

Written evidence submitted by Professor Basil Germond

THIS EVIDENCE FOCUSES ON THE GLOBAL MARITIME SUPPLY CHAIN AND CRITICAL INFRASTRUCTURES

Information on the respondents

Professor Basil Germond is chair in International Security at Lancaster University with over 18 years of experience as a researcher in naval and maritime affairs. He has widely published on maritime security and geopolitics, seapower, navies, climate security, and the maritime dimension of Global Britain. He has advised Parliament and Government on these topics. This evidence is based on his academic knowledge and understanding of the issue and is given in a personal capacity¹.

Executive summary

- The **UK's economic security** has a significant maritime dimension because it is dependent on the free flow of goods and thus on the security of the **global (maritime) supply chain**.
- The UK's economic security also depends on the security and safety of critical infrastructures, including **undersea pipelines and communication cables** and on **port infrastructures**.
- **Disruptions of the global maritime supply chain** can have natural/accidental causes or result from intentional attacks/sabotage by state or non-state actors. Disruptions can be caused by physical or non-kinetic/cyber-attacks.
- There is a defence and geopolitical dimension to the UK's economic security that must be prioritized. **HMG needs to invest in the security and resilience of the UK's maritime supply chain**.
- **Addressing challenges** to the maritime dimension of the UK's economic security requires:
 - a) Devoting enough **resources to the Royal Navy**;
 - b) Fostering **maritime cooperation with like-minded states**;
 - c) Capitalizing on the UK's dual scientific and maritime power to **foster science-security innovation** and strengthen Western leadership of the maritime corporate sector.

1. Introduction: the UK's economic security and the sea

- 1.1. The security and prosperity of the UK are strongly correlated with a safe and secure maritime domain, which rests on a stable, **rules-based maritime order**.
- 1.2. However, the stability of the global maritime order is increasingly at risk because of the assertiveness of the UK's **geopolitical competitors**, which contest Western leadership.
- 1.3. The 2023 *Integrated Review Refresh* (IRR23) demonstrates a realistic understanding of the maritime dimension of Britain's prosperity and security and of the current challenges to Britain's interests in the maritime domain².
- 1.4. **IRR23 defines relevant priorities**: controlling and protecting the global supply chain, upholding freedom of navigation, and assuring energy security in partnership with like-minded states and the private sector³.

¹ Lancaster University webpages for [Professor Basil Germond](#).

² Basil Germond (2023), "Integrated Review Refresh 2023: a pragmatic strategy for a maritime nation", *Navy Lookout* 17 March 2023 (accessed [online](#)).

³ HMG (2023), *Integrated Review Refresh 2023: Responding to a more contested and volatile world*, Presented to

1.5. However, considering the “**strategic acceleration**”⁴ taking place at the global level, which has resulted in increased risks to Western/Britain’s interests at sea, it is crucial to **prioritize investments in the security and resilience of the UK’s maritime supply chain.**

2. The global maritime supply chain

2.1. The global **supply chain**, which is the backbone of the UK’s economic prosperity, has a significant **maritime dimension**. For instance, maritime transport accounts for about 95% of the UK’s trade (imports and exports) by volume⁵. The 2023 *Defence Command Paper* emphasises the need for “robust and resilient supply chains” including for the UK’s economic security⁶.

2.2. Yet, maritime supply chains are **highly vulnerable to disruptions**, whether accidental or intentional:

2.2.1. Accidents and **unintentional disruptions** have proven damageable to the global (and UK’s) economy. For instance, an accident in the Suez Canal in 2021 which blocked traffic for six days and the shortage of labour in Chinese ports resulting from the Covid-19 pandemic had direct effects on the UK’s supply chains. This demonstrates that even time-limited and unintentional disruptions can have profound impacts on national economies.

2.2.2. **Intentional disruptions** have potentially more acute or enduring effects. Indeed, they not only physically prevent the free flow of goods but also impact on maritime insurance premiums and operating costs (e.g., rerouting ships) with multiplicative effects on the shipping sector and the global economy in general. Recent examples include Russia’s attempted blockade of Ukraine that has disrupted world food supply and the Yemenite Houthis’ attacks on commercial shipping in the Red Sea.

2.3. Intentional disruptions can be the result of for-profit illegal activities (such as piracy) or politically motivated crimes (such as terrorist attacks). **Disruptive actors motivated by profit will try to avoid lethal combat whereas politically motivated actors are likely to be more confrontational** since their objective is either to be more ‘visible’ on the geopolitical chessboard or to increase risk perception with the aim to disrupt the global economy.

Case study: The Red Sea

- Since November 2023, the Yemenite Houthis have conducted attacks against several commercial ships in the Red Sea.
- Unlike pirates who seek profit, they are politically motivated and thus harder to deter.
- This has directly affected insurance premiums and, at the time of writing, major operators (e.g., Maersk, MSC, CMA CGM, BP) have decided to pause operations through the Red Sea.
- Consequently, naval presence is being upscaled (with a US-led task force to which the UK contributes) to defend commercial shipping and reassure maritime stakeholders.
- In a geopolitically turbulent region, the challenge will be to secure sea lanes and uphold

Source⁷

Parliament by the Prime Minister by Command of His Majesty, March 2023, CP811 (accessed [online](#)); see in particular: Pillar 1, para 36 (p.29).

⁴ Basil Germond (2023), Written evidence submitted to the House of Commons’ Scottish Affairs Committee on “Defence in Scotland” (accessed [online](#)) and cited in the Committee’s Report: House of Commons, Scottish Affairs Committee (2023), *Defence in Scotland: the North Atlantic and the High North*, Seventh Report of Session 2022–23, Ordered by the House of Commons to be printed 10 July 2023, HC 1576 (accessed [online](#)), para 17.

⁵ Department for Transport (2021), *UK Port Freight Statistics: 2020*, Statistical Release, 14 July 2021 (accessed [online](#)), p.2.

⁶ MoD (2023), *Defence’s response to a more contested and volatile world*, Presented to Parliament by the Secretary of State for Defence by Command of His Majesty, 18th July 2023, CP901 (accessed [online](#)), pp.40-41; 92.

2.4. In both cases, although the motivations are not the same, the result is a disruption of the supply chains and a rise in **insurance premiums**. Even time and/or geographically limited intentional disruptions increase risk (or risk perception) and thus impact on insurance premiums and down the line on the economy (e.g., increased oil prices). In the current geopolitical context, **risks of disruptions** of the global maritime supply chain **are following an upward trend**.

3. Critical undersea infrastructures

3.1. The UK's economic security is reliant on the smooth and secure operation of undersea infrastructures, which are crucial for the UK's **internet traffic** and **energy security** (oil and gas import, energy connectors, offshore windfarms)⁸.

3.2. Attacks on critical undersea infrastructures often take place in the “**grey zone**”. In 2023, I advised the HoC's Scottish Affairs Committee that “the recent sabotage of the Nord Stream pipelines in the Baltic Sea has demonstrated the difficulty to trace responsibility back to the perpetrator. Responding to **sabotage** without escalating tensions is arduous and states might be reluctant to claim jurisdiction⁹. The distinction between ‘what is peaceful and what is hostile’ is also not always straightforward¹⁰. Energy security is an important ‘peacetime’ weapon as demonstrated by the current energy crisis. But security of our communication network (which mainly relies on undersea cables) is also crucial both for economic and defence purposes”¹¹.

3.3. Communication cables are mostly **owned by private companies** and situated in **international waters**. Thus, state **control is jurisdictionally and practically distributed** and/or limited. Undersea infrastructures are complex to regulate and prone to hybrid warfare since responsibilities are more difficult to establish. In other words, critical infrastructures are key to national security, but their **transnational characteristics** makes them hard to control.

3.4. UK oil rigs and windfarms have reportedly attracted **Russia's close attention**¹², which demonstrates the direct link between the UK's economic security, maritime infrastructures, and geopolitics.

4. Ports

4.1. Ports are key **nodes** of the international trading network and critical infrastructures. Their contribution to economic security is multifaceted. They are an **entryway and gateway** for international trade but also for prohibited and counterfeit items, drugs, illegally caught fish, criminals, and terrorists¹³.

⁷ Basil Germond (2023), “US-led taskforce deploys in Red Sea as Middle East crisis threatens to escalate beyond Gaza”, *The Conversation*, 20 December 2023 (accessed [online](#)).

⁸ Louisa Brooke-Holland (2023), “Seabed warfare: Protecting the UK's undersea infrastructure”, House of Commons Library, 24 May 2023 (accessed [online](#)).

⁹ John Raine (2019), “War or peace? Understanding the grey zone”, *IISS Analysis Blog*, 03.04.2019 (accessed [online](#)).

¹⁰ Conrad Beckett (2021), “Getting to grips with grey zone conflict”, *Blog Strategic Command*, MoD, 26.04.2021 (accessed [online](#)).

¹¹ Basil Germond (2023), Written evidence submitted to the House of Commons' Scottish Affairs Committee on “Defence in Scotland” (accessed [online](#)), para 3.2.

¹² Gordon Corera (2023), “Ukraine war: The Russian ships accused of North Sea sabotage”, *BBC News*, 19 April 2023 (accessed [online](#)); House of Commons, Scottish Affairs Committee (2023), *Defence in Scotland: the North Atlantic and the High North*, Seventh Report of Session 2022–23, Ordered by the House of Commons to be printed 10 July 2023, HC 1576 (accessed [online](#)), para 37.

¹³ Basil Germond & Jan Bebington (2023), “Ports as sites for security and defense”, *Marine Log*, 25 September 2023 (accessed [online](#)).

- 4.2. To address **maritime crime**, it is necessary to intervene at various levels of governance and scales: regulations & standards, monitoring & surveillance, enforcement, public-private partnerships, state-state collaboration, international organizations, etc. It is often **easier to address maritime crime onshore**, in ports, rather than at sea, which is harder to monitor and prone to jurisdictional fuzziness.
- 4.3. With rising geopolitical tensions, ports are also “key sites for **homeland security**” that can be targeted by hostile states “engaged in transnational repression, intelligence gathering, and other disruptive activities”¹⁴. This includes **grey zones activities** targeting UK and Western port infrastructures to destabilize our economy and political system while minimizing the risk of an overt war. Kinetic or cyber attacks on ports have the potential to disrupt maritime trade for extended periods of time and to generate costs that will trickle down to stakeholders and consumers beyond the maritime sector.
- 4.4. The UK’s economic security depends on the **performance of security functions by ports in the UK and abroad** due to the global nature of the supply and value chains.

5. Science innovation and the private sector

- 5.1. Machine learning, automation, cyber, and space-based technologies have the **potential to disrupt the defence sector**. These technologies can be relatively cheap and easy to procure. They grant criminals and geopolitical competitors with **asymmetric options to disrupt our economy** and political system by challenging the UK’s interests in the maritime domain (let alone additional options in case of an open conflict).
- 5.2. Conversely, governmental actors and industry can use such technologies to **improve maritime domain awareness, intelligence gathering, early warning, and intervention capacities**. As a result, this could enhance the security of the global maritime supply chain.
- 5.3. However, cutting-edge technologies and hardware are often developed, owned, or operated by the private sector (e.g., space launchers, AI software and algorithms, undersea cables, satellite communication). **The UK’s security is thus increasingly dependent on the commercial sector**.
- 5.4. “Harnessing the synergies between science/innovation and national security advocated by the **Council for Science and Technology**¹⁵ requires leadership over civilian, corporate stakeholders”¹⁶, for instance to govern dual use technologies and export control¹⁷.
- 5.5. The UK has traditionally been successful at nurturing an **organic relationship** between UK Defence (public interests) and the commercial/for-profit sector, which rests on mutual benefits, trust, and accountability.

6. Recommendation for HM Government

- 6.1. HMG shall proactively and enduringly contribute to efforts to secure sea lanes of communications and the global maritime supply chain. This requires **strengthening the rules-based maritime order and upholding freedom of navigation, even at a cost**.

¹⁴ Ibid.

¹⁵ Council for Science and Technology (2021), “The UK as a science and technology superpower”, Advice to the Prime Minister on strengthening the UK’s position as a global science and technology superpower, 22 July 2021 (accessed [online](#)).

¹⁶ Basil Germond & Neeraj Suri (2023), Evidence submitted to the Environmental Audit Sub-Committee on Polar Research, House of Commons, in response to the call “The UK and the Arctic Environment” (accessed [online](#)), para 5.3; see also the oral evidence Basil Germond gave to the Environmental Audit Sub-Committee on 24 May 2023 (accessed [online](#)) and cited in the Committee’s report: House of Commons, Environmental Audit Sub-Committee on Polar Research (2023), *The UK and the Arctic Environment*, Sixth Report of Session 2022–23, Ordered by the House of Commons to be printed 11 September 2023, HC 1141 (accessed [online](#)).

¹⁷ HM Government (2022), *Guidance: UK strategic export controls*, 19 December 2022 (accessed [online](#)).

Britain's participation in Operation Prosperity Guardian in the Red Sea to address the threats posed by Houthi attacks on commercial shipping is a good example of the UK's commitment to securing the global maritime supply chain.

- 6.2. **This cannot be done in isolation.** We need to strengthen our global network of like-minded allies and partners to collaboratively work towards a safe and secure global maritime supply chain.
- 6.3. Beyond like-minded states, it is critical to further engage with **'swing states'**, which control choke points and/or maritime areas along major sea lanes of communication, such as Indonesia, India, and Brazil.
- 6.4. The UK should capitalize on its **leadership of the private maritime sector** (specifically maritime insurances) to foster a stable and rules-based maritime order.
- 6.5. **The Royal Navy** remains HMG's main instrument to uphold freedom of navigation. With increasing demands put on the Navy and overstretched resources¹⁸ the challenge consists in 1) prioritizing theatres of intervention, 2) effectively sharing the burden with allies and partners, and 3) investing more in the Navy, including exploring options offered by a more autonomous/uncrewed fleet.
- 6.6. The security of **critical undersea infrastructures** depends on efficient public-private partnerships. HMG should further engage with national and multinational companies, which own and operate critical infrastructures, to **secure a form of cooperative control over maritime infrastructures**.
- 6.7. Invest in **early warning capabilities** to pre-empt disruptions and damages to critical infrastructures and to intervene in the case of hybrid warfare and disruptive activities in the grey zone.
- 6.8. HMG needs to facilitate innovation within the private sector and, at the same time, dictate its pace and direction: "with its combined science and maritime power, **the UK shall contribute to enabling science cooperation with trusted partners from the public and private sectors while protecting sensitive data and national security**"¹⁹.
- 6.9. It is also necessary to raise awareness of the **industry's moral duty** (in addition to their commercial interests) to contribute to Western and the UK's economic security or, as stressed in DCP23, to foster "**a shared sense of national endeavour**"²⁰.

7. Suggested questions for HM Government

- 7.1. What are HM Government's plans to address the increasing risk of disruptions of the global maritime supply chain?
- 7.2. How will HM Government address the recurring gap between increasing demands put on the Royal Navy to secure Britain's interests at sea and the limited resources devoted to the Navy?
- 7.3. What is HM Government's strategy to harness the UK's comparative advantage in terms of combined science and maritime leadership to foster a stable and secure maritime order in cooperation with like-minded states, partners, and the commercial sector?

¹⁸ House of Commons, Defence Committee (2021), *We're going to need a bigger Navy*, Third Report of Session 2021–22, Ordered by the House of Commons to be printed 7 December 2021, HC 168 (accessed [online](#)), para 44-48.

¹⁹ Basil Germond & Neeraj Suri (2023), Evidence submitted to the Environmental Audit Sub-Committee on Polar Research, House of Commons, in response to the call "The UK and the Arctic Environment" (accessed [online](#)), para 6.1.

²⁰ MoD (2023), *Defence's response to a more contested and volatile world*, Presented to Parliament by the Secretary of State for Defence by Command of His Majesty, 18th July 2023, CP901 (accessed [online](#)), p.38.

7.4. How are the impacts of the effects of climate change on the UK's supply and value chains addressed?

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