

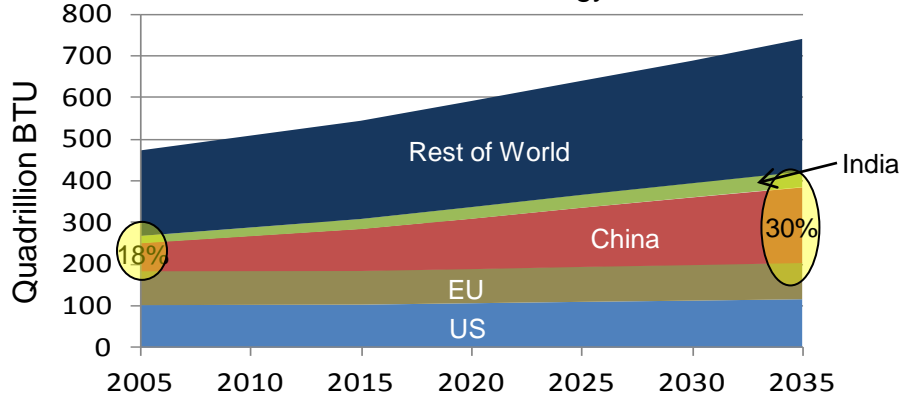
# 2011 NAVAL ENERGY FORUM



CREATING SPARTAN ENERGY WARRIORS

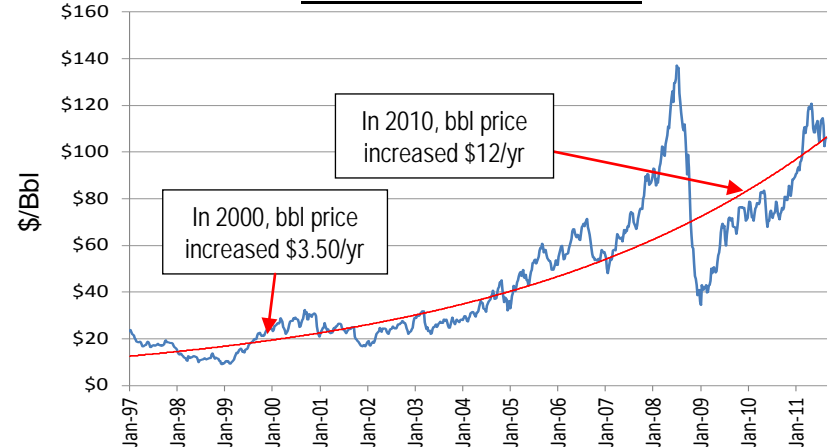
## Global Forces

Demand for Worldwide Energy 2005-2035



'Chindia' is rapidly becoming global energy driver

## Market Forces



Increased price volatility and upward trend

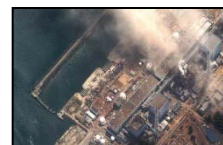
## Military Reality

	Fuel Cost / Operating Expense		Fuel Change (Volume)	Fuel Cost Growth
	2000	2010		
American Airlines	14%	26%	-19%	142%
Delta	14%	30%	-24%	139%
United	13%	30%	-10%	166%
<b>Total</b>	<b>14%</b>	<b>29%</b>	<b>-19%</b>	<b>148%</b>
<b>Navy</b>	<b>1.25%</b>	<b>2.65%</b>	<b>-11%</b>	<b>291%</b>

Even organizations driven only by efficiency are losing ground

## Other Pressures

- Fukushima - Nuclear concerns anew
- Deepwater Horizon - Potential restrictions
- San Diego Power Outage
- Hurricane Irene and VA earthquake
- Rare Earth Elements - Economic Weapon



Energy shocks and policies further impact our plan

2011:

Bomb blast destroys  
NATO tankers in  
Pakistan

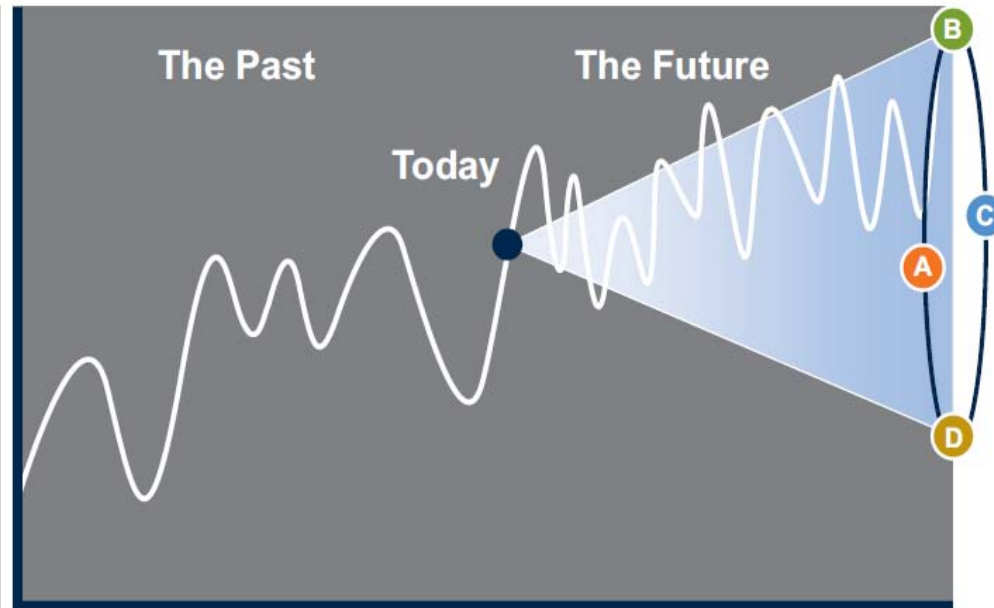






“Fuel supply lines are the umbilical cord and lifeline of the crusader community...focus operations on oil...since this will cause them to die off.”  
-- Osama bin Laden

# 4 Energy Future Alternatives for 2030

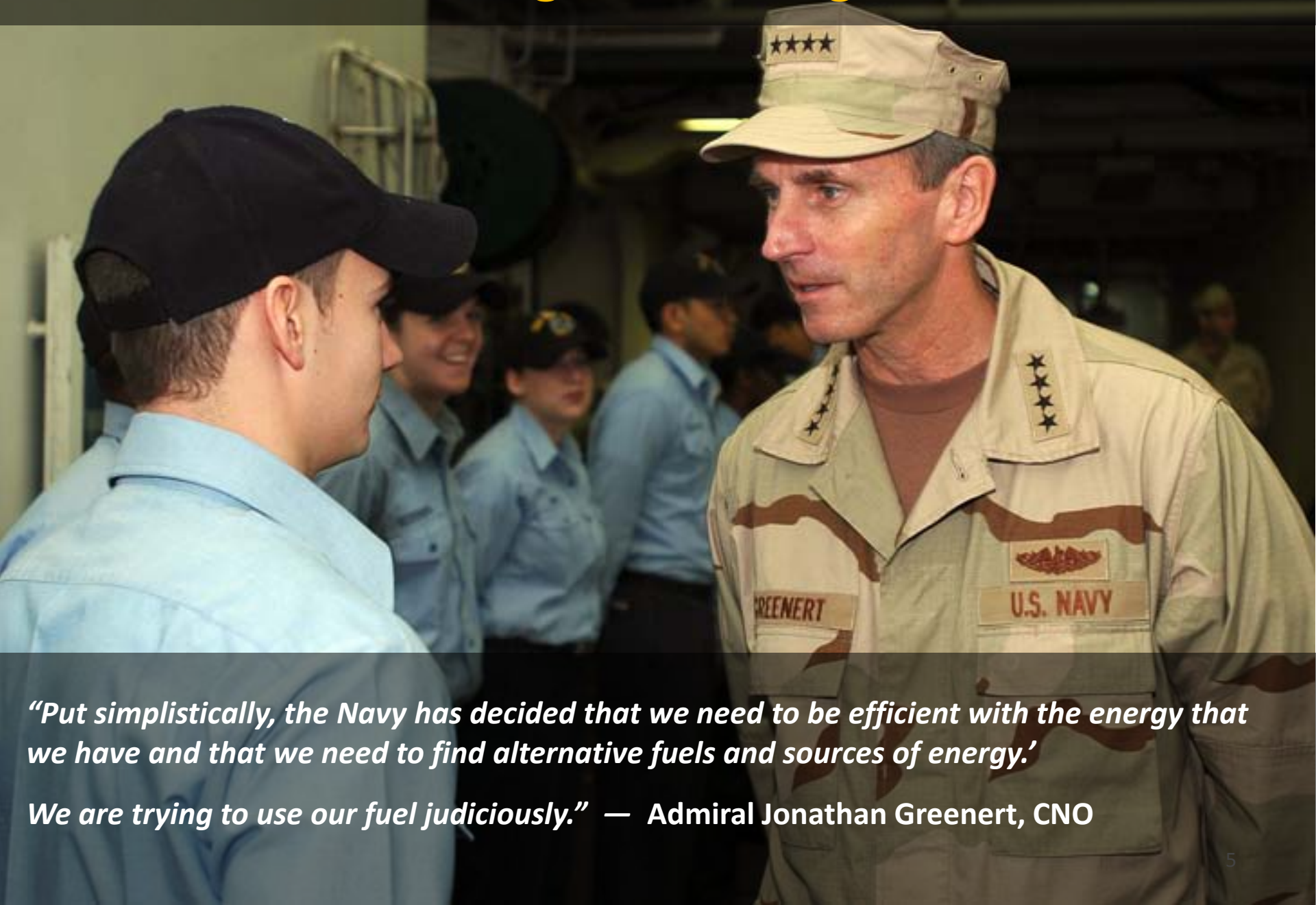
## ALTERNATIVE FUTURES:

- Bound the realm of future possibilities
- Are shaped by multiple types of forces
- Draw attention to possibilities we may otherwise not have taken seriously
- Create “memories of the future,” allowing us to recognize “weak signals” as the future unfolds



Alternative A	Alternative B	Alternative C	Alternative D
			
A “replacing oil as transportation fuel” world	An “alternative energy” world	An “energy resource crisis” world	A “fossil based green” world

# Retooling the Existing Fleet




*“Put simplistically, the Navy has decided that we need to be efficient with the energy that we have and that we need to find alternative fuels and sources of energy.”*

*We are trying to use our fuel judiciously.” — Admiral Jonathan Greenert, CNO*

Coming in 2012

MMOWGLI

The logo for MMOWGLI is a square containing a network of interconnected nodes and lines. The nodes are represented by small circles in various colors: purple, pink, yellow, orange, blue, green, and grey. The lines connecting the nodes are thin and black, creating a complex, branching structure that resembles a molecular or biological network.

Pre register at - <http://www.onr.navy.mil/energymmowgli/>

tweet your ideas to #energyMMOWGLI

# MAN YOUR STATIONS!

"The Navy must  
have 16 million  
gallons of fuel a  
day to carry the  
fight to the enemy"



COMMANDER IN CHIEF OF THE U.S. FLEET  
CHIEF OF NAVAL OPERATIONS



RONALD  
MILEOD

***Stick to your job -***  
**OIL IS AMMUNITION**

TV  
PG

MADE  
EVERY  
DAY

**H**AND  
HISTORY



# A New Energy Ethos



Culture & Behavior  
Changes

Energy Efficient  
Acquisition

Existing Fleet Efficiencies

Diversifying Energy  
Resources

Energy  
Smart  
Navy

Energy  
Smart  
Nation

Being “energy smart” – requires a Spartan mindset to sustain the mission... in perpetuity.