



CONCEPT of the «Sustainability in Defence (“SiD”)» Initiative

Incorporation of Climate Change and Sustainable Development Principles

in Armed Forces and Defence Industry:

A Route from Adaptation to Reform - A Better Future “Bet”

The “Sustainability in Defence” Initiative of the Hellenic Ministry of National Defence (MoD), as part of the EL Presidency 2014, will focus on the holistic implementation of sustainability principles in both the armed forces and the defence industry of EU Member States, which constitute the European defence sector in total, without compromising operational requirements.

Hellenic MoD is endorsing guidelines on environmental protection and energy efficiency included in relevant institutional documents from European defence organisations, such as European Military Staff (EU MS) and European Defence Agency (EDA), as well as NATO documents, and at the same time is taking into account all relevant initiatives/ frameworks (e.g. Military Green, Green Defence, etc).

The three Pillars of Sustainable Development comprise Environment, Society and Economy. The significance of a fourth Pillar, the one of Politics, as a governing principle interconnecting and activating the aforementioned, is also acknowledged.

The key factors of incorporating Sustainability in Defence, namely **Manpower**, **Infrastructure** and **Financing**, in order of hierarchy will be explored. Innovation and fresh ideas will be cross-cutting through all aspects of sustainability. The aim is to deliver “smart” (specific - measurable - achievable - realistic - time scaled) proposals, such as sufficiently financed projects to influence manpower and to develop sustainable and operational defence infrastructure. Another possibility is to investigate how the introduction of sustainability in defence could help addressing weaknesses and threats of defence sector and transform them into strengths and opportunities.

At first, environmental consciousness and awareness, which comprise the knowledge, attitude and behaviour of the personnel engaged in Defence, established and upgraded through the continuous provided respective training and education, is the major factor that determines the actual implementation of environmental policies and actions. Thus, the Manpower Factor is the basis of all further measures taken to apply sustainability in defence.

The development of appropriate Infrastructure is the key tool required to materialize the pillars of Sustainability in the defence sector. This includes both the sustainable transformation of existing installations and the development of modern, energy saving and smart new installations, that will serve the multiple actions required to operate in a sustainable manner, in total.

Last, but of crucial importance, is the proper Financing of projects. The recent cutbacks in defence budgets and investments have turned the situation critical for the defence sector. Therefore, a thorough investigation of all possible funding is of outmost importance in order to employ the proper combination of national, European or Allied funding sources. EU offers a wide range of funding opportunities, such as the European Structural Funds, the Horizon 2020 for Research and Development, and others, while NATO is supporting projects through the “Science for Peace and Security” program. This is highly interesting for the MoD’s but also for the defence industry, including SME’s, to promote production of sustainable and at the same time innovative products.

A systematic approach of major topics of sustainability and the possible interaction among them is to be conducted within “SiD”. These include Environmental Protection, Resources and Energy Efficiency, Mitigation of Climate Change Impacts, along with their mutual interaction with Society and Economy.

The safeguard/ conservation of natural capital and ecosystems, that is water, soil, air, marine resources, as well as flora and fauna, is a key component of sustainability. It is noted that minerals and metals are included in natural resources. The degradation of natural environment, through either over-exploitation or emissions, is a probable obstacle to military training and operations. Although significant work has been done within EU for the environmental management of military training areas, there is still ground for ambitious relevant projects. The prevention of waste production is suggested as a first proactive measure of environmental protection. Biodiversity and Water efficiency issues are also lately discussed.

The introduction of a “smart” aspect, by increased utilisation of Information and Communication Technologies (ICT) in natural resources management, as e.g. water, is another

way to manage their efficient and responsible use. In this context, the protection of cultural and historical resources is generally recognized as imperative during operations and exercises.

Consistent risk management and, where possible, substitution of dangerous substances is another key factor for the protection of man and the environment. This has recently been incorporated in European chemical legislation and has broad impact in the defence sector in EU and beyond. Thus, the substitution of dangerous substances with more benign alternatives while delivering equivalent performance for civilian and military purposes is the main future research area for both academia and industry.

On the other hand, the resources efficiency is rapidly gaining impetus in Europe. The “Reduce, Re-use, Recycle” principle is explicitly referenced in EU official documents to point out the urge for sustainable consumption and production. This would lead to a defence sector that harmonises operational requirements with resources efficiency. Therefore, end-of-life materiel or other waste should be regarded more as a potential resource, and be properly valorised through recovery actions. The dismantling installations for defence materiel might become an alternative source of raw materials, thereby reducing the need for production of new ones.

Energy efficiency, together with energy saving and energy security, represents a field of extensive efforts, since it is directly connected to military operations. The Renewable Energy Sources, with the predominant role of solar power, are first in the list of alternative energy sources, for both fixed infrastructure and deploying forces. The energy balance of defence sector is expected to have significant benefits from the reduction of fossil fuels consumption, including increased autonomy. Moreover, energy saving is still a requisite either at home or in theatre.

Furthermore, disaster response and preparedness for environmental accidents and incidents, as well as natural disasters, is another contribution of armed forces to the society. The response to major humanitarian emergencies is a field of mutual cooperation and strengthens the decisive role that the defense factor plays in unexpected severe situations.

Life Cycle Assessment (LCA), where the design, operation, maintenance and disposal should be taken into account during the development of the product by the industry is another fundamental element of defence sustainability. MoDs should also incorporate LCA in defence procurement, in order to reduce the environmental footprint and the relevant overall cost of defence materiel at the same time.

European Union is aiming at developing a climate-resilient, low-carbon economy. Climate Change presents both opportunities and threats for the defence sector. The armed forces will

possibly operate in the future in extreme environments, while defence materiel and ammunitions would be safe to use and function under the same conditions. The reduction of Green House Gases emissions of the relatively large defence sector should be a significant target in order to diminish adverse effects on natural environment and society, during operations.

The aforementioned are strongly interconnected through multiple pathways. Financing sustainable projects in defence is a powerful tool to demonstrate environmental protection, energy efficiency and climate change resilience in practice to a large audience, the armed forces personnel and the society as a total. This will contribute to the raising of environmental consciousness, in conjunction with the necessary customized training. Infrastructure functioning on a sustainable consumption and production basis will lead the way to mitigation of climate change impacts, whilst promoting the construction of such installations is a dynamic way to boost the European economy. Also, the application of Life Cycle Assessment in both the armed forces operations and the defence materiel will decrease the inherent environmental and energy footprint of defence sector overall. Furthermore, using more benign substances, where possible, will reduce the cost of materials recovery and ultimate disposal of end-of-life materiel. This will, in turn, be facilitated by environmental sensitization, also at a level as high as the decision making. Of course, more other interconnections of environment, economy and society exist, that will be outlined during the Conference.

The formation of leaders that will decide on a responsible and sustainable basis should be the aim of the training of personnel. Moreover, the development of infrastructure capable of serving defence mission while minimising adverse effects to the environment, is the main instrument of the implementation of sustainable principles and thereby bringing substantial results useful to the society and the economy. Finally, smart exploitation of financing tools, within EU and beyond, will be the catalyst of the incorporation of sustainability in defence. This trilateral foundation is the key deliverable of “Sustainability in Defence” Initiative of the Hellenic MoD.

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Athens, February 2014