark must be innovative to succeed in global competition.

It can be a great challenge for, especially, small and medium-sized maritime companies to initiate or to participate in research projects. A number of the challenges of the future call for solutions that cut across the traditional research boundaries between, for example, technical and business economics research.

There is a need for increased cooperation between maritime industries and research institutions so that it is ensured that the research contributes to the development of the companies' business areas.

**The Government intends to:**

- Establish a Research Policy Contact Committee with the participation of the industry, the educational institutions and the authorities with a view to identifying crosscutting research issues in the maritime area and launching cooperation on crosscutting maritime research.

### 31. PARTNERSHIP ON LEAN SHIP OF THE FUTURE

Intensified global competition and the economic crisis mean that the shipping industry has increased focus on how to reduce costs and optimise operations.

A strengthening of the Blue Denmark's potential for working more simply and efficiently will create a better basis for growth and employment in the industry.

The goal that Danish shipping equals quality shipping should be maintained so that ships in the Danish register continue to be characterised by a high standard of safety, health and environmental protection.

A partnership examining the optimisation of working procedures and processes in the maritime cluster and looking at, for example, increased efficiency and digitalisation, the development of employee competences, reduction of administrative burdens and improved cooperation between companies and authorities in the Blue Denmark would strengthen the industry.

Such a partnership could strengthen the productivity and competitiveness of the maritime companies, create new business areas for equipment manufacturers, improve seafarers' working environment and give seafarers competence advantages that could make them attractive on the global job market.

**The Government intends to:**

- Take the initiative to establish a "Lean Ship of the Future" partnership with shipowners, equipment manufacturers, professional organisations, educational and research institutions and the public authorities that are in contact with the Blue Denmark.
- Utilise the "Lean Ship of the Future" partnership actively to market the Danish ship register and contribute to the ongoing work on reducing administrative burdens.



## GROWTH SHOULD BE BASED ON QUALITY SHIPPING



The competitiveness and international recognition of the Blue Denmark go hand in hand with Denmark's reputation for quality shipping. In order to become the core of maritime Europe, it is important that Denmark continues to stand for quality shipping.

Danish quality shipping is based on a positive business case, high standards of health, safety and social conditions and focus on protecting and improving the environment and the climate.

Efficient global enforcement of rules and standards of safety, the environment and the climate are also decisive for preventing unequal competition for nations that, like Denmark, prioritise quality shipping.

Quality shipping also means that Denmark should be active in the international cooperation to fight piracy, which is a great threat to the shipping industry and seafarers. It also means that Danish regulations must be up to date and suited for addressing the situation and ensuring the protection of seafarers.

**The Government intends to:**

- Work actively for high international standards.

### 32. IMPROVED ENFORCEMENT NATIONALLY AND GLOBALLY

Effective global enforcement of new regulations is a precondition for obtaining the maximum effect for safety, the environment and the climate. It is also quite central for ensuring a level playing field for the shipping industry.

It is, moreover, important that the correct technical solutions and equipment for monitoring, inter alia, the environmental impact are available and that the equipment is reliable and recognised.

**The Government intends to:**

- Conduct a preliminary study with a view to developing and disseminating more efficient methods for monitoring the sulphur content of ship's fuels. The preliminary study should form the basis of a pilot project where new methods for enforcing the sulphur requirements are tested in collaboration between several countries, such as the countries around the Baltic.
- Under the auspices of the Partnership for Ballast Water, strive to develop methods for enforcing the ballast water requirements.
- Strive to establish precise EU regulations on documentation in connection with approval of marine equipment.

### 33. CONTINUED FIGHT AGAINST PIRACY

Piracy continues to constitute a major threat to the safety of seafarers and world trade. The Government wants seafarers to be prepared and protected before, during and after entering pirate-infested areas.

Already today, Danish regulations and agreements safeguard seafarers in case of piracy, but in some areas it would be an advantage to strengthen and clarify the regulations to safeguard seafarers' legal position.

#### **The Government intends to:**

- Present a proposal for revising the seamen's act with a view to strengthening seafarers' rights and shipowners' obligations as employers in connection with piracy, including concerning salary and termination of employment by the shipowner.
- Increase educational demands regarding piracy.
- Take the initiative to safeguard relatives who lack support as a consequence of a hostage situation.
- Continue to work actively for international efforts against piracy.

### 34. STRENGTHENED EFFORTS IN THE IMO

Today, Denmark belongs to the group of countries that constantly contribute to international rule formation, for example through proposals for new regulation in the IMO.

However, if Denmark is to step up its efforts further and set the international agenda to promote high standards, greener shipping and improved protection of seafarers, including in case of piracy, Denmark should – like other major maritime nations – also focus on having a permanent representative at the IMO.

#### **The Government intends to:**

- Establish a position as a Danish maritime expert at the IMO.

### 35. IMPROVED EFFICIENCY OF THE PILOTAGE SYSTEM THROUGH INCREASED COMPETITION

The change to the pilotage area implemented with the pilotage act of 2006 has not had the intended effect.

Since the introduction of the pilotage act, the pilotage authority has introduced considerable increases of charges (20-25 per cent), which has led to criticism by the users.

**The Government intends to:**

- Present a bill to convert the State pilotage authority into an autonomous public company in order to increase competition and efficiency within the pilotage area without having an adverse impact on safety of navigation.

### **36. QUALITY STANDARDS FOR EQUIPMENT AND SERVICE MANUFACTURERS**

Danish equipment and service manufacturers, which are characterised by a high standard of equipment and service and ensuing high costs, are often at a competitive disadvantage because it is difficult to compare the quality of equipment and services.

Therefore, these companies could benefit from an international certification scheme that could be utilised for marketing purposes.

By means of such a certification, it would be possible to focus on the advantages to ship-owners of using equipment from certified Danish manufacturers, for example lower maintenance and service costs and operational optimisation when ships are less inactive.

**The Government intends to:**

- Actively support the development by the industry of an international certification scheme for equipment and service manufacturers by means of the standardisation work carried out under the auspices of Danish Standard.

### **37. INTERNATIONAL COOPERATION ON NEW SHIP DESIGNS**

Ships for the Danish merchant fleet are, to a large extent, constructed in Asia. In order to ensure the sale of, inter alia, Danish marine equipment, a new approach is needed where Danish shipowners and equipment suppliers set up a partnership together with a foreign shipbuilding yard.

The purpose is to develop environmentally- and energy-friendly ships and ship systems setting new standards. This involves risks that cannot be contained within the usual types of contracts. In this connection, partnerships and thus new business models are the way forward.

This is, for example, illustrated by the "maker's list", which is a negotiated list between ship-owner and shipyard about potential suppliers of equipment and systems for the ship.

The maker's list is based on minimum requirements and the shipyard's choice of supplier will typically depend on the price offered. The maker's list may at the same time "lock" innovation as an equipment supplier or group of suppliers may have a more environmentally- and energy-efficient way of meeting the requirements, but must confine themselves to the specifications in the tender.

"Dynamising" the maker's list would help encourage innovation and thereby create competitive advantages to the shipyard, shipowner and equipment supplier while spreading the risks.

In connection with partnerships with Asian shipyards, it would be possible to build on cooperative agreements concluded at government or authority level.

**The Government intends to:**

- Draw up specific proposals for new partnerships/business models for innovative ship design in cooperation with the industry.

### **38. BETTER REPRESENTATION OF FOREIGN SEAFARERS IN DANISH BOARDS AND COUNCILS**

The Danish shipping industry makes great use of foreign seafarers. However, foreign seafarers are not represented in Danish boards and councils to the same extent as Danish seafarers. Altering this would provide foreign seafarers with the same opportunities of gaining influence as Danish seafarers.

**The Government intends to:**

- Ensure foreign seafarers representation in Danish boards and councils.



# **Denmark at Work**

## **Plan for Growth in the Blue Denmark**

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