

## Total Energy Management for U.S. Government Facilities: *A new cost-saving approach*

**A** new Total Energy Management program is revolutionizing the U.S. government's approach to utility management and energy procurement. This program can reduce utility costs by as much as thirty five percent (35%) annually. With additional operational and energy savings, the program can potentially double overall cost savings.

The deregulation of gas and electricity, converging with technology advances, presents an opportunity for major government campuses to install a utility infrastructure that is compatible with privatization and commercial activities (A-76), both in operating costs and in performance. Total Energy Management including Energy Saving Performance Contracting (ESPC) delivers extensive cost-savings, timely HVAC system upgrades and provides an all-inclusive method for managing energy supply and usage.

### Background

**T**he current approach to upgrading the U.S. government's utility infrastructure is often multifaceted, relying on a variety of initiatives and programs that to date have yielded mixed results. These initiatives complicate overall energy management by employing very different approaches depending on the operating and supporting organizations. While all of these initiatives positively impact utility operations to varying degrees, tracking their effectiveness against financial objectives can be difficult.

Lacking an overarching strategy, some of these programs do not address the local installation's needs or the local business environment. In many cases, these programs are at cross-purposes with each other, dismantling an integrated public works infrastructure, seemingly in opposition to the utility industry's convergence of gas, electricity and water utilities.

Utility deregulation, or customer choice, presents many opportunities. However, the standards and programs established by the federal energy management program are oriented toward a stable

supply-side price. As the cost of gas and electricity decreases with deregulation, justifying capital investments primarily for energy-efficiency projects gets much more difficult.

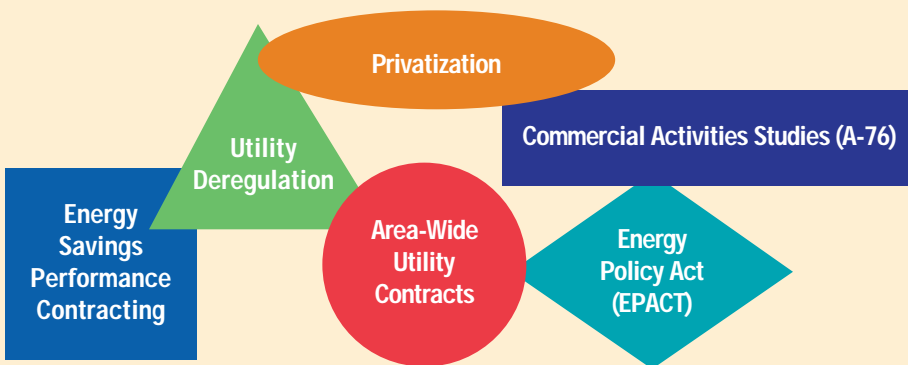
Furthermore, multiple initiatives such as privatization and commercial activities studies (A-76), when not properly managed, are likely to result in a segmented infrastructure, with many different contractors, and complex, overlapping and conflicting contracts. The current fragmented approach is not the ideal. Improvements are likely to be incremental at best, and can negatively affect the long-term interest of the government and its major installations.

### Private sector support

**F**ortunately, these multiple government initiatives have created a lot of private sector interest, established a climate for change within the government, and focused much energy on developing solutions. The private sector now has the technology and the supporting business environment to offer a comprehensive utility solution, tailored to the individual installation, that provides major short-term benefits while maintaining long-term flexibility for the government.

Several Energy Service Companies (ESCOs) such as Honeywell offer heated, lighted, air-conditioned space at a fixed price in contrast to complex electricity and gas tariff rates. Working with Honeywell, an ESCO who is independent of energy producers, transporters or utilities, ensures that the government and the ESCO have "aligned interests." This advantage helps the government achieve the lowest possible energy costs without conflict of interest. Honeywell Total Energy Management with ESPC as the reinvestment vehicle simplifies facility and financial management, significantly reduces operating costs and energy usage, improves the quality of life for military personnel and fully capitalizes on private sector competition.

### Energy-Related Initiatives Impacting Public Works



## Total Energy Management Program with ESPC

**W**orking with an ESCO like Honeywell allows the government to reap the rewards of self-funded facility upgrades, and more advanced systems and services. Honeywell's Total Energy Management Program along with a guaranteed energy saving performance contract enables flexible reinvestment

where capital and infrastructure improvements are needed most, while greatly improving energy efficiency and enabling maximum operational savings. In addition, the program integrates more effective utility usage and energy procurement.

Once the performance contract is in place, Honeywell technicians implement the Total Energy Management Program with the following actions that address utility deregulation, ESPC, privatization and National Energy Policy Act (EPACT) goals.

### Utility deregulation

#### ■ Install and operate an Integrated Energy Supply Chain Management System including:

- An integrated energy management module (energy cockpit) with sub-metering, remote environment and equipment monitoring and controls that interfaces with Real Time Pricing systems.
- An energy procurement and risk management module to monitor market conditions, coordinate contracts and procurement operations, and monitor weather and site conditions according to project requirements.
- An information management module that provides the client with real time monitoring of operations, maintenance activities, and costs.
- A network for the energy management module that can be expanded to include communications for client operations as well as security and alarm systems.

#### ■ Use alternative fuels and distributed generation to improve reliability and provide energy market leverage.

### ESPC

- Modernize heating, lighting and air conditioning equipment and provide maintenance and low cost improvements to ensure long-term performance.

### Privatization

- Support the government in ensuring that privatization efforts fit within their Total Energy Management strategy.
- All contractors reporting to public works use common information systems.
- The utility infrastructure remains integrated.
- The government maintains its flexibility to adjust to the deregulated utility environment.

### EPACT

- Undertake energy-efficiency improvement projects required to meet the National Energy Policy Act (EPACT) goals.

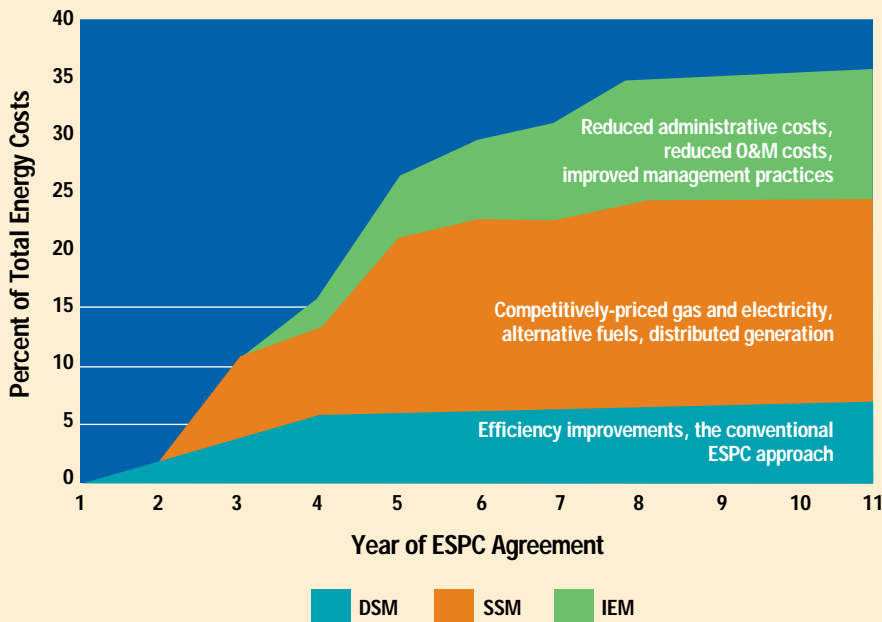
### Other benefits

- Undertake other quality of life improvement projects as requested by the client and funded by energy savings.

## Energy savings from more efficient systems

**T**he graph below highlights the abundance of savings possible with a Total Energy Management Program funded by ESPC. These savings can be reinvested into specific operating system, facility and quality of life improvements.

### Energy Savings Available for Infrastructure Investments



**DSM (Demand Side Management)** - typical demand-side projects such as lighting, HVAC upgrades, variable speed motor upgrades and improved controls.

**SSM (Supply Side Management)** - supply-side savings in gas and electricity. Deregulation, or customer choice, provides for competitive bidding that allows the retail purchaser to realize commodity prices approaching those of wholesale prices. Even without full deregulation, large customers have a tremendous amount of leverage to achieve much lower commodity prices.

**IEM (Integrated Energy Management)** - reduced administrative costs with advanced controls and information management systems, behavioral changes through sub-metering, and the ability to switch fuels and to shift loads.

## Short-term benefits and long-term flexibility

**A**n integrated utility management program maximizes cost savings (up to 35% of the annual utility budget including energy and operational savings). Rather than limiting savings to individual projects with merely incremental improvements, an integrated program allows greater energy savings, improves the quality of life, and accelerates facility-wide improvements on many levels: technical, financial and administrative.

- The review and approval cycle time is greatly reduced. Now measurement and verification of capital projects is limited to a technical review with guaranteed savings at the energy budget level.
- The cost of administering the program is greatly reduced when contractual requirements align the interests of the ESCO to the client. Instead of tracking individual projects, the only monitoring necessary is total dollars spent for heated, lighted air-conditioned space. The myriad of complex tariff schedules, models and contracts is eliminated. Moreover, the ESCO shares the client's incentive to reduce the utility budget expenditures and invest in the infrastructure.
- The client gains more knowledge and control of the utility system with finger-tip access to real time information on everything from energy commodity prices to system energy use to current maintenance processes.
- The client acquires a utility management infrastructure that can take full advantage of a competitive energy market, reduce administrative costs, and provide the information platform for other, non-energy related software applications.
- The client maintains flexibility for the future. Capital investments are made with the savings generated by the program.

## Total Energy Management

**H**oneywell's Total Energy Management solution integrates government energy saving initiatives—ESPC, privatization, utility deregulation, EPACT—on all levels. We customize a technical and financial program to meet your site requirements.



## The key to success: Total Energy Management

**T**he key to U.S. government facilities realizing up to 35% savings in utility operating costs is to rely on an integrated program approach that is tailored to each major installation. An effective Total Energy Management strategy developed by Honeywell supports specific government guidelines that:

- Maintain control of utilities through effective public works management
- Provide for integrated enterprise information systems
- Align the interest of the contractors with those of the government
- Establish agreements that are simple to monitor and enforce
- Minimize the number of contracts at each facility
- Maintain flexibility that allows the government to take advantage of the deregulating utility environment.

Although many complex issues continue to face today's energy managers, policy makers and administrators, the cost-saving Honeywell Total Energy Management Program with an ESPC reinvestment vehicle solves several energy-saving problems at once. As a leading provider of infrastructure solutions to the government, Honeywell has the solutions development, project management, and operations expertise to integrate demand-side and supply-side energy solutions into a single system for a better quality working environment.

To start saving energy with a custom Total Energy Management Program for your site, contact the Honeywell Federal Government team at (703) 734-7848.

*Information gathered by Jim Peedin, Honeywell TEM Market Developer, June 1999.*

## Fort Bragg to save \$75 million

The Total Energy Management Program with ESPC allows Fort Bragg in North Carolina to save millions of dollars annually—with no tax dollars spent. The 15-year agreement, co-authored by Honeywell and Ft. Bragg is anticipated to yield at least \$75 million in savings for the 163,000 acre site. These savings will be reinvested in the utility infrastructure and quality-of-life improvement projects as approved by the government. Savings exceeding approved projects revert back to the government's operating budget.



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