



DANISH MINISTRY OF DEFENCE



Preparing Danish Defence for climate change

—Policy by The Danish Ministry of Defence

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Intro

Climate change is a severe global challenge with adverse security policy consequences and consequences for emergency management. It affects the geostrategic landscape and poses risks to the safety and security of Danish Defence, as well as to the infrastructure, supply chains and environment on which they are dependent – at home and abroad.

As a result, it is important to prepare the Danish Defence and the Danish Emergency Management Agency (DEMA) for the potential impact of climate change by adapting to and mitigating these effects in the short and long term.

The Danish Ministry of Defence (MoD) is already committed to climate change adaptation and mitigation efforts. Preparing Danish Defence for climate change is thus a priority for the MoD. This reflects the Danish government’s “A green and sustainable world” from October 2020, NATO’s “Climate Change and Security Action Plan” from June 2021 and EU’s “Strategic Compass” from March 2022.

In this policy, the link between climate and security refers to the implications of both climate change and environmental degradation on peace, stability, security, defence and emergency management.

Foto: Morten Fredslund



Omslagsfoto: Tue Skals

The Danish MoD's priorities on climate security

It is a priority for the Danish government that all government agencies, including the MoD and its agencies, take lead in the green transition by e.g. improving climate adaptation efforts and assuming greater responsibility for the development of green technologies. This includes an ambition to reduce carbon emissions by 70% by 2030.

The MoD has already set out ambitious efforts towards reducing emissions in "the Green Action Plan 2021-25", including 46 individual short and long-term initiatives within seven focus areas.

In addition, the Danish government launched "The Climate Partnership for Defence" in May 2021 to provide input to a further reduction of the Danish Defence's climate footprint.

The strategic objective of the Danish MoD regarding mitigation is to identify ways to effectively reduce emissions and increase energy efficiency of the Danish Defence.

The strategic objective of the Danish MoD regarding adaptation is to train and equip the Danish Defence to be able to operate in a security environment affected by climate change in a safe and effective manner.






At the core of the MoD's approach to climate security is the overarching guideline that all efforts to realise our green ambitions should support operational effectiveness and not compromise the ability of Danish Defence and the DEMA to conduct military or emergency management operations and activities.

At the same time, new green technologies also provide opportunities to improve operational capability, military and civilian effectiveness and resilience. The MoD will therefore continue to mitigate and adapt to climate change when and where possible, especially when it provides strategic advantages such as increased base resilience or enhanced operational reach.

The MoD will continue to cooperate closely with allies, partners and like-minded countries on the climate security agenda, especially within organizations such as the UN, the EU and NATO. This includes coordinating our adaptation and mitigation efforts to ensure that Danish military capabilities are compatible with the capabilities of allies and partners.

Lines of action in the Danish MoD's approach to climate security

The Danish MoD's approach is based on the following concrete efforts:

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|  | 1) Improve knowledge and competencies to predict and act on challenges associated with climate change and enhance coordination across the MoD and beyond, |
|  | 2) Initiate efforts to take into account the potential for adaptation and mitigation efforts during operational planning, |
|  | 3) Enhance adaptation and mitigation efforts in capability development and in the Danish defence industry, |
|  | 4) Continue the MoD's efforts to reduce emissions and our climate footprint, |
|  | 5) Promote awareness on climate security related risks in international fora such as the UN, EU and NATO. |



1) Improve knowledge and competencies to predict and act on challenges associated with climate change and enhance coordination across the MoD and beyond.

A key line of action in this policy is to strengthen the knowledge base and capacity-building related to climate security, since adaptation and mitigation efforts should be based on data and expertise.

The MoD and its agencies will continue ongoing work on awareness raising, data collection, measurement and enhancing expertise on climate security. Increasing awareness among the civilian and military staff on all levels will contribute to changes in human behaviour and help develop the necessary expertise to facilitate the implementation of adaptation and mitigation measures in accordance with national, EU and NATO strategies and policies.

One recent example is that Denmark from 2023 is contributing as a sponsor nation to NATO's Climate Change and Security Centre of Excellence (CCAS-COE) in Montreal. The MoD, together with the Danish Ministry of Foreign Affairs (MFA), will also contribute with an advisor to CCASCOE in 2024. This will help build up the MoD's competencies on how to tackle the consequences of climate change in a security perspective.

In addition, the MoD/MFA intend to initiate a joint roundtable discussion with the USA, Canada and other Arctic states as possible participants regarding the implications of climate change on security and defence policy in the region.

The MoD and its agencies intend to improve their climate-informed planning and decision-making process. The aim is to mainstream climate and environmental aspects in military and civilian risks assessments, operational analysis, procurement processes, etc. and develop dedicated climate risk analyses to inform the Minister, Chief of Defence and Policy Directors etc.

The MoD also intends to contribute to knowledge building and knowledge sharing regarding climate security. Specifically, the MoD will seek to strengthen cooperation with relevant Danish and international think tanks and research institutions to build up a knowledge base and advance the use of data in policy formulation.

The MoD intends to enhance coordination on climate change and climate-related risks across the Ministry as well as with relevant Danish authorities. The MoD and its agencies will continue ongoing work in the MoD's steering group for "greening" the defence, which sets the strategic frame for the work with climate, energy, environment and nature.

The MoD will support the (MFA's) effort to examine the possibility of preparing targeted climate-conflict analysis in the UN and EU, especially in the Sahel and East Africa, for the use of policy-discussions and decision-making. The MoD will likewise support MFA's effort to examine the possibility of co-hosting or contributing to knowledge-building conferences/roundtable events at a Ministerial-level.

The MoD intends to contribute to strengthening knowledge sharing and build-up of know-how and competencies on climate, peace and security abroad. The MoD will look into the possibilities of seconding climate security-specialists to key organizations.



2) Initiate efforts to take into account the potential for adaptation and mitigation efforts during operational planning

Due to climate change, operational conditions and tasks are changing for the Danish Defence. Overall, the MoD seeks to adapt the way that the Danish Defence conduct their military tasks, in light of the changing conditions in the operational environment resulting from climate change and environmental degradation. Likewise, handling an increasing number of extreme weather events caused by climate changes will affect the operational conditions and tasks for the DEMA.

The following sections focus on three main geographical areas of importance to the MoD's operational planning and climate adaptation and mitigation efforts: 1) Denmark, The Nordic Region and The Baltic Sea; 2) The Arctic; and 3) The Global South.

Denmark, The Nordic Region and The Baltic Sea:

The MoD will continue ongoing work on improving conditions for the Danish Defence's conduct of operations. Establishments used for maritime and air operations, including wharf facilities and runways, are all expected to be affected by climate changes. Weather impact on operations at sea and in the air is expected to include an increased frequency of storms and other types of extreme weather, which can reduce the operational availability of ships, airplanes, helicopters and drones. We also expect that civil society support in connection with Search and Rescue tasks is likely to rise.

Increased rain and flooding and higher occurrence of wildfires will also have an impact on land operations, as it will affect mobility and put bigger

demands on equipment and vehicles. The establishments of the Danish Defence and the DEMA, counting residential buildings, garages and ammunition stocks across Denmark, will be exposed to increased amounts of rain and an increased risk of flooding. The Army and The Home Guard's support to the civilian preparedness and the DEMA's tasks, national and international alike are therefore likely to increase.

An increased frequency of extensive and contemporary climate-related incidents such as wildfires and flooding, will expectedly lead to an increase in requests for assistance for the DEMA and The Home Guard, and a need for new and updated equipment for preventive and mitigating efforts. The Danish Defence will increasingly have to incorporate tasks of surveillance and protection of national critical infrastructure in their conduct of tasks.

The MoD intends to further that the Danish Defence and the DEMA where applicable and feasible, will include climate aspects in the design of its national operational tasks, building on climate informed threat assessments and situational awareness and include climate/environmental aspects in its training and advisory tasks.

The MoD and its agencies intend to look into the possibilities of adapting existing capabilities to enable them to operate more efficiently in a more challenging environment without compromising military capabilities or operational performance.

The MoD and its agencies also intend to analyse how new green technologies can help to reduce carbon footprint and bring operational advantages.

The Arctic

The MoD will continue ongoing work to improve operational conditions in the Arctic. The framework for the Danish Defence's tasks will expectedly change faster in the Arctic than in any other region. Melting of sea ice, including the perennial ice will increase room for manoeuvre in Arctic waters and will entail a general, albeit limited, rise in both the

civilian and military traffic in the area. In addition, the increased room for manoeuvre and the expanded operational area for the Defence's naval vessels also has significance for the deployment of ship-based helicopters and drones.

Today the main tasks of the Danish Defence in the Arctic are presence, surveillance and assertion of sovereignty, search and rescue together with marine environmental monitoring and oil pollution control. Climate change will entail more activity in the Arctic which in turn will mean new requirements for crews, vessels and establishments. In the longer term, these changes could give rise to a need for more vessels to solve these tasks. The possibility of added resource extraction, new sailing routes, etc. can in the current security political landscape also lead to an added power rivalry, which will entail an added need for presence, surveillance and assertion of sovereignty of the Danish Defence.

Climate change is expected to have an effect on existing buildings, runways and other physical infrastructure. As the temperatures rise, the permafrost in the underground below current facilities will subside. This can entail a need for increased maintenance and adaptations. Coastal erosion may also increase due to more powerful waves as a result of reduced sea ice cover. This can affect the options for military deterrence for both NATO and Russia.

The DEMA's operational tasks in the Arctic will likewise be affected by the direct handling of climate-related incidents as for instance wildfires and storm surges. It is expected that there will be an increased need to handle derivative effects such as oil pollution and ship-wrecks due to the increased traffic in the Arctic areas.

The MoD and its agencies intend to strengthen cooperation with the defence industry. The defence industry has an important part to play in adapting equipment and capabilities to the changing climate conditions in the Arctic region. Due to the Arctic's unique topographical and climatic conditions, we cannot rely on the international defence industry

to be fully capable of supplying equipment to meet these specialized needs. For this reason, the MoD prioritizes the ability to maintain and develop national defence industry expertise and capabilities that can be used to conduct operations in the Arctic.

The Global South:

Climate change can cause or worsen conflicts and lead to wars, state breakdown and migration flows that in many ways can influence the Danish Defence when operating in the Global South. Operational conditions are expected to change on primarily two areas for the Danish Defence. The Defence's performance of tasks will be affected by rising heat, a dryer operational area and the logistical challenges this implies. The performance of tasks may likewise be affected, if the operational area becomes more unstable as a consequence of an increased risk of violent conflicts. Similarly the DEMA is expected to experience an increasing demand for international assistance to the Global South in connection with extreme weather incidents such as large-scale wildfires and flooding caused by climate change.

The MoD and its agencies will continue ongoing work to adapt to the changing conditions in the Global South region. As a result of the more extreme weather conditions in this region the Danish Defence security- and defence capacities will likely experience an increase in both their emergency assistance requests and their humanitarian efforts. International requests for disaster assistance from the DEMA are often channelled through the EU's Civil Protection Mechanism or from different UN-organizations. It will require close co-ordination and increased operational capacity to respond to an increasing number of requests. In this regard, strengthened civilian-military coordination on emergency management becomes important. Military operations in these areas will have to be adapted to the worsening climate conditions, including the extreme temperatures and risk of more frequent and heavier downpours. The MoD and its agencies are looking into ways to adapt both training and capabilities to the changing operational area in the region.

There will also likely be an increased conflict-potential as a result of climate change as a threat multiplier and therefore it is important that climate- and environmental regards are a driving factor in how to conduct potential future missions and operations.

The MoD will continue to strengthen its bilateral efforts especially in the Gulf of Guinea coastal states bordering the Sahel region and the Horn of Africa.

Danish and international climate financing needs to be conflict-sensitive. The MoD together with the MFA will work to ensure that preparations for climate financing for projects in fragile areas – e.g. through the Green Climate Fund, Global environment Fund, multilateral development banks and (IFU), include a conflict-sensitive assessment to minimize the risk of escalating conflicts.

The MoD intends to continue its local engagement in regions that are especially vulnerable to climate change and have an increased risk of forced migration and displacement. The MoD seeks to mitigate

drivers for forced migration and displacement through partnership efforts aimed at building stronger resilience in climate-sensitive regions. The MoD supports an integrated approach with relevant developmental and humanitarian actors in a concrete mission area, in order to address the climate security nexus of the conflict dynamics and contribute to the stabilization of the geostrategic environment.

Increased migration, due to climate change, is expected to cause an added demand for capacities from the DEMA e.g. the mobile-hospital and the construction of camp capacities. Migration can have an effect on Denmark through needs for increased presence in FRON-TEX, border tasks, (e.g. where the Danish Home Guard already perform key tasks in relation to FRONTEX work in Italy and in regards to border-protection efforts by the Danish borders) and an added pressure on the DEMA's national performance of tasks in case of the DEMA's involvement in handling large migration flows to Denmark as seen in 2015.

Foto: Forsvaret



3) Enhance adaptation and mitigation efforts in capability development and in the Danish defence industry

In short, climate changes can have adverse effects on the deployment of Danish Defence at home and abroad. Long-term capability assessment forecasts should therefore take into account the potential impact of climate change.

An intensified climate effort by the MoD is emphasized in the National Defence Industrial Strategy from 2021, pointing to Denmark taking on a leading role and setting a green example in the area of defence.

The MoD and its agencies will continue ongoing work on developing the appropriate capabilities to address the protection of critical infrastructure against climate change cascading effects and natural disasters. The Danish capability development priorities will also consider the impact of climate change on defence capabilities. Practices

and models should be designed and developed to promote defence infrastructure and climate-proofing. The MoD and its agencies will cooperate with the Danish defence industry in developing and testing new green technological solutions that meets defence needs.

To support this endeavour the Danish government has created a designated climate partnership on defence between the Danish government and the Danish defence industry, which was launched in the spring of 2021. The aim was to pave the way for a greener defence with focus on retaining or strengthening the ability to operate, create new green defence solutions, and boost export opportunities. The Defence Industry's recommendations, which were published in May 2022, highlight initiatives that generate operational effect, while also reducing the Danish Defence's climate footprint.

The MoD intends to strengthen research and innovation related to the effects of climate and environmental risks on security and defence, which can help guide the Danish policy-development, planning and –execution. This includes a focus on civilian dual-use and spin-in innovation nationally and at EU-level, e.g. within Horizon Europe and Digital Europe.

4) Continue the MoD's efforts to reduce emissions and our climate footprint

The MoD's and its agencies' wide range of capacities consume energy and emits greenhouse gases during training and operations in Denmark and abroad. As well as the built estate consumes energy by the use of electricity, water and heating. Therefore reducing our climate footprint originating from these sources is essential.

The MoD will continue the mitigation efforts reflected in the Green Action Plan for 2021–2025. In 2021, the MoD initiated the Green Action Plan with 46 individual short and long-term initiatives within climate, energy, environment and nature. It includes plans and initiatives for the built estate, land and nature management, capability development, cooperation with partners including industry, NATO and EU and more.

The green initiatives go hand in hand with our core tasks, and support our operational tasks. Therefore, the plan does not set any goals that limit the operational effectiveness of the Danish Defence, Home Guard or DEMA. The MoD will evaluate and update the Green Action Plan regularly to reflect the development of new technologies and best practices related to climate security. The next update will take place in 2024, and the aim is to strengthen the green transition and energy efficiency of the MoD.

The MoD also publishes an annual Carbon Account¹, which gives an overview of the most important sources of greenhouse gas emissions from the activities by the MoD and its agencies ranging from estate operations and administrative tasks (e.g. office operations and travels) to military activities conducted by the Danish Defence, Home Guard and

the DEMA. The Carbon Account documents whether the MoD meets the requirements of the Danish Circular on Energy Efficiency in the Institutions of the State.

In 2022, the Danish MoD and its agencies emitted 260.000 tons of CO₂. In total, approximately 82,1% of the emissions came from fuel consumption, which makes it the largest factor of emissions. The second largest factor of emissions is the built estate with 12,2% of the total emissions. Only 3,5% of the emissions came from travels, while cooling- and extinguishing agents stands for 2,2%.

The MoD focuses on how to reduce emissions from fuel consumption. An increasingly complex threat landscape leads to an increased need for training activities and the acquisition of new capabilities. In other words, we need to continue to use fuel in order to carry out our tasks.

An important initiative in the coming years is to plan and carry out a large transition of approximately 3000 vehicles into electric cars, where possible when taking into account the requirements for assignments of the Danish Defence. Prior, the necessary charging infrastructure at all military facilities will be established.

Another initiative is the industry's development of sustainable fuels, since a wide range of the capabilities of the MoD and its agencies such as fighter jets and ships cannot be electrified. A change towards new sustainable fuels will not only significantly improve our impact on the environment, it will also reduce our dependency on foreign fossil fuels sources and strengthen the security of supply. Due to common requirements and obligations in NATO such as Single Fuel Policy and Host Nation Support, a common way forward in close cooperation with other allies in a NATO-setting is necessary.

The MoD and its agencies will continue the work on the built estate with regard to energy efficiency and

Foto: Leonora Frydensberg Sepstrup



¹ The MoD's Carbon Account is based on the Green House Gas Protocol Standard and covers scope 1 and scope 2.

green energy sources. The MoD is one of Denmark's largest building owners with more than 6,000 buildings spread over the entire country. Therefore, the Danish Ministry of Defence Estate Agency will reduce the emission of greenhouse gases from the state's total building mass. The aim is to make our buildings more energy efficient and sustainable and phase out the use of fossil fuels for heating.

The MoD also looks into the organisation's procurement processes with the aim to set green demands

were possible. As the states' biggest procurement organization, it is an effective way to push the green agenda. The Danish Ministry of Defence Acquisition and Logistics Organisation systematically assesses, and where possible incorporates, green demands. Besides that the MoD is also in the process of implementing the Danish government's strategy *Green Procurement for a Green Future*. The purpose of the strategy is to reduce the climate footprint of public procurement and to help achieve Denmark's climate targets.



5) Promote awareness of climate-security related risk in international fora such as UN, EU and NATO

The MoD will – together with the MFA – continue ongoing work to engage actively in creating international awareness on the link between climate change, peace and security in close cooperation with likeminded countries and partner organizations. The main efforts will be under the auspices of the UN, EU and NATO.

The General Secretary of the UN has in the "New Agenda for Peace" set forward an ambition for a strengthened, regional conflict prevention with a focus on the effects of climate-change on security. As a member of the UN's Peacebuilding Commission (PBC) (2023-24) Denmark will continue to work towards strengthening the Commission's role in advancing the climate, peace and security agenda in the UN. If elected as a member of the Security Council, Denmark will continue other likeminded countries' work to advance a more horizontal integra-

tion of climate-related security risks in the UN's work in conflict-affected areas. Important with an added focus on climate-sensitive peacebuilding in the multilateral work and in the work with civil society.

The MoD sees a need to consolidate the climate security agenda in the EU's Common Foreign and Security Policy, also in order to deliver on the ambitions of the Strategic Compass. The ongoing work, as initiated by Denmark and Germany, in the group of friends for a climate-ambitious agenda, needs to be strengthened in order to ensure the connection between climate change and security. There is a need to pay greater attention to this at the Council meetings and to ensure the adoption of more ambitious text on climate security and defence in the relevant council conclusions.

The MoD also supports further integration of the green agenda in the EU's Common Security and Defence Policy, including strengthening climate attention in the EU's military and civilian missions and operations. Denmark supports the EU's initiative on sending dedicated climate advisors to EU's missions and operations to ensure attention.

The MoD will continue to engage in international cooperation on the development of green defence material and green technologies, e.g. within the

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Foto: Nicklas/Forsvaret



European Defence Fund (EDF), PESCO and the European Defence Agency (EDA), as well as under the auspices of NATO. Especially where there are specific Danish interests and relevance for the Danish Defence's operational needs. Attention to the security and defence implications of climate change on the development of future defence capabilities, e.g. within the recently revised EU Capability Development Priorities, should be maintained and strengthened. The MoD will look to broaden engagement within the EDA on the topic of greening defence.

The MoD continues to follow the work on the connection between climate change and defence within the EU Satellite Center, through the EU's Civil Protection Mechanism and through the Action Plan on Military Mobility. Denmark also has the EU-presidency in the second half of 2025, where addressing climate change will be a key element. Denmark will aim to have a cross-cutting climate focus in regards to ensuring energy efficiency and a reduced carbon footprint.

The MoD supports strengthening alertness in NATO regarding the implementation of the action plan for climate security including the handling of the security-related implications of climate change in the

framework of the EU-NATO declaration of the 10. January 2023. There is a need for closer coordination and an opportunity for concrete cooperation in selected working areas, such as data analysis and early warning, education and awareness raising, building of resilience and capability development (including with regards to energy effectivity and energy transition) that gives concrete possibilities for cooperation between the two organizations.

The MoD intends to contribute to strengthening the cooperation and knowledge sharing between the UN, EU and NATO in relation to adjustment and adaptation of military capabilities and activities to climate change. Denmark will keep holding the UN-system accountable for the goal of reducing emissions from peacekeeping operations with 45% before 2030 and to use 80% green energy.

The MoD will also seek to include climate security in our bilateral cooperation with allies and partners when relevant. A concrete example is that the Danish Ministry of Defence Estate Agency cooperates with both the Nordic and Baltic countries on buildings, energy and environment under the auspices of the Nordic-Baltic Defence Estate cooperation (NBDE).

Conclusion and way ahead

The MoD will update this policy and follow up on the implementation as needed. The MoD will focus on how its agencies and the different branches of the Danish Defence can contribute to the adaptation and mitigation efforts as described in this policy. The MoD will continue mapping and reporting our climate-footprint with the aim to reduce this.

At the EU level, the MoD will also seek to ensure continued interaction and a coordinated approach in the context of the implementation of the Strategic Compass, and will support an ambitious approach to climate security in ongoing and future EU defence initiatives.

Foto: Nicklas/Forsvaret

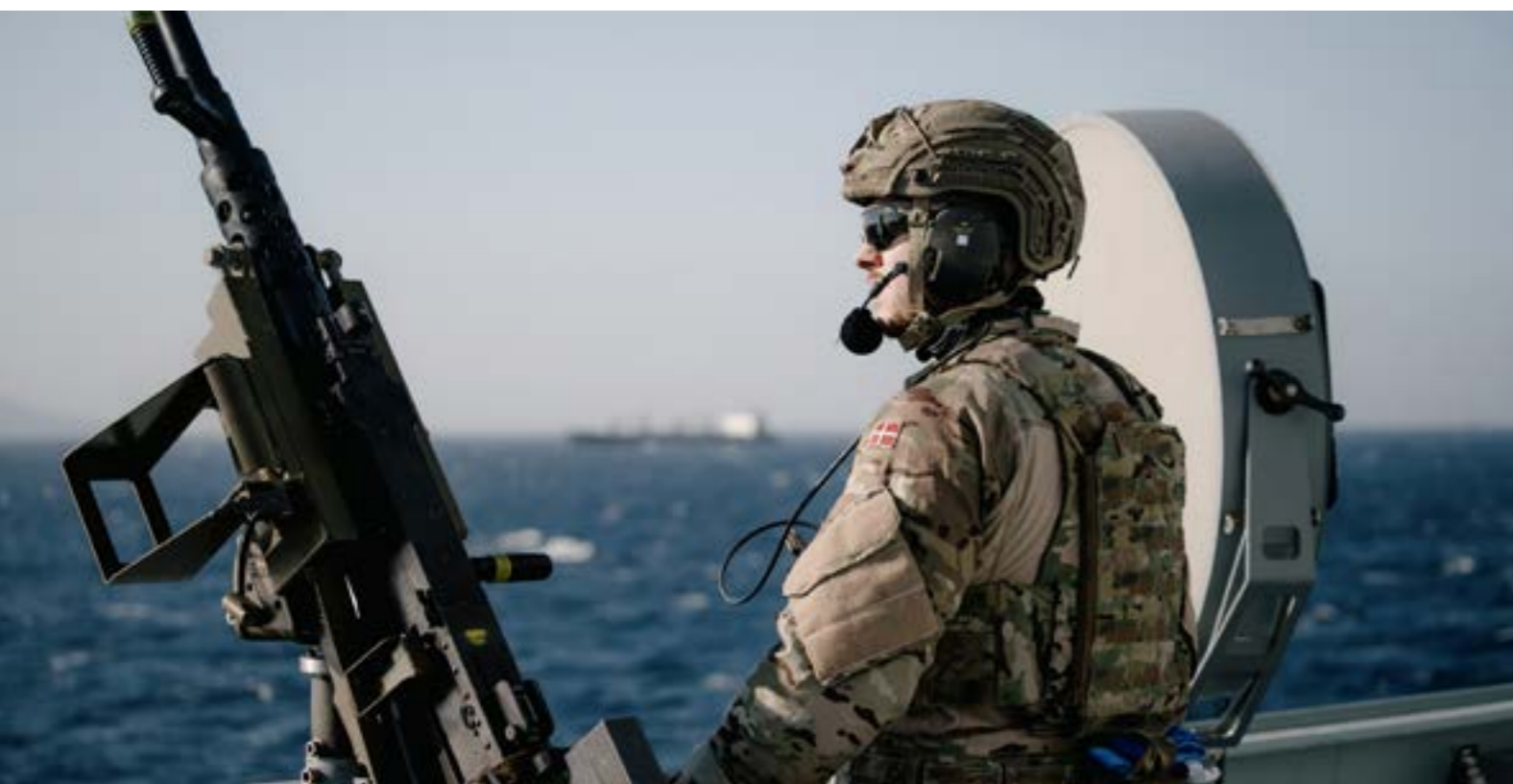


Foto: Emma Kirketerp





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