The background of the slide is a stylized American flag with red and white stripes and a blue field with white stars. The flag is slightly wavy and occupies the entire frame.

National Security and Energy

Challenges and Solutions

**Presentation to
Georgia Tech Strategic Energy Institute
September 25, 2014**

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32nd Chief of Army Reserve
Commanding General, US Army Reserve Command**



Understanding the Threat

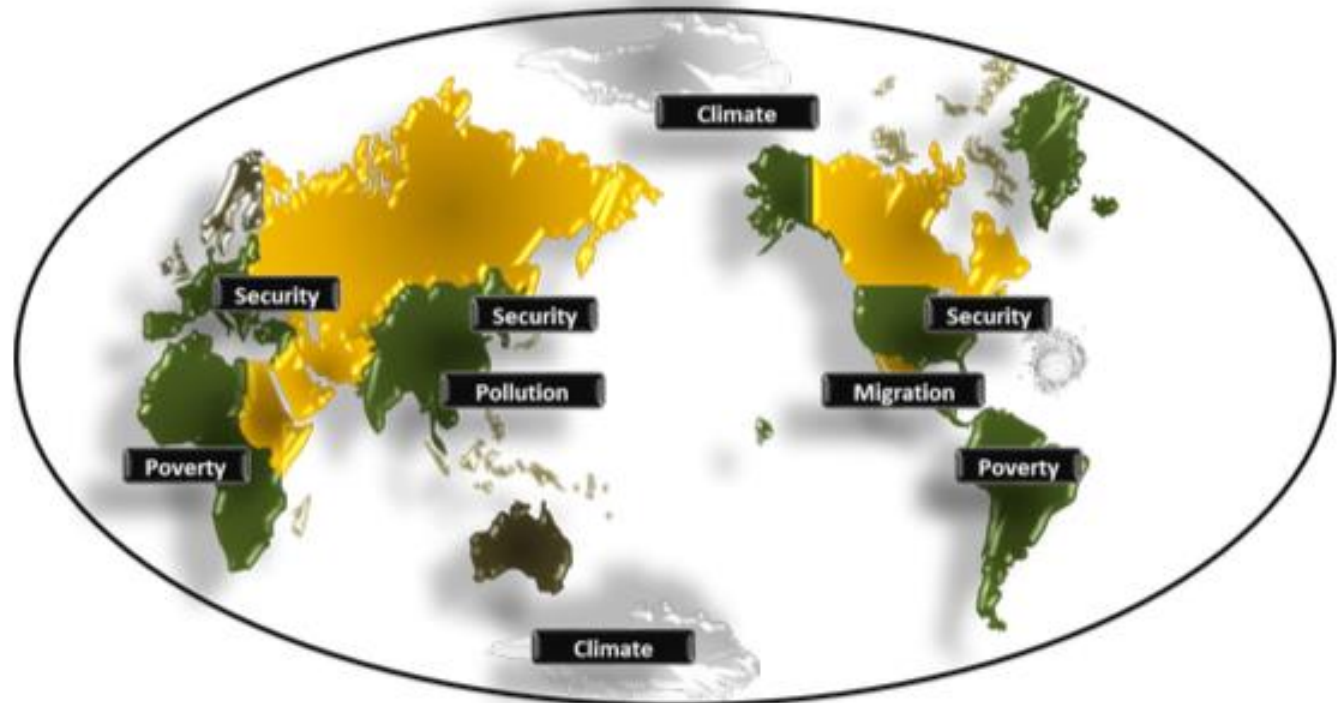
- Military threats may not be aligned with a single nation-state or government
- Globalization could result in countries not being conquered; but rather, being bought
- Threats are the nature of globalization

So, what are these global threats?



Global Threats

- Climate
- Pollution
- Security
- Poverty
- Migration



Important to understand the linkage between globalization, sustainability, and the role energy plays



What is Sustainability?



Local Water Source in Haiti

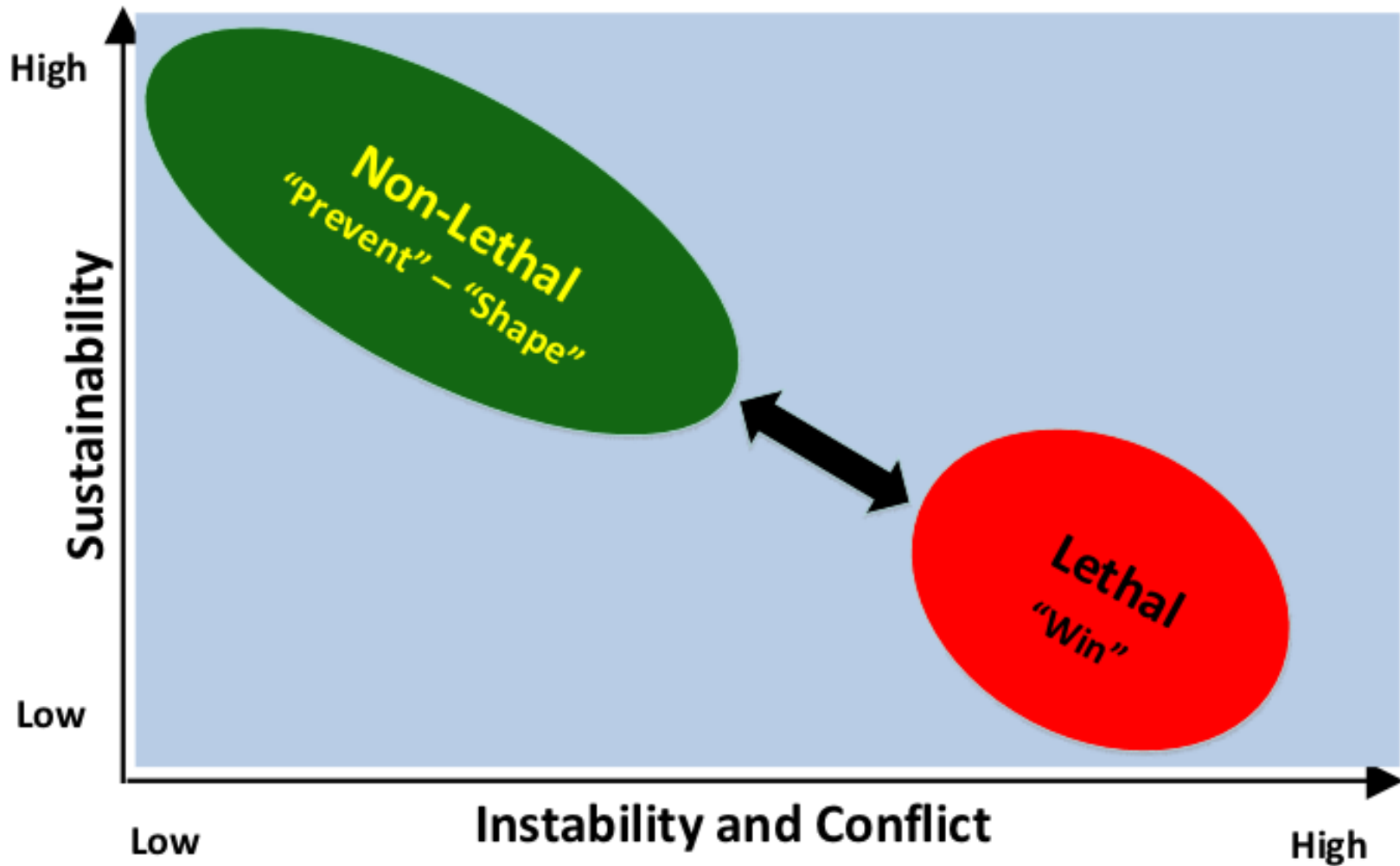
Source: Dr. S. Silliman, U. of Notre Dame

**Sustainability is the
“development that meets
the needs of the present
without compromising
the ability of future
generations to meet their
own needs.”**

**Source: World Commission on Environment and
Development, 1987**



Promoting Global Security





An Example from Baghdad, Iraq

- Undersized/aged/damaged Infrastructure (SWEAT-H*)
- Unsecure and unstable political/economic conditions
- Huge solid waste (trash) problem
- Soil/sediment/water/air contamination



Aging and war damaged infrastructure along with tremendous urban growth create significant environment challenges in Baghdad. The population in Baghdad doubled from 1987 (3.8 million) to 2008 (7.5-8 million)

***SWEAT-H = Sewage, Water, Electricity, Academics, Trash & Health**



Role of Energy on DoD Priorities

- Regional Trends
- Global Trends
- DoD Innovation
- Each Service has its own tailored energy strategy



Important to understand the linkage between
DoD Priorities and Energy Consumption

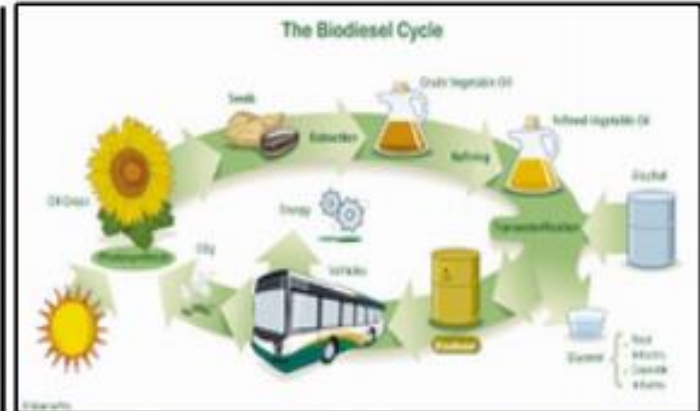


DoD Invested Technologies

Waste to Energy



Alternative Fuels



Thermoelectric



Solar



Solutions – What is Needed

- Clean and Inexpensive energy
- Energy that is sustainable
- Energy technologies and policies that promote conservation
- Energy that improves essential services – remember SWEAT-H
- Energy that addresses big challenges – remember global threats

The best solutions must be based on a holistic approach, incorporating government, industry and academia

What to get involved with the Army Reserve – go to www.usar.army.mil and look for Private-Public Partnership or Google Army Reserve P3i



Comments / Questions

