

A Global Maritime Power

Building a Better Future For Post-Brexit
Britain

Nusrat Ghani MP, Benjamin Barnard,
Dominic Walsh, William Nicolle



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Introduction

The UK is one of the world's leading maritime nations. As it leaves the European Union, Britain's status as a leading economic and geo-political power depends upon its maritime industry. 95% of all UK goods trade by volume is transported by sea, as is 25% of UK energy and 48% of UK food supplies.¹ A report commissioned by MaritimeUK found that in 2017, the sector supported a total of £46.1 billion to the UK's Gross Value Added (GVA) and supported over a million jobs, 220,000 of which are employed directly in the maritime sector.² The UK maritime sector is also broad, covering not just shipping and ports but also leisure, naval engineering and maritime business services in the City of London. And as the host of the International Maritime Organisation (IMO), the UK is well placed to consolidate its position as a global thought leader on maritime policy.

In January 2019, the Department for Transport launched an ambitious maritime strategy, entitled *Maritime2050: Navigating the Future*, which included 10 key strategic maritime ambitions. The economic fall-out from the Coronavirus pandemic has put these ambitions at risk and Britain's maritime industry will suffer unless immediate steps are taken to support this vital sector. More pertinently, without immediate action, the UK Government will fail to capitalise on the opportunities afforded by its departure from the European Union and will be unable to fulfil its ambition to 'level up' the UK economy.

The Government risks overlooking the Maritime sector in its economic response to the Coronavirus crisis. Thus far, the Department for Transport has focused its attention primarily upon the aviation industry. There has not been comparable, or even near-comparable, engagement with the maritime sector. Both are key to British prosperity, to the movement of freight and people, and to the livelihood of many communities. The Government cannot choose between the two of them.

The maritime sector supports some of the most vulnerable communities in the UK. These communities are often centres of unemployment, poor health, blighted hopes and expectations. Moreover, pockets of poverty have a broader regional impact, both on neighbouring communities and on wider regional prosperity. And this is seen across the country, from Cornwall and Kent in the South to Scottish fishing towns and Irish Sea ports. Ports and coastal communities should therefore be seen as a prime target for the Government's 'levelling-up' agenda. As this paper argues, this can be delivered by measures such as investment in shipbuilding hubs and port infrastructure.

1. Department for Transport, *Maritime Annual Report 2017-18*,

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/725560/maritime-annual-report-2017-2018.pdf

2. Maritime UK, *State of the Maritime Nation 2019*, <https://www.maritimeuk.org/media-centre/publications/state-maritime-nation-report-2019/>

At the same time, there are considerable opportunities for future growth in the maritime sector. The new Free Trade Agreements the UK will negotiate as it leaves the EU are an opportunity to liberalise trade in maritime services and promote UK maritime exports. There is immense potential for the sector to be transformed by new technology, such as unmanned vessels, drones and ‘Smart Ports’. And investment in new maritime technologies and infrastructure, together with international leadership in fora such as COP26, are critical for the fight against climate change (shipping is currently a major contributor to greenhouse gas emissions).

Maritime policy has traditionally, and rightly, reflected wider liberal attitudes in the UK to trade and state intervention. However, if the sector is regarded as strategically important post-Brexit, these instincts will need to be tempered with targeted government policies to ensure long-term objectives and resilience. The experience of the pandemic thus far has highlighted the value in targeted state intervention in the face of an external crisis.

The maritime sector needs a new industry and community focused policy framework. These are often complicated by incoherence at local government level, particularly in regard to planning decisions and environmental regulations. The urgent need for social regeneration through economic growth means that there must be a new approach, with a greater role for central government.

The paper is divided into four sections:

- Supporting Ports
- Encouraging trade and international cooperation
- Technology, Investment, Skills and People
- Climate and Environment

This paper aims to highlight the seriousness of the difficulties facing the maritime sector. It highlights the steps that must be taken to fulfil the potential and profitability of our ports, shipping companies, shipbuilders and other maritime industries. It shows how to support the local and regional employment of coastally-located industry and services through Free Ports and the development of brownfield sites found in so many coastal towns. And it demonstrates that the maritime sector can and should play a central role in the delivery of existing Government priorities, such as the levelling-up agenda, making a success of Brexit, encouraging international trade, and supporting clean growth.

Summary of key recommendations

Supporting Ports

- **UK Free Port policy should encompass tax and regulatory incentives, and targeted planning liberalisation, as well as traditional exemptions from customs duties.** This will ensure Free Ports maximise their potential for encouraging business, investment and innovation and are joined up with other policy initiatives, such as the wider levelling up agenda, planning reform and Net Zero.
- **Take action to maintain and improve the competitiveness of the UK flag and tonnage tax regime.** The Government should promote the existing benefits of the UK flag more aggressively and set flag registration targets for the UK Shipping Register. It should also develop further incentives for companies to register their ships under the UK flag, such as opening up a new tonnage tax “window” to allow new companies to register their ships under the UK flag.
- **Conduct an audit of EU-derived regulation governing the maritime sector, in order to ensure the UK’s regulatory framework is tailored to the needs of industry.** The Port Services Regulation, which was not designed with UK ports in mind and is opposed by domestic industry stakeholders, should be scrapped immediately after the end of the transition period. Other EU-inherited regulation should be assessed on a case-by-case basis.
- **Develop a regional shipping programme as part of the levelling-up agenda by supporting regional shipbuilding hubs and investing in port infrastructure.** This would build on existing initiatives such as the National Shipbuilding Strategy, and should include a greater focus on building smaller and autonomous vessels.³

3. Autonomous vessels are ships which can operate independently of human interaction - roughly analogous to self-driving cars.

Encouraging trade and international cooperation

- **The maritime industry must be included in the Government’s ‘Project Defend’ examination of supply chain vulnerabilities.** Port infrastructure, related transport links and the wider shipping industry are of national strategic importance and should be factored into any drive towards ‘resilience’. However, supply chain resilience should be pursued through trade diversification, not protectionism.
- **Take action at home and abroad to support the crucial role played by our ports and maritime industries in facilitating international trade.** Domestically, the Government should take action to facilitate the flow of trade in and out of UK ports, minimise the administrative costs on traders, and upgrade UK customs systems in line with international best practice. Abroad, the Government should seek to liberalise trade in maritime services in new FTAs, and put the maritime sector at the heart of its export promotion strategy.
- **Use the UK’s role as the host of the International Maritime Organisation (IMO) to improve global maritime security.** Although the recent Nave Andromeda incident off the Isle of Wight highlighted that the UK has the resources to deal with naval incidents in its own waters, many other countries do not. The UK’s role as host of the IMO, which is headquartered in London, means it can position itself as a thought leader and leading content provider on global shipping security.

Technology, Investment, Skills and People

- **The UK Government should fast-track legislation to allow increased funding, testing and licensing for emerging maritime technologies, especially drones and autonomous (unmanned) vessels.**
- **The Government should take a more active role in supporting research and development in the maritime sector.** Funds for the maritime sector should be made available from BEIS’s increased £22bn R&D fund, outlining specific “moonshot” goals relating to Maritime technology. The Government should also explore co-investment opportunities with the maritime sector for research and development and explore the viability of investment guarantees.

Environment and Climate

- **The Government should create and introduce a Green Maritime Finance plan to support investment in green shipping.** This plan could be created jointly between DfT, BEIS, and HM Treasury and would ease the financial pressure on the sector induced by the pandemic. It should also be accompanied with investment in strategically important infrastructure for low and zero emission shipping, especially alternative fuel sources and shore-side power.
- **The Government should use the upcoming Conference of the Parties 26 (COP26) to encourage every International Maritime Organisation (IMO) country to develop their own, national Clean Maritime Plans.** This will help to ensure that the IMO's greenhouse gas strategy to reduce emissions by 50% by 2050 is met, as well as highlighting the UK's pre-eminence both as a maritime nation and as a leader in the international fight against climate change.

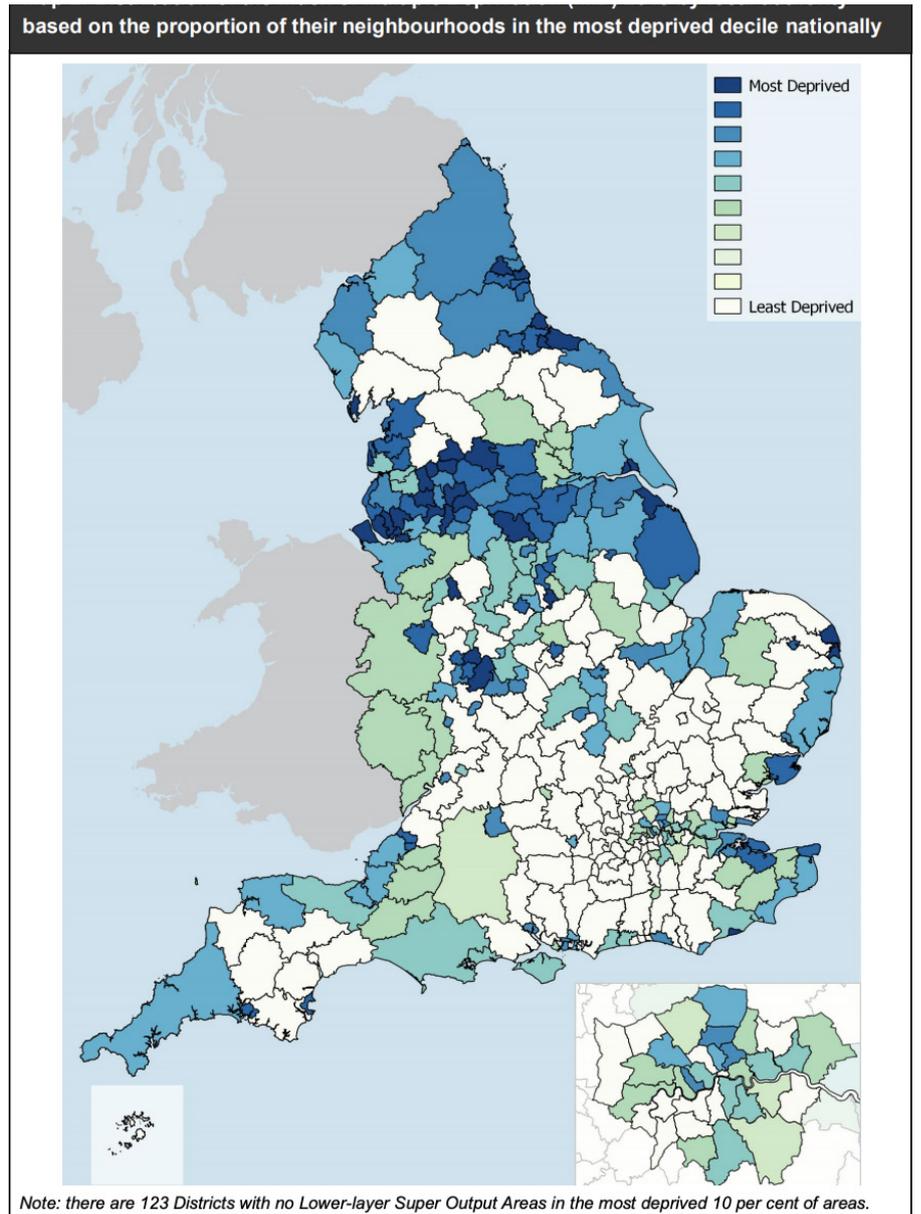
1. Supporting Ports

The Prime Minister has emphasised that his Government has “a mission to unite and level up” the United Kingdom and has set out plans for an “infrastructure revolution” to create jobs and stimulate economic recovery, supported by £5bn in capital investment to accelerate infrastructure projects.⁴ Supporting the development and expansion of our ports should be an essential part of this “mission”. Each year UK ports handle nearly 500 million tonnes of freight and 60 million international and domestic passenger journeys; they also directly contribute £23 billion in business turnover, £8 billion in Gross Value Added and more than 100,000 jobs.⁵ Yet coastal communities are disproportionately represented among some of the most deprived and vulnerable in the UK – particularly in England, as illustrated in the map below. Of the 15 largest ports in England, 10 are in local authorities ranked in the bottom half of the 2017 Social Mobility Index.⁶ Seaside towns and villages have long struggled from a lack of local infrastructure and investment, and should therefore be a top priority within the wider ‘levelling up’ agenda.

4. Sky News, ‘Boris Johnson says govt has ‘a mission to unite and to level up’ UK after coronavirus’, 30 June 2020, <https://news.sky.com/story/live-pm-to-announce-5bn-infrastructure-revolution-to-help-coronavirus-recovery-12017917>

5. UK Chamber of Shipping, ‘Why Ports Are Crucial to Britain’s Future’, 20 August 2018, <https://www.ukchamberofshipping.com/latest/why-ports-are-crucial-britains-future/>

6. Policy Exchange analysis of 2017 Social Mobility Index: <https://www.gov.uk/government/publications/social-mobility-index-2017-data>



Source: Ministry of Housing, Communities and Local Government⁷

7. Ministry of Housing, Communities and Local Government, 'The English Indices of Deprivation

2019', p. 12:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835115/loD2019_Statistical_Release.pdf

UK ports and ownership models

There are around 120 commercial ports in the UK. These include all-purpose ports, ferry ports, container ports and ports that cater for specialised bulk traffic, such as coal and oil. However, much of the UK's freight traffic is concentrated within a smaller number of larger ports, with the top 20 ports accounting for around 88% of total freight by volume.⁸

UK ports fall into one of three ownership categories, all of which are open to market forces and run independently as stand-alone enterprises.

The first category are private ports, owned by international groups or individual companies. All investment in private ports is privately financed, with no Government ownership interest. Most of the UK's largest ports by tonnage fall into this category (including Southampton, Felixstowe, Liverpool and the Humber Ports). Some companies own and operate multiple ports (such as Associated British Ports); others only one (such as the Bristol Port Company).

The second category of ports are Trust Ports, which are independent statutory corporations managed by a board of trustees. They cannot be owned by other companies or shareholders but operate on a quasi-commercial basis, independently of the Government. Most Trust Ports are small, but there are notable exceptions including the Port of London, Dover, and Belfast Harbour.

The third category are municipal ports, owned by local authorities but operating on a commercial basis. Most are small harbours for leisure craft, but a few have commercial significance, such as Portsmouth and the oil terminals on Orkney and the Shetland Islands.

Maximising the benefits of Free Ports

Unleashing the potential of Britain's ports is a central tenet of UK Government policy. Building upon the commitments outlined in the Department for Transport's *Maritime2050: Navigating the Future*, the Conservative Party Manifesto in 2019 included a specific pledge to "create up to ten freeports around the UK, benefiting some of our most deprived communities." In February, the Government launched a consultation on Free Ports, which has recently closed. More recently, the Government announced that the process for ports to bid for Free Port status will open before the end of this year, with the first Free Ports on track to be open by the end of 2021.⁹ The selection of Free Port candidates will be assessed against their capacity to act as national hubs for global trade and investment, their ability to promote regional regeneration and job creation, and their ability to enable innovation.¹⁰

9. *HM Treasury*, 'Government outlines new plans for Freeports to turbo-charge post-Brexit trade', 7 October 2020: <https://www.gov.uk/government/news/government-outlines-new-plans-for-freeports-to-turbo-charge-post-brexit-trade>

10. HM Government, 'Freeports Consultation: Boosting Trade, Jobs and Investment Across the UK', February 2020: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/878352/Freeports_Consultation_Extension.pdf

8. Maritime UK, 'About Our Sector: Ports', <https://www.maritimeuk.org/about/our-sector/ports/#:~:text=There%20are%20about%20120%20commercial,such%20as%20coal%20or%20oil>

What is a Free Port?

Free Ports, also known as Free Zones, are designated areas outside a country's customs territory where goods can be imported from elsewhere without paying customs duties. Customs duties become payable only when the goods, possibly after processing, enter the domestic market.

In addition to exemptions from customs duties, other tax and regulatory incentives can be utilised to further encourage business and investment within a Free Port. Some of these policy areas are devolved in the UK context, whereas customs and tariffs are not.

Free Ports are permitted within the European Union - there were several Free Ports in the UK until they were abolished in 2012, and other Free Ports remain in other member states. However, EU Free Ports are required to comply with the EU's regulatory and state aid framework, limiting their benefits in practice.

Free Ports can bring potential benefits related to customs and tariffs. For example, if a firm based in a Free Port wished to re-export goods abroad, including after processing, they could do so without having to pay the UK tariff at all. Moreover, if the tariff on a finished product is lower than that on the component parts, a company could benefit by importing components tariff-free, manufacture the final product in the Free Port, and then pay the lower tariff rate of the finished product when it enters the UK market (this is known as tariff inversion). However, the UK's Global Tariff provides limited incentives for tariff inversion, as tariffs on component parts are often lower than those on finished products rather than higher. In automotive, for example, the Government intends to remove tariffs on a number of supply chain components, but is retaining the EU's 10% tariff on cars.

To be successful in the UK, Free Port policy will therefore need to go beyond customs and encompass other initiatives, such as tax incentives, relaxed planning regulations, investment in infrastructure and reduced red tape. It is welcome that the Government has recently confirmed that UK Free Ports will include tax reliefs on investment by businesses within Free Ports and new initiatives to encourage innovation, but it is not yet clear what these crucial incentives will look like and the policies will need to be worked up further.¹¹ One example the Government could learn from here is South Korea's free economic zones, some of which are designated as hubs for specific growth industries with tax and regulatory incentives designed accordingly.¹² South Korea also uses incentives to encourage foreign investment in its free economic zones – businesses with a high foreign investment ratio are eligible for tax deductions.¹³ Free Ports could also be used to trial technological and regulatory innovations in controlled environments, such as new customs technologies and AI – as well as the new business models and technologies that will be essential to the delivery of Net Zero, such as electric cars and green shipping.

The Government could also explore the idea of creating 'virtual' free

11. HM Treasury, 'Government outlines new plans for Freeports to turbo-charge post-Brexit trade', 7 October 2020: <https://www.gov.uk/government/news/government-outlines-new-plans-for-freeports-to-turbo-charge-post-brexit-trade>

12. UPI, 'South Korea designates new free economic zones with tech focus', 27 December 2019: https://www.upi.com/Top_News/World-News/2019/12/27/South-Korea-designates-new-free-economic-zones-with-tech-focus/9641577464247/

13. Korean Free Economic Zones, 'KFEZ Incentive': <http://fez.go.kr/global/en/why/incentive.do#tab1>

trade zones, a multi-site, non-contiguous free zone connected through digital technologies. For example, the Port of Tyne has proposed a virtual free zone which would also encompass regional manufacturing clusters such as the Nissan car plant at Washington.¹⁴ The advantage of virtual free zones over traditional Free Ports is that they potentially spread the economic gains over a wider area, though they would likely take longer to establish and be more complicated to administer.

Free Ports also act as hubs for regional innovation by providing incentives to relocate manufacturing and logistics closer to ports, and by attracting imports and inward investment to previously struggling areas. There are proven examples of this elsewhere in the world – the creation of free economic zones in South Korea transformed a set of remote tidelands, wastelands and dilapidated manufacturing grounds into vibrant hubs of regional growth which are a major source of international investment.¹⁵

By acting as regional hubs in this way, Free Ports can form an important part of the Government’s wider “levelling up” agenda. Levelling up must include plans for the long-term regeneration of seaside towns and villages, which have been neglected for too long and have suffered from de-industrialisation, poor transport links, and the decline of domestic tourism.¹⁶ Measures such as Free Ports have the potential to transform coastal communities which have experienced economic decline, as economic activity is shifted there from other parts of the UK.

Ensuring that the planning system does not hold back Free Ports

The planning system exists to serve a very important objective – to make sure that new developments do not impose large ‘spillover’ costs or ‘negative externalities’ on local residents.¹⁷ However, in some cases the necessity of dealing with a planning authority with a wide range of constituents with their multifarious needs and demands can put a chilling effect on expansion, including in the case of ports. This transaction cost can prevent wealth and jobs generating development that might benefit local areas from going ahead.¹⁸

The Government has wider ambitions for radical planning reform (for example, in the white paper *Planning for the Future*), and has recently announced that Free Ports will benefit from “streamlined planning processes to aid brownfield redevelopment.” This is welcome; there is a strong case not only for significantly liberalising planning rules within Free Port zones, but also for ensuring that the planning and development of Free Ports is not overseen by local authorities. Local government has limited maritime expertise and there is a risk that ambitious plans for the development of Free Ports are stifled by local politics and bureaucracy. One option would be to have Free Ports automatically designated as growth zones. This would mean all proposals with consent of the landowner would have outline approval in principle. The feasibility of relaxing planning regulations in a given area should also be a consideration when assessing

14. Port of Tyne, ‘New report outlines policies needed to deliver Brexit freeport success’, 9 September 2019: <https://www.portof-tyne.co.uk/news-and-media/news/new-report-outlines-policies-needed-to-deliver-brexit-freeport-success>

15. Korean Free Economic Zones, ‘KFEZ History’: <http://fez.go.kr/global/en/why/challenge.do>

16. House of Lords Regenerating Seaside Towns Committee, ‘The Future of Seaside Towns’, 4 April 2019: <https://publications.parliament.uk/pa/ld201719/ldselect/ldseaside/320/32002.htm>

17. Fischel, W. A., ‘Externalities and zoning’, *Public Choice*, 35(1), (1980), pp. 37-43.

18. Coase, R. H., ‘The nature of the firm’, in *Essential readings in economics* (1995), pp. 37-54.

potential Free Port candidates; for example, it is likely to be easier to relax regulations in coastal areas with lower population density and greater land availability.

To secure local consent, certain protections would need to be maintained at the edge of the Free Port and where it interacted with existing settlements. These should include noise pollution measures (both max and average decibels by the nearest housing), air pollution measures (including PM2.5s, PM10s, and NO₂), light plane/overshadowing rules (no existing resident should be overshadowed), and protections for coastal wildlife such as marine birds and seal colonies. They would also need to include expansion or improvement of any affected road infrastructure, and it may be necessary to impose a limited low cost design code, at least if the buildings are likely to be visible from many vantage points. Given these threshold protections, it may be appropriate to remove other planning restrictions, and let development be by-right.¹⁹

Ensuring the competitiveness of the UK ensign flag and tonnage tax regime

What is the UK ensign flag?

International law requires that every merchant ship is registered in a country, known as its flag state. A ship is subject to the law of its flag state; the flag state exercises regulatory control over the vessel and is required to inspect it, certify the equipment and crew, and issue safety and anti-pollution documents. In the UK these responsibilities are administered by the UK Ship Register (UKSR).

The UK ensign flag is internationally competitive and recognised as a quality brand with high standards. It recently topped the Paris MoU 'White List', which ranks the quality of ensign flags based on the number of inspections and detentions.²⁰ However, competition is fierce and the UKSR will need to evolve and adapt to maintain and improve its status. Brexit has posed some short-term challenges; in the run-up to exit day, large numbers of EU-owned ships under the UK flag sought to re-register under an EU flag. This emphasises the need for continued promotion and improvement of the benefits of the UK flag to ensure it remains internationally competitive outside the single market. The Government should market and promote the UK flag more aggressively and set flag registration targets for UKSR. UKSR's continued success is inexorably linked to the wider competitiveness of the UK as a destination for the global maritime sector, at a time when the sector is being transformed by new technologies and the increasing focus on environmental issues.

19. Jack Airey and Chris Doughty, 'Rethinking the Planning System for the 21st Century', *Policy Exchange*, 27 January 2020: <https://policyexchange.org.uk/wp-content/uploads/Rethinking-the-Planning-System-for-the-21st-Century.pdf>

20. Paris MoU, 'White, Grey and Black list': <https://www.parismou.org/detentions-banning/white-grey-and-black-list>

What is the tonnage tax regime?

The UK's tonnage tax regime is an alternative to corporation tax, which allows shipping companies to pay tax based on the net tonnage of their ships rather than their actual income, gains, expenses, losses or profits. The regime results in a low effective tax rate which acts as an incentive for shipping groups to locate their business in the UK. UK flag registration is not required to qualify for tonnage tax, but the ship needs to be "strategically and commercially managed in the UK" in order to qualify.

The UK's tonnage tax regime also includes an obligation on tonnage tax companies to train maritime cadets. The obligation requires each shipping company to recruit and train one officer trainee a year for every 15 officer posts in its fleet, and to consider employment and training opportunities for ratings (non-officers).

The UK's tonnage tax regime has been credited with reversing the decline of the UK maritime industry; research has shown that without it, the economic contribution of the UK shipping industry over the last 20 years would have been considerably lower.²¹

An appealing and competitive tonnage tax system is an important part of ensuring the UK is an attractive and competitive destination for maritime. In particular, the regime is currently subject to EU State Aid law, and the Government should improve the regime by exploiting the opportunities to relax these rules to allow for greater flexibility after the end of the transition period. For example, HM Treasury should open up a new "window" to allow new companies to register their ships. The Government could also dispense with the EU's flagging requirements for tonnage tax eligibility.

The training component of the tonnage tax regime should also be reformed in order to ensure it generates work, as well as training, for UK seafarers; despite the training obligations, the number of UK seafarers working on tonnage tax ships has fallen steadily since 2000. The training obligation under the tonnage tax should therefore include an explicit link to the employment of UK seafarers post-training, with a year of full-time employment guaranteed.

Tailoring EU-derived regulation to the needs of the UK maritime industry

Brexit presents an opportunity to tailor regulation to the needs of the UK maritime industry. EU regulations governing the sector have been rolled over into UK law in the Withdrawal Act and could be amended or repealed after the end of the transition period.

International shipping regulations are agreed within the International Maritime Organisation (IMO), but the EU has implemented these in ways which go beyond the IMO's minimum standards, resulting in 'gold-plating' of standards in several areas, such as pollution, environmental

21. UK Chamber of Shipping, 'Tonnage tax shows shipping's multi-billion-pound impact on the UK economy', 23 November 2017: <https://www.ukchamberofshipping.com/latest/tonnage-tax-shows-shippings-multi-billion-pound-impact-uk-economy/>

standards, vessel monitoring and insurance.²² While the UK will remain bound by IMO obligations, Brexit provides an opportunity to review EU gold-plating and modify the UK's regulatory framework if necessary. Removing gold-plating would not affect EU vessels calling at UK ports but would allow international vessels that do not comply with EU regulations to trade in the UK. However, this review should be done on a case-by-case basis. For example, EU regulations on ship recycling have previously been cited by industry stakeholders as an opportunity for divergence.²³ Other additional EU standards, particularly on environmental matters, may be more likely to be retained. UK ships trading in EU ports will also need to remain compliant with EU shipping regulations.

An early priority, previously highlighted by Policy Exchange, should be to repeal the Port Services Regulation (PSR), which was passed into EU law in March 2017 and came into effect in the UK in March 2019 (by which time the UK, though still a member, had already voted to leave the EU).²⁴ The PSR aims to promote competition in the provision of port services such as mooring and piloting, by making it easier for these services to be provided by outside companies. The PSR also requires financial transparency, both of port charges (subject to confidential discounts) and of the extent of any public funding of ports.

The PSR was tailored to the needs of large continental sea ports, such as Rotterdam, Antwerp and Hamburg, many of which are either state-owned or heavily subsidised. In contrast, UK ports are privately owned and already compete with each other. For this reason, there is no need for additional regulations to encourage competition and outsourcing in the UK. Indeed, the regulation could be damaging for UK ports with costly compliance potentially limiting investment in ports. As Richard Ballantyne, chief executive of the British Ports Association, has said, "As the UK ports industry is predominantly private and competitively managed, the new rules are unnecessary and unwelcome. The UK ports industry has consistently lobbied against the Port Services Regulation, and we are therefore hopeful the UK requirements will be overturned after Brexit."²⁵ We recommend that the PSR is scrapped as soon as possible after the end of the transition period.

Level up coastal communities by developing a regional shipping programme

Shipping is a regionalised industry, with clusters located in different parts of the UK. London is a global hub for maritime professional services, while other important clusters in the UK include Southampton, Liverpool, the North East and Glasgow. Some UK shipyards and maritime clusters are located in areas of relatively high deprivation and are vital local employers.

22. University of Southampton, 'The UK maritime sectors beyond Brexit': https://eprints.soton.ac.uk/426985/1/Final_IML_Report_Brexit.pdf

23. House of Lords European Union Committee, 'Brexit: road, rail and maritime transport', paragraph 205: <https://publications.parliament.uk/pa/ld201719/ldselect/ldeucom/355/35510.htm#footnote-065>

24. Michael Taylor, 'Brexit: Prospects for trade and Britain's maritime ports', *Policy Exchange*, July 2018: <https://policyexchange.org.uk/wp-content/uploads/2018/07/Prospects-for-trade-and-Britains-maritime-ports.pdf>

25. JOC, 'UK ports seek exemption from EU port services regulation', 30 March 2017: https://www.joc.com/regulation-policy/transportation-regulations/international-transportation-regulations/uk-ports-seek-exemption-eu-port-services-reg-becomes-law_20170330.html

The UK shipbuilding industry

Shipbuilding is a particularly important dimension to regional shipping in the UK. The UK's shipbuilding industry declined sharply in the 20th century (having once been world-leading), but has enjoyed a mini-revival in recent decades.²⁶ According to a report commissioned by Maritime UK, the shipbuilding industry contributed £1.6bn in Gross Value Added in 2015, and employed 26,300 people across the country (representing around 12% of the total jobs directly supported by the wider maritime sector).²⁷ Like other maritime industries, shipbuilding is both highly regionalised (notable hubs include Barrow in Cumbria and the Clyde in Scotland) and is often concentrated in areas of high deprivation, where it is a key source of skilled, relatively high wage employment and apprenticeships. One of the key challenges faced by the industry is demand-side volatility, which leads to a series of peaks and troughs in shipbuilding capability and a lack of regular, stable employment.

In 2017, the Government published a National Shipbuilding Strategy, which aims to meet UK defence needs while developing the shipbuilding industry's exporting capabilities.²⁸ The Strategy remains a key plank of UK maritime and defence policy, and was recently mentioned by the Prime Minister in his Speech to the Conservative Party Conference.²⁹ The Strategy also reinforced the Government's current policy that naval warships must be built in the UK for security reasons, whereas ships that are not classified as warships are subject to open and international competition for procurement contracts. This underpinned the Government's recent decision to re-designate Fleet Solid Support (FSS) vessels (which provide auxiliary support for aircraft carriers) as warships, which means they will have to be constructed in the UK rather than abroad.³⁰

Given the regionalised nature of the industry, the Government's 'levelling up agenda' should include a regional shipping programme, involving support for regional shipbuilding hubs and port infrastructure, together with close collaboration with industry and devolved administrations. This programme should include the following:

- Supporting shipbuilding hubs, building on the National Shipbuilding Strategy and capitalising on the UK's expertise in maritime engineering. In line with areas of UK strength, the focus should be less on building larger vessels, with more priority given to smaller vessels that could become autonomous in the future. Other areas of UK shipbuilding strength which should be exploited include retro-fitment, value-added fitment of advanced technology, and the building of luxury and leisure vessels.
- Encouraging different ports to specialise in different aspects of the maritime sector, building on their existing strengths - for example, Southampton is currently strong in education and consulting, Glasgow in training and ship management, and Aberdeen in offshore services. Ports should also be encouraged to share their

26. Ministry of Defence, 'National Shipbuilding Strategy', September 2017: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/643873/NationalShipbuildingStrategy_lowres.pdf

27. Centre for Economics and Business Research, 'The economic contribution of the UK marine industry', September 2017.

28. Ministry of Defence, 'National Shipbuilding Strategy', September 2017: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/643873/NationalShipbuildingStrategy_lowres.pdf

29. Conservative Party, 'Boris Johnson: Read the Prime Minister's Keynote Speech in full', 6 October 2020: <https://www.conservatives.com/news/boris-johnson-read-the-prime-ministers-keynote-speech-in-full>

30. Telegraph, 'Unions demand new support ships for aircraft carriers are British-built', 27 September 2020: <https://www.telegraph.co.uk/business/2020/09/27/unions-demand-new-support-ships-aircraft-carriers-british-built/>

data with one another.

- Establish regional R&D clusters and Port Economic Partnerships (PEPs). PEPs encourage private-public collaboration to boost trade and create stronger links between ports and government. The UK's first PEP was launched in Southampton, the UK's number one export port, last year.³¹

Funding the cost of port dredging

Dredging is the clearing of sea access routes to ports, for example by deepening berth pockets and approach channels, which allows greater access to larger cruise and freight ships. Dredging is prohibitively expensive for individual ports to carry out, which acts as a drag on expansion. For example, in 2012 it was estimated that maintenance dredging alone was the single biggest expenditure for the Harwich Haven Authority, which spent around £7m a year ensuring clear access to the ports of Ipswich, Harwich and Felixstowe. There is therefore a strong case for the Government helping to fund the cost of dredging, perhaps in collaboration with the private sector. Removing this financial barrier would accelerate port expansion, and bring maritime transport into line with road and rail – both of which are government-funded. Notable priorities for greater dredging include the ports of Southampton, Felixstowe, Harwich and Holyhead.

Launching a domestic cabotage strategy

What is cabotage?

Cabotage is the transportation of goods and services between two points in the same country. In a maritime context, it refers to the sea transport of passengers or goods within the same country (for example, between Liverpool and Belfast). In some countries, this is reserved for ships of the state in which the ports are located – the Jones Act in the US, which prohibits foreign ships from engaging in port-to-port trade within the US, is a well-known example. The concept of cabotage also exists in the context of road transport and aviation.

The EU single market largely liberalises cabotage rights between member states, including maritime cabotage. This allows vessels from one member state to transport goods or passengers port-to-port within another member state. However, the UK and a handful of other member states have gone further and extended cabotage rights to third countries too. Indeed, the UK has not had restrictions on cabotage since the 19th century.

While it is unlikely that UK companies will retain maritime cabotage rights within the EU after the end of the transition period, EU companies are likely to retain cabotage rights within the UK. The UK has had one of the most open market approaches to shipping in the world for over a century, and there seems to be little appetite in the shipping industry to restrict foreign access to cabotage.³² The previous Government's position was that the UK had no intention of introducing new cabotage restrictions after Brexit.³³

31. Associated British Ports, 'Port of Southampton and Government launch UK first Port Economic Partnership', 2019: [https://www.abports.co.uk/news-and-media/latest-news/2019/port-of-southampton-and-government-launch-uk-first-port-economic-partnership/#:~:text=The%20Department%20for%20Transport%20\(DfT,term%20trade%20and%20economic%20growth](https://www.abports.co.uk/news-and-media/latest-news/2019/port-of-southampton-and-government-launch-uk-first-port-economic-partnership/#:~:text=The%20Department%20for%20Transport%20(DfT,term%20trade%20and%20economic%20growth).

32. House of Lords Internal Market Sub-Committee, 'Corrected oral evidence: Future UK-EU transport arrangements', Q32: <http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/eu-internal-market-subcommittee/future-ukeu-transport-arrangements/oral/92018.html>

33. Baroness Sugg, House of Lords Debates, 25 February 2019, c79: <https://www.theyworkforyou.com/lords/?id=2019-02-25a.79.0>

Despite the UK's liberal cabotage regime, domestic port freight (i.e. movement of goods between UK ports) has declined steadily since 2005. Domestic port freight makes up a much smaller proportion of major port traffic than international trade - tonnage carried on domestic routes made up 19% of all traffic handled by UK ports in 2018.³⁴ The majority of this is "coastwise" (i.e. port-to-port), with a smaller proportion "one-port" (i.e. to and from off-sea locations, such as oil rigs). The port of Belfast handles the most domestic traffic of any UK port by some distance (12.1m tonnes in 2018). More broadly, water (including inland waterways) accounts for a relatively small and declining share of the transport of domestic goods in the UK – around 13% of goods moved in 2017.³⁵

As well as strengthening individual port infrastructure, the Government should launch a domestic cabotage strategy with the goal of creating a more integrated UK port network, including Port Economic Partnerships and Free Ports. Increasing the efficiency of domestic maritime transport would strengthen links between the constituent parts of the UK, particularly Great Britain and Northern Ireland.³⁶ In addition, the Government's wider goal of expanded transport links within Northern England should focus not simply on joining inland city centres, but also encompassing port and rail freight capacity to, from and between coastal cities, towns and ports such as Liverpool, Hull and Immingham.

Implement the shipping industry's proposed Covid-19 framework for the return of cruise shipping

The cruising sector plays an important role in the UK economy. According to the Cruise Lines International Association, the industry is worth £2.58 billion per year to the UK economy and employs 73,919 people - 20% of the overall European market share. Southampton is the number one embarkation and disembarkation port in Northern Europe, with a total of 1.75 million passengers passing through in 2015.³⁷

The international cruise ship industry has been severely impacted by the global coronavirus pandemic and the accompanying restrictions on travel. The Foreign and Commonwealth Office currently advises British citizens against travelling on cruise ships, and companies have suspended services, including P&O (which is based in Southampton), as well as Cunard, SAGA, Princess Cruises and Royal Caribbean.³⁸ Worldwide, tens of thousands of crew members have found themselves stranded on cruise ships awaiting repatriation to their home countries.³⁹ The de facto suspension of cruise ship travel has had a negative economic impact on ports which rely on their custom, such as Southampton.

The UK Chamber of Shipping, working closely with the cruise industry, has recently produced a set of new Framework documents for cruise ship operators, including guidelines for public health protection.⁴⁰ This is designed to inform the restart of the cruise industry in the medium-term when the Coronavirus situation improves. The Department for Transport and the Foreign Office should work with industry to implement

34. Department for Transport, 'UK Port Freight Statistics 2018', 21 August 2019: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/826446/port-freight-statistics-2018.pdf

35. Department for Transport, 'UK Port Freight Statistics 2018'.

36. Jack Airey, Gabriel Elefteriu, Sir Stephen Laws, Warwick Lightfoot, Benedict McAleenan, Rupert Reid and Jan Zeber, 'Modernising the United Kingdom', *Policy Exchange*, August 2019, p. 47: <https://policyexchange.org.uk/wp-content/uploads/2019/08/Modernising-the-UK.pdf>

37. *Cruise Trade News*, 'CLIA reveals cruise industry is worth £2.58 billion to UK economy': <https://www.cruisetradenews.com/cruise-industry-contributes-over-2-58-billion-to-uk-plc-cruise-lines-international-association-clia-has-published-its-annual-european-economic-contribution-report-revealing-that-the-cruise-indust/>

38. BBC News, 'Coronavirus: P&O extends cruises pause to October', 2 June 2020: <https://www.bbc.co.uk/news/uk-england-hampshire-52889013>

39. Financial Times, 'Coronavirus: is this the end of the line for cruise ships?', 7 June 2020: <https://www.ft.com/content/d8ff5129-6817-4a19-af02-1316f8defe52>

40. UK Chamber of Shipping, 'Industry comes together to develop new COVID-19 Framework for cruise operators', 1 October 2020: <https://ukchamberofshipping.com/latest/industry-comes-together-develop-new-covid-19-framework-cruise-operators/>

this framework, allowing for the safe return of cruise ship travel in the medium-term. However, if it is to recover, the industry itself will also need to convince potential customers that it is safe to travel on cruise ships.

Summary of key actions:

- **UK Free Port policy should encompass a wider range of tax and regulatory incentives as well as traditional exemptions from customs duties.** The benefits of exempted customs duties alone are likely to be limited; further levers must be pulled to ensure Free Ports maximise their potential for encouraging business, investment and innovation and are joined up with other policy initiatives, such as the wider levelling up agenda and Net Zero. The Government could also explore the idea of creating ‘virtual’ free trade zones.
- **Planning rules within Free Ports should be liberalised in order to aid brownfield development, and local authorities should not oversee the planning and development of free ports.** However, liberalisation of planning rules should be subject to the maintenance of certain environmental safeguards, such as emissions and wildlife protection.
- **Ensure the ongoing competitiveness of the UK flag outside the single market.** The Government should promote the existing benefits of the UK flag more aggressively, set flag registration targets for the UK Shipping Register, and develop further incentives for companies to register their ships under the UK flag.
- **Incentivise UK flag registration by improving the tonnage tax regime.** In particular, HM Treasury should open up a new “window” to allow new companies to register their ships under the UK flag. The training obligation under the tonnage tax should also be reformed to ensure an explicit link to the training of UK cadets, with a year of full time employment guaranteed.
- **Conduct an audit of EU-derived regulation governing the maritime sector,** in order to ensure the UK’s regulatory framework is tailored to the needs of industry. The Port Services Regulation should be scrapped immediately after the end of the transition period, with other EU-derived regulations should be assessed on a case-by-case basis.
- **Develop a regional shipping programme as part of the levelling-up agenda, by supporting regional shipbuilding hubs and investing in port infrastructure.** This would build on existing initiatives such as the National Shipbuilding Strategy and should include a greater focus on building smaller and autonomous vessels.
- **The Government should fund the cost of port dredging,** removing a prohibitive cost barrier to port expansion and allowing

greater access to ports by larger ships.

- **Launch a domestic cabotage strategy**, with the goal of creating an interconnected network of ports.
- **Implement the shipping industry's proposed Covid-19 framework for the return of cruise shipping.**

2. Encouraging trade and international cooperation

Trade and the maritime sector are fundamental to one another. Firstly, the maritime sector facilitates and enables UK trade through shipping, logistics, tourism and energy; over 90% of UK goods trade by volume is carried out at sea.⁴¹ Equally, maritime is also a trading sector in its own right – an export intensive sector contributing around £12bn to UK annual exports.⁴² Trade in maritime includes both maritime goods (such as ships and equipment) and maritime financial, professional and legal services, where the UK is a world leader. In terms of global market share, the UK underwrites 35% of maritime insurance premiums, has 26% of shipbroking revenue, and employs 25% of maritime legal partners.⁴³ London has topped the Xinhua-Baltic Index of global cities for shipping services for the last six years in a row.⁴⁴ Encouraging trade therefore directly benefits the UK's maritime sector. While the sector is competitive internationally when it comes to trade, further action is needed to maintain and improve this position over the coming decades.

Ensuring port and supply chain resilience through diversification

The resilience of UK supply chains has been highlighted as a potential threat over the last few years, first during the Brexit process and more recently after the impact of the Covid-19 pandemic on international trade. The Government is reportedly already examining supply chain vulnerabilities, under the so-called 'Project Defend'.⁴⁵ Given the fundamental importance of UK ports and the maritime industry to UK trade and supply chains, it is essential that port infrastructure, related transport links and the wider shipping industry are treated as being of national strategic importance in any drive towards national resilience.

There is a potential tension between traditional British economic and trade liberalism and the increasing focus on national resilience, and a balance will need to be struck. On the one hand, the pandemic has highlighted the value in targeted state intervention to insure the country against a crisis, even if some efficiency is lost in the short-term. Nevertheless, it would be a mistake to seek resilience through protectionist policies, such as the re-shoring of manufacturing, boycotting goods from countries such as China, and aiming for national self-sufficiency in food. Such policies are neither feasible nor desirable and would undermine the Government's

41. House of Lords European Union Committee, 'Brexit: road, rail and maritime transport', paragraph 171.

42. Maritime UK, 'Promoting the UK's world-class global maritime offer: Trade and Investment 5-year plan', 18 September 2019; <https://www.maritimeuk.org/media-centre/publications/promoting-uks-world-class-global-maritime-offer-trade-and-investment-5-year-plan/>

43. Department for Transport, 'Maritime 2050', p. 192

44. Baltic Exchange, 'Xinhua-Baltic International Shipping Centre Development Index Report 2019', p. 38: <http://upload.xinhua08.com/2019/0712/1562924645891.pdf>

45. Times, 'Boris Johnson wants self-sufficiency to end reliance on Chinese imports', 22 May 2020: <https://www.thetimes.co.uk/article/boris-johnson-wants-self-sufficiency-to-end-reliance-on-chinese-imports-bm-lxn18jl>

ambitions to be a global champion of free trade.

Rather than restricting trade, then, the Government should aim to achieve supply chain resilience through diversifying both trade partners and trade routes. The goal should be to avoid dependence on any one trading partner to minimise the UK's exposure to external risks – a principle which applies to EU member states and the US as well as to China.

As well as trade diversification, the UK should also pursue a strategy of “port diversification” – specifically by aiming to reduce its current reliance on the Dover-Calais crossing, which is a potential source of considerable vulnerability once the UK leaves the transition period. In 2017, Dover handled 30% of the UK's trade in goods with the EU. Whether or not a UK-EU FTA is concluded, this trade will be subject to new checks and controls for which Dover has limited experience – at present, 99% of all trade at Dover is with the EU and it is designed efficiently to process roll-on roll-off freight within the single market, not third country customs procedures.⁴⁶ The Dover-Calais route is also vulnerable to disruptive action – protesting French fishermen have previously brought cross-Channel traffic to a standstill by blockading Calais,⁴⁷ and have threatened to do so again if they are denied access to UK fishing waters after Brexit.⁴⁸

The Channel Tunnel at Folkestone and Holyhead in Wales are also highly exposed to new EU trade barriers, whereas other ports – such as Liverpool and Southampton – focus on non-EU trade and are therefore less vulnerable.

Some of the pressure on Dover can be eased by the Government's existing plans to expand inland clearance sites in Kent for customs clearance and freight overflow, away from the physical border.⁴⁹ However, there is also a strong argument, which has been echoed by industry groups, that the Government should encourage businesses to diversify their trading routes away from Dover, and towards other ports – such as the Humber or London ports - which have spare capacity or are accustomed to managing third country customs procedures. Associated British Ports (ABP) has previously suggested increased investments into Thames, East Coast or Humber ports to prepare for re-routed trade from Dover (though it should be acknowledged that these are ports operated by ABP, whereas Dover is not).⁵⁰ Another report commissioned by ABP has argued that exporters to the EU based in central and northern England could slash journey times by up to five hours if they used the Humber ports (Hull and Immingham), rather than Dover. This would also have environmental benefits; according to ABP, rerouting just 1% of the HGV loads that currently travel through Dover to a Humber Port would lead to a reduction of 10,407 tonnes in CO2 emissions thanks to reduced driving time.⁵¹ PRB Associates, which focuses on economic and operational analysis of shipping, has found that up to 20% of container traffic from Dover could move to alternative crossings, particularly across the North Sea.⁵² Rerouting trade would need to take into account longer journey times; for example, the Dover-Calais route lasts approximately 90 minutes, whereas Hull-Rotterdam takes approximately 11 hours. Avoiding Dover-Calais may therefore only be

46. Dominic Walsh, 'Manageable but Material: The consequences of No Deal and how the Government should respond', *Open Europe*, October 2019, pp. 51-52.

47. E.g. *BBC News*, 'Calais and Boulogne blocked by protesting French fishermen', 25 January 2018: <https://www.bbc.co.uk/news/world-europe-42817263>

48. *Times*, 'French fishermen threaten to blockade UK exports after no-deal Brexit', 9 August 2019: <https://www.thetimes.co.uk/article/french-fishermen-threaten-to-blockade-uk-exports-after-no-deal-brexits2z6m5s7b>

49. *The Guardian*, 'UK to open 10-12 Brexit border customs sites in EU trading shake-up', 13 July 2020: <https://www.theguardian.com/politics/2020/jul/13/uk-to-open-10-12-brexits-border-customs-sites-in-eu-trading-shake-up>

50. Associated British Ports, 'Keeping Britain trading after Brexit', September 2017, p. 21: <http://www.abports.co.uk/content/files/downloads/2017%20Report%20Magazine%20-%20Issue%203.pdf>

51. *Associated British Ports*, 'A Comparative Analysis of Short Sea Import and Export Routes to and from the UK', June 2019: <https://www.abports.co.uk/news-and-media/publications-download/>

52. *Yorkshire Post*, 'Ports say they are ready to cope with increased freight post-Brexit', 12 September 2018: <https://www.yorkshirepost.co.uk/news/politics/ports-say-they-are-ready-cope-increased-freight-post-brexit-1758462>

available to traders whose goods are not perishable or part of just-in-time supply chains.

Facilitating trade to and from UK ports

Given the importance of UK ports in facilitating UK trade, it is essential that UK ports are match-fit for the realities of 21st century trade and are set up to allow the smooth and swift flow of imports and exports. There are a number of steps the Government can take to achieve this, some of which have already been outlined in the Border Operating Model (such as inland clearance facilities, which could reduce congestion by allowing consignments to be checked away from ports).⁵³ Facilitating the flow of trade will be particularly important in mitigating the short-term challenges of increased trade friction with the EU from 2021, but should also be seen as part of a long-term strategy of upgrading UK customs and trading systems to match international best practice.

The Government could expand bonded warehousing to store newly imported goods away from the border. Bonded warehouses are HMRC-authorized facilities where UK-based companies can store imported goods, and suspend duty payments (including of import VAT) until goods are removed from the warehouse to be sold in the UK. The Government is currently encouraging the use of temporary storage facilities under its Border Operating Model, but unlike bonded warehouses, temporary storage facilities only allow goods to be stored for 90 days.

The Government should also do as much as possible to reduce the administrative burden to businesses of importing and exporting goods, especially given that some of these challenges will be new for EU-only traders. The Government's new communications campaign for the end of the transition period should seek to ensure businesses understand and make maximum use of the facilitations contained in the Border Operating Model, such as the ability to pay customs duties in arrears via a duty deferment account and the use of trusted trader schemes. Businesses could also be given financial support to cover the costs of customs training and professional advice, a long-standing request of business representative groups.

The Government should also invest in upgrading customs ICT systems to match international best practice. According to the World Bank's 2018 Logistics Performance Index, the UK is ranked 11th out of 160 for customs performance, falling six places since the 2016 rankings.⁵⁴ One option could be the creation of a trade 'Single Window', similar to the 'one-stop-shop' used in Singapore. A 'Single Window' is a technological platform that creates a common gateway for all trade-related communication and declarations between businesses and government departments. It increases efficiency and reduces the administrative burden on businesses, allowing them to submit all documentation through a single joined-up portal.

53. Cabinet Office, 'The Border Operating Model', 13 July 2020: <https://www.gov.uk/government/publications/the-border-operating-model>

54. World Bank, LPI Global Rankings 2018: <https://lpi.worldbank.org/international/global/2018?sort=asc&order=Customs#-datatable>

Ensuring FTAs reflect the interests of the maritime industry

The Government is currently seeking Free Trade Agreements with a number of countries, including the US, Australia and New Zealand; it is also considering accession to the plurilateral Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). The maritime industry will be a vital facilitator of increased trade flows stemming from such FTAs – for example, Government analysis has found that 98% of UK goods exports to the US and 99% of UK goods imports from the US (by weight) travel by sea.⁵⁵ The maritime industry is also an important trading sector in its own right, and with this in mind the Government should ensure FTAs reflect the interests of the maritime industry by removing barriers to trade in both goods and services, as well as using commercial diplomacy to encourage partners to invest in the UK maritime sector. It should achieve this by consulting comprehensively with the maritime industry on the direction of UK trade policy and how it can serve their interests.

Maritime services, a particular area of UK strength, should be a priority for trade liberalisation – particularly with the US, where trade barriers are high. According to the OECD's Services Trade Restrictiveness Index, which measures regulatory trade barriers on a scale of 0 to 1 (where 0 is completely open and 1 is completely closed), the US has the most restricted maritime transport sector in the OECD at 0.35 (the UK's own score is 0.2, placing it around the middle of the OECD pack).⁵⁶ The US' high score is due in large part to the Jones Act, which has de facto banned foreign maritime cabotage within the US since 1920.

UK negotiators could therefore seek a waiver or exemption for UK ships from the Jones Act in trade negotiations with the US, an idea which was previously floated by the Prime Minister in August 2019.⁵⁷ However, the Government should be clear that this would be an ambitious ask – there is bipartisan Congressional support for the Jones Act and the US has never liberalised maritime cabotage in trade negotiations before, even with close partners such as Canada. To have any chance of achieving this, the UK would need to be prepared to offer something substantial in return – for example, free-market think-tanks in Washington DC have previously floated the idea of trading a Jones Act waiver for concessions on agricultural market access, a top US priority.⁵⁸ Securing US concessions here will be challenging, but the potential rewards of giving UK ships privileged cabotage access to the US domestic maritime market are highly lucrative.

Putting the maritime industry at the centre of future initiatives designed to promote Britain in the world

Negotiating and signing Free Trade Agreements are only one part of trade policy; there are other ways to increase and liberalise international trade. Exploiting soft power assets, engaging in export promotion campaigns,

55. Department for International Trade, 'UK-US Free Trade Agreement': https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/869592/UK_US_FTA_negotiations.pdf

56. OECD, Services Trade Restrictiveness Index: <https://stats.oecd.org/Index.aspx?DataSetCode=STRI>

57. White House, 'Remarks by President Trump and Prime Minister Johnson of the United Kingdom in Working Breakfast', 25 August 2019: <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-prime-minister-johnson-united-kingdom-working-breakfast-biarritz-france/>

58. American Enterprise Institute, 'Trading a Jones Act waiver for improved access to UK markets', 4 June 2020: <https://www.aei.org/american-boondoggle/trading-a-jones-act-waiver-for-improved-access-to-uk-markets/>

encouraging investment, and lobbying partners to reduce barriers to trade in services should also be important planks of the UK's international trade strategy.

The maritime sector should be placed at the centre of such initiatives to promote Britain in the world. For example, the maritime and shipping industries should feature more prominently in the Foreign Office's GREAT campaign, which seeks to showcase the best of Britain to the rest of the world. The industry has also previously identified opportunities for maritime trade promotion in areas of UK strength, notably digital technologies, specialist and autonomous vessels, and green shipping.⁵⁹ The Board of Trade, which promotes UK regions as destinations for trade and investment, could be a useful vehicle for trade promotion in these areas. Establishing the UK as a world leader in green shipping, in particular, would meet several different Government policy priorities. The environmental footprint of shipping is a major issue to tackle in the coming decades; over 90% of global trade is delivered by ship and their emissions are around 2.2% of global Greenhouse Gas emissions. However, the UK faces tough competition in this area from other top performers in green shipping, such as Germany, Norway, Denmark, the Netherlands and Singapore.⁶⁰

The Government should also establish a new package within UK Export Finance (UKEF) to support international trade in the maritime sector. UKEF is the UK's export credit agency and is part of the Department for International Trade. Its mission is to ensure that no viable UK export fails because of a lack of finance or insurance, and it helps businesses access loans, insurance policies and foreign procurement contracts.

Moving some Department for International Trade operations out of Westminster

In the March 2020 Budget, the Chancellor revealed that the Government intended to move 22,000 civil servants out of London. More recently, the Chancellor of the Duchy of Lancaster used the Ditchley Annual Lecture to emphasise the fact that “all major Government departments are based in London”, asking, with some justification, whether it would “be better for those deciding how taxpayers' money is spent to be living and working alongside those citizens across the country, from Mansfield to Middlesbrough to Merthyr Tydfil.”

In this spirit, the UK Government should move some Department for International Trade (DIT) operations out of Westminster and closer to our ports and the centres of the UK's trading operations. Potential candidates for relocated operations include Liverpool, Southampton, Belfast, Teesside, and the Humber – as well as key Port of London facilities in Gravesend, Tilbury and Thurrock. Giving DIT a greater regional presence would be an important step, both symbolically and practically, in delivering the Government's aim that the whole of the UK benefits from any new trade agreements, rather than confining the benefits of trade to

59. Department for Transport, 'Maritime 2050', p. 210.

60. Maritime UK, 'Trade and Investment 5-year plan'.

existing geographical areas of comparative advantage. Indeed, spreading the benefits of trade and investment across the UK should be seen as an effective way to marry the ‘Global Britain’ and ‘levelling up’ agendas.

Using the UK’s role as the host of the International Maritime Organisation (IMO) to improve global maritime security

What is the International Maritime Organisation (IMO)?

The IMO, a specialised agency of the United Nations, is the global standard-setting authority for the safety, security and environmental performance of international shipping. Its headquarters are in London, making it the only UN body based in the UK. The IMO’s presence in London has drawn several other international maritime organisations to the city, including the Institute of Marine Engineering, Science and Technology (IMarEST), Intercargo, the International Chamber of Shipping (ICS), the International Mobile Satellite Organization (IMSO), the International Salvage Union (ISU) and the International Oil Pollution Compensation (IOPC) Funds.

Although the IMO is responsible for the safety and security of international shipping, in practice its capacities are limited. This was highlighted by the recent incident off the Isle of Wight, in which there was a suspected hijacking incident by stowaways on board a Liberian-registered tanker, the Nave Andromeda. The incident was resolved swiftly after the Special Boat Service (SBS) stormed the boat; the raid lasted just nine minutes and culminated in seven arrests.⁶¹

Although the performance of the UK authorities in the Nava Andromeda incident was exemplary, from an international maritime perspective this was a lucky escape. First, the incident occurred a mere thirty miles from the headquarters of the SBS, and in a stretch of the Channel where there are regular naval exercises. More broadly, the fact it took place in UK waters was also fortunate; the UK has excellent policing, coastguard and defence resources, with authorities that can cooperate with one another effectively and are well-equipped to deal with such incidents. Many other nations do not have such resources at their disposal; when incidents like this occur elsewhere in the world, they can often lead to a protracted stand-off. It is also fortunate that the Nave Andromeda was a Liberian-flagged vessel; it is easy to see how the situation could quickly have developed geopolitical complications if the vessel had been flying a Russian or Chinese flag, for example.

The IMO is in theory responsible for the safety and security of international shipping, but in practice it lacks the capacity to deal with incidents such as this. IMO guidelines mandate that vessels are searched prior to departure, but in developing countries with less stringent security measures stowaways are able to slip through.

61. BBC News, ‘Tanker stowaways: ‘Hijacking’ ends after special forces storm ship’, 26 October 2020: <https://www.bbc.co.uk/news/uk-england-hampshire-54687379>

As pointed out in *Maritime2050*, the location of the IMO in London is “absolutely fundamental to the UK’s global competitiveness and attractiveness” in the maritime sector and a major source of soft power. Hosting the IMO is both a privilege and a major source of opportunities, which the Government must seek to maximise by consolidating the UK’s position as a global thought leader on maritime policy and balance great power competition in the maritime sector. For example, in 2010, the UK established the National Maritime Information Centre (NMIC) as part of the Strategic Defence and Security Review and, in 2014, launched a National Strategy for Maritime Security.⁶² The NMIC should be used to support the UK’s ambition to improve global maritime security through the IMO.

In this context, the Nave Andromeda incident should trigger a reset in the UK’s role as host of the IMO. While the UK evidently has the resources to deal with this kind of incident in its own waters, as the host of the IMO it has a responsibility to support other countries to ensure they are also equipped to deal with such incidents in their waters. It should therefore use the IMO as a platform to export maritime defence knowledge and expertise to international partners, so that they can conduct comparable operations. In so doing, the UK can play a leading role in improving global shipping security.

Summary of key actions:

- **Include the maritime industry in the Government’s ‘Project Defend’ examination of supply chain vulnerabilities.** Port infrastructure, related transport links and the wider shipping industry are of national strategic importance and should be factored into any drive towards ‘resilience’.
- **Pursue supply chain resilience through trade diversification, not protectionism or autarky.** By negotiating FTAs and engaging in wider trade promotion and diversification, the UK can ensure it is not dependent on any one trading partner – or trade route - for vital goods.
- **Work with industry to reduce the UK’s reliance on the Dover-Calais crossing, which is vulnerable to new trade barriers after Brexit.** The Government should encourage traders to use alternative ports and routes where possible, such as the North Sea and London ports.
- **Take action to facilitate the flow of trade in and out of UK ports, minimise the administrative costs on traders, and upgrade UK customs systems in line with international best practice.** The Government’s new communications campaign should encourage business take-up of the facilitations included in the Border Operating Model, such as paying customs duties in arrears and the use of trusted trader schemes. The Government could also give businesses financial support to cover the cost of customs training

62. GOV.UK, *The United Kingdom’s national strategy for maritime security*, 14 May 2014, <https://www.gov.uk/government/speeches/the-united-kingdoms-national-strategy-for-maritime-security>

and invest in upgrading customs ICT systems.

- **Ensure FTAs reflect the interests of the maritime industry.** The Government should seek to persuade negotiating partners to liberalise trade in maritime services. In particular, it could seek a waiver from the Jones Act in trade negotiations with the US.
- **Put the maritime industry at the centre of future initiatives designed to promote Britain in the world,** such as the GREAT campaign and export promotion strategies. In tandem, establish a new export finance package for the maritime sector.
- **Move some Department for International Trade operations out of Westminster and closer to our ports and trade hubs,** such as Liverpool, Southampton and Hull.
- **Use the UK's role as the host of the International Maritime Organisation (IMO) to improve global maritime security.**

3. Technology, Investment, Skills and People

The future of the UK maritime industry depends upon its capacity to invest in people and technology to maintain global competitiveness, as the *Maritime2050 Technology and Innovation in UK Maritime Route Map* and the *Maritime2050 People Route Map* explicitly state.⁶³ Although much of the finance for maritime research is currently (and should continue to be) financed by industry and the private sector, the Government has an important role in ensuring that the UK is an investment-friendly economy and in coordinating and supporting innovations. There are already a number of initiatives that support maritime innovations including Maritime Research and Innovative UK (MarRI-UK), comprising more than eight companies and four universities.⁶⁴ Furthermore, the UK's first ever Maritime Innovation Hub was opened at the Port of Tyne in the North East of England in July 2019, bringing together expertise, supporting the development of new technology and boosting regional productivity.⁶⁵

The integration of new maritime technologies will require new models of governance and regulation. Innovations in maritime technologies have the capacity to transform both the business models and operating practices of the UK maritime industry and encourage wider efficiencies and improvements to Transport and Logistics (T&L) supply chains. The Government has a vital role to play in supporting investment in Maritime R&D and to support the creation of maritime clusters in UK port estates. To quote the Government's own Maritime2050 strategy, "it is only through close collaboration between government, industry and academia that the UK will realise the benefits of a culture of innovation and technology advancement in terms of export opportunities, highly-skilled job creation, and the regeneration of coastal communities."⁶⁶

Automated drones, Unmanned Vessels and Smart Ports: Encouraging Automation, Connectivity and Digitisation

The Government should prioritise the building, funding and testing of autonomous vessels, an emerging area of potential technological growth in the maritime sector. This will require the development of a domestic legislative framework for autonomous vessels in order to allow testing of this emerging technology in UK territorial waters. Several British companies are already producing early-stage autonomous vessels, while Solent University has developed a reputation for impactful research on the

63. *Department for Transport*, 'Maritime 2050: People Route Map', p. 4, 2019: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/872270/Maritime_2050_-_People_route_map.pdf ; *Department for Transport*, 'Technology and Innovation in UK Maritime: The case of Autonomy', 2019: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877630/technology-innovation-route-map-document.pdf

64. *Maritime UK*, 'Maritime Research and Innovative UK': <https://www.maritimeuk.org/marri-uk/>

65. *Port of Tyne*, '2050 Innovation Hub': <https://www.portoftyne.co.uk/about-us/2050-innovation-hub>

66. *Department for Transport*, 'Maritime 2050', p. 100.

subject. The aim should be to make the UKSR the leading global register authority for autonomous vessels by 2050.

Automated drones and unmanned aerial vehicles (UAVs) are also likely to be particularly important to the future of UK ports. Drones have the capacity to improve port monitoring and traffic control, improve operation oversight by performing routine and on-demand equipment inspection and also protect the climate by improving the monitoring of local environments. The UK Government published the results of its consultation into the future of drones in the UK in January 2019 and passed new laws to combat illegal use of unmanned aircraft and modernise airspace later that year.⁶⁷ Nonetheless, more needs to be done to encourage the use of drones in UK ports. Industry should work directly with the Civil Aviation Authority (CAA) to expedite licensing and testing, which should go beyond the trials currently being undertaken by the Maritime Coastguard Agency (MCA) through the Drone Demonstration & Development Pathfinder to ensure that adoption of UAVs is fast-tracked.

Around the world, countries are adopting modern information technologies both to improve the planning and management of ports, and also to support wider supply chain integration. Crucially, the digitisation of port authorities and adoption of new technologies drastically reduces the costs and increases the efficiency of maritime activities. It is unsurprising, therefore, that the Government has an explicit vision for “the UK to be at the heart of a global maritime autonomy industry” and expects the UK “to be world-leading in the design, manufacture, uptake and use of smart shipping technologies, the associated skills base and the relevant regulatory framework.”⁶⁸

Smart Ports

A ‘Smart Port’ is a port that employs the use of advances in robotics, sophisticated data collection and analytics, the latest developments in artificial intelligence and machine learning and the improved provision of sensor technology to manage resources more effectively. Such ports are particularly effective when connected to networks of other ‘smart ports’, making use of automated devices and sensors connected within an “internet of things” (IOT) to improve performance.

The development of remote operation and maritime autonomous systems will transform the maritime sector. There are a number of opportunities afforded by automation, including but in no way limited to:

- The development of autonomous vessels, i.e. ships which can operate independently of human interaction;
- Remote control of gantry cranes, quayside container cranes and Intelligent Guided Vehicles (IGVs);
- AI-based identification of containers, licence plates and cargo through more advanced crane cameras and automatic cargo tallies.

67. Department for Transport, ‘New laws to combat illegal use of unmanned aircraft and modernise airspace’, 23 October 2019: <https://www.gov.uk/government/news/new-laws-to-combat-illegal-use-of-unmanned-aircraft-and-modernise-airspace>; Department for Transport, ‘Taking Flight: The Future of Drones in the UK - Government Response’, January 2019: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/771673/future-of-drones-in-uk-consultation-response-web.pdf

68. Department for Transport, ‘Technology and Innovation in UK Maritime: The case of Autonomy’, January 2019, p. 12: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877630/technology-innovation-route-map-document.pdf

Further supply chain integration and the development of smart ports is dependent upon the strength of the UK's digital infrastructure. At present ports are mainly supported by optical-fibre, Wi-Fi and the UK's existing broadband cellular network infrastructure. Not only does this lead to high operating and maintenance costs, but it also limits the possibilities of using data due to difficulties in data handling that arise from poor stability and low reliability in communication services. In contrast, 5G's low latency, high bandwidth and massive connectivity would provide ports with reliable communication services and support the development of other UK industrial capacities. The UK Government has pledged £5bn to ensure that everyone in the UK can benefit from world-class gigabit connectivity no matter where they live or work, which includes funding for 5G mobile services.⁶⁹ The opportunities afforded by smart ports can only be unlocked if improvements are made to the UK's digital infrastructure and the roll-out of 4G and 5G is expedited.

The use of real time data (enabled by smart sensors and the IOT) will increase the operational efficiencies of sea ports. Indeed, the opportunities afforded by the creation of a common gateway for all trade-related communication and declarations between businesses and government departments are explored in the previous chapter. Nonetheless, in the future distributed ledger technologies have the capacity to transform port and supply chain management. There is already a significant market developing for blockchain-based solutions, especially with regard to container shipping and the global supply chain. Such solutions could be used to establish trust across supply chains, record transactions and track assets in an interoperable way across port networks in the UK and internationally. "Smart contracts" enabled by such technology would make it easier to declare taxes, insurances, customs and payments; the digitization of paperwork will reduce administrative burdens. As a result, the UK Government should lead the way in encouraging the use of decentralised information-sharing technologies to track goods and facilitate trade.

Supporting Investment and Maritime R&D

Given the disruptive potential of new technologies to transform the market dynamics of the global maritime industry, the future viability and competitiveness of the UK maritime industry is dependent upon its capacity to advance innovation and to ensure that these innovations are diffused throughout the wider maritime ecosystem. Indeed, the House of Commons Select Committee on Science and Technology identified the role government can play in bridging the "valley of death" between research and commercialisation.⁷⁰ It is vital to ensure that sufficient sums are spent on maritime R&D (particularly in relation to green technologies, which are outlined in the following chapter) and that there are adequate levels of private investment and expenditure on capital equipment in the maritime sector.

Securing sufficient investment in maritime technology is a long-term

69. Nicky Morgan, 'We want to make the UK a world leader in digital connectivity', iNews, 30 September 2019: <https://inews.co.uk/opinion/we-want-to-make-the-uk-a-world-leader-in-digital-connectivity-344845/amp>

70. House of Commons Science and Technology Committee, 'Bridging the valley of death: improving the commercialisation of research', March 2013: <https://publications.parliament.uk/pa/cm201213/cmselect/cm-sctech/348/348.pdf>

challenge. As the Government itself acknowledges in Maritime2050, “high initial investments and the long time it takes to see a return on investment in new technologies can discourage innovation in ports.”⁷¹ The Coronavirus crisis has made this challenge even more difficult. Ordinarily, UK ports invest around £600 million every year. Due to the Coronavirus, there are significant concerns that cash reserves and budgets that might previously have been spent on capital equipment and R&D have been redeployed to mitigate the economic consequences of the pandemic.⁷²

The government has committed to increasing public and private investment in research and development to 2.4% GDP by providing an additional £7 billion of public investment since the Autumn Statement 2016.⁷³ The Government’s R&D Roadmap made clear not only that this investment will be made in partnership with the private sector (where investment into innovation generally generates greater benefits) but also that that the UK will embrace different types of research endeavour, with a greater focus on challenge funds, competitions and contracts.⁷⁴ As the plan itself makes clear, the Government plans to “review how we fund and assess discovery and applied research, to cut unnecessary bureaucracy, pursue ambitious ‘moonshots’” and will “put our research system to work in solving the most critical challenges facing the world, including identifying and tackling “moonshots”.”⁷⁵

Moonshots

A “moonshot” is an ambitious, exploratory and ground-breaking project which could have a significant impact on an important societal issue.⁷⁶ Undertaken often without any expectation of near-term profitability or benefit, “Moonshots” set out ambitious, measurable goals and can galvanise actors from across disciplines, government, academia and industry.

The PM’s Council for Science and Technology has identified seven central principles to guide the development of a moonshot.⁷⁷

Moonshots should:

- Excite and inspire the public, academia, and industry.
- Help solve an important societal issue.
- Be truly disruptive and ground-breaking.
- Focus on areas where the underpinning science is at a stage to make a major breakthrough feasible.
- Be specific and well-defined in what it sets out to achieve, with a clear timeframe for completion.
- Take advantage of areas where the UK is, or is poised to be, a world leader.
- Generate significant additional benefits.

71. Department for Transport, ‘Maritime 2050’, p. 110.

72. *Maritime UK*, ‘Maritime Sector Recovery Plan’: <https://www.maritimeuk.org/programmes/maritime-sector-recovery-plan/>

73. *UK Research and Innovation*, ‘Increasing the UK’s investment in R&D to 2.4% of GDP’: <https://www.ukri.org/about-us/increasing-investment-in-r-d-to-2-4-of-gdp/>

74. *HM Government*, ‘UK Research and Development Roadmap’, pp. 11-12: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896799/UK_Research_and_Development_Roadmap.pdf

75. *HM Government*, ‘UK Research and Development Roadmap’, p. 6

76. *HM Government*, ‘UK Research and Development Roadmap’, <https://www.gov.uk/government/publications/uk-research-and-development-roadmap/uk-research-and-development-roadmap>

77. *HM Government*, ‘UK Research and Development Roadmap’, <https://www.gov.uk/government/publications/uk-research-and-development-roadmap/uk-research-and-development-roadmap>

To encourage further investment in the maritime industry, the Government should explore co-investment opportunities with the maritime sector for research and development. To support maritime clusters, the UK Government should aim to create a number of innovation hubs at major ports, similar to Port Enterprise Partnerships (PEPs) or Maritime Knowledge Hubs, by 2025. Such Hubs could be used to support a wide-range of technological advances, ranging from innovative materials and constructions for ship hulls to autonomous vessels – supporting jobs, trade, and innovation in numerous coastal communities. The Government should also relocate DIT and BEIS R&D taskforces focused on environment and AI to port cities, such as Liverpool or Hull. Moreover, it should also consider whether more generous capital allowances and investment guarantees could kick-start long-term investment into the maritime sector as the economy recovers from the impact of Coronavirus.

Funds should be made available from BEIS' increased £22bn R&D fund specifically for the maritime sector. Crucially, the UK's R&D Roadmap makes it clear that it will be “more prepared to take risks to achieve potentially greater gains from research, and adopt long-term approaches to investing in research” and that the Government intends to “embed horizon-scanning to identify early and prepare to exploit our emerging strengths effectively, including discoveries that are ready for development, exploiting these for the prosperity and security of the UK.”⁷⁸ The UK maritime sector is not only a strategic strength of the UK, but it is also vital to prosperity and security. As a result, efforts should be made to identify applied research objectives and “moonshots” relevant to the maritime sector. These could include the development of new composite materials to support innovative designs for hulls, rudders and propellers (such as “Buckypaper”, which is made of carbon nanotubes). Likewise, the Government could outline “moonshots” related to alternative fuels, Liquefied Natural Gas fuelled engines and exhaust gas cleaning systems, or moonshots related to automation and autonomous vessels to ensure that the UK is as competitive as possible when it comes to freight.

Access to Finance

The UK boasts a world-leading financial services sector, which already provides significant funds and services to the global shipping and maritime industry. All commercial activities in the marine industry require capital, whether for the buying and selling of ships, developing and repairing technology, ship broking, marine insurance or legal payments. As Maritime London points out, “most shipping finance from the UK has traditionally been extended in the form of mortgage finance, but leasing, corporate financing and public bond issues are growing in importance.”⁷⁹ The London Stock Exchange (LSE) offers shipping companies an alternative source of funding for fleet expansion. London should aim to become the venue of choice for global equity issuance for the shipping sector. To make the LSE a competitive jurisdiction (relative to Oslo and New York), changes to the Main List and the Premium Listing qualifications may be necessary.

78. HM Government, 'UK Research and Development Roadmap', p. 12.

79. Maritime London, 'Finance': <https://www.maritimelondon.com/service/finance>

Skills for the Future

At present, workers in the maritime sector are 42% more productive than the average UK worker.⁸⁰ This is particularly impressive given the UK's wider malaise following the 2008 crisis.⁸¹ The UK's future position as a leading maritime power depends upon its capacity not just to retrain those currently working in the maritime sector, but also in ensuring that it can recruit skilled workers in the future. It is in recognition of this that Maritime UK and the Department for Transport have established a Maritime Skills Commission, which aims “to lead the sector's work in ensuring the maritime sector has a pipeline of talented people to serve all parts of the sector covering shipping, ports, leisure marine, engineering, science and professional services.”⁸² The creation of high-skilled maritime jobs can transform our coastal communities, whose difficulties were highlighted by the House of Lords Regenerating Seaside Towns Committee.⁸³

The UK is home to some of the leading maritime training centres in the world, which are internationally recognised. For example, Warsash Maritime School offers over 150 accredited deck, engineering, interior, maritime and offshore safety training courses, approved by the MCA, MNTB, OPITO, SIGTTO, SQA, and other awarding bodies.⁸⁴ Like our leading universities, such schools are a source of soft power to the UK and provide the opportunity for the UK to lead on global maritime issues.

No matter how advanced the technology deployed in the maritime sector, its strength will always rest on the skill set of its workforce and the wider talent pool feeding into it. This applies not just to the maritime sector but also to the Government's wider infrastructure ambitions. Even if the macro-economic environment ensures that infrastructure projects (such as the expansion of ports) could be cheaply financed, there may still be limitations upon the real resources of human capital. Projects cannot go ahead unless there is a sufficient number of skilled people to work on them.⁸⁵

As Policy Exchange pointed out in *The Training We Need Now*, vocational education and training, especially for those not heading to university, has been one of the biggest public policy failures of the last 25 years.⁸⁶ Of particular importance to the maritime industry is the fact that the UK is, at present, suffering from a “missing middle” problem, particularly when it comes to technician roles (roles that require ‘intermediate’—that is, level 3-5—skills in science, technology, engineering and/or mathematics).⁸⁷ The Prime Minister has said that young people “should be guaranteed an apprenticeship” as part of the country's recovery from Covid-19 and the Chancellor's has announced a £2 billion fund to create hundreds of thousands of high quality 6-month work placements aimed at those aged 16-24 who are on Universal Credit and are deemed to be at risk of long-term unemployment.⁸⁸ These developments should be welcomed and the Government should go further by working with the maritime sector to develop a bespoke, fast-tracked apprenticeship programme.

80. Maritime UK, 'Maritime Sector Recovery Plan'

81. McKinsey Global Institute, 'Solving the United Kingdom's productivity puzzle in a digital age', 3 September 2018: <https://www.mckinsey.com/featured-insights/regions-in-focus/solving-the-united-kingdoms-productivity-puzzle-in-a-digital-age>

82. Maritime UK, 'Maritime Skills Commission': <https://www.maritimeuk.org/programmes/people/skills-commission/>

83. House of Lords Regenerating Seaside Towns Committee, 'The Future of Seaside Towns'.

84. Warsash Maritime School, <https://maritime.solent.ac.uk>

85. Graham Gudgin, Warwick Lightfoot, Gerard Lyons and Jan Zeber, 'Why the Government should spend more on capital'. 22 June 2020, p. 8:

<https://policyexchange.org.uk/wp-content/uploads/Why-the-Government-should-spend-more-on-capital.pdf>

86. David Goodhart (ed), 'The Training We Need Now: Essays on technical training, lifelong learning and

apprenticeships', *Policy Exchange*, 7 June 2020: <https://policyexchange.org.uk/wp-content/uploads/The-Training-We-Need-Now.pdf>

87. Paul Lewis, 'The Missing Middle: Technicians, Innovation and Advanced Manufacturing', in Goodhart, 'The Training We Need Now', pp. 8-14.

88. HM Treasury, 'A Plan for Jobs 2020', 8 July 2020: <https://www.gov.uk/government/publications/a-plan-for-jobs-documents/a-plan-for-jobs-2020>

Supporting seafarer welfare

There is growing evidence that both mental and physical health are serious issues for seafarers and actively contribute to the risk of accidents at sea.⁸⁹ Mental health issues have been brought into sharp relief by COVID-19, with thousands of seafarers trapped abroad and in need of repatriation, but the problems predate the crisis. The sea is an unforgiving environment in which to live and work; it involves months away from family, social isolation, limited personal freedom, uncertain working contract lengths, and the risk of accidents all contribute to mental health problems on board. A study by ITF and Yale University found that 28% of seafarers showed signs of depression, anxiety or both.⁹⁰ Mental health issues are exacerbated by the lack of co-operation and data sharing between pastoral service providers in different ports and countries, and the lack of widespread access to mental health resources while at sea.

Physical health is also a major issue, with multiple studies finding that cardiac events are the second cause of deaths at sea – behind accidents, but ahead of suicides.⁹¹ Cardiovascular disease is generally preventable, but for seafarers the three key tools to limiting the risk – diet, sleep, and exercise – are largely outside their own control.

Due to the pandemic, many seafarers and merchant sailors are being forced to spend longer at sea, something that is not only hazardous to their health but that also risks causing unnecessary accidents. According to the World Economic Forum, over 300,000 seafarers worldwide have been stranded aboard their vessels with contracts expired due to COVID-19 restrictions. In some cases, this means that workers have been at sea for 18 months without a break. Sailors' Society, an international maritime charity, has said the pandemic represents the worst crisis seafarers have faced in the last 200 years.⁹² The UK Government should work with other Governments around the world to ensure that sea-fearers and merchant sailors can return home, and should support the development of alternative travel corridors to expedite this process if necessary.

The Government should also establish a Seafarer Health Assistance Programme to support the health of all seafarers on UK flagships and ships entering UK waters. This would be a wraparound package aimed at supporting the recruitment and retention of maritime staff. The Programme should include an initiative to bring together ports, ships and other flag states to collect, anonymise and share data on welfare trends and ensure seafarers on UK flagged ships can access mental and physical health support when they need it.

Electronic health records can help to allow health professionals to view the health history of seafarers when providing them with treatment. Equally, improving data sharing provision can also be used to measure any correlation between health and onboard accidents. Existing initiatives such as HiLo, a risk management tool used by many ships, have demonstrated that data collection and algorithmic modelling can predict and prevent risks and accidents at sea – which are typically “high impact, low frequency”.⁹³ The UK Ship Register could also learn from its counterpart on the Isle of

89. *Thetius*, 'Welfare 2.0: How can the next generation of technology enable better crew safety, health and wellbeing at sea?': <https://thetius.com/welfare-2-0/>

90. Seafarer Mental Health Study, ITF Seafarers Trust and Yale University, Lefkowitz, Slade, 2019

91. *Thetius*, 'Welfare 2.0'

92. *World Economic Forum*, 'Imagine being stranded at sea for 18 months. That's still the reality for many seafarers amid COVID-19'; 21 September 2020: <https://www.weforum.org/agenda/2020/09/imagine-being-stranded-at-sea-for-18-months-thats-the-reality-for-many-seafarers-amid-covid-19/>

Sailors' Society, Coronavirus 'worst crisis for seafarers in 200 years', says international maritime charity, 9 September 2020: <https://www.sailors-society.org/news/coronavirus-worst-crisis-for-seafarers-in-200-years-says-international-maritime-charity>

93. *Thetius*, 'Welfare 2.0'

Man, which has recently launched the world's first seafarer welfare app designed by a ship registry.⁹⁴

Summary of key actions:

- **The UK Government should expedite drone legislation to allow greater testing and licensing.** The Maritime Sector should work with the CAA to ensure that testing goes beyond the MCA Drone Demonstration & Development Pathfinder.
- **The Government should fast-track a legislative framework and increased funding and testing for autonomous vessels,** with the aim of making the UKSR the leading global register authority for autonomous vessels by 2050.
- **To support maritime clusters, the UK Government should aim to create an innovation hub at every major port in the country by 2025.** These would be similar to a PEP (Port Enterprise Partnership) or a Maritime Knowledge Hub and would encourage knowledge spill-overs, innovation, jobs and trade in multiple coastal communities.
- **Funds should be made available for the maritime sector from BEIS's increased £22bn R&D fund.** These funds should be based upon extensive horizon-scanning to identify and exploit our emerging maritime strengths and should outline a specific "moonshot" goal relating to Maritime technology.
- **The Government should explore co-investment opportunities with the maritime sector for research and development and explore the viability of investment guarantees.** Such measures would ensure that the industry is able to invest despite the fact that cash reserves and budgets may have been redeployed to mitigate the economic consequences of the COVID-19 pandemic.
- **London should aim to become the venue of choice for global equity issuance for the shipping sector.** Changes to the Main List and the Premium Listing qualifications may be necessary in order to achieve this.
- **The UK Government should work with the maritime sector to develop a bespoke, fast-tracked apprenticeship programme** as part of the £2bn kick starter fund announced in the 2020 mini budget.
- **The Government should establish a new Seafarer Health Assistance Programme to support the mental and physical health of seafarers on UK flagships and in UK waters.** This should be a wraparound package supporting the retention and recruitment of seafarers, and must include an initiative to bring together ports, ships and other flag states to collect, anonymise and share data on welfare trends in order to measure trends in onboard health and safety. It could also include a seafarer welfare app, similar to that which has just been launched by the Isle of Man.

94. Afloat, 'Ship Registry in Isle of Man Becomes First Flag State to Launch Seafarer Welfare App', 15 July 2020: <https://afloat.ie/port-news/port-and-shipping-news/item/46957-isle-of-man-ship-registry-becomes-first-flag-state-to-launch-seafarer-welfare-app>

4. Climate and Environment

Shipping has multifarious environmental impacts, but its largest is through its greenhouse gas (GHG) emissions. This section focuses solely on these GHG emissions from shipping, given this has been the focus of domestic and international policy in recent decades. Government has an important role in kick starting progress towards zero-emissions shipping, especially given the international nature of the industry. In line with its target of net zero emissions by 2050, the UK Government has worked with the shipping industry to set out a ‘Clean Maritime Plan’ (CMP) to deliver the transition. However, the slow adoption of technology by industry and a distinct lack of international ambition will slow down the transition to decarbonisation. The CMP provides a strong compass to overcome these barriers, but the Government must take the lead at the upcoming 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) to generate international support for the decarbonisation of shipping.

Supporting investment in zero emission shipping

Emission reductions from shipping have been slow over the last two decades. Since 1990, emissions from UK domestic shipping have fallen 27%, while emissions from international shipping attributable to the UK have fallen only 4% over the same period, owing to a large uptick in 2008. Overall shipping emissions fell by 17% between 1990 and 2017, whilst emissions across the whole economy fell by 32%. Forecasts suggest that in scenarios when no action is taken, emissions from international shipping could grow between 50% and 250% by 2050.⁹⁵

Emissions from domestic and international shipping, 1990 – 2017.⁹⁶



95. European Parliament Directorate-General for Internal Policies, ‘Emission Reduction Targets for International Aviation and Shipping’, 2015, p. 17 [https://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU\(2015\)569964_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2015/569964/IPOL_STU(2015)569964_EN.pdf)

96. Policy Exchange analysis of Department for Transport statistics on GHG emissions by transport mode: <https://www.gov.uk/government/statistical-data-sets/energy-and-environment-data-tables-en-v#greenhouse-gas-emissions-env02>

The Government has recently published the Clean Maritime Plan (CMP), which elaborates on the environmental objectives set out in Maritime2050. The CMP has two strategic goals: to achieve zero emission shipping by 2050; and to capture the economic benefits created by being a global leader in decarbonising shipping. It proposes to do this through a suite of policy measures to accelerate maritime decarbonisation including targets for reduction, incentives, green finance, infrastructure, public procurement, subsidies and licensing regimes.⁹⁷

Internationally, the UK has promoted the adoption of important international commitments to reduce emissions from shipping. Since the 1997 Kyoto Agreement, the IMO has been the primary platform for dealing with international shipping emissions (as opposed to those of domestic shipping industries). In April 2018, after protracted debates over the role of shipping in global emissions reduction,⁹⁸ the IMO agreed a target of reducing greenhouse gases (GHGs) from shipping by at least 50% by 2050 from a 2008 baseline.

The IMO further regulates the environmental impact of shipping through the 1983 International Convention for the Prevention of Pollution from Ships (MARPOL). Reducing emissions from shipping is not just a question of climate change, but also air pollution, which is governed by Annex VI of the MARPOL convention. This places limits on the emission of certain air pollutants, most notably progressively reducing limits on the sulphur content of marine oil fuels (0.5% by weight by 2020), and introduced 'Emission Control Areas' over certain areas of sea.

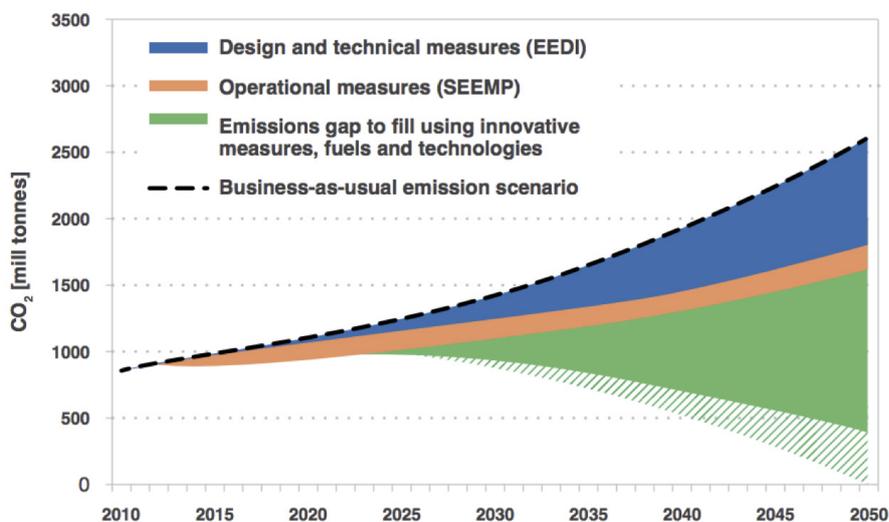
Emissions from shipping will be difficult to reduce, even though the IMO's emissions reduction goal is half that of the UK's national net zero goal. Ships typically rely on 'bunker fuel', which produces high amounts of GHG emissions per unit of power output. Bunker fuel is an umbrella term given to heavy fuel oils that commercial shipping normally relies on, because it is much cheaper than other distillates of petroleum and can be used out at sea where national regulations on air pollution do not apply.

The shipping industry is not short of technologies to reduce emissions. As shown in the graph below, almost a third of the emissions reductions needed to meet the IMO's current target can be met through operational, design and technical measures which exist today.

97. Department for Transport, 'Clean Maritime Plan', July 2019: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/815664/clean-maritime-plan.pdf

98. Carbon Brief, 'In-depth: Will countries finally agree a climate deal for shipping?', 6 April 2018: <https://www.carbonbrief.org/in-depth-will-countries-finally-agree-climate-deal-for-shipping>

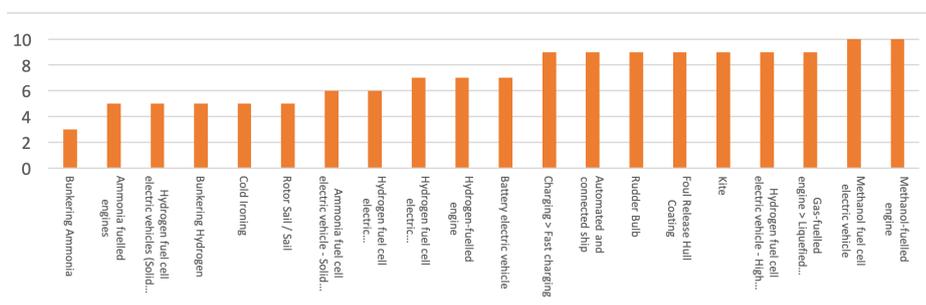
Illustration of emissions reduction pathway to achieve the IMO's 50% reduction in shipping emissions by 2050.⁹⁹



Technological solutions for decarbonising shipping

There are many technological solutions for decarbonising shipping which are deployable now. In a recent assessment of clean technologies, the International Energy Association rated nine technologies for shipping as having a ‘readiness level’ of over eight out of ten, as shown below.

Readiness level of different technologies to decarbonise shipping (June 2020).¹⁰⁰



99. International Maritime Organisation, ‘IMO action to reduce greenhouse gas emissions from international shipping’: <http://www.imo.org/en/MediaCentre/HotTopics/Documents/IMO%20ACTION%20TO%20REDUCE%20GHG%20EMISSIONS%20FROM%20INTERNATIONAL%20SHIP-PING.pdf>

100. International Energy Agency, ‘ETP Clean Energy Technology Guide’, 2 July 2020: https://www.iea.org/articles/etp-clean-energy-technology-guide?utm_content=bufferc0e3c&utm_medium=social&utm_source=twitter-ieabir&utm_campaign=buffer

But despite the fact these technologies are deployable now, many of them have not been developed or deployed at a commercial scale. One reason for this is that many of the technologies rely on supply chains that are nascent and need to be deployed at scale first before the technologies themselves can also be deployed. For instance, four of the technologies in the graph above rely on hydrogen as a fuel. Hydrogen will play an important role in decarbonisation across many sectors of the economy, especially in

powering heavy transport modes like shipping where electrification may be less viable.¹⁰¹ But at present industrial production of hydrogen has not been deployed at scale, limiting the adoption of technologies that use it as fuel.

The uncertainty for industry and investors created by this, and exacerbated by the financial pressures associated with the COVID-19 crisis, means the Government needs to set a clear direction and invest funding in the future of shipping decarbonisation. The best policy option is to introduce a Green Maritime Finance plan as soon as practically possible. Investment in low- and zero-emission shipping measures can require high upfront capital investment costs, and there are few financial products available for low-emission shipping globally.¹⁰² Through a Green Maritime Finance plan, the Government would send clear signals for investors as to the direction of Government policy in supporting shipping decarbonisation, allowing market mechanisms to then decide what the best route to decarbonising shipping is.

Investing in strategically important infrastructure

A second reason that many of the technologies above have not been deployed at scale is because the infrastructure that is central to the decarbonisation of the maritime sector is not yet in place. Examples of this include the ability of ports to store and supply alternative fuels, such as low-sulphur fuel in line with IMO regulations, being 'future ready' for other fuels such as ammonia and hydrogen, and having the necessary infrastructure for 'shore-side power', which cuts emissions by providing vessels with electrical power while they are at berth. Without infrastructure for decarbonisation, investment in zero-emission shipping will be held back.

To provide investor confidence, the Government should invest in strategically important infrastructure for zero-emission shipping, particularly alternative fuels and shore-side power. This could also be combined with the 'levelling up' agenda through investing in ports in areas outside of the South and South East of England. Notably, many ports in Northern England have greater capacity to expand than those in the south (owing to a combination of population densities and planning restrictions).

In the short term, market-led responses would be complemented by greater Government support for innovation. However, more innovation is required to overcome the supply chain and infrastructural barriers outlined above that limit the adoption of existing technologies. For instance, a Catapult for hard-to-abate transport emissions could be established, helping the UK to capitalise on future growth in the zero-emission shipping and aviation markets.

^{101.} Joshua Burke and Matt Rooney, 'Fuelling the Future: Hydrogen's role in supporting the low-carbon economy', Policy Exchange, 2018: <https://policyexchange.org.uk/wp-content/uploads/2018/09/Fuelling-the-Future.pdf>

^{102.} Department for Transport, 'Clean Maritime Plan', p. 31.

International leadership at COP26

Politics has been a limiting factor in reaching an international agreement for a maritime climate target. Although the world has made great progress in international climate diplomacy through the 2015 Paris Agreement, emissions from shipping remain outside of such international agreements. Indeed, the IMO's 2018 strategy for reducing GHGs was subject to protracted international debate.

The IMO's disappointing target of a 50% reduction in GHG emissions from shipping by 2050 is clear evidence of the political barriers to further action. As well as being reluctant to change, the shipping industry is inherently mobile and can domicile elsewhere to avoid compliance with national-scale regulations; it is also not subject to Nationally Determined Contributions (NDCs) under the Paris Agreement. The hitherto absence of international ambition is an opportunity for the Government to use the upcoming COP26 to encourage every IMO country to develop its own national Clean Maritime Plan.

COP26 provides an opportunity for the UK to promote more countries to take up domestic-scale GHG reduction plans for emissions from shipping. The UK could advocate for a system similar to the NDC system of the UNFCCC, where countries submit more ambitious national shipping emission reduction plans over time. Strong pressure also needs to be put on the IMO to adopt a more ambitious target, which the UK can lead given its more ambitious domestic aim of achieving zero-emission shipping by 2050 and its important role as the host of the IMO.

Government has also expressed interest in developing global sector plans to be presented at COP26. These are needed to plug the shortfalls of existing NDCs (NDCs do not, on their own, meet the requirements to limit climate change to 1.5°C), and international shipping could provide one of these plans given it is not currently accounted for in any country's NDC. The Government should put pressure on its own shipping interests, such as ship builders, insurers, Lloyd's register, and ports, to take the lead on this ahead of COP26 next year.

Summary of key actions:

- **The Government should create and introduce a Green Maritime Finance plan as soon as practically possible.** This plan could be created jointly between DfT, BEIS, and HM Treasury and would ease the financial pressure on the sector induced by the pandemic.
- **The Government should also invest in strategically important infrastructure for zero emission shipping, especially alternative fuel sources and shore-side power.**
- **The Government should use COP26 to encourage every IMO country to develop their own, national Clean Maritime Plans.**



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