

# Accelerated Energy Savings at 3M Through ISO 50001 and SEP

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3M Energy Management

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## Our Vision

3M Technology Advancing Every Company

3M Products Enhancing Every Home

3M Innovation Improving Every Life

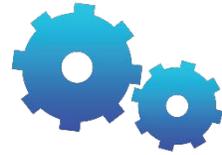
# Our fundamental strengths are the foundation of 3M's performance

Leveraging these assets creates value; strengthening them ensures our future



## Technology

Ability to share and combine elements of 3M's broad technology portfolio to produce unique, differentiated products, translating to premium margins.



## Manufacturing

Utilization of 3M manufacturing footprint and technology, including process trade secrets, leading to higher-performing products and lower unit cost.



## Global capabilities

Subsidiary front- and back-office footprint that allows for the effective development, adaptation and commercialization of products.



## Brand

Brand equity in the 3M brand and in strategic brands that are shared across business groups.

# 3M facts

3M is one of 30 companies in the Dow Jones Industrial Average and is a component of the Standard & Poor's 500 Index

Year-end 2015

## Sales

Worldwide	\$30.274B
International	\$18.225B
60% of company's total	

## Net Income

Net income – reported	\$4.833B
Percent to sales	16.0%
Earnings per share – diluted – reported	\$7.58

## Taxes

Income tax expense	\$1.982B
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## Dividends

(Paid every quarter since 1916)	
Cash dividends paid per share	\$4.10
One original share, if held, is now	3,072 shares

## R&D and Related Investments

For 2015	\$1.763B
Total for last five years	\$8.452B

## Capital Investments

For 2015	\$1.461B
Total for last five years	\$7.482B

## Employees

Worldwide	89,446
United States	35,973
International	53,473

## Patents awarded

In 2015	US 565; total 3,128
In company history	105,000+

## Organization

26 business units, managed under these five business groups:

- Consumer
- Health Care
- Safety & Graphics
- Electronics & Energy
- Industrial

Operations in about 29 US states and 70 countries around the world.

Laboratories in 36 countries.

## Technology

46 technology platforms, including:

- Abrasives
- Adhesives
- Electronics & Software
- Light Management
- Microreplication
- Nanotechnology
- Nonwoven Materials
- Surface Modification

8,300 researchers worldwide: 4,500 in the United States.

## Sustainability results

Prevented the generation of more than 4 billion pounds of pollutants since 1975 through completion of nearly 13,000 Pollution Prevention Pays (3P) projects.

Listed on Dow Jones Sustainability Index for 16 consecutive years.

Announced sustainability-related platform and goals, reflecting increasing focus on supporting the environmental and social goals of 3M's customers and the communities in which it operates.

## Community citizenship/3Mgives

Cash and product donations to education, community and environmental programs topped \$65 million in 2015; 3Mgives has contributed \$1.45 billion since its inception.

3M employees and retirees volunteered more than 300,000 hours improving lives around the world.

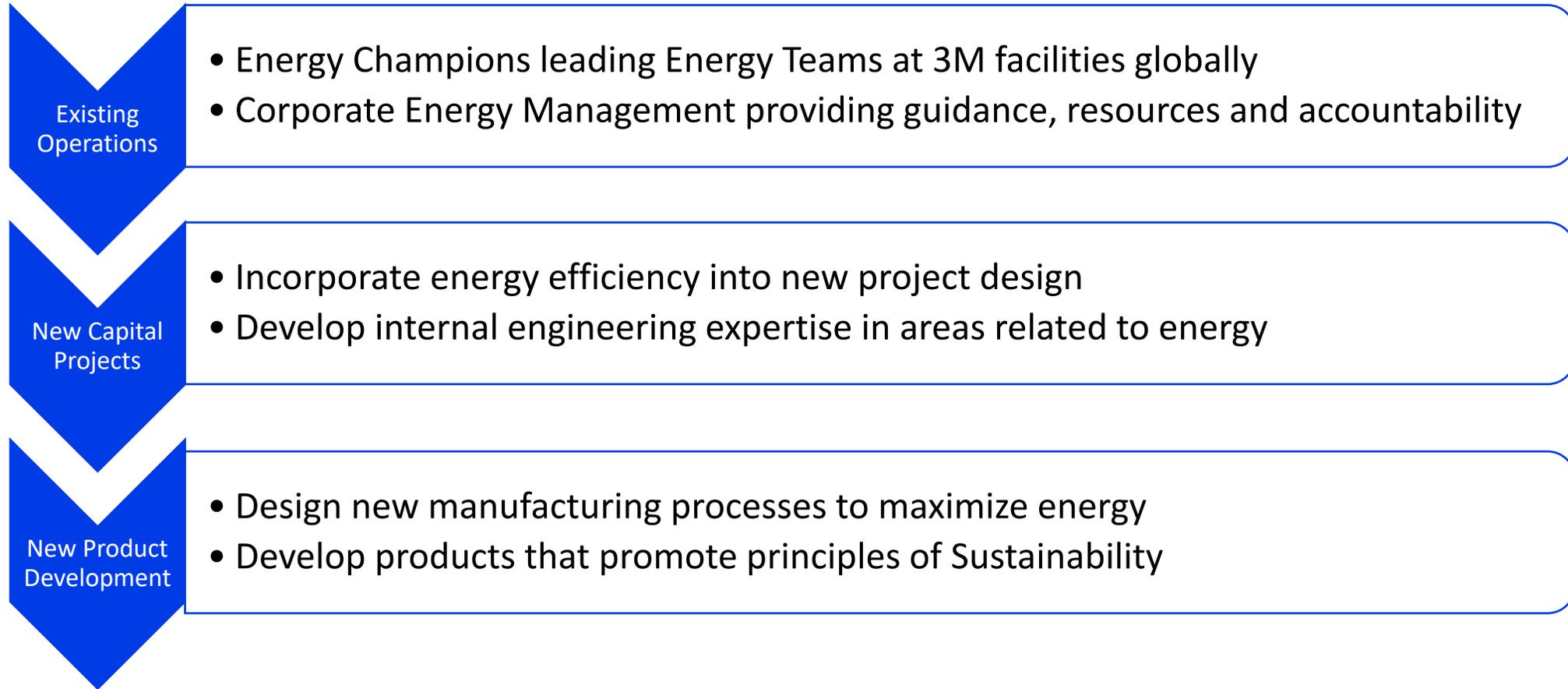
# 3M Energy Management Prior to ISO 50001 and Superior Energy Performance

1973

- Oil Embargo, Energy Shortages, Rapid Price Increases
- 3M Corporate Energy Management Department Created
- Corporate Energy Goals Since 1990
- Role of Energy Champion Created
- Larger Facilities Created Energy Teams
- Followed Energy Star and MSE 2000 Guidance
- Active Partner in Energy Star and numerous Department of Energy Initiatives



# 3M's Systemic Approach to Improving Energy Productivity

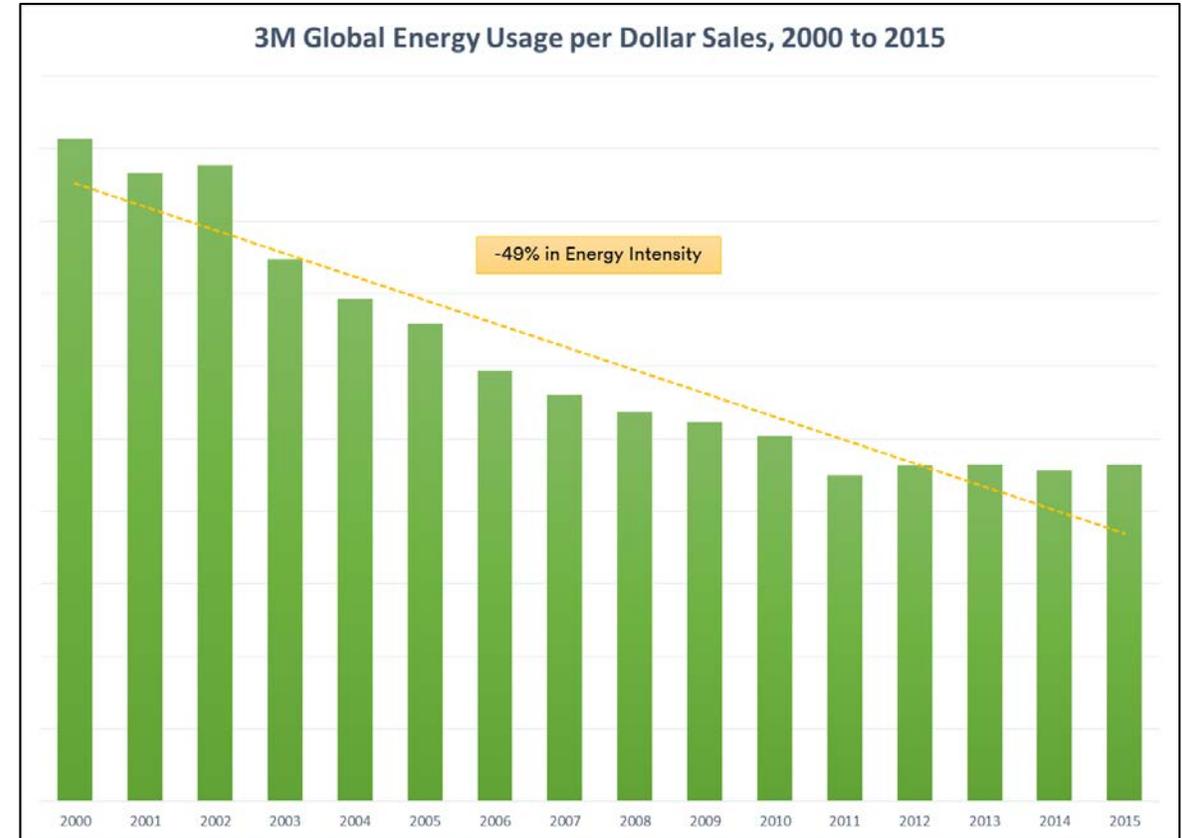
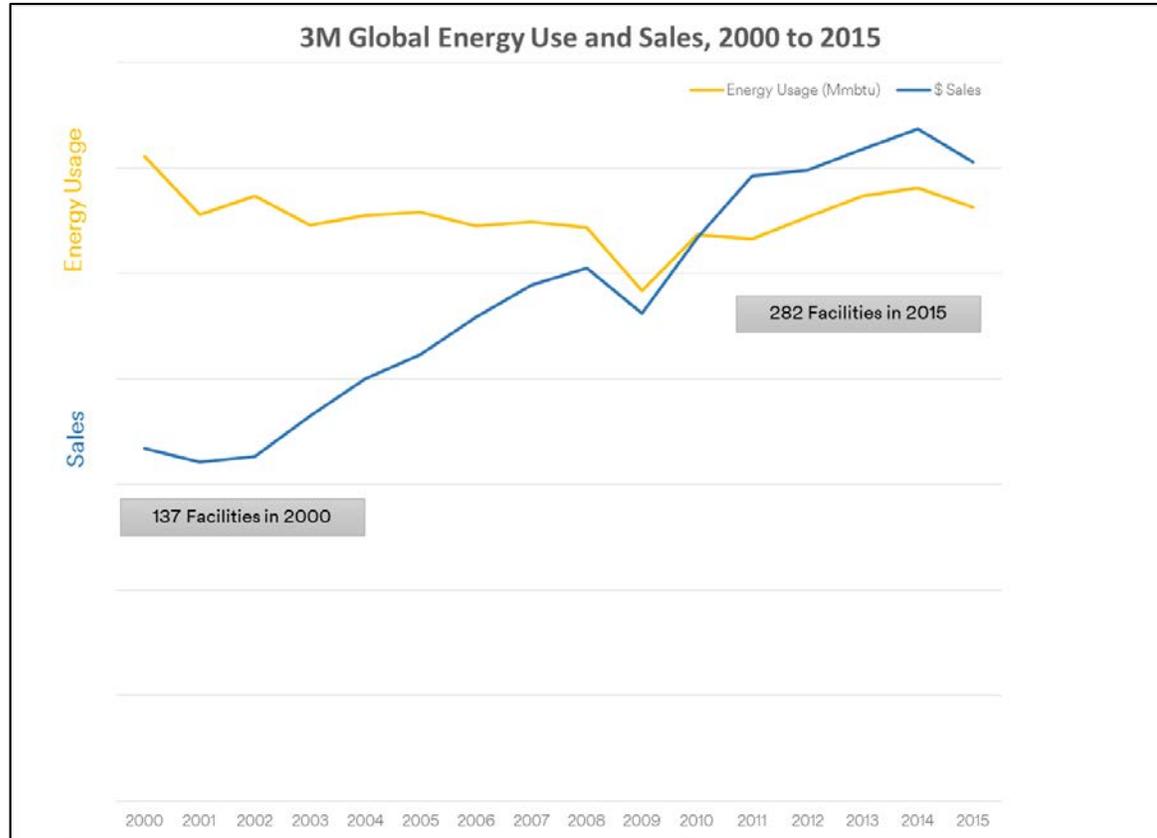


# 3M Has Aggressive Energy-Efficiency Goals

- Challenge '95
- Year 2000 Environmental Targets
- Environmental Targets 2005
- Environmental Targets 2010
- 2015 Sustainability Goals



# 3M Improved Energy Performance Prior to Implementing ISO 50001 and Superior Energy Performance

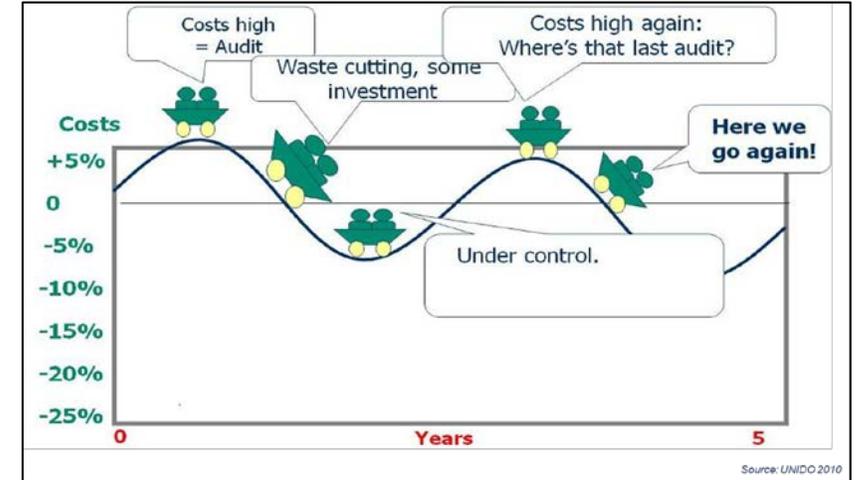
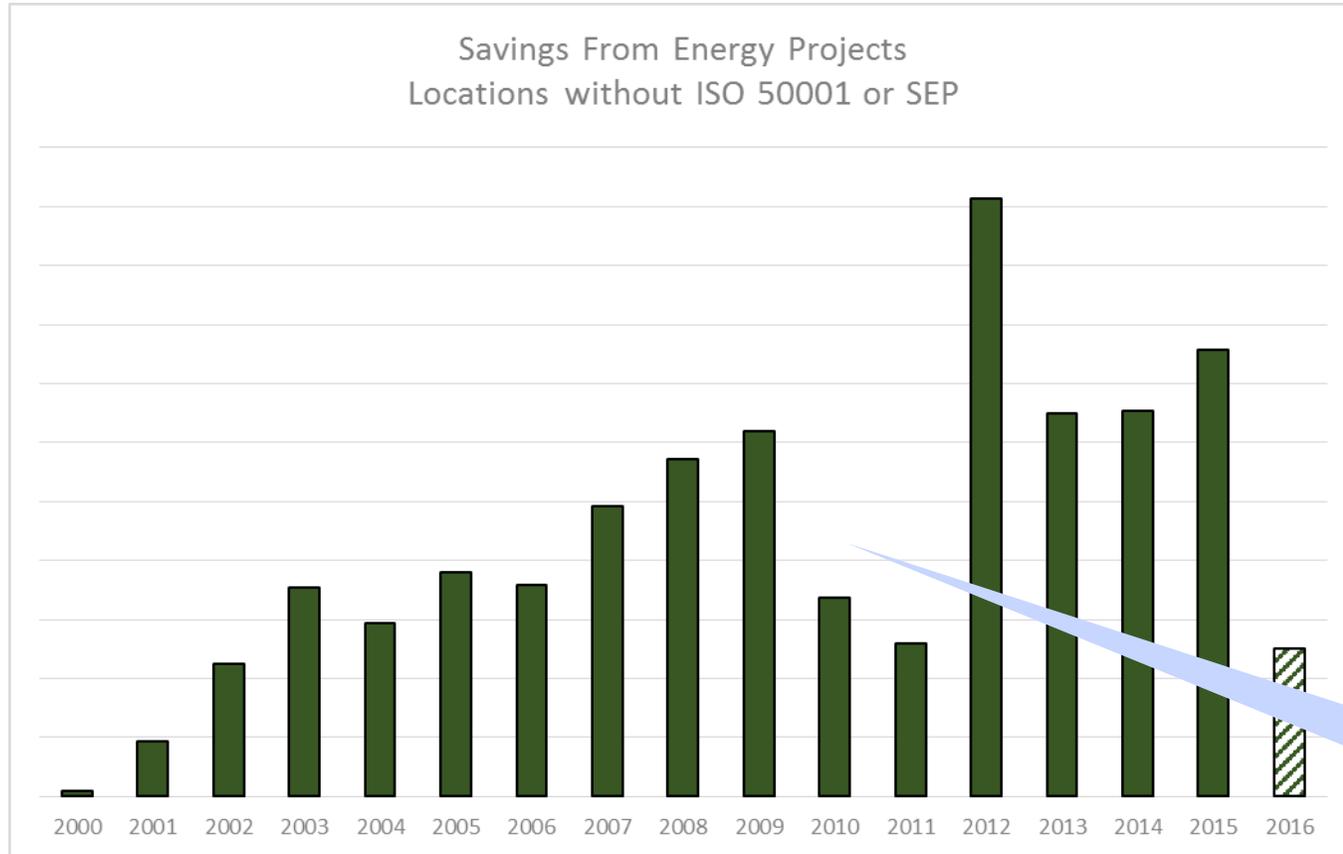


# 3M Has a New and Aggressive Energy-Efficiency Goal

- Challenge '95
- Year 2000 Environmental Targets
- Environmental Targets 2005
- Environmental Targets 2010
- 2015 Sustainability Goals
- **2025 Sustainability Goals**
  - Another 30% improvement in energy performance
  - 25% of electricity from renewable sources



# Traditional Response to Energy Management



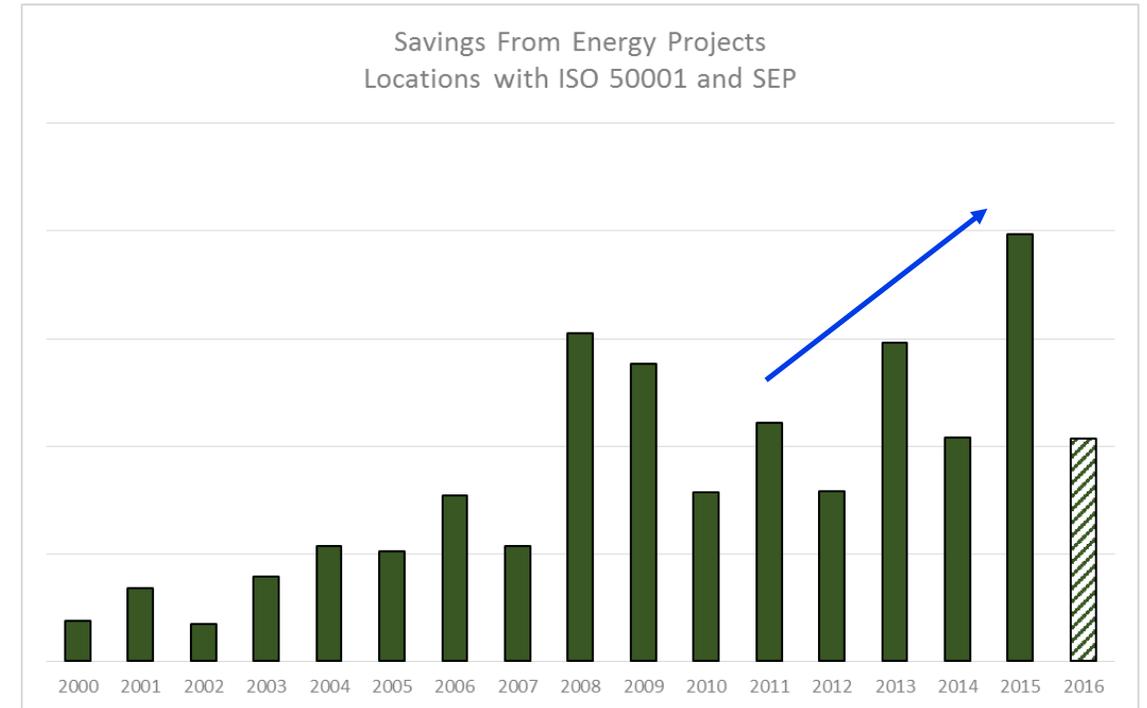
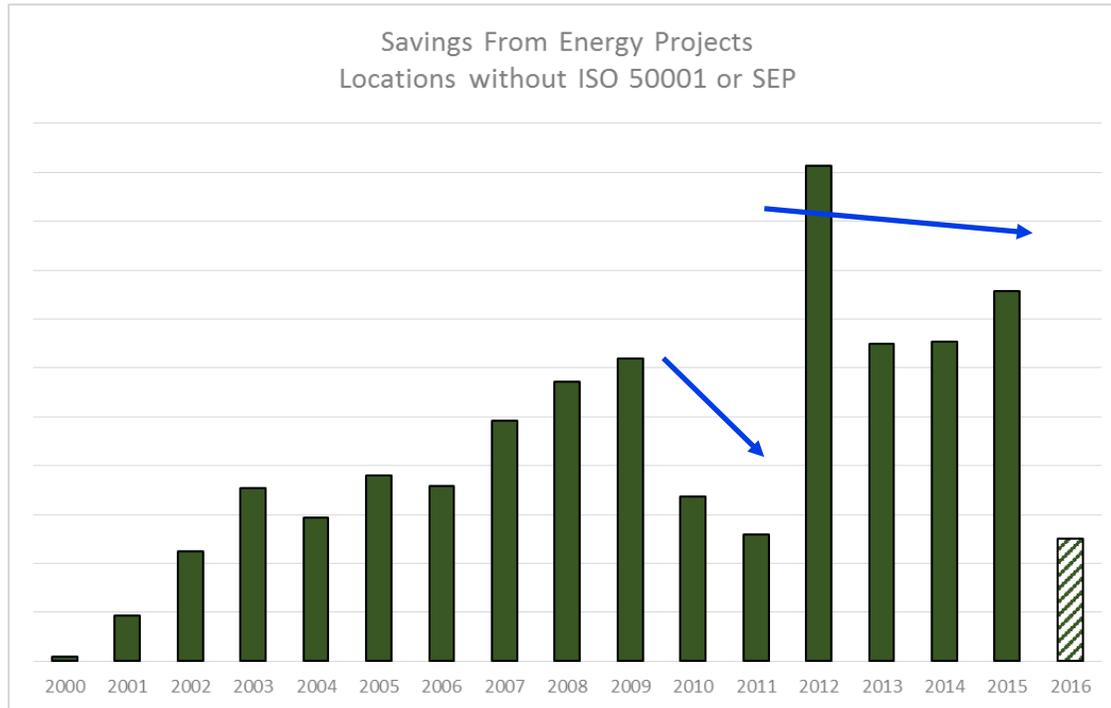
Whew!! I am glad that is over!

# Twenty-six 3M Facilities Implementing ISO 50001 and SEP

Country	Site	Latest Action	SEP Certified
Canada	Brockville 501 (Tape)	ISO 50001 Certified	Platinum
Canada	London	ISO 50001 Certified	No
Canada	Perth 301	ISO 50001 Certified	No
Canada	Perth 302	ISO 50001 Certified	No
Canada	Montreal	Being ISO Certified	No
Canada	Mordon	ISO 50001 Certified	No
France	Tilloy	ISO 50001 Certified	No
Germany	Kempton (Ceradyne)	ISO 50001 Certified	No
Germany	Neuss	ISO 50001 Certified	No
Germany	Hilden	ISO 50001 Certified	No
Germany	Kamen	ISO 50001 Certified	No
Germany	Seefeld & Landsberg	ISO 50001 Certified	No
Germany	Jüchen	ISO 50001 Certified	No
Korea	Naju	ISO 50001 Certified	Yes
Poland	Wroclaw PSD	ISO 50001 Certified	No
Poland	Wroclaw Automotive	ISO 50001 Certified	No
Taiwan	Tainan	ISO 50001 Certified	No
U.S.	Cordova	ISO 50001 Certified	Silver
U.S.	Aberdeen	Enterprise-wide ISO 50001	Gold
U.S.	Cynthiana		Silver
U.S.	Decatur		Silver
U.S.	Hutchinson		Gold
U.S.	Prairie du Chien		Silver
U.S.	Cottage Grove MRD	International Program of cohorts	
Canada	Brockville PSD		
Mexico	San Luis Potosi		

- 3M Enterprise-wide ISO 50001 certification
- Locations in eight countries certified
- Three plants in three countries implementing as cohorts in North American Pilot

# Strategic Approach to Energy Management Improves Results

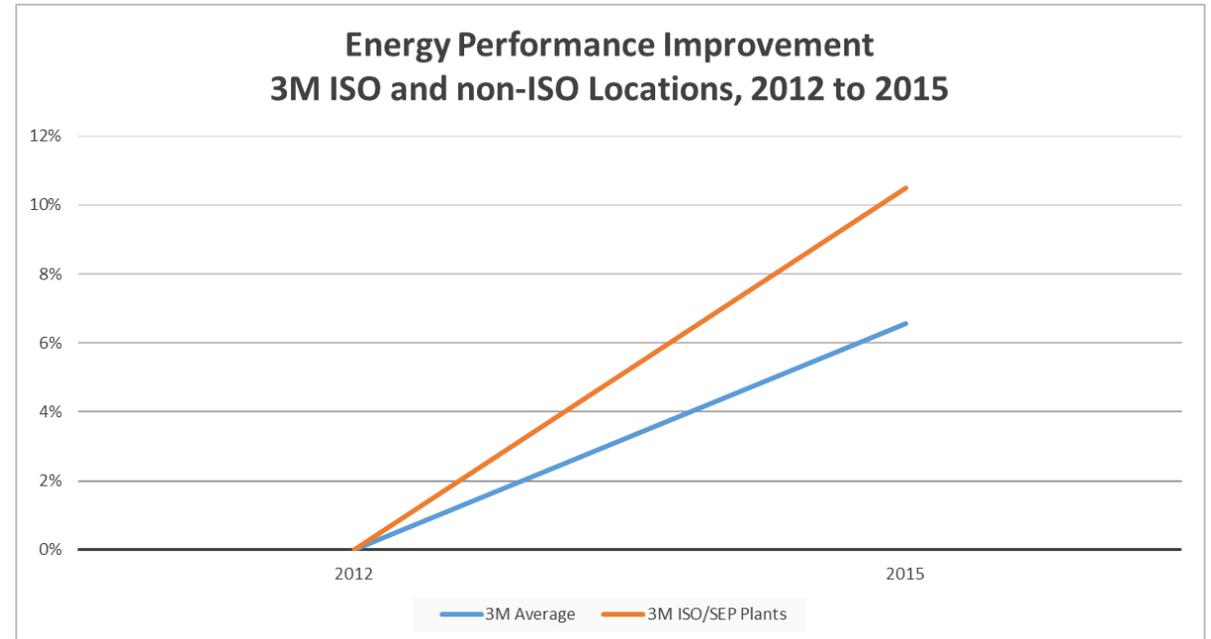


- Consistent increases in savings achieved from energy projects
- Rigorous methodology to assure continuous improvement

# 3M Locations Certified to ISO 50001 and Superior Energy Performance are Showing a 60% Greater Improvement

Behavior based activities supported by ISO/SEP are driving results

3M Facility	Cumulative EnPI Improvement Over 3 years
A	17.40%
B	7.26%
C	5.66%
D	9.71%
E	8.96%
F	9.78%
G	6.65%



# Enterprise-wide Certification Provides Benefits

- Common Corporate Energy Manual
  - Separate Standard Operating Procedures for some Plant Specific activities
- One Corporate Energy Policy
- One schedule
- Plant to plant synergy, sharing of processes, common tools
- Corporate Center of Excellence

*‘The implementation of a management systems approach for energy management has provided great value to our organization. The proven performance of our ISO 50001 certified facilities has led 3M to include ISO 50001 and Superior Energy Performance as one of our strategies to meet our next set of corporate energy efficiency goals.’*

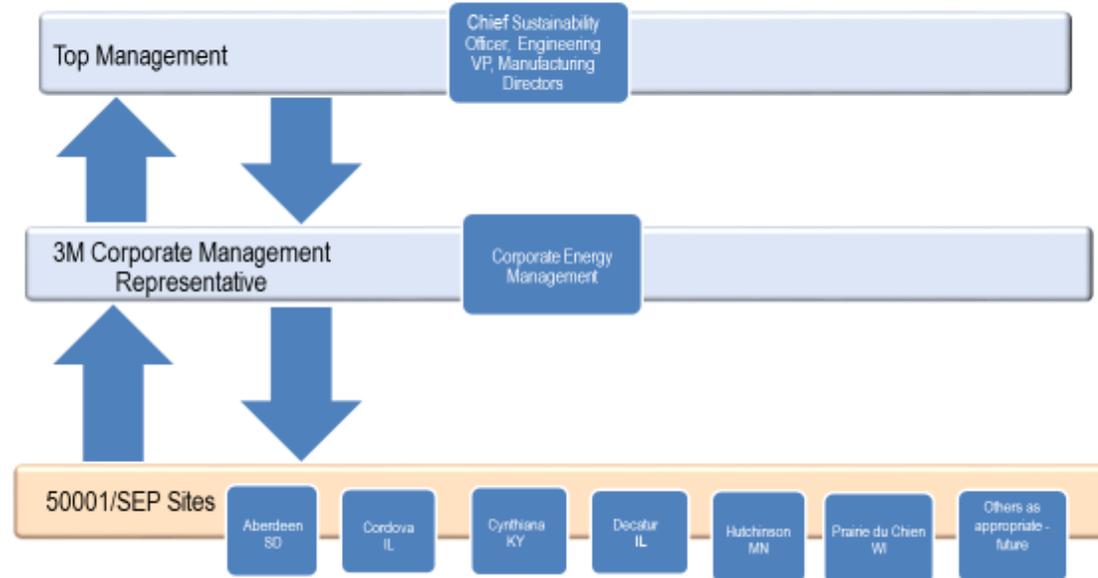
-Jean Bennington Sweeney, Chief Sustainability Officer, 3M

*‘Since embarking on our ISO 50001 journey in Decatur we have seen an 8% reduction in energy usage. In addition to the savings, the value this program brings is in the implementation of the measurement and management systems that are needed for sustainable year on year improvements. The enterprise-wide approach has enabled us to learn from the other participating locations and to leverage best practices. Implementation does take management commitment of resources, but the payback in the end is well worth the effort.’*

-Robin Higgs, 3M Decatur Site Manager

# Advantages of Enterprise-wide Certification

3M ISO 50001 / SEP Enterprise Wide Roles and Responsibilities



3M Enterprise-wide ISO 50001 Master Schedule

	Q1			Q2		
	January	February	March	April	May	June
Central Office	Annual update of tools - Review & Planning Tool/Management Review Workbook, etc. Training on updated tools provided to plants.	External Stage I audits		External Stage II audits or Surveillance audits	New plants to join enterprise	
Plants					PEPR's take place. PEPR Workbook and Review & Planning Tool saved and uploaded to SharePoint.	

	Q3			Q4		
	July	August	September	October	November	December
Central Office		Internal audits completed		Participate in PEPR's as appropriate	Schedule internal/external audits for upcoming year - Plant, Corporate, DEKRA	Top Management Review
Plants		Internal audits completed		PEPR's take place. PEPR Workbook and Review & Planning Tool saved and uploaded to SharePoint.	Schedule internal/external audits for upcoming year - Plant, Corporate, DEKRA	

Note: Hutchinson conducts reviews quarterly

# Strategies to Achieve Corporate 2025 Energy Efficiency Goal

- Continued support and development of the Corporate Energy Management program
- Communication of the importance of achieving goals to the organization.
- Increase buy-in and support at the Business and Division level
  - Business and Division Energy Champions
  - Support for the Site Energy Champion role including training
- Implementation of ISO 50001 Management System for Energy and SEP at locations which represent 80% of 3M spend.
- Engage with External Organizations and Participate in Appropriate Voluntary Programs

**3M** Science.  
Applied to Life.™