The Danish climate partnership on Defence Summary











Summary

The climate partnership on Defence was launched in the spring of 2021. The aim was to pave a way to a greener defence with particular focus on retaining or strengthening the ability to operate, create new green defence solutions and boost export opportunities. With the war in Ukraine, the need to become independent of fossil fuels and more energy self-sufficient has taken on a new security policy dimension. Green transition in the armed forces has thus gained significance for both the climate and Danish security.

Carbon emissions from the Danish Armed Forces amount to approx. 0.5% of Denmark's total CO₂ emissions. Approximately 82% comes from propellants, particularly those used by the Navy and the air force; 15% from buildings; and the remaining approx. 2% comes from non-operational transport activities and similar tasks. To date, the Danish Ministry of Defence (MoD) has concentrated its green transition initiatives within the ministerial department, the MoD Estate Agency and the MoD Acquisition and Logistics Organisation, and only to a very limited degree in Defence Command Denmark, the Home Guard and the Emergency Management Agency. A climate action plan and annual climate accounts have been prepared by the MoD. The accounts are based on available data but not broken down by activity. The MoD currently has no general strategy on green defence that sets targets and a direction for activities on Defence as a whole, nor does it contribute to the annual reports on the government's climate initiatives, which take stock of climate progress in Danish state organisations.

Internationally, a number of countries, including the USA, the UK, Canada, France and the Netherlands, are developing strategies, objectives and initiatives to make their armed forces greener. Although activities aimed at a green transition have been going on under the NATO and EU umbrellas for some years, they The climate partnership believes significant national progress can be made in terms of making the Danish defence greener, with due respect for the ability to operate.

have not received attention. In the EU, the defence opt-out has prevented Denmark from participating, and NATO only started seriously addressing a green transition at its 2021 summit.

Denmark is a pioneer on green transition when it comes to technological advances and willingness to make supportive political decisions about ambitious targets. The climate partnership believes significant national progress can be made in terms of making the Danish defence greener, with due respect for the ability to operate. This will underpin a certain security of supply and thereby increase Denmark's resilience. The climate partnership is also of the opinion that this transition can create Danish jobs and export opportunities while securing a key international role for Denmark on green defence. Overall, this will require harmonising the approach and prioritising efforts with resources as well as competences. New types of partnerships will also be required between the armed forces, trade and industry and academia, as many new solutions are developed in the civilian world, and climate competencies are largely found outside the armed forces.

Recommendations

The climate partnership's recommendations highlight initiatives that generate operational effect while also reducing the Armed Forces' CO₂ emissions.

It is clear to the climate partnership that a greener defence will require substantial funding – funding that could otherwise be used to acquire operational capacity. Accordingly, a debate on resources and prioritisation will be called for, a debate that must cover the level of ambition, the implementation rate and possibly new forms of financing. That will be the starting point.

The bulk of emissions from the Armed Forces derives from propellants, and major technological advances are needed in this area to achieve an effect. The long lifespan of the Armed Forces' assets (to date up to both 30 and 40 years) means that in practice, a switch to new propellants can be made by acquisition or developing new capabilities. On this point, the Navy holds particular potential, as the maritime sector offers opportunities for Danish development and production.



Foto: Shutterstock.

As a platform for the future green transition in the MoD, the climate partnership recommends that a comprehensive strategy be drafted as soon as possible that combines green efforts and creates a foundation for enabling Denmark to become an international leader of a green transition on Defence. The strategy will set dedicated and ambitious targets, allocate resources and build a structure where green transition is coherent from the strategic to the operational levels. To achieve an impact, commitment to the objectives and the strategy at the defence leadership level is imperative. Elements of the Industrial Defence Strategy can also be used for governance and involving external expertise. Although an essential strategic premise is that the soldiers' safety and ability to operate takes precedence over everything else, the green transition must help strengthen security of supply and defence resilience, while reducing vulnerability and dependence on cumbersome supply chains during operations. Furthermore, it should be underlined that green initiatives can promote Denmark's international reputation and influence. With this basic strategy as a starting point, the climate partnership recommends working with specific focus on the following elements:



Initiatives with high operational impact, impact on emissions and impact on jobs

- A. Alternative propellants a foundation for the armed forces of the future:
- In the future, the Danish Defence must use Powerto-X-based fuels for propulsion and must therefore be linked to current private-sector initiatives intended to build production and supplies.
- Until the Power-to-X technology matures, the Danish Defence must test the use of alternatives such as bio-fuels via the advances taking place in the civilian aviation industry and the maritime domain.
- The consequences of conversion to alternatives must be clarified.

B. A green, energy-efficient and sustainable Navy:

- Existing platforms must be optimised using tools from the civilian sector.
- It must be clarified if experience from optimising Navy vessels – using both civilian and military expertise – can be used as an 'export commodity' based on a given model.
- A long-term strategy is to be prepared for how Danish design, energy optimisation and ship production can make the Danish Navy greener by 2050 and generate export opportunities.

C. Simulation as a Danish stronghold:

- Denmark must develop new sophisticated opportunities for using simulation and virtual reality as an alternative or supplement to live training and education.
- The use of simulation and virtual reality technology must be combined with the development of new learning concepts that ensure maximum, effective training transfer. The solutions should be internationally promoted.

D. Promotion of green operational concepts such as 'green camps':

- A concept should be designed for setting up green camps that as far as possible are self-sufficient in water, electricity, circular waste management, etc.
- Ways of enabling the MoD to take on and jointly operate other green operational concepts with industry should be explored.

E. Innovation and research - increase green co-financing:

- It is recommended that further funds be injected into the MoD's co-financing scheme for research and development and earmarked for promoting green solutions.
- It is also recommended that established innovation networks for green defence be used for purposes such as addressing challenges or ideas in the green arena.

Initiatives with a significant impact on emissions and a smaller operational impact

F. Optimised transport can make a difference:

- Existing administrative vehicles are to be replaced with electric ones, and an infrastructure to support their operation is to be established.
- Heavy transport is to be made more efficient, with inspiration from developments in the civilian sector.
- The armed forces should follow the civilian sector's development of future transport options (such as drones, etc).

G. Optimisation of buildings and premises:

- The ESCO model is to be used to optimise buildings where savings generated finance private consultancy and implementation of measures to reduce energy consumption and CO₂ emissions.
- The construction, operation and maintenance of new

buildings is to be managed by new types of publicprivate partnerships with focus on optimisation, financing and efficient use.

H. Climate and environmental requirements for all purchases and supply chains:

 Introduce environmental and climate requirements for all procurement, prioritise a green profile in the tender processes, and examine the climate impact of acquisitions.

Green transition in the armed forces is not in contrast with the ability to operate. It is simply a new premise. This report is the first step in the process. Further initiatives should be added as the MoD and the Armed Forces work strategically with the challenge. Although Defence in the future will probably increase, we are convinced that a significant reduction is possible.