Top-Down versus Bottom-Up Energy Management

Top-Down
- Energy Management System (EnMS)
- Top management commitment with resourced energy team
- Cultural empowerment

Bottom-Up
- Project engineering approach
- Reliant on continual capital investment
- Individual champion dependent
Structured Energy Management: ISO 50001

What it is:
- A **global standard** around managing energy based on expertise from 56 countries
- A **management model** for continual improvement of energy performance
  - Manages energy efficiency, energy security, energy use and energy consumption
  - Similar to quality (ISO 9001) and environmental (ISO 14001) management system standards
- Framework for instituting energy management as part of the **culture** of the organization/facility

What it does:
- Builds institutional knowledge throughout an organization
- Engages all staff (executive, facility, procurement, communications, etc.), not just facility management
- Creates the market pull and business **culture** to invest in advanced energy efficiency technologies
- Reduces business risk associated with unpredictable energy costs and supply
- Establishes an ingrained **culture** and practice around energy performance
- Enables more cost-effective and rapid investment in advanced energy efficient technologies
Compatibility with other ISO standards

ISO 50001
ENERGY POLICY
- Energy review
- Energy performance indicators
- Energy baseline
- Energy management

ISO 14001
ENVIRONMENTAL POLICY
- Environmental aspects
- Emergency preparedness
- Environmental management program

ISO 9001
QUALITY POLICY
- Customer focus
- Planning of product realization
- Customer-related processes
- Control of nonconforming

Unique Elements:
data-driven approach

Leverage Common & Similar Elements
Based on DOE findings, a structured energy management system (EnMS) yields greater, more cost-effective, and more sustainable energy savings than a more traditional, project-based energy efficiency program. Energy savings, validated by third party verifiers, shows the following results:

- US manufacturing Business-as-Usual ~1% per year
- US manufacturing Industry Leaders ~2.5% per year
- ISO 50001 certified plants ~4% per year
- Enterprise-Wide SEP Approach ~5% per year

Simple payback periods of less than 2 years for most facilities, with majority (~70%) of energy savings from adopting an ISO 50001 structured EnMS coming from no/low cost operational improvements.
DOE’s Spectrum Approach to ISO 50001 Adoption

DOE has developed an energy management continuum approach that begins with market-driven business and culminates in verified savings.

- **50001 Ready**: Recognition for ISO 50001 conformance using guidance in DOE’s 50001 Ready Navigator tool
- **ISO 50001 Certification**
- **50001 Superior Energy Performance (SEP)**: Recognition for ISO 50001 certification and 3rd party verification of energy performance improvements

- Self attested
- Top down energy data results
- No cost and no audit required
- DOE recognition, not certification, for established 50001 EnMS in place

- ISO 50001 certification required
- Top down and bottom up energy calculations
- Audit required at cost
- Provides 3rd party verification of savings from 50001
50001 Ready Recognition Program

1. Implement ISO 50001 principles
   Complete 25 Tasks in US DOE’s 50001 Ready Navigator free, self-guided online tool

2. Present energy performance
   Submit energy performance data. May use EPA’s Portfolio Manager or DOE’s EnPI Lite

3. Self-attest to 50001 Ready
   Sign-off by management of 50001 Ready implementation and commitment

Energy.gov/50001Ready
50001 Ready Navigator

- Online tool, with simple, step-by-step approach to ISO 50001 implementation
- 25 tasks divided into 4 sections
- Ability to assign tasks to team members
- Extensive guidance available in each module
Rishabh Bahel
ArcelorMittal
ArcelorMittal Cleveland
50001 Ready

Rishabh Bahel, CEM

Better Plants®
Energy Star Partner
Rishabh Bahel

- B.SC Mechanical Engineering degree from Penn State University
- Pursuing a MBA from Case Western Reserve University
- Energy Manager, ArcelorMittal Cleveland
- BOD – Energy, AIST
- Crains’ Cleveland 40 under 40, 2015
A global company

ArcelorMittal is the world's number one steel and mining company, with approximately 200,000 employees in more than 60 countries.

Where we are

We have operations in more than 60 countries. Explore our global presence using the interactive map.
ArcelorMittal has facilities, offices and joint venture partnerships in 14 states and the District of Columbia.
Here in Cleveland, Ohio, we have been making steel at this location for more than a century!
ArcelorMittal Cleveland

**History:**
- 103 years of steelmaking on site
- Idled in 2001 (LTV bankruptcy) and 2008/9 (Great Recession)

**Today:**
- Approximately 1,900 employees (highest since LTV days)
- Produce 1 ton of steel for just over 1 worker hour (the U.S. industry average is 1.9 worker hours per ton)
- Strong partnership with USW Local 979
- Shipped 3.3 million tons in 2017

ArcelorMittal Cleveland is recognized as one of the MOST PRODUCTIVE integrated steel mills in the world
Integrated steelmaking process:
From raw materials to molten metal to slab to coil
Covers more than 950 acres of land and seven million square feet of buildings
Sustainable Outcomes

Our 10 sustainable development outcomes

We focus on the 10 sustainable development outcomes we need to achieve for steel to be one of the world's most sustainable materials. These were the result of our strategic materiality process.
ArcelorMittal toolbox for energy management

ArcelorMittal Energy Management Best Practices

27 Technical Best Practices (Comp. air, Steam, VFDs, Combustion, etc.)

Energy Benchmark Data Base
ArcelorMittal is the largest steelmaker in the World

Digital Library
White Papers, Catalogues, Guides

Good Communications

ArcelorMittal University Energy Training for Energy Champions

Quick Win List
A unified list of low/no cost example projects done in Company

Energy Events
Physical Events (Global and Local)
Web meetings to discuss projects and technologies
Treasure Hunts – Fishing Expedition

Energy Community Webpage
Aggregating all mentioned items

Teamwork
ArcelorMittal Energy Policy

Our Energy Policy has the key points:

Purpose: ArcelorMittal is committed to the efficient use and conservation of energy to reinforce its Leadership position and to assume its societal and environmental responsibilities for the benefit of all its stakeholders.

Topics of our Policy:

- Efficiency
- Technology
- Social Responsibility
- Partnering
- Employees Engagement
- Continuous Improvement
- Supporting
- Leadership
Contest and Posters

- ArcelorMittal celebrates October as Energy Awareness Month.
- It encourages employees to be energy conscious and submit an energy savings idea.
- Each idea is evaluated on certain criteria.
- Winners win an attractive prize, this year we gave away Solargo Bagpacks.
Treasure Hunts

• It is a process that focuses on identifying energy and water reductions opportunities in the workplace with no cost and low cost solutions with ROIs of less then a one year simple payback.

• It is a 2 to 3 day event at a specific area in a plant where a corporate cross-functional team works with local plant personnel to find energy and water reduction opportunities.

• It utilizes the diverse knowledge and experience of the team members (both hourly and salary) and it can be a training opportunity for employees,

• Heightens energy awareness

• The team analyzes and evaluates their findings and makes recommendations for implementation.
Reasons for Implementing

• In October, 2013, ArcelorMittal USA made a commitment to DOE to achieve 10% Energy Reduction in 10 years.
• ArcelorMittal Cleveland kicked off this challenge by hosting DOE to conduct an In plant training and Process heating assessment.
• Projects are further identified and implemented to achieve this goal.
50001 Ready Overview

- The 50001 Ready program offers a no-cost way to receive recognition for establishing a business practice around the management of energy. The program is not a certification program, and does not require any third-party audits or verification.

- Participating in the 50001 Ready program provides your facility(ies) with the tools to implement and maintain a structured, continual improvement-based EnMS.

Key Actions in a 50001 Ready EnMS
- Set an Energy Policy
- Have management commitment
- Empower an energy team
- Identify where energy is used
- Create plans to improve energy use
- Management approval of plans
- Track progress and reassess energy action plans

Key Benefits of a 50001 Ready EnMS
- Manage risk associated with energy performance
- Reduce energy-related costs
- Increase cost competitiveness
- Dedicate more resources to growing staff and expanding production
- Demonstrate corporate leadership
The navigator has 25 tasks classified under 4 major segments: Planning, Energy Review, Continual Improvement & System Management. Each segment has easy description with available tools to assist. 50001 Ready Help tool provides guidance for each task.
Reasons for Implementing

- Continuous improvement
- Recognizing the current Energy Management Program.
- Creating Energy Awareness within a steel company.
- To develop a base for full ISO 50001 recognition.
Key Steps and Discovery

- Management approval.
- No external audit obligation.
- 25 task steps are easy to navigate.
- Covers all aspects of energy management program.
Outcomes

- ArcelorMittal Cleveland – 1st integrated steel mill to be ISO 50001 Ready recognized.
- ArcelorMittal Burns Harbor to follow
- Upper management satisfaction.
- To continue adopting other tools by DOE and achieve energy intensity goals.
Thank you for your attendance
Nathan Casey
Des Moines Water Works
Des Moines Water Works

ISO 50001 and Energy Management

August 2018
Presentation Overview

• Background on Des Moines Water Works

• Why energy management

• Path to certification

• Lessons learned
Background on Des Moines Water Works

- Public Drinking Water Utility managed by a Board of Trustees
- Provide Drinking Water to approximately 500,000 residence in the Des Moines Metro Area
  - Three Water Treatment Plants Fleur, Maffitt, and Saylorville
  - Average Demand 50 million gallons per day (mgd)
  - Peak Demand 96 million gallons per day (mgd)
  - 1,500 miles of water distribution system, from 2-inch to 60-inch
Background on Des Moines Water Works

- 1870-1959 Des Moines Water Works Used Coal as an energy source.
- In 1959 converted to electricity
Why energy management

• Economics
  – $2,965,785 spent on energy in 2017
  – $165 for every million gallons of water pumped in 2017
  – Energy is one of our largest costs
    • DMWW operating dollars: 1) labor 2) chemicals 3) energy

• Past attempts to save costs

Annual Energy Costs
$3,000,000

- Electricity 2,544,000
- Natural Gas 120,000
- Diesel 150,000
- Gasoline 180,000
- LP Gas 6,000
Why energy management

• Management wanted an improvement in efficiency
• Team includes members from all over the utility including:
  – Water Production
  – Water Distribution
  – Maintenance
  – Engineering
  – A union representative
• Energy team is responsible for implementation of energy management systems
ISO 50001 and Superior Energy Performance

- ISO 50001 – requirements for establishing, implementing, maintaining and improving an energy management system.

- Superior Energy Performance is a U.S. DOE Advanced Manufacturing Office certification that a program verifies improvements in energy management and performance.

- We’re also working toward better plants certification.
Path to certification

2014
- Joined DoE Pilot Program
- Certified staff CP EnMS

2015
- DoE training begins
- Develop Energy Policy
- Begin foundation: Meters, data collection, modeling, etc.

2016
- Begin to develop EnMS procedures
- Continue data collection, analyzation, and modeling
- DoE training is complete
Path to certification

Jan - May 2017
• Continued developing EnMS procedures
• Completed Energy Manual – knowledge transfer

May – Sep 2017
• Conducted readiness audit for ISO 50001 & ANSI/MSE 50021
• Corrected non-conformities in the EnMS

Oct 2017
• ISO 50001 & ANSI/MSE 50021 certification audit
ISO 50001 preparation

• DOE and Georgia Tech Water & Wastewater Pilot program
  – Several water & wastewater utilities from across the country
  – Three phase training, introduction to SEP, review of standards,
    implementation of standards, and practice audit

• eGuide, which is now 50001 Ready Navigator
  – Valuable tool
  – Energy Performance Indicator tool (EnPI)

• Coordination with electrical utility
Lessons learned

• We were already doing most of what needed to be done
  – Tracking and monitoring
  – More planning
  – Keeping everyone involved
• Scope and Boundaries
• Data collection and analysis
• How we use energy
Scope and Boundaries

• Three treatment facilities and 90 other remote facilities.
• How do you select the scope and boundaries?
• We started by looking at the three water treatment plants 
• Decided to work on the largest production facility first 
• More facilities in the future
Data Collection and Analysis

• Data collection
  – Identify and collect energy sources used the in scope and boundaries
  – Data availability and usability
  – Additional energy monitors

• EnPi Tool for data analysis

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<td>Actual Electric (kWh)(MMBTU)</td>
<td>181,148</td>
<td>178,039</td>
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<tr>
<td>Actual Natural Gas All (MMBTU)</td>
<td>8,484</td>
<td>6,563</td>
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<td>Actual Gasoline (gallons)(MMBTU)</td>
<td>9,318</td>
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<td>Actual Diesel All (gallons)(MMBTU)</td>
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<td>TOTAL (MMBtu)</td>
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Adjustment Method

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<td>Diesel All (gallons)(MMBTU) Annual Savings</td>
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<td>Total Modeled Energy Consumption (MMBtu)</td>
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<td>SE nPi Cumulative</td>
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<td>Cumulative Improvement (%)</td>
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<td>Annual Improvement (%)</td>
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<td>Annual Savings (MMBtu/year)</td>
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<tr>
<td>Cumulative Savings (MMBtu)</td>
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Energy use

Treatment & pumping accounts for 75% of DMWW's energy consumption.

Heating & cooling – 10% of all energy consumed!

Office lights & computers – 5% of all energy consumed.

Fleet consumes 10% of all our energy!

Air Conditioning

Steam boiler for heat
ROI – 2015-2017 (3 yr)

• Invested $171,392
• Returned in energy savings $101,701
• Returned in MidAm rebates $270,708
• Returned Total $372,409
• Annualized ROI = 29.5%
Ed Birch
Strategic Energy Group
50001 Ready

Recognition Deserved for a Comprehensive Process
WHO IS STRATEGIC ENERGY GROUP?

SEG
- Based on Portland, Oregon
- Offices in Sacramento, CA; Coeur D'Alene, Idaho; Allentown, PA.

SEGEMA Energy Consulting, Ltd
- SEG Canadian Subsidiary
- Richmond, BC
- Dartmouth, Nova Scotia.
## Strategic Energy Mgt. Innovations

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### IMPLEMENTATION

- NEEA Industrial Energy Alliance
- Simplot
- BC Hydro
- Coeur d’ Alene Mines
- BPA HPEM
- ETO Industrial
- ETO Industrial
- Energy Trust Commercial
- PG&E Industrial & Commercial – Direct & Cohort
- PPL EU Industrial
- PPL EU – Walk the Talk
- PPL EU Schools Cohort
- ISO DOE-SEP Certified
- OPA & Engineering Gas-Industrial Cohort
- Efficiency Nova Scotia Industrial Cohort
- Efficiency Nova Scotia OEM

All Rights Reserved
### PROVEN SUCCESS

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<tr>
<th>Organization</th>
<th>Projects</th>
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<tr>
<td><strong>Tennessee Valley Authority</strong></td>
<td>10 industrial</td>
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<tr>
<td><strong>Efficiency Nova Scotia</strong></td>
<td>12 Industrial, 1 K-12 school</td>
</tr>
<tr>
<td><strong>Energy Trust of Oregon</strong></td>
<td>45 Industrial, &gt; 500 Commercial</td>
</tr>
<tr>
<td><strong>Northwest Energy Efficiency Alliance</strong></td>
<td>26 Industrial</td>
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<tr>
<td><strong>Toronto Hydro</strong></td>
<td>4 Commercial Multi-Tenant</td>
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<tr>
<td><strong>Direct Delivery</strong></td>
<td>10 Simplot Food Processor, 3 Simplot Mines, 6 Simplot Fertilizer Plants, 2 Coeur d'Alene Mines</td>
</tr>
<tr>
<td><strong>Ontario Power Authority</strong></td>
<td>10 industrial</td>
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<tr>
<td><strong>BC Hydro</strong></td>
<td>100 Commercial, 40 Industrial</td>
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<tr>
<td><strong>PPL EU</strong></td>
<td>20 Industrial, 25 Commercial Service Center, 43 K-12 Schools</td>
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<tr>
<td><strong>PG&amp;E</strong></td>
<td>17 Industrial</td>
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<td><strong>Bonneville Power Administration</strong></td>
<td>16 Industrial</td>
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<td><strong>Four Season Produce</strong></td>
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<td><strong>Blommer Chocolate</strong></td>
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WHAT IS STRATEGIC ENERGY MANAGEMENT?

CONTINUOUS IMPROVEMENT

Evaluate → Assess → Design → Implement
The SEM Program provides the consulting resources to apply a CI methodology to your energy management program.

**SEM PROGRAM FRAMEWORK**

- **Stage 1**
  - Commit (2 – 4 Weeks)
    - Presentation of CEI Offering
    - Pre-participation Meeting
    - Sr. Mgmt. Agrees to Participate in CEI Program
    - Collect Background Information & Data
  - Assess (2 – 4 Weeks)
    - Baseline EMA Workshop
    - Identify Priorities & Action Items
    - Coordinate with other Programs
    - Develop EMA Results Summary, Review & Approve

- **Stage 2**
  - Plan (2 – 4 Weeks)
    - Establish CEI Team
    - Define Roles, Activities, Timelines & Targets
    - Develop Implementation Scope & Policy Statements
  - Modify (2 – 4 Weeks)
    - Final SEMP Progress Review
    - Re- Conduct EMA Workshop
    - Re-Develop Action Plan, Review & Approve
    - Schedule Next SEMP Planning Workshop

- **Stage 3**
  - Evaluate (Ongoing)
    - Quarterly (or Monthly) Meetings
    - Track Progress on SEMP Parameters
    - Verification of Savings
    - Feedback & Adjustment
    - Recognize Achievement
  - Implement (3 – 6 Months)
    - Implementation Kickoff Meeting
    - Consulting, Coaching & Mentoring on Business Practice Action Items
    - Coordination with other Programs

**The SEM Program** provides consulting resources to apply a CI methodology to your energy management program.
Energy Management: 50001 Ready & SEM

ISO 50001
Standard Energy Management System (EnMS) framework for global industrial operations

Foundation Energy Management
(e.g., ENERGY STAR for Buildings & Plants)
Fundamental approach to developing a systematic energy management program based on industry best practices and benchmarking tools

Steps in EnMS Progression:
- Receive SEP certification
- Obtain third-party verification
- Achieve energy performance improvement targets
- Conduct rigorous measurement & verification of energy performance

- Receive ISO 50001 certification
- Achieve ISO 50001 EnMS
- Management reviews
- Conduct internal EnMS audit
- Formally document EnMS

- Re-assess
- Evaluate progress
- Implement plan
- Create action plan
- Set goals
- Baseline energy performance
- Establish energy policy
**50001 Ready**

U.S. DEPARTMENT OF ENERGY

Program to self-attest to ISO 50001 structure and obtain value of systematic EnMS

50001 Ready measurement and verification protocol

DOE recognition

Market allies recognized by DOE

Good approach for any organization, but especially facilities with moderate energy bill

**ISO 50001 Certification**

Establish structured energy management system (EnMS)

Ideal for organizations with prior ISO management system experience

Adds EnMS rigor with 3rd party audit

**Superior Energy Performance**

U.S. DEPARTMENT OF ENERGY

50001 Verified Savings

SEP measurement and verification protocol

Builds upon 50001 Ready and/or ISO 50001 certification

ANAB- accredited verification bodies recognized by DOE to verify energy savings

DOE recognition

**Stakeholders**

**Sustainability**
Comparison between SEM and ISO 50001

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<th>ISO 50001</th>
<th>SEM</th>
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<td>Define a scope and boundary</td>
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<tr>
<td>Top Management Commitment</td>
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<tr>
<td>Management Representative (Energy Team)</td>
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<td>Energy Policy</td>
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<td>Energy Planning</td>
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<td>EnPI's</td>
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<td>Energy objectives, energy targets and energy management action plans</td>
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<tr>
<td>Competence, training and awareness</td>
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<tr>
<td>Communication</td>
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<td>Documentation/Documentation Requirements *</td>
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<td>Control of Documents *</td>
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<tr>
<td>Operational Control *</td>
<td>X Smaller Scale (x)</td>
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<tr>
<td>Design</td>
<td>X Smaller Scale (x)</td>
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<tr>
<td>Procurement of energy services, products, equipment and energy</td>
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<tr>
<td>Monitoring, measurement and analysis (MT&amp;R)</td>
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<td>Evaluation of compliance with legal requirements and other requirements *</td>
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<td>Internal Audit of the EnMS *</td>
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<tr>
<td>Nonconformities, correction, corrective action and preventive action *</td>
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<tr>
<td>Control or records *</td>
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<td>Management Review *</td>
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<td>Outputs from Management Review</td>
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</table>
## Participant’s Commitment

### Commitment (12 Months)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Initial Commitment Hours</th>
<th>Sponsor Hours</th>
<th>Energy Champion</th>
<th>Energy Team (4) Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kick-off CEI Train the Trainer</strong></td>
<td>8</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>2</td>
<td>24</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Energy Management Assessments</strong></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>MT &amp; R Modeling</strong></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>32</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td><strong>Energy Scan (1.5 day)</strong></td>
<td>16</td>
<td>2</td>
<td>16</td>
<td>64</td>
</tr>
<tr>
<td>• Supporting activities planning / preparation</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CEI Learning Modules</strong></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>• Building effective teams</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>• O&amp;M savings</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>• Energy Awareness Planning</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>• SEMP</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>• Energy Mapping</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>• Energy Productivity Indicator (EnPI's)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>48</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td><strong>Energy Champion Mentoring</strong></td>
<td>24</td>
<td>4</td>
<td>24</td>
<td>12</td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>24</td>
<td>24</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td><strong>SEMP Implementation</strong></td>
<td>24</td>
<td>24</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Energy Team Monthly Meeting</strong></td>
<td>6</td>
<td>3</td>
<td>12</td>
<td>48</td>
</tr>
<tr>
<td>• Supporting activities</td>
<td>48</td>
<td></td>
<td></td>
<td>192</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>103</td>
<td>21</td>
<td>309</td>
<td>427</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>4.95%</td>
<td>1.01%</td>
<td>14.86%</td>
<td>5.13%</td>
</tr>
<tr>
<td><strong>Total Participant Hours</strong></td>
<td>757</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>6.49%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## How O&M Savings Were Achieved?

### Historical Energy Savings Activities Implemented

<table>
<thead>
<tr>
<th>Lumber</th>
<th>MFG.</th>
<th>Medical</th>
</tr>
</thead>
<tbody>
<tr>
<td>18%</td>
<td>10%</td>
<td>15%</td>
</tr>
</tbody>
</table>

- **Operational schedule change to run two lines not one line**
- **Air/Leak tag program**
- **Water system repair**
- **Energy Awareness – lights, computers & downtime**
- **Employee Engagement – Shut off when not in use**
- **Operational schedule change**
- **Eliminate one air compressor**
- **Compressed air program- Leak repair, inappropriate use, air wands**
- **Hydraulic power unit management**
- **Install small compressor for fire suppression system, shut down large compressor**
- **Operational schedule change to run two lines not one line**
- **Air/Leak integrated on PM program**
- **Daily operator TPM for energy waste**
- **Consolidate oven production, eliminating one oven**
- **Employee engagement – EE ideas, Awareness, daily Tailgate & Contest**
- Cold Storage Distribution Company – Produce
- Corporate Sustainability Commitment
- Adopted SEG’s Continuous Energy Improvement process 2012 & 2013
- CEI process was Self-Managed 2014 through present
Performance Tracking Modeling
3 days - CEI to 50001 Ready Recognition

Focus Areas:
• Planning
• Energy review
• Continual Improvement
• System Management
  • Meter calibration
  • Energy in Design
  • Internal Audit Schedules
  • Procurement Procedures – life cycle costing
• Performance Tracking Modeling updates

“...It was a great refresher to the CEI plan we developed in 2012.”
Randy Groff
Director Of Facilities and Engineering
Four Seasons Produce

For instituting global best practices in continuous energy improvement across its 400 Wabash Road facility in Ephrata, PA

UNDER THE LEADERSHIP OF

Nelson Longenecker  Randy L. Groff, CFM
Vice President of Business Innovation  Director of Facilities and Energy

Recognized by the U.S. Department of Energy
June 16, 2017

Dr. Kathleen Hogan
Deputy Assistant Secretary for Energy Efficiency
50001 Ready Navigator - Highlights

• Guidance broken into straightforward sections, including:
  • Getting It Done – what specifically needs to be accomplished
  • Task Overview – how does this task connect with ISO50001
  • Full Guidance – comprehensive guidance about the task
  • Optional Transition Tips – from other ISO management systems or ENERGY STAR

• Track and update task progress
• Form teams and assign tasks
• Download guidance
• Create multiple projects
• Access over 100 related resources
• DOE 50001 Ready Recognition!

Energy.gov/50001Ready
50001 Ready

• Provides a self-paced approach to energy management

• Provides a structured approach for program review & revisions

• Provides national recognition for a job well done

• Provides validation to stakeholders
50001 Ready Success Factors

- Executive DEMONSTRATED Commitment
- PASSIONATE Energy Champion
- Action oriented energy team members not a committee
- Realistic achievable savings goals
- A cultural sense of urgency
- Performance tracking methodology that works
If you find that competing priorities keep your organization from improving as expected. SEG ensures that improvement happens as expected. 208-659-1690

Thank You

Ed Birch
Principal
208 – 659- 1690
Ed@StrategicEnergyGroup.com
50001 Ready Results and Accomplishments

• 50001 Ready recognition program and Navigator software launched May 2017

• Now a little over a year later:
  • 8 recognized facilities, 5 more on the verge
  • 386 projects, 983 users in Navigator
  • Energy Manager Today “Product of the Year” award for Navigator

• Based on cadence of project initiation and progress, along with expansion of partnership activities, expect number of recognized sites (and accompanying energy savings data) to increase by an order of magnitude each of the next two years

• Near-term program plans
  • Multi-site functionality in Navigator
  • Portal capability in Navigator for implementer referrals (i.e. utilities)
  • International 50001 Ready recognition programs

Energy.gov/50001Ready
Provide Feedback on this Session

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