A SMARTER AND GREENER DEFENCE

NORDIC DEFENCE INDUSTRY SEMINAR
COPENHAGEN, 2-3 MAY 2012

CHAIRMAN’S CONCLUSIONS
A SMARTER AND GREENER DEFENCE

On 2-3 May 2012 the 4th Nordic Defence Industry Seminar took place in the Bella Center in Copenhagen. 325 highly skilled professionals from Government, Defence and Industry participated in making the seminar a fruitful and inspirational event. The chairman’s conclusions are to be found hereunder.

GENERAL SUMMARY:

The effects of climate change, energy scarcity and economic crisis are relevant to all actors in the defence sector. The Defence Sectors are relatively large actors. The US military – for instance - has an energy consumption equal to that of Portugal. The potential for energy and monetary savings is thus large and real. Furthermore, smarter and greener solutions may be implemented without compromising the effect and the safety of military operations. In some ways it may even reduce vulnerability. Reducing energy consumption in missions for instance reduces risks entailed in transporting fuel into mission areas.

The tools to realize the potential are:

1. Dedicated use of new technology and innovative thinking.
2. Changing the mindset of the soldier, the buyer and the planner.
3. Committed international cooperation and public–private partnerships, which may indeed serve as a force multiplier and a rich source of inspiration.
4. Cooperation with the industrial base in the Northern Group, which is diverse and technologically high-end.

If successful, defence can increase operational effectiveness, save money, reduce strategic dependencies and minimize operational and societal vulnerabilities. Thus climate change and economic restraints also entails opportunities.
CONCLUSIONS FROM:
KEY NOTES SESSIONS

ורוד Making defence greener and smarter is needed – and it is possible.

ורוד Defence is a major owner of vehicles, ships, helicopters/planes, buildings and land. Hence the potential for savings is substantial.

ורוד The Northern Group nations share basic values, challenges and military commitments. Climate change, energy scarcity/dependency, and budget restraints are common challenges – and we need to look for common solutions.

ורוד There is a real incentive and will to enhance and deepen cooperation with neighbors and between industry and governments.

ורוד Military spending in the west has come to a standstill, and this forces industry to refocus. Industry thus also has an incentive to find greener and cost-saving products and processes in order to stay competitive and meet demands internationally.

ורוד Apart from closer cooperation and applying new technology – a third key is the changing of mindset. This change is already happening.

ורוד The prospects of using alternative energy sources are good. By 2020 about 20 % of the world’s consumption of electricity may for instance come from wind power. And it is tangibles to make the shift – also for defence. 13 large windmills are enough to cover the Danish Defence’s needs for electricity.
CONCLUSIONS FROM:
NORDEFCO - STATE OF PLAY

を持っているように、NORDEFCO は大きな数の協力プロジェクトを所有しています。しかし、装備のプロジェクトはまだ十分に表出されておらず。

- 联合の取得は、効果的な解決策を提供し、例えば保守、訓練、メンテナンスなどのためのより多くの協力の扉を開くために最も強力な駆動力として挙げられた。
- 政治的な関心が必要であり、より強く明確なトップダウンの要求が NORDEFCO の解決策を受け入れると有益である。
- NORDEFCO - 特に PSC - と産業間の改善された会話が必要で、特に、電力をカバーするデンマーク国防の需要を満たす。

CONCLUSIONS FROM:
CLIMATE AND ENERGY – GLOBAL TRENDS

- 気候変動は実際であり、我々の努力のため、CO2排出量はまだ増加している。さらに、資源の需要が供給に近づいているため、資源のアクセスが戦略的かつ安全上の関心を形成する。
- 気候変動の影響は、より多くの地理的地域で現れ、気候変動はトレンドや進化ではなく、革命であると考えられえる。
- 未来の成長は、石油などの伝統的なエネルギー源に依存することは出来ない。
- 気候変動の影響と資源のアクセスは、潜在的に巨大な未来の争いの源となる。
- 運送は、攻撃のための主要なターゲットであり、戦略的には、エネルギーのアクセスが作戦の前提である。
- 必要な心の変化と文化の変化を生み出すために、我々は緑色の解決策の利益を注目すべきである。
- しかし、目標に達せずにでも、それが始めることで、あなたはまだ目標に近づき、そうでない場合、それを持っていない。

Climate change is a threat multiplier
CONCLUSIONS FROM NORDEFCO:
MULTILATERAL COOPERATION

_within NORDEFCO (and through joint procurement) countries may be able to achieve what would have been impossible as a single country._

_Harmonization and pooling of demands are vital enablers, yet cross-border transparency is a prerequisite for success._

_Pooling and sharing is the pragmatic way forward if we want to meet the growing operational demands, and given the right priority NORDEFCO may become an international role model for developing smart defence solutions._

_Revision of the Agreement on Support for Industrial Cooperation in the Defence Acquisition area is very important indeed to support the cooperation with industry. cover the Danish Defence’s needs for electricity._
CONCLUSIONS FROM:
DEVELOPING GREEN POLICIES FOR DEFENCE

Setting ambitious date-specific goals are necessary – and a good start. But in implementing them a change of culture is needed. You thus need a comprehensive approach to making defence greener.

Some of the obstacles are lack of available data and how to ensure focus and commitment for a cross-organization topic that is not a core assignment.

In making the needed change of mindset within the military, green thinking should be an integrated and natural part of all training and education of military personnel.

Knowledge sharing – for instance in NORDEFCO or Northern Group – about the formulation and implementation of green policies, the obstacles involved and how to tackle them, is needed and potentially very beneficiary.
CONCLUSIONS FROM:
INDUSTRIAL COOPERATION

Government and industry need each other, and industry wants to be involved in NORDEFCO. The political will, however, needs some clarification.

Nordic Industry is world class – and NORDEFCO may assume a prominent role in industry-defence cooperation for instance regarding research and development, green defence and pooling and sharing.

CONCLUSIONS FROM:
PUBLIC PRIVATE PARTNERSHIPS

To be a trustworthy partner, which can help making public partners greener, industry needs to “take its own medicine” and implement sustainable greener solutions within the company.

The potential for benefits are real, but state actors need to overcome a certain integral risk aversion when embarking on public private partnerships to find greener solutions.

CONCLUSIONS FROM:
ALTERNATIVES TO FOSSIL FUELS

Finding alternatives to fossil fuels is a key to reducing costs and environmental/climate impact. Biofuels, solar-energy and wind power are far advanced technologies – and in many ways real alternatives – or supplements.

At one point bio fuel, for instance, will be fully competitive with regard to price, performance and stability.

Yet bio fuels cannot be the entire solution.

If we are successful in finding and implementing alternatives, cost and risks will go down – while our capabilities go up.

Even without the cost of energy and the impact of emissions it would still be in the interest of military to reduce the dependency of fossil fuels, which needs to be transported over long distances under heavy protection.
CONCLUSIONS FROM:
SIMULATION IN DEFENCE

There is great potential in simulation for making training cheaper, more environmental friendly – and more effective.

The context of modern military operations is often so complex that ordinary training fails to produce the right training environment.

Thus simulation may lead to far more effective training, and in doing so it may lead to the saving of lives and the reduction of the risk of suffering and collateral damage.

To make the best use of simulation multinational cooperation is needed, and cooperation between industry and defence.
CONCLUSIONS FROM: INTERNATIONAL OPERATIONS

There is a huge potential for energy savings, yet it takes an effort. What can and should we do?

- Optimize existing facilities – there is great potential in making better use of existing assets, for instance by optimizing insulation and generator efficiency.

- Mapping of where the energy consumption is. (Electricity: A/C 50 % – 75% if we include heating!)

- Use a deliberate approach to change mindsets and make things practical and easy for the soldiers.

- Use new – and renewable – technologies: solar mats, solar powered water purification systems etc.

- Think ahead: If you start a mission in energy inefficient tents, you’ll probably end the mission in such tents. Planning/buying needs to be green as well. Furthermore, the cheapest solution – may not always be the most cost-effective solution.

- Share information and knowledge – it may be done bilaterally, through NORDEFCO, NATO, EU or through the Lithuanian COE on Energy security.

- Make NATO standards! If we don’t specify to contractors that we want energy efficient solutions, we’ll get standard/traditional solutions.

- Make it easy for companies with innovative ideas to get in contact with military actors

- It is doable: The UK goal is to reduce in theatre electricity consumption by 50%. The estimate is that 25% could be saved by “easy-wins” such as using equipment more efficiently, improve culture and ensure better insulation.

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**The cost of fuel is well known:**

- An aircraft carrier goes 7 cm pr liter fuel

- Every time one liter of fuel reaches Afghanistan it has taken 7 liters to get it there

- Total cost of 1 liter of fuel brought by UK forces to remote patrol bases may be 40 times the price (allowing for security and protection)

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**Cost of one liter water transported into the area may be 3 times higher as one bought locally**
CONCLUSIONS FROM:
COMBAT UNITS AND THE INFANTRY SOLDIER

قاء Green technology is making it possible to make armored vehicles greener, and bio diesel has proven itself. Yet industry lacks environmental requirements (Official de- mand).

قاء The Norwegian NORMANS programs aims at improving efficiency, while saving costs and im-prove interoperability. The program has been running since 2000, and since 2007 industry has been involved.

قاء Finland’s Warrior 2020 program is a next generation soldier system, which aims at completely modernizing and integrating the soldier’s equipment by 2020 in areas such as communication, target acquisition, sensor capability and personal protec- tion. This is done by implementing high tech. solutions and complex soldier-machine interfaces.

قاء The Swedish authorities (FMV) in 1995 demanded greener ammunition with less led and toxic substance, and the result today is NAMMO’s greener ammunition, which has proven as efficient or better in tests. Today more than 360 000 000 lead free cartridges are produced and delivered in a number of countries. NAMMO has likewise developed lighter bullets.

قاء Generally, there is no easy fix to getting the weight down, and there is a dilemma between getting new technology to the soldier while reducing the weight he carries. Yet lighter passive armor based on fiber for ships, aircrafts and vehicles are available and reliable as one way of reducing weight – at a low cost.
CONCLUSIONS FROM:
DOMESTIC DEFENCE

Local business and national politicians are eager to move forward despite the international hesitation in the COP process.

Defence can be a role model and at the same time save energy and money by implementing ambitious strategies.

The Norwegian Energy Program for the armed forces yielded an annual saving of 100 million NKR (Approximately 20 million US dollars). Now the goal is to obtain another 100 million NKR. Yet meeting your goals takes investments.

Certification systems are very useful tools in achieving a more sustainable building mass. The chosen Danish system for instance measures environmental impact over 50 years and looks at economy over 50 years.

When making decisions about whether or not to energy optimize existing buildings, focus should be on building with a real potential and with a decent life expectancy.

Optimizing the existing building mass will only take you some of the way. New ecofriendly buildings will within the next 20 years approach next to zero energy consumption.

Focusing only on “low hanging fruits” in energy optimizing solutions, such as light sensors and heat pumps, will only take energy reduction to a certain level, and investments may block incentive for more thorough energy optimizing.

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