Sustainable Energy Performance Improvement

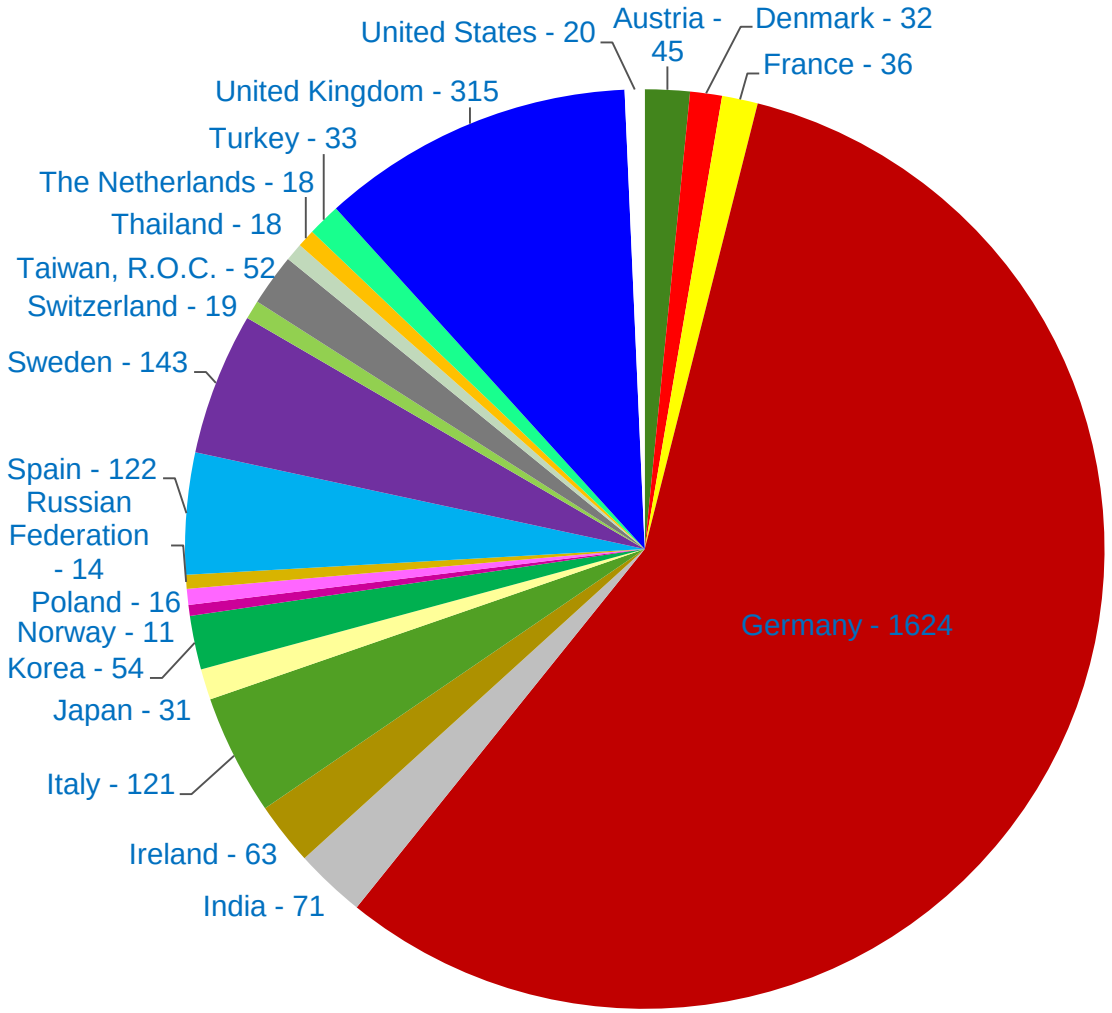
What is ISO 50001?

A framework to continually reach energy efficiency targets at the plant level and production processes.

Requires energy performance improvement!

Top management comittment!

ISO 50001- Energy Management
3000 Certificates issued to date worldwide!



- Austria - 45
- Denmark - 32
- France - 36
- Germany - 1624
- India - 71
- Ireland - 63
- Italy - 121
- Japan - 31
- Korea - 54
- Norway - 11
- Poland - 16
- Russian Federation - 14
- Spain - 122
- Sweden - 143
- Switzerland - 19
- Taiwan, R.O.C. - 52
- Thailand - 18
- The Netherlands - 18
- Turkey - 33
- United Kingdom - 315
- United States - 20

Example of the OEMs Certified to ISO 50001

General Motors (3) - Spain, Thailand, Poland

Volkswagen (1) - USA

SEAT (2) - Spain

FIAT (3) – Italy x 2, Spain

Automobili Lamborghini (1) – Italy

Audi (3) – Germany, Belgium, Hungary

Mercedes-Benz (3) – Germany x2 , Spain

Nissan (1) - USA

Subaru of Indiana (1) - USA

Barriers to Energy Efficiency

- No management focus
- Lack of understanding of financial, economic, and environmental benefits
- Lack of skills for Energy Efficiency measurement and projects
- Poor monitoring systems and data
- Focus on initial costs rather than recurring reductions
- Energy Efficiency knowledge resides within individuals rather than the organization

ISO 50001 Case Study: Subaru of Indiana

The energy team and responsibilities

SUBARU *of* INDIANA AUTOMOTIVE, INC.

Business Performance Assessment group responsible for EnMS

- Support from Total Production Maintenance group
- Monitor and analyze energy consumption data.

Developed Energy Management Team

- Chaired by Executive Vice President
- Included key members from all critical departments,
- Opened lines of communication
- Everyone worked together to ensure the EnMS was implemented correctly.

Case Study-Subaru of Indiana

ISO 50001 is not ISO 14001 for Energy

SUBARU *of* INDIANA AUTOMOTIVE, INC.

- Originally assumed that ISO 50001 same as ISO 14001
- Change “environmental” to “energy”

Similar to ISO 14001 in basic management system requirements, however ISO 50001 entails understanding of:

- How much energy is being used?
- Where energy is being used?
- What is using it?
- How well you are using that energy?

Case Study-Subaru of Indiana

Benefits realized

- ISO 50001 system established tighter control points
- All changes in energy consumption and use more easily recognized
- The impact on CO_2 understood.

Goal

- 5% energy performance improvement over the ’12-’16 timeframe.

Results

- FY 2012: 1.2% energy performance improvement
  - At same time production level and hours worked increased
- FY 2013: 7.3% energy performance improvement

Case Study-Subaru of Indiana

FY2012

Energy Improvement Project Capital: **approx. $1 million**

Energy Savings realized: **$550,354**

Energy reduction: **25,809 MMBTU** (combined electrical & natural gas)

CO_2 reduction: **5,443 tons**

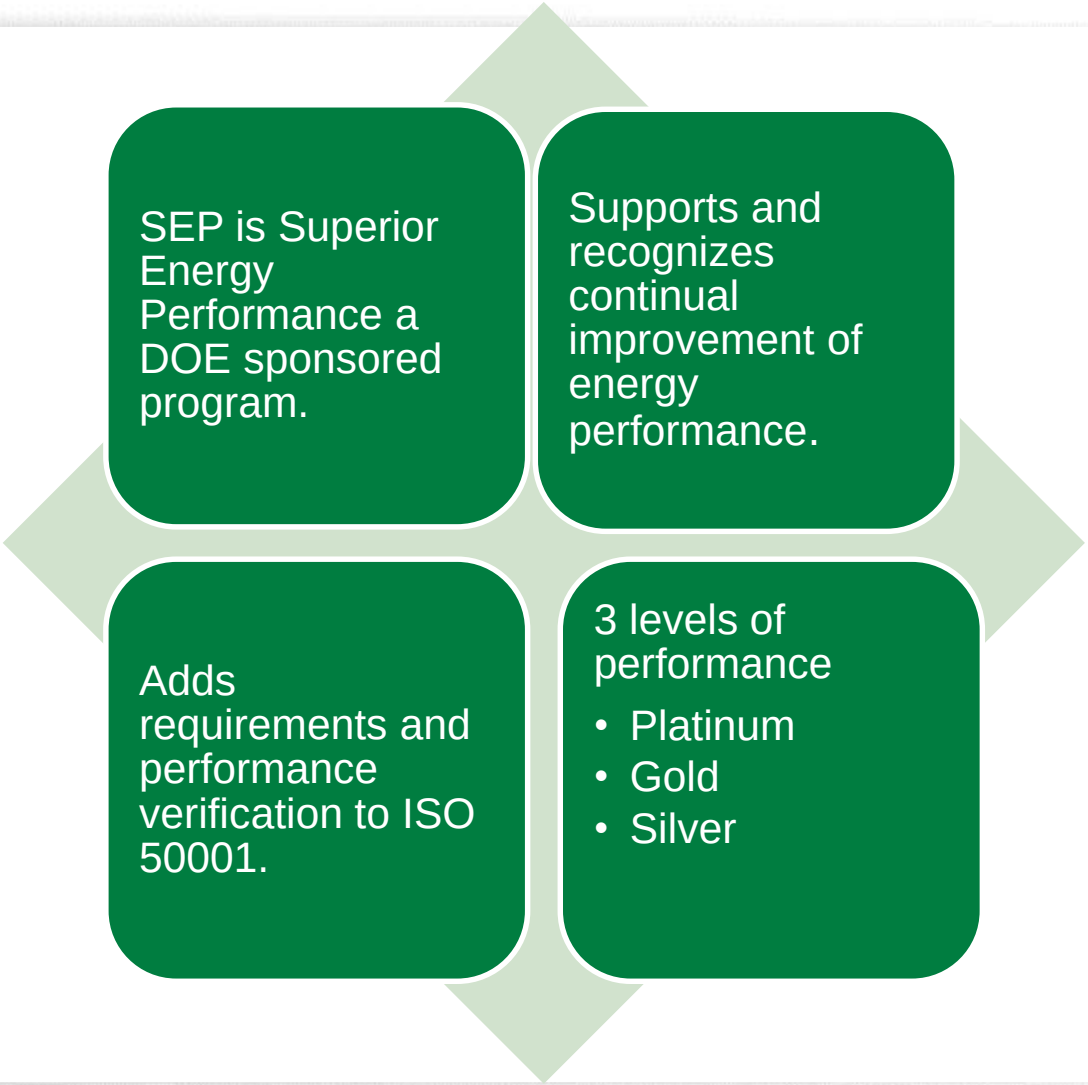
FY2013

Energy Improvement Project Capital: **approx. $1.97 million**

Energy Savings realized: **per year** – based on current rate = **$606,900**

Energy reduction: **162,900 MMBTU** (combined electrical & natural gas)

ISO 50001 and Superior Energy Performance



Results of Early Adapters

SEP Platinum

- 25.8%: Volvo Trucks, NA, Dublin, VA
- 17.1%: Dow Chemical Company, manufacturing plant Texas City, TX
- 15.2%: 3M Canada Company, Brockville, ON

SEP Gold

- 14.9%: Cook Composites and Polymers, Co, Houston, TX
- 10.2%: All Steel, Muscatine, IA
- 10.1%: Cooper Tire, Texarkana, AR

SEP Silver

- 8.1%: Dow Chemical Company, energy systems plant, Texas City, TX
- 9.6%: Owens Corning, Waxahachie, TX
- 7.2%: Nissan, NA, Smyrna, TN
- 5.6%: 3M, Cordova, IL

Mature Energy Pathway-SEP Silver

- >15%: Bridgestone, Wilson, NC

http://www.superiorenergyperformance.net/results.html

Thank you!