

3M's Model Rewards and Recognition Program Engages Employees and Drives Energy Savings Efforts

Manufacturing giant 3M, a long recognized leader in sustainable business practices, demonstrates a successful model for energy recognition programs that is motivating employees and returning bigger energy savings for the company.

More recently, 3M has been demonstrating a new way to drive energy efficiency improvements through its Annual Energy Recognition Program. Established in 2003 to boost employee participation in the company's energy efficiency efforts, the program has enabled 3M to implement more than 1,900 employee-inspired projects from 2005 to 2009. These projects have realized a 22 percent improvement in energy efficiency and yielded \$100 million in energy savings over the period.¹

The Company

Headquartered in St. Paul, Minnesota, 3M is a diversified technology/manufacturing company that has been in business since 1902. The company manufactures more than 55,000 products – such as Post-it® Notes, Scotchgard™ Protector, Thinsulate™ Insulation, and Scotch-Brite™ Scrubbers – in hundreds of different manufacturing facility types. Currently, 3M operates in 28 states in the United States and in 65 countries. 3M's leadership took a strong environmental stance in the 1970s—years before it was a widespread phenomenon—setting the company



up to become a leader in sustainable business practices. Coupled with an operating atmosphere that was stressed by severe energy shortages, 3M executives built upon their company's environmentally conscious framework to create a robust energy efficiency program. The program's efforts have led to an 80 percent improvement in energy efficiency in the company since 1973.² Further, the efforts have created a deep sense of pride and connection across the 3M manufacturing facilities that span the globe.

3M's Energy Efficiency Approach

3M has charged its Energy Management Department, formed in 1973, with developing an annual strategic energy management plan. The plan evaluates all stages of the production process, prioritizes tactics, and sets guidance for division- and plant-level planning and integration to steer the development of more energy efficient 3M products and procedures.

In order to establish and maintain its business model over time, 3M successfully cultivated its strategy by encouraging its employees to drive innovation, as well as looking externally for additional support. With more than 75,000 employees worldwide, the company relies on each of these individuals to suggest, plan and implement energy-saving measures at all its facilities, within the U.S. and abroad. 3M also seeks assistance from organizations like the U.S. Department of Energy's Industrial Technologies Program (ITP) as well as the Environmental Protection Agency (EPA) to maintain its position as an industry frontrunner in deploying energy efficiency technologies and practices.

3M ensures the effective use of energy to produce and deliver products and services to our customers. The objectives of this policy are to improve energy consumption efficiency, reduce cost, optimize capital investment, reduce environmental emissions, and conserve natural resources.

-3M Energy Policy

Strong Emphasis on Employee Participation

With as extensive operations as 3M's, implementing and maintaining energy-efficient processes is no small task. 3M was able to parlay its emphasis on employee participation into an extremely successful energy efficiency program. To fully engage its workforce, 3M reinforced its energy program by establishing the Annual Energy Recognition Program in 2003. The program is successfully using positive motivation as a way to increase employee engagement, drive innovation, maintain a corporate culture across vast distances, and open communication between employees and senior management.

Emphasis on Employee Innovation

3M has a culture that encourages innovation and creative thinking. All technical employees are tasked with spending 15% of their time on projects of their own choosing and initiative. The company fosters these ideas through regular New Product Forums and makes funding available for employee projects through Genesis Grants.

Partnership with ITP

Many of the energy-saving programs 3M has implemented came about through idea sharing and energy assessments facilitated by ITP. One of 3M's first experiences with ITP came in 1994 as part of the Motor Challenge Program. This program brought new tools and energy savings opportunities to 3M's attention, inspiring the company's energy managers to evaluate every motor system at their main facility. As a result, energy managers implemented system efficiency measures that included adjustable speed drives and energy-efficient motors on the supply air fan. These efforts helped 3M cut electricity use by 41% in one building and achieve savings of over \$77,000 annually.³

In November 2005, 3M's Brownwood, Texas, facility became the first plant to participate in an Energy Savings Assessment (ESA) offered by ITP. The ESA focused on process heating systems that use natural gas or energy derived from natural-gas-fired systems. 3M management acted quickly on the near- and long-term recommendations that resulted from the assessment. The plant's energy team undertook a variety of measures, such as purchasing new monitoring equipment, adjusting boiler burners to more efficient levels, and improving furnace insulation.⁴

The close partnership between 3M and ITP was formalized as 3M became the first company to sign on as a *Save Energy Now* LEADER. Companies that choose to participate in this program pledge to reduce their energy intensity by 25% or more in 10 years. Nearly 50 different companies have committed to the *Save Energy Now* LEADER initiative since 3M helped the program kick off in September 2009.



3M's Energy Manager Steve Schultz (center) with other *Save Energy Now* LEADER representatives at the first Pledge signing ceremony.

The Annual Energy Recognition Program

3M's Annual Energy Recognition Program boosts employee participation and provides an individual sense of accomplishment in its manufacturing plants.

The program formulates a four-level rating system ranging from Bronze to Platinum, based on 3M's internal Energy Program Dashboard and EHS Scorecards. Winning teams are rewarded with a variety of prizes ranging from certificates to dinners with 3M management.⁵

<p>Platinum 15 Points Award dinner with 3M Execs Certificate</p>	<p>Gold 12 - 14 Points Catered Lunch Certificate</p>
<p>Silver 9 - 11 Points Coffee / Cookies Certificate</p>	<p>Bronze 7 - 8 Points Certificate</p>

Awards Process

The Annual Energy Recognition Program recognizes energy teams who make significant strides in helping their facilities cut energy consumption. To this end, the program identifies three performance metrics:

- Progress made in support of 3M's corporate energy efficiency goals
- The effectiveness of plant energy efficiency projects
- Savings earned as a result of a facility's energy program.

The facilities are scored on their performance in each area (as shown in Exhibit 1). Those that achieve 15 points—the maximum possible—earn a Platinum rating. All plants are evaluated with the expectation that they perform well in at least two areas.

* Environment, Health, and Safety

Those facilities that struggle to meet any of the metrics are identified for additional support to jumpstart their energy efficiency efforts.

In 2010, two of the company’s domestic plants and five international locations earned Platinum status, while seven additional facilities reached the Gold level. Facilities that do not achieve one of the top three rankings but demonstrate efforts to improve energy efficiency are recognized with certificates.

3M’s systemic approach also emphasizes challenging the employees to identify new processes and products that use less energy. In support of this, 3M built upon the Annual Energy Recognition program that identifies top plant energy teams by implementing the **Energy Excellence Award**. This award targets innovative and energy-conscious engineers. 3M has long recognized high-performing engineers at a formal celebration, but 2010 marks the first year that the company specifically recognized engineering breakthroughs in the realm of energy efficiency.⁷

Key Success Drivers

3M’s corporate energy manager, Steve Schultz, has identified three fundamental factors in implementing and maintaining a recognition program of this nature.

The first is to remain vigilant in assessing savings achieved as a result of the

program and comparing that to the costs of running the program.

For 3M, the financial savings and value of enhanced employee engagement exceed the expenditure.

The second factor is to establish more than one evaluation method. Utilizing multiple metrics to track performance allows for the most comprehensive and balanced picture of the business. It also challenges all facilities to perform their best, regardless of situational challenges or advantages.

For example, a facility that designed a promising energy-saving program but did not fully realize those savings due to unusual weather patterns would still score well on the Plant Program Effectiveness criteria.⁸

Finally, every company with an energy management program, whether it is newly implemented or long established like 3M’s, must maintain an emphasis on innovation and knowledge sharing. As more efficiency is achieved, it is easy to become complacent and to stop hunting for new ways to reduce energy consumption. For 3M, ITP has been a vital source of motivation that has helped the company to propel the program.⁹



3M CEO George Buckley (center) presenting a 2008 Platinum Energy Award

Energy Efficiency Program Impacts

Exhibit 2 displays 3M’s successful reduction in energy use from 2004 to 2008, adjusted to account for net sales. This graph shows that 3M has maintained a strong business over the period while still cutting its energy consumption.

The company’s current goal is to improve energy efficiency by 20% from 2005 to 2010, and the organization is well on its way – 3M realized a 22% improvement in energy efficiency from 2005 to 2009 through the implementation of more than 1,900 employee-inspired projects, which yielded \$100 million in energy savings from its 2005 base year. During 2009 alone, 3M implemented 214 energy projects that saved over \$17 million.¹⁰

Exhibit 1: Performance Metrics

1. Btu per Pound of Product Reduction	2. Plant Energy Program Effectiveness Rating	3. Projects Delivered compared to Plant Spend	POINTS
4%	90%	4%	5
3-4%	85%	3-4%	4
2-3%	80-85%	2-3%	3
1-2%	70-79%	1-2%	0
up to 1%	up to 69%	0 - 1%	0

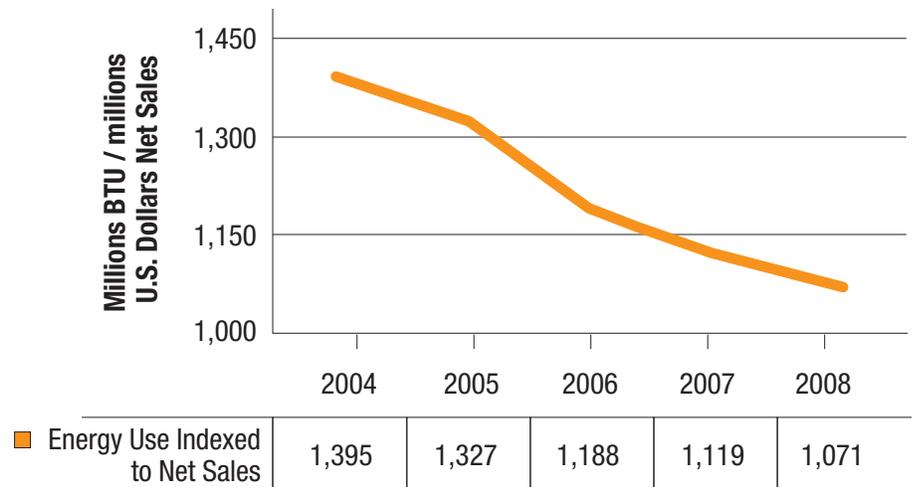
3M has been celebrated by a variety of organizations for its energy efficiency program. Most recently, EPA recognized 3M for the sixth consecutive year with an ENERGY STAR Award for Sustained Excellence in Energy Management. This marked the first time an industrial company maintained that distinction for such a long period of time.¹¹

Conclusion

3M has become a recognized name in sustainable manufacturing. In order to maintain the momentum and keep its energy management programs vitalized, 3M utilizes both external and internal resources. 3M has focused on increasing employee engagement for greater energy efficiency gains by establishing an in-house Annual Energy Recognition Program. The enormous success of the program has shown that providing recognition to employees for quality work and innovative ideas can improve performance toward broader corporate goals. Such programs are by no means singular to 3M—they can be replicated by other companies as they seek ways to improve their energy efficiency.

3M also constantly challenges itself by setting new, more ambitious goals in its pursuit of environmental responsibility. Through its relationship with ITP, 3M has access to the latest information, tools, and resources related to energy efficiency, which is helping 3M progress toward these goals.

Exhibit 2: 3M's Energy Use Indexed to Net Sales



Source: 3M Key Metrics http://solutions.3m.com/wps/portal/3M/en_US/global/sustainability/resources/metrics/

End Notes

- ¹ 3M. "Improving Energy Efficiency." Accessed March 2010. http://solutions.3m.com/wps/portal/3M/en_US/global/sustainability/management/climate-change-energy/energy-efficiency/
- ² Discussion with Steve Schultz on April 1, 2010.
- ³ U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. United States Industrial Electric Motor Systems Market Opportunities Assessment. December, 1998. <http://www1.eere.energy.gov/industry/bestpractices/pdfs/exectext.pdf>
- ⁴ U.S. Department of Energy. Energy Savings Assessment Summary Report for 3M – Brownwood, TX Plant. November 2005. <http://apps1.eere.energy.gov/industry/saveenergynow/partners/pdfs/esa-001-1.pdf>
- ⁵ U.S. Department of Energy. "Ask the Energy Expert," Energy Matters, Winter Edition. <http://www1.eere.energy.gov/industry/bestpractices/energymatters/archives/winter2010.html>
- ⁶ U.S. Department of Energy. "Ask the Energy Expert," Energy Matters, Winter Edition. <http://www1.eere.energy.gov/industry/bestpractices/energymatters/archives/winter2010.html>
- ⁷ Discussion with Steve Schultz on April 1, 2010.
- ⁸ Discussion with Steve Schultz on April 1, 2010.
- ⁹ Discussion with Steve Schultz on April 1, 2010.
- ¹⁰ 3M. "Improving Energy Efficiency." Accessed March 2010. http://solutions.3m.com/wps/portal/3M/en_US/global/sustainability/management/climate-change-energy/energy-efficiency/
- ¹¹ 3M. "Improving Energy Efficiency." Accessed March 2010. http://solutions.3m.com/wps/portal/3M/en_US/global/sustainability/management/climate-change-energy/energy-efficiency/

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