



Military Leadership in Reducing Dependence on Fossil Fuels

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Thanks to Tom Spencer and Experts Paris 2008 Summit

- Over 100 military and environmental authorities from more than 25 countries
- Finding consensus on the importance of military organizations in protecting the climate
- Forming networks that can get the job done
 - Australia, Bosnia & Herzegovina, Brazil, Canada, Czech Republic, Cyprus, Denmark, European Union, Finland, France, Germany, Greece, Hungary, India, Italy, Japan, Lithuania, Netherlands, Norway, Morocco, Romania, Slovenia, Sweden, Turkey, United Kingdom, and United States, plus United Nations Environment Programme

Climate Change Affects Global Stability

- Mass migration and humanitarian operations
- Competition over resources and conflict / peacekeeping
- Failed states unable to meet population needs and capacity building
- Traditional alliances undermined by new competitions or more urgent domestic needs
- Navigable Arctic and new trade routes, contested resource-rich regions available for exploitation

Climate Change Affects Military Operations

- Threats to installations from severe weather, inundation and changing water/food patterns
- Increase incidence of extreme weather affects operations of military systems
- Geostrategic threats shape the future missions and force structure mix
- Opportunities for military-military cooperation on missions related to halting climate change

Climate Change Affects Military Management

- Military GHG emissions addressed in Framework Convention on Climate Change (FCCC)
 - Military not exempted
 - Bunker Fuels counted, but not apportioned
 - Military emissions included in national reporting
- Post-Kyoto will require military organizations to measure, monitor and manage GHG emissions like the rest of society
- Military will need to reduce GHG emissions
- Opportunities for military-military cooperation in techniques and technologies to measure, monitor and manage GHG emissions
- Opportunities for military-private company cooperation to find cost-effective ways to reduce energy use and GHG emissions (e.g., Industry Cooperative for Ozone Layer Protection (ICOLP))

Global Military Energy Strategy

- “Mission-Critical” Fuel Use Priority
 - Fuel is an enabler of military capability
 - Fuel is an operational burden requiring protection
- Force Planning Depends on Both Considerations
- Incentivize Energy Efficiency
- Use Renewable Energy at Military Installations
- Engage Military Centers of Excellence
- Technology To Reduce Military Energy Demands Supports Civilian Applications – Dual Benefits
- Renewable Energy **IF** Net Carbon Superior
 - Energy security **worsened** by climate insecurity

New Reality Fuel Pricing

- Raw Market Fuel Price (RMFP) [baseline]
 - No account for environmental, prosperity, security, or energy independence
- Carbon-Accountability Fuel Cost (CAFC)
 - Priced by cap & trade to protect climate
- Fully-Burdened Fuel Cost (FBFC)
 - Today: RMFP plus field delivery
 - Tomorrow: CAFC plus field delivery

Fuel Delivery "Cost" is not its "Price"



\$3/gal price = \$42/gal delivered*



\$3price = \$15++
delivered w/escorts,
helo and fighter
protection*

\$???:gal



* Consistent FBCF results
from 2001 DSB task force,
PA&E, JASONS and IDA

Fully-Burdened Fuel Cost (FBFC)

- Applies “activity based accounting” to military fuel use
- Business case for very high energy efficiency
- Military will be market leader in energy efficiency for products procured for use at deployed locations
 - Stimulates technical innovation
 - Achieving economies of scale, lowering price
 - Leveraging fuel saving
 - Government sales at carbon-burdened fuel cost
 - Civilian sales at market price w/green incentives/motivated public
- Welcome high energy efficiency of weapons and military-unique products procured at FBFC
 - Tooth not Tail

Elements of a Military Climate Strategy

- Reduce energy intensity of military operations at installations and by operational forces
- Incorporate climate change effects into force planning and infrastructure investments
- Stewardship and Destruction of non-energy GHG, such as surplus ODSs, HFCs, SF6 and PFCs
- Opportunities for military-to-military cooperation in non-traditional areas
 - Climate scenarios such as humanitarian relief
 - Measuring, monitoring and managing greenhouse gases from installations and land management and possibly operations
 - New energy technologies for installations
- Military Tiger Teams to conduct energy and GHG audits and recommend technology and management solutions

Emerging Solutions From Many Sources

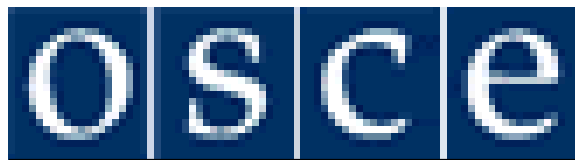
- UK National Security Strategy
 - http://interactive.cabinetoffice.gov.uk/documents/security/national_security_strategy.pdf

- “National Security and the Threat of Climate Change”
 - <http://securityandclimate.cna.org/report/>
- Military Networks emerging to catalogue and promote the evolving military perspectives
- Military organizations can replicate Montreal Protocol success in dual challenge of energy security and climate change

Full Tool Box

- Energy Use Inventory and Performance Standards
- Life-Cycle Climate Performance (LCCP) and Comprehensive Environmental Assessment
- Carbon “Bootprint” Accounting and Measures of Emissions Reductions
- Global Case Studies
- Networks and Working Groups (including UNEP)
- Partnerships
 - Green Weapons Advocates
 - Ministries of Environment and NGOs
 - Foreign Offices & International Development Departments
 - Military research and development cooperation
 - Innovative public-private partnerships (e.g., ICOLP)

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