

Case Studies: Organizational Change for Sustainability

People can significantly impact the environmental performance of their organization. Many factors influence an organization's use of resources, and changing an organization to improve environmental performance can be daunting.

The FEMP Institutional Change Team provides expertise grounded in social science principles to help organizations make the change to sustainability.

The case studies presented in this series build on this expertise. The studies are:

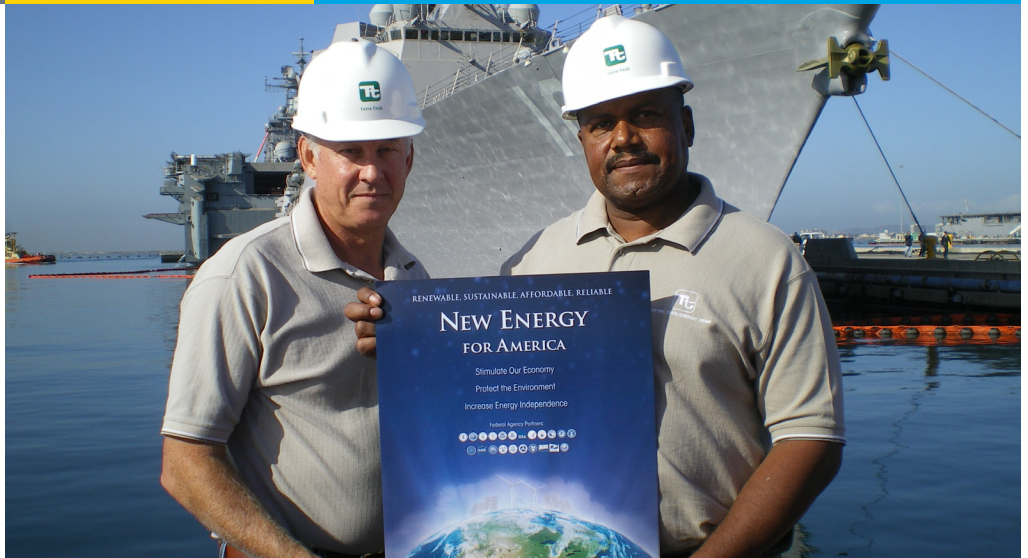
- specific to the unique aspects of federal workplaces
- descriptive of real-world conditions
- examples of strategies for institutionalizing change

We encourage you to contact the team (through Jerry Dion at FEMP) to discuss possible applications of the case study material to your organization's specific needs.

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Summary

Use of monthly energy feedback and "staff monitors" to reinforce communication and activity led to improved routine practices and significant energy savings.



Members of the Navy Region Southwest Metro San Diego regional energy management team with an example poster from their energy awareness program. (Photo courtesy FEMP/NRSMSD.)

Data, Feedback, & Awareness Lead to Big Energy Savings

The Navy Region Southwest Metro San Diego Area (NRSMSD) regional energy management team achieved significant energy savings at the three major complexes: Naval Base Coronado, Naval Base San Diego, and Naval Base Point Loma, resulting largely from a well organized energy awareness program centered on energy data gathering and distribution. Data from an extensive network of steam, electric, and gas meters is distributed through the chain of command on a periodic and as needed basis in the form of straightforward reports, with actionable information from the gathered data. Each report is targeted toward energy consumption at specific buildings and groups of buildings. Energy cost and consumption of the current month is compared to the same month in the prior year and displayed in relation to year-to-date data. The reports are e-mailed on a monthly basis to numerous individuals throughout over 40 ships and departments per base.

The energy management team maintains a "building monitor" program to maintain communication with representatives from each building or group of buildings to follow up on information supplied in the monthly e-mail messages. A building energy monitor is responsible for up to ten buildings, depending on building size. Building monitors could be either a sailor or a civil servant, and receives quarterly training on energy awareness issues.

The NRSMSD energy managers focus their efforts on those buildings that have the largest energy impact. For example at the Coronado base, three buildings are responsible for 50% of the energy consumption. The largest energy users tend to be hangers and data centers.

Energy awareness and personnel training in FY 2005 contributed to a decrease in energy usage of 37 percent below the FY 1985 baseline. In FY 2005, the team also helped execute a range of projects, including decentralizing two steam systems,

installing high efficiency boilers, adding irrigation controls, retrofitting lights, expanding energy management systems, and tuning up energy intensive buildings. These efforts saved 16.6 billion Btu of energy and 73 million gallons of water—worth \$3.6 million.

Roles, Rules, and Tools

Roles were the newly defined “Building Energy Monitors,” who serve as contact points for communication with the core energy management team. The tools employed included monthly energy reports, that serve to point out energy anomalies and to maintain a high level of awareness about energy consumption.

Principles Applied

The Navy’s activities at NRSMSD applied three social science principles: Social Network & Communications, Leadership, and Information & Feedback.

Social Network & Communications

Consistent communication through e-mail messages and training leads to further awareness.

Leadership

The network of building energy monitors reinforces energy saving behavior from

the top down through the organization.

Information & Feedback

Chain of command was supplied with actionable information comparing current consumption with past consumption.

Lessons Learned

While general energy awareness is important, Jon Duke of the energy management team sees the importance of careful analysis of energy data in order to pinpoint energy savings opportunities, and then concentrating efforts on those opportunities. Jon Duke sees plenty of work still to be done to improve data center energy consumption in particular.

Supporting Documentation

February 15, 2012. Interview with Jon Duke, contractor at Tetra Tech, Inc., and member of the energy management team.

Social Science Principles Applied

- **Social Network & Communications**
- **Multiple Motivations**
- **Leadership**
- **Commitment**
- **Information & Feedback**
- **Infrastructure**
- **Social Empowerment**
- **Continuous Change**