



# Military Workshop Consensus on Protecting the Climate

Reported for Participants by  
Stephen O. Andersen

EPA Climate Protection Partnerships Division

# Over 100 Experts From 25 Countries

- Over 100 military and environmental authorities from more than 25 countries reached consensus on the importance of military organizations in protecting the climate
- 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

# First Impacts of Climate Change

- Higher Surface and Ocean Temperatures
- Rising Sea-Levels
- Changing Precipitation
- Fresh Water in Peril
- Health and Property Impacts
- Threatened Food, Fiber & Forests
- Faster than Scientists have Predicted
- The Uncertainty is When and Where

# Without Action

## Abrupt Climate Change Risks

- Disappearance of Arctic Sea Ice
- Rapid Loss of Greenland Ice Sheet
- Collapse of the West Antarctic Ice Sheet
- Overturn of the Atlantic Thermohaline Circulation
- Melting Kilimanjaro, Himalayan and other Glaciers Supporting Vast Human Populations
- Methane Release as Tundra Melts

# Potential Climate Change: Conflict Threat Multiplier

- Intensifies Existing Geopolitical Concern May Create New Conflicts
- Tips States to Failure & Political Instability
- Greater Impacts to Developing Countries with Low Adaptive Capacity Can Result in Mass Migration
- Propagates Poverty Region-to-Region
- Impacting an Unprecedented Number of People

# Global Security Implications

- Creating New Geopolitical Areas of Concern
- Inhibiting the Ability to Project Power
- Jeopardizing Coalition Partnerships
- Increasing Operations Other Than War
- Overloading UN Peacekeeping Deployments
- Requiring Urgent Actions by Military and Civilian Leaders and the Public

# The Importance of Leadership

- The Climate is Changing
- Climate Change must be avoided
- Climate Change is a Conflict Threat Multiplier
- Climate Action Critical Element of Global Security

Decisive Action

Can Help Prevent the Most Dangerous  
Climate Change!

# Environmental Security Paradigm

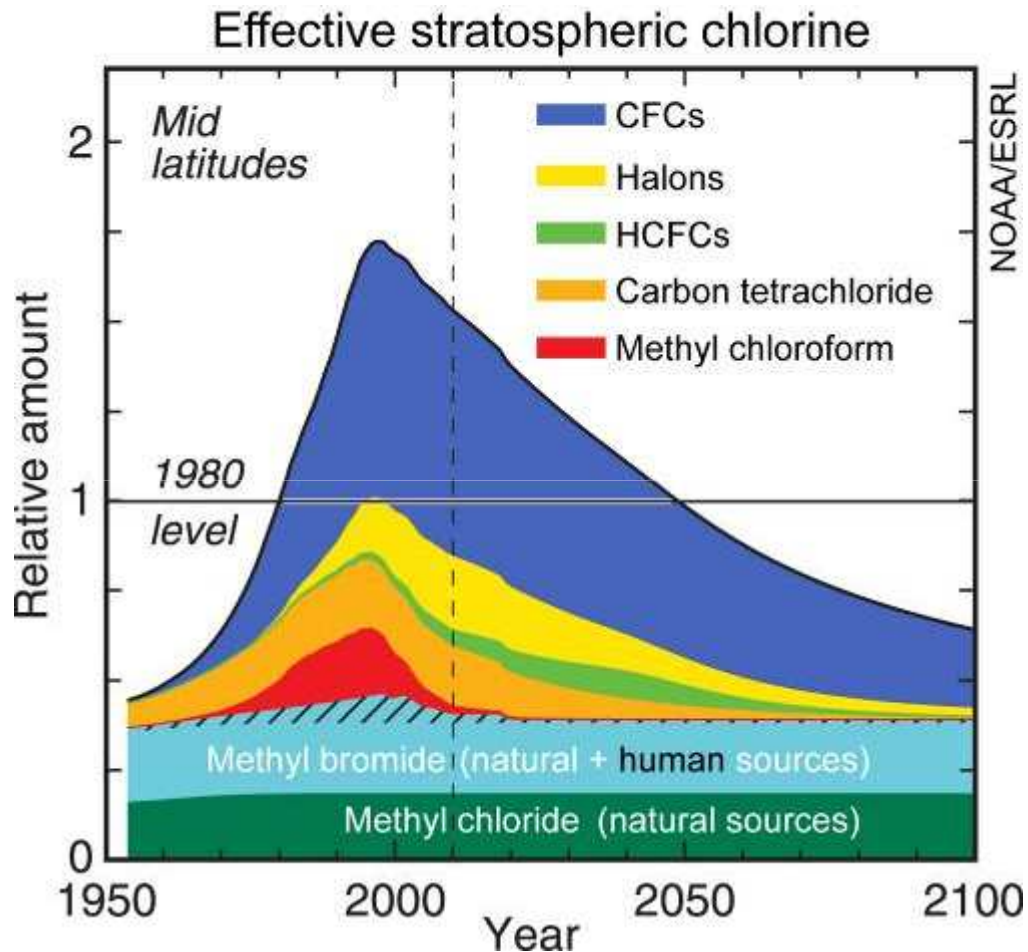
- Mitigation
  - Actions to Reduce GHG Emissions
- Adaptation
  - Preparing for a Changing Climate
- Sustainable Development
  - Sustainable Choices for Immediate Benefit
  - Renewable Energy Only if Net Carbon Superior



# Military Leadership Helped Protect the Ozone Layer

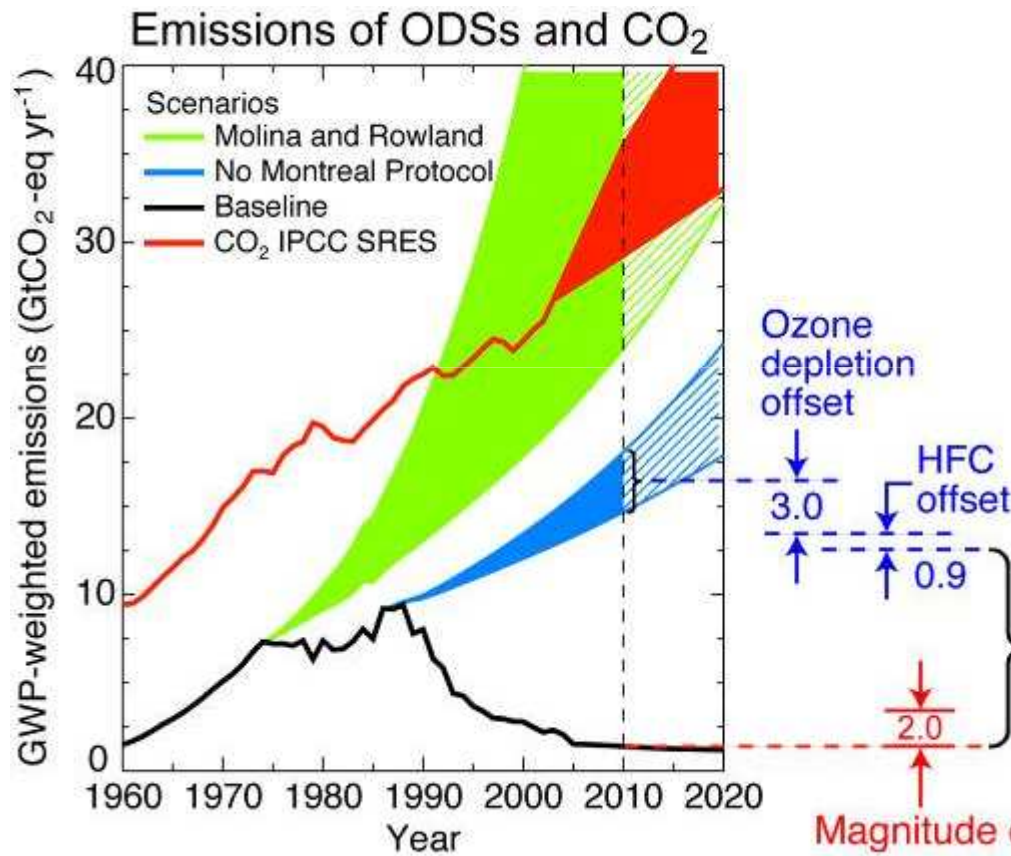
- Military Organizations Are Champions of the Phaseout of Ozone-Depleting Substances
- Ozone-Depleting Substances are Powerful Greenhouse Gases
- Military Leadership on Stratospheric Ozone Helped Delay Climate Change
- Lesson from Military Montreal Protocol Leadership Can Guide Mitigation Actions on Procurement, Energy Efficiency, and High-GWP Non-GHGs, Particularly HFC, SF6 and PFCs

## The dual benefit of the Montreal Protocol: Ozone and climate protection



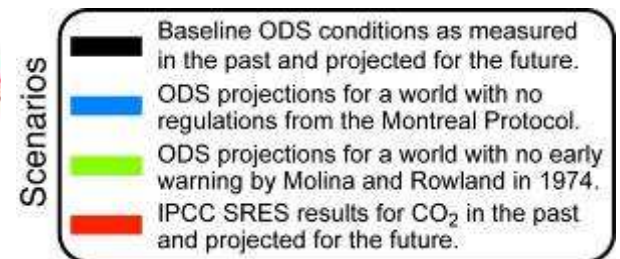
The Montreal Protocol has **slowed and reversed** the accumulation of ozone depleting substances (ODSs) in the stratosphere as measured by **effective stratospheric chlorine** amounts.

# Military Leadership Helped Nations Cut CO<sub>2</sub>-Equivalent Emissions in Half



The Montreal Protocol will have **reduced net GWP-weighted emissions from ODSs** in 2010 by **5-6 times** the reduction target of the first commitment period (2008-2012) of the Kyoto Protocol.

The Montreal Protocol will have **reduced net GWP-weighted emissions** from ODSs in 2010 by about 11 Gt CO<sub>2</sub>-eq yr<sup>-1</sup>.



# Military Organizations Can Help Protect the Climate

- Continued cooperation on atmospheric and oceans science
- Leadership to get the world pulling together
- Procurement to favor energy efficiency
- Energy efficiency in operations
- R&D at military centers of excellence
- Spin-off & transfer of know how and technology
- Other Actions Supporting Mitigation, Adaptation and Sustainable Development
- Promoting low-carbon lifestyles through workplace rules and training on how choices affect the environment

# Emerging Global Military Climate Strategy

- Save Money, Support Energy Independence, and Reduce Greenhouse Gas Emissions
- Procure Technology from all Global Sources Based on Life-cycle Analysis of “Fully-burdened” Fuel Costs and Supply Vulnerability
- Work with Suppliers and Entire Supply Chain
- Favor Renewable Energy Sources
- Embrace Climate as a Global National Security Issue
- Manage real estate as sustainable forest, farm, wildlife habitat and carbon sequestration
- Recruit active/retired military for ecological restoration

# Visionary Military Climate Strategy

- Self-Sustaining Energy at the Battlefield
- Regional Cooperation, where possible
- Stewardship and Destruction of Surplus ODSs, HFCs, SF6 and PFCs
- Military Tiger Teams -- formed to act confidently and decisively with influence and unequivocal success

# Emerging Wisdom From Many Sources

- UK National Security Strategy is a Model
  - [http://interactive.cabinetoffice.gov.uk/documents/security/national\\_security\\_strategy.pdf](http://interactive.cabinetoffice.gov.uk/documents/security/national_security_strategy.pdf)
- Military Networks Can Catalogue and Promote the Evolving Military Perspectives
- Treaty and National Policy Makers Will Want to Consult Military Leaders

# Full Tool Box

- Fuel Use Inventory
- Energy Performance Standards
- Life-Cycle Climate Performance (LCCP) and Comprehensive Environmental Assessment
- Carbon Footprint 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
  - Technology Cooperation Worldwide



# Conference Proceedings and Book

- Conference Proceedings
  - Consensus outline -- later today by e-mail
  - Presentations quickly posted on the web
  - Consensus narrative circulated via e-mail until perfected
- Book
  - Consensus narrative becomes book introduction
  - With attributed quotes and boxed text
  - Chapters document military leadership
    - Stratospheric Ozone Protection
    - Climate Protection
    - Technology Cooperation
    - National and Service Leadership and Innovation



'One of the most impressive environmental books ever written' Ambassador Richard Benedick

# PROTECTING THE OZONE LAYER

The United Nations History

Stephen O Andersen & K Madhava Sarma

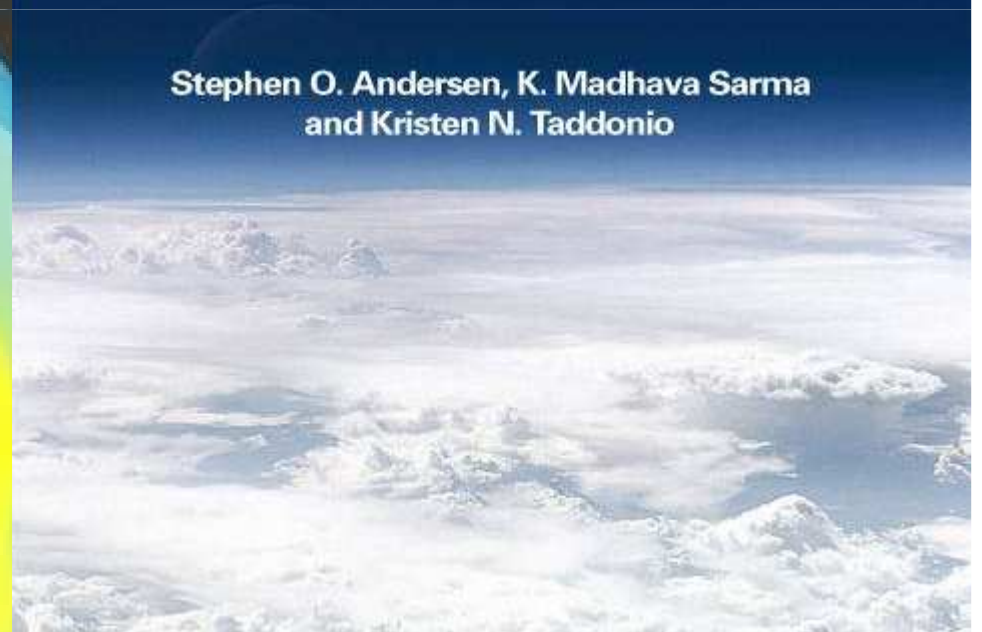
Foreword by Kofi A Annan

'This book is the story of why we can all be optimistic about the future if we are willing to be brave and dedicated world citizens.' Mario Molina, Nobel Prize in Chemistry

## TECHNOLOGY TRANSFER FOR THE OZONE LAYER

Lessons for Climate Change

Stephen O. Andersen, K. Madhava Sarma  
and Kristen N. Taddonio



# Conclusions

- Challenge of Climate Change
  - Budget Consequences to Militaries
  - Destabilizing Nations and Regions
  - Multiplying Threats of War and OOTW
- Militaries Can Help Avoid Climate Change
  - R&D Centers of Excellence
  - Procurement & Operations Leadership
- Climate Protection and National Security
  - Supporting Prosperity and Peace and Preserving Scarce Resources for Future Generations

# You are Invited to Join Organizations Featured In Climate Leadership Book

