

Energy Management Briefing

ABOUT THE BRIEFING

Given all the hype and opportunities for improvement in becoming “green,” many organizations are bombarded with a myriad of energy management solutions that promise a panacea of results.

This paper helps cut through the clutter by providing background on the current definitions and drivers for energy management and outlines recommendations for how to approach a project. It discusses CGI’s energy management solution, which provides clients with the intelligence necessary to make effective decisions on energy reductions.

The briefing concludes with a brief case study on how one client is using CGI’s energy management solution to reduce energy consumption by as much as 20-30 percent while addressing its corporate social responsibility objectives.

DECREASING ENERGY CONSUMPTION THROUGH ENERGY MANAGEMENT SOLUTIONS: THE SOCIAL AND ECONOMIC DRIVERS BEHIND ENERGY DATA MANAGEMENT SOLUTIONS TO REDUCE COSTS AND RESPOND TO ENVIRONMENTAL OPERATING BEST PRACTICES

A Key Strategy in Responding to Stakeholder Demands

Across all market segments, there is increasing coverage and discussions about energy management and efficiency. Major publications are leading with stories about energy management and its environmental and financial impacts. Political campaigns and governmental proceedings have put an unprecedented amount of time into debating and championing the green topic. Organizations as diverse as Microsoft and Home Depot are touting their new energy management and energy efficiency solutions. All of this attention has culminated in an increased focus on how “going green” aids in addressing environmental factors and cost savings during difficult economic times.

Through energy management solutions, organizations are able to respond to government regulations to reduce carbon emissions; to employee, customer and community requests to operate in an environmentally friendly manner; and to shareholder demands to reduce costs and generate higher returns.

Energy Reduction: Key Economic and Social Drivers

To truly understand the green IT marketplace and its structure, one must understand how energy management and energy efficiency fit within the larger climate change dialogue.

Increased focus on energy management concepts and solutions is partially a result of the widening focus on climate change. Governments and businesses are focused on finding and implementing solutions that reduce energy usage and the amount of carbon dioxide in the atmosphere.

From promoting eco-friendly practices to changing energy production methods to establishing and enforcing carbon emissions limits, there are various approaches to reducing the carbon footprint. This paper focuses on a fourth approach, reducing energy consumption. Consumption reductions can occur through a variety of methods and processes, which should be tied to an effective energy management and energy efficiency program.

There are many drivers for reducing energy consumption. The relationship between energy consumption, spending and environmental impact is simple but powerful: achieving reductions in energy consumption results in lower bills and reduced negative effects on the environment.

Energy Management and Energy Efficiency Programs

Many public and commercial entities are interested in establishing energy efficiency programs that measure ongoing energy usage to drive effective decisions on energy reductions. These decisions may be based on making more informed equipment choices, replacing certain types of building materials, and optimizing machinery run time.

To enable successful energy efficiency programs, three primary and repeatable phases should be implemented.

1. **Planning and design:** The planning and design step involves gathering data about energy usage and potential areas for saving. Having underlying data about usage is critical to establishing an effective business case for the choices that will be made. Based on this data, incremental steps to reduce energy are planned.
2. **Implementation:** The implementation phase involves enacting the decisions made in the design phase. Implementation involves improvements in process and equipment usage.
3. **Evaluation:** After implementation, it is critical to evaluate and learn from results. This step involves mining through granular energy consumption data and the lessons learned to make effective decisions.

Energy management solutions provide the intelligence needed to successfully implement an energy efficiency program. At the heart of energy management solutions is energy analysis software, sometimes called energy accounting software. With the use of such software, energy management is the method of tracking energy used in all areas across an organization—from data centers to facilities to offices—to enable effective cost-cutting decisions.

Energy management software and solutions allow organizations to achieve the following benefits:

- Provides an understanding of energy load profiles
- Enables continuous monitoring and improvement
- Improves the management of usage, leading to reduced costs
- Facilitates lower rate negotiations with energy suppliers
- Improves forecasting of future energy usage and costs

Energy management solutions provide the business intelligence that drives the phases of an energy efficiency program.

BUSINESS BENEFITS

Organizations that reduce energy consumption achieve the following results:

- Reduce operating costs and improve profitability
- Enable better usage of taxpayer dollars in public institutions
- Counteract against rising utility rates
- Comply with current and pending energy efficiency regulations
- Contribute to decreased reliance on foreign oil
- Demonstrate a heightened sense of social responsibility on climate change issues

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GETTING STARTED

CGI's energy management solution can be fully implemented in one facility in five weeks or less. At the conclusions of this project, the organization receives recurring analytical reports based on real-time data.

CGI's solution is provided on a consulting and systems integrated basis or as a fully hosted, subscription service.

For more information, contact ehs@cgi.com.

CGI's Energy Management Solution

CGI's energy management solution is a web-based energy monitoring and analysis software solution that provides the intelligence necessary to account for energy consumption at a granular level of detail across the enterprise.

Key features of the solution include the following:

- Energy consumption monitoring system
- Real-time data analysis tool
- Web-based executive dashboard
- Industry-specific performance standards and metrics

The underlying software of the solution has been implemented in thousands of sites for dozens of customers in the European Union. Some estimates show that full implementation of CGI's energy management solution provides the intelligence necessary to reduce energy consumption by as much as 20-30 percent. This intelligence is gained through the analytics and benchmarks that the solution provides. Full implementations enable energy usage to be cross referenced with process data to ultimately provide infrastructure control based on "green intelligence."

Solution Implementation

Implementation of the CGI solution is recommended in the following four phases, each of which provides progressively greater opportunities for energy reductions. Estimates demonstrate that optimization potential decreases energy consumption by as much as 20-30 percent with the completion of all four phases.

Automated data analysis: Automated data analysis involves implementation of the solution and generation of the initial analytics packages.

Real-time data analysis: This phase involves integration of clients' meters and sensors to the energy consumption dashboard for real-time measurements and expanded intelligence.

Real-time data cross referenced with process data: This phase involves cross referencing real-time data with process data to further analyze and adjust energy usage settings. Process data could include equipment usage and benchmarking; activities such as occupancy and efficiency ratios; or the environment, such as weather data.

Infrastructure control based on green intelligence: This phase enables control of energy consumption remotely with green intelligence. The software learns to identify patterns and outliers by cross referencing real-time and process data and adjusting the process systems remotely.

The Solution in Action

Elyo, one of the largest electricity and natural gas suppliers in the world, implemented CGI's energy management solution to decrease costs and address their corporate social responsibility objectives.

Elyo wished to enable their customers to consume less energy during the course of daily operations. To achieve this goal, CGI helped Elyo build Elyovision, a next-generation centralized Supervisory Control and Data Acquisition (SCADA) and reporting system. For the project, the CGI team gathered all the necessary competencies and products to design a modular, open, scalable and reliable system. At the heart of this system is CGI's energy management offering, which provides energy accounting and analysis capability for Elyovision.

The implementation is nearing completion across all 10,000 sites that Elyo manages. With this solution, Elyo collects, processes and reports huge amounts of data from thousands of customers' technical infrastructures. The reports are made available to technicians on their PDAs and other mobile devices and to customers on Elyo's extranet.

As a result of the new energy management solution, Elyo provides a new range of services to their customers, including energy consumption reduction engagements and other service level indicators. This in turn is generating higher revenues for Elyo while also exceeding corporate social responsibility objectives.

ABOUT CGI

At CGI, we're in the business of satisfying clients. For more than 30 years, we've operated upon the principles of sharing in clients' challenges and delivering quality services to address them.

As a leading IT and business process services provider, CGI has approximately 26,000 professionals operating in 100+ offices worldwide. Through these offices, we offer local partnerships and a balanced blend of global delivery options to ensure clients receive the combination of value and expertise they require.

In the environmental space, CGI specializes in delivering high-quality, integrated regulatory compliance solutions to global enterprises. We deliver proprietary and best-in-class solutions that leverage our systems integration skills, environmental expertise and deep industry experience.

CGI defines success by exceeding clients' expectations and helping them achieve superior performance.