



Sustainable Cities and Military Installations: Climate Change Impact on Energy and Environmental Security



3-6 June 2012, Hotel Ranga, Hella, ICELAND

Access to reliable and affordable energy is an important determinant of the prosperity of cities along with effective mission sustainment at military installations. Both military and civilian organizations alike are actively pursuing locally-oriented energy strategies to address both the sources of energy production as well as the quantity of energy consumption. For example, the US DoD is developing a comprehensive strategy for energy, water, and waste sustainability at military installations that is expected to include increased conservation and efficiency measures, alternative fuels and energy sources, and organizational/behavioral or programmatic features. A key concern for planners, however, is how climate change and other environmental stressors may radically impact the efficacy of sustainability strategies at both military installation and cities. The objective of this workshop is to review state-of-the science to develop adaptive strategies to identify and evaluate sustainability initiatives which are resilient in the face of the uncertainties posed by climate change. Due to the global nature of climate change, this event will allow for collaboration and collective learning between attendees, facilitating discussion of the current state of green technologies and long-term and sustainable energy strategies. Application of these technologies and strategies is expected to benefit environmental sustainability, energy security, and preparedness at both military installations and small cities.

The workshop will focus on ways in which military installations and small cities can integrate energy, water, and waste sustainability strategies into broad installation management plans that factor into threats posed by anthropogenic climate change. Current and emerging technologies, methods, and frameworks for energy conservation, efficiency, and renewable energy will be explored within the context of climate change, with an emphasis on environmental impacts, energy security, and military-readiness and effectiveness. Through sea-level rise and altered weather patterns, climate change is expected to significantly alter coastal and inland environments for humans, infrastructure, and ecosystems. Coupled with uncertain predictions for sea level rise and storm frequency and intensity, potential land use changes and population increases create significant planning challenges. Even though significant resources have been directed to predict potential consequences of climate change, additional emphasis is needed to develop rational approaches in order to guide decision-making under uncertainty and methods to develop and compare the performance of alternative adaptive strategies within an overall adaptive management approach. While global efforts continue to address the broad threat that climate change poses to society, efforts must also focus on reducing the threats posed to ecosystems.

Workshop participants will be organized into three working groups, which address Climate Change adaptation in (A) energy, (B) water, and (C) waste challenges. "State of the Science" reviews by these working groups along with other materials discussed during the meeting will provide a foundation for a book that will be published by Springer. This workshop will provide environmental scientists and government officials with a better understanding of the trade-offs associated with the potential impacts of climate change, and will provide them with a broad suite of decision tools to manage security risks.

Organizing Committee

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*This workshop
is supported by:*

The NATO Science for Peace
and Security Programme