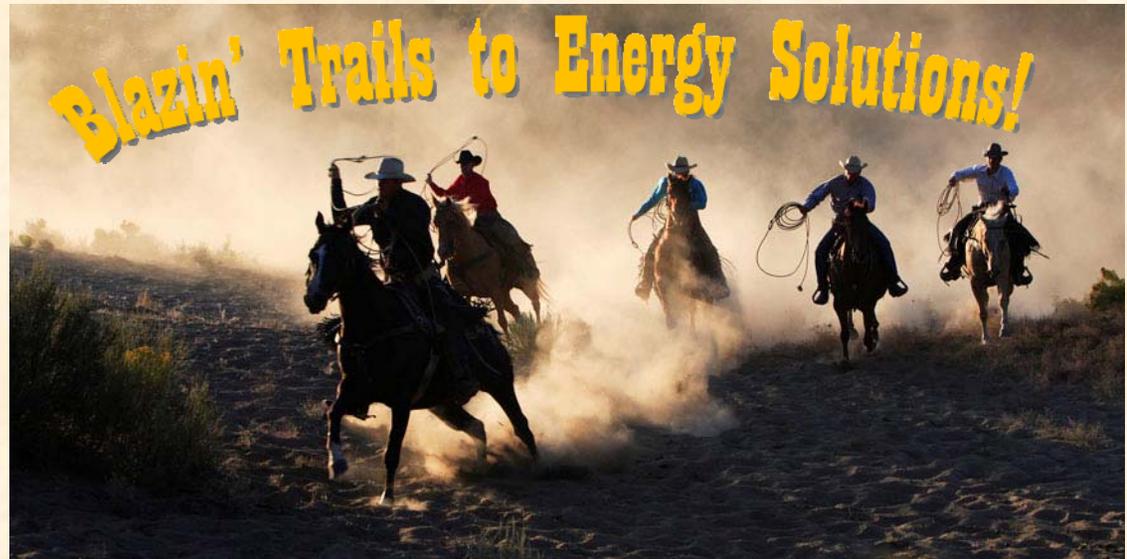




• August 15-18, 2010 • Dallas, Texas •  
• Dallas Convention Center •

*Human Behavior  
and the  
Department of  
the Navy*



**Mr. Thomas Hicks,  
Deputy Assistant Secretary of the Navy (Energy)**

**August 16, 2010**

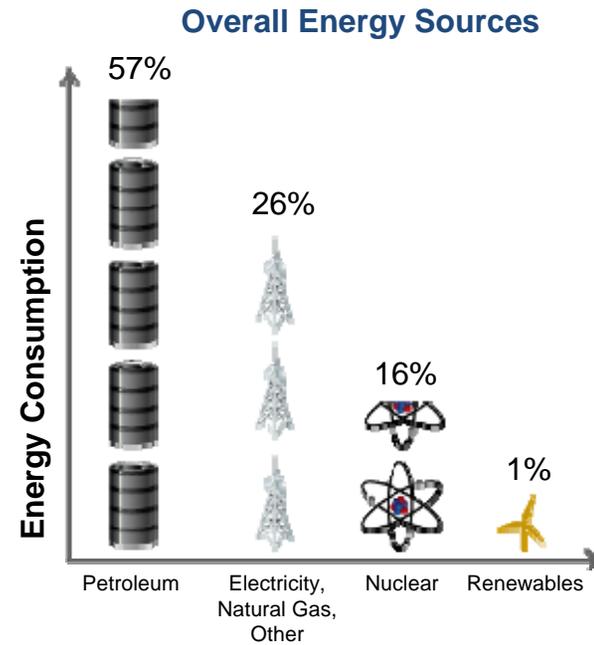
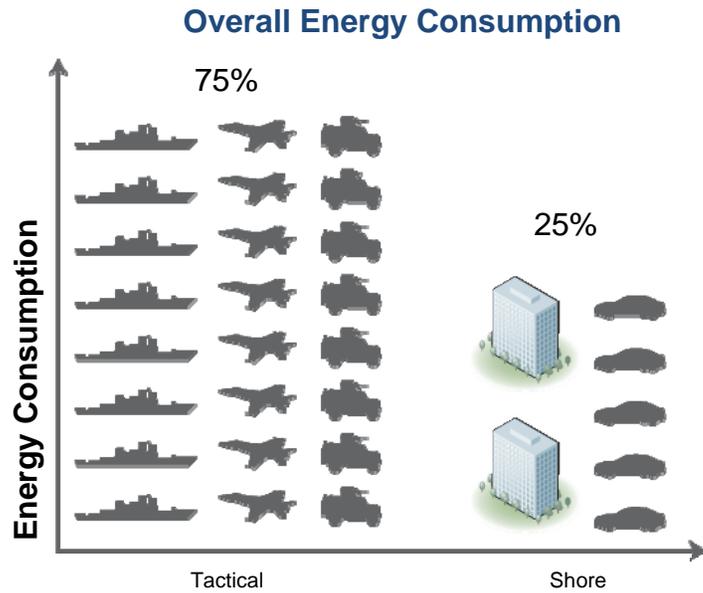
# ***Agenda***

- ***Navy Energy Profile***
- ***Energy Mandates***
- ***SECNAV Energy Goals***
- ***Navy Human Behavior Goals***
- ***Human Behavior Projects Examples***
- ***What's Next for Navy Energy Efficiency?***

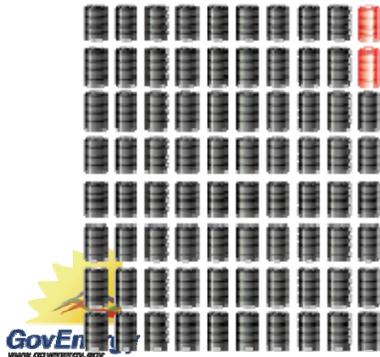




# Naval Energy Profile

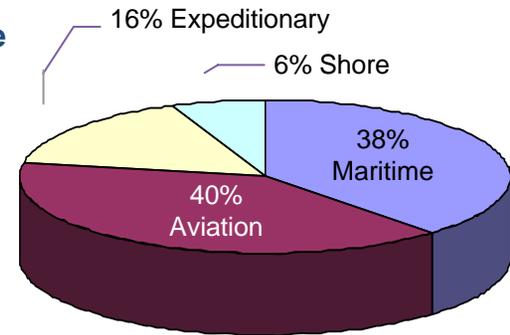


### U.S. Petroleum Consumption



U.S. Government  
(2% of U.S.)

### Navy Petroleum Consumption in Perspective



# Energy Mandates

Legislative/ Executive Directives	Provisions / Goals
E.O. 13423	<ul style="list-style-type: none"> <li>• <i>Improve energy efficiency through reduction of facility energy intensity by 3% annually and 30% by end of FY2015. FY2003 baseline.</i></li> <li>• <i>Consume <math>\geq</math> 50% of renewable energy from <u>new</u> renewable sources.</i></li> <li>• <i>Reduce the fleet's total consumption of petroleum by 2% annually through the end of FY15. FY2005 Baseline.</i></li> </ul>
E.O 13514	<ul style="list-style-type: none"> <li>• <i>Established an agency-wide GHG emissions percentage reduction target (Scope 1 &amp; Scope 2) by FY20. FY08 baseline.</i></li> <li>• <i>Reduce water consumption 26% by 2020. FY10 baseline.</i></li> <li>• <i>Reduce the use of fossil fuels.</i></li> <li>• <i>Implement high performance sustainable Federal building standards.</i></li> </ul>
Energy Independence Act of 2007	<ul style="list-style-type: none"> <li>• <i>Reduce total energy use in federal buildings by 30% by 2015. FY03 baseline.</i></li> <li>• <i>Beginning in FY10, each Federal agency shall reduce petroleum consumption and increase alternative fuel consumption.</i></li> </ul>
National Defense Authorization Act 2010	<ul style="list-style-type: none"> <li>• <i>Produce or procure 25% of the total energy from renewable energy sources beginning in 2025.</i></li> <li>• <i>Explore expeditionary use of solar and wind to provide electricity.</i></li> </ul>

# ***SECNAV Energy Goals***

## **Energy Efficient Acquisition**

**Evaluation of energy factors will be mandatory when awarding contracts for systems and buildings**

## **Sail the “Great Green Fleet”**

**DON will demonstrate a Green Strike Group in local operations by 2012 and sail it by 2016**

## **Reduce Non-Tactical Petroleum Use**

**By 2015, DON will reduce petroleum use in the commercial fleet by 50%**

## **Increase Alternative Energy Ashore**

**By 2020, at least 50% of shore-based energy requirements will come from alternative sources; 50% of DON installations will be net-zero**

## **Increase Alternative Energy Use**

**DON-Wide**

**By 2020, 50% of total DON energy consumption will come from alternative sources**



# ***Energy Efficient Acquisitions***

- ***Navy will change the way contracts are awarded by incorporating energy as an evaluation factor***
- ***Working with industry in meeting energy efficiency targets***



# *Sail the Great Green Fleet*



# Sail the Great Green Fleet

*Earth Day 2010: Green Hornet flies supersonic at Naval Air Station Patuxent River*



GovEnergy 2010

# 50% Petroleum Reduction in Non-Tactical Vehicles



# *50% Alternative Energy And Net Zero*



# 50% Alternative Energy Use DON-wide



# *Human Behavior Examples*

- Navy Tactical Energy Efficiency
- USMC Monitoring Driving Habits
- Energy Consumption of Comparison among docked ships



# USMC Monitoring Driving Habits

- Drive Cam Program
  - Initially installed to monitor safety habits of drivers.
  - Has proven then when installed in non-tactical vehicles, drivers drive, slower and safer, which causes less accidents and up to 15% fuel saved.
- NetworkCar Program
  - USMC and GSA Project which studies the real-time diagnostics of the non-tactical vehicles via GPS.
- These projects are held mostly in the SW Region and at Camp Pendleton due to technology and antenna capability.



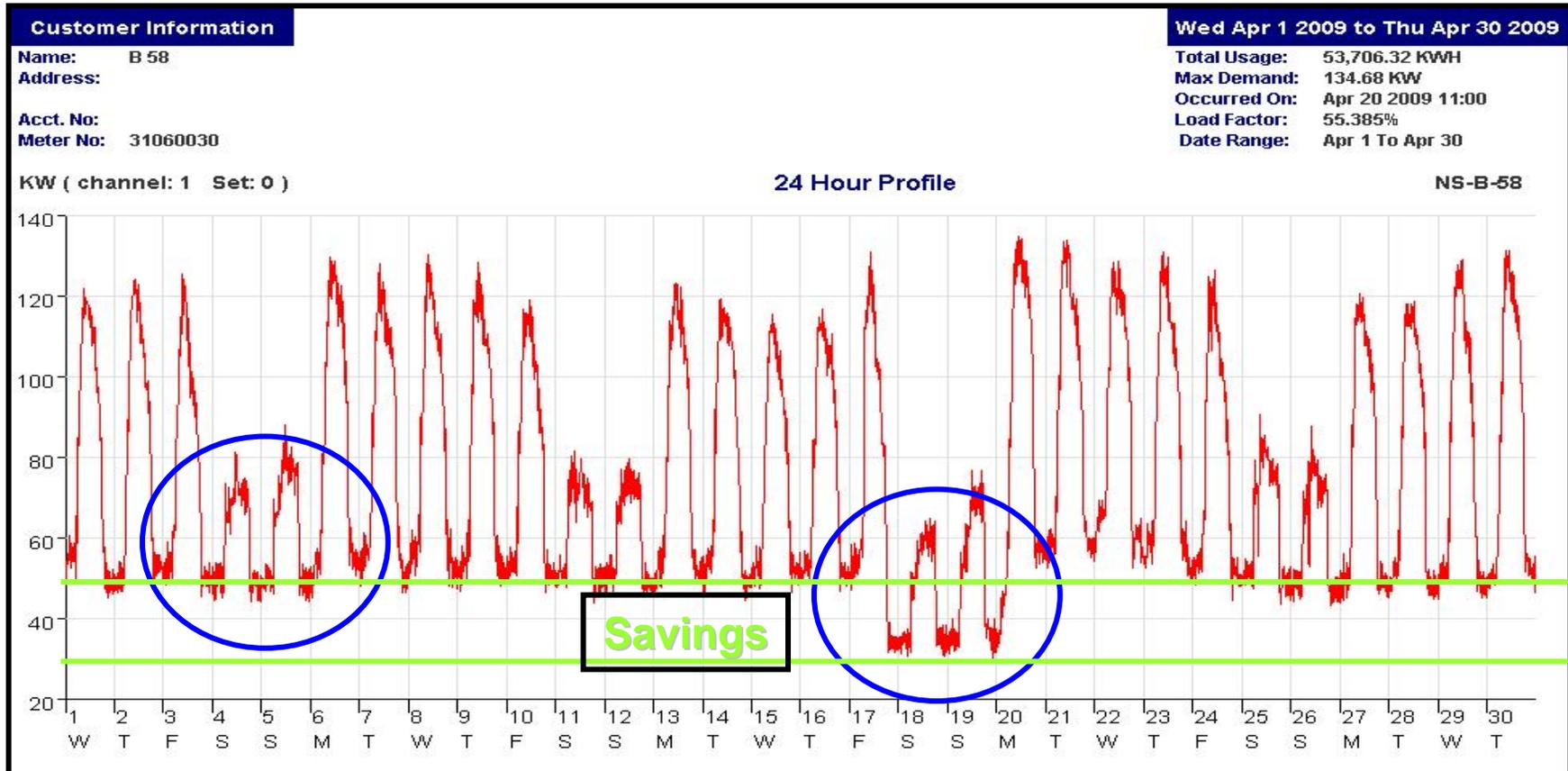
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# Shipboard Shore Energy Management



- ASN assigned initiative in 2007
- Streamline communication between the ships to the Navy Regional Command
- Identify measures to reduce in port utilities
- Promising results
  - Reduced load
  - Energy savings
  - Air compressor plant partial shutdown (Coronado)
  - Air Compressor plant de-centralization (San Diego)
  - No cost actions (plant re-alignments)
- Since Fall 07
  - >\$5.1M savings
  - >157,000 MBTU savings

# Computer Shut Down Demonstrated Savings



Naval Base San Diego pilot study confirmed ~20 KW load reduction.  
Savings across Naval Base San Diego - 2-million KWH and \$290K  
Savings across Region – 9-million KWH and \$1.2M



GovEnergy 2010

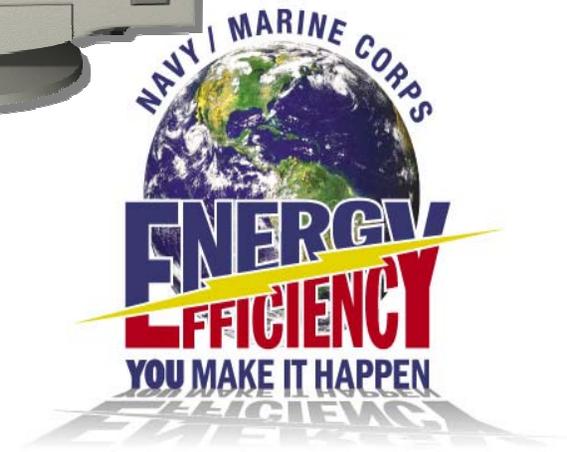
# ***Navy Tactical Approach***



- **Smart Voyage Planning (SVP)** – Software application that utilizes ship performance data combined with real-time info to compute optimal fuel.
- **Incentivized Energy Conservation Program (i-ENCON)** – Produces a culture of energy conservation through education, incentives, and facilitating the exchange of best practices.

# Other Navy Programs

- **Human Behavior Projects—**  
Working with the DoD on developing methods to change human behavior towards energy consumption.
  - Energy Efficiency Online Training
  - Energy Efficiency Pentagon Event
  - Energy Awareness Month
  - Energy Efficiency Outreach



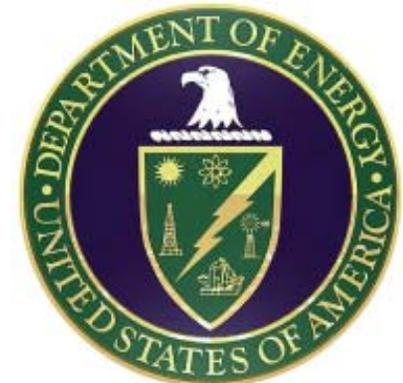
GovEnergy 2010

# What's next?

- Continue partnerships with universities, think tanks, and agencies.
- Environmental Defense Fund & GE Project
- Expanding i-ENCON
- Lessons learned



imagination at work



# *Questions*