Energy Management: A Powerful Tool in Your Sustainability Strategy

Owens Corning Building on a Mature Energy Program

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Owens Corning At A Glance

• Founded in 1938, an industry leader in glass fiber insulation, roofing, asphalt, and glass fiber reinforcements
• 2010 sales $5.0 billion
• 15,000 employees in 28 countries
• FORTUNE 500 company for 56 consecutive years
• Named to Dow Jones Sustainability World Index in 2010
• Ranked 57th of 500 in Newsweek’s “Green Rankings”
• Corporate Responsibility Magazine's '100 Best Corporate Citizens' List

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# Owens Corning’s Sustainability Business Strategy

1. **Greening our Operations**
2. **Greening our Products**
3. **Accelerating energy efficiency improvements in the built environment**
Greening Our Operations:
Our footprint commitment and our progress

Global Intensity Goals 2002-2012
- Energy -25%
- GHG -30%
- NOx -25%
- VOC -25%
- PM -20%
- Waste -35%
- Water -15%

1. Engaged employees
2. Capital-light proven solutions
3. Proprietary innovations

Management System for Energy & SEP Experience

Waxahachie, Texas

- 345 Employees
- Produces Residential, Commercial & Industrial Insulation
- 125 acres
- 22 acres under roof
- Opened in 1963
- Major expansions in ‘73 & ’78
- ISO 9001 Certified

Significant Energy Users

- Furnace/Melters
- Forming Process
- Ovens/Incinerators
- Compressed Air
Management System for Energy & SEP Experience

Annual Energy Spend/Use:

- ~ $15,000,000 - $20,000,000
- > 400,000 MWh’s
  (>1,000,000 Million BTU’s)

Process Flow
A mature energy program?

- Plant energy leader & energy team
- Annual plant-level energy intensity (EI) goals
- Plant-wide sub-metering of electrical & NG users
- Weekly documented energy meetings
- Divisional energy leader & divisional team
- Divisional capital designated for energy
Management System for Energy & SEP Experience

Implementation Team

• Plant Energy Leader
• Plant Leader
• Plant Energy/Env. Advocate
• Plant Quality Leader
• Plant Quality Advocate
• Divisional Energy Leader

Additional Resources

• Plant Leadership Team
• Financial Leader
• OC Sourcing/Global Energy
• OC Regulatory Law
• OC Legal/Intellectual Property
• OC Quality/Auditing
• OC Sustainability
• Georgia Tech
• External Energy Auditors
Management System for Energy & SEP Experience

External challenges during implementation...

• Economic downturn beginning late 2007 through present
• Line curtailments
• New process & product trials
• New plant server installed – impacted all links
• New Plant Leader – change in priorities
• Computer/software upgrades – impacting all spreadsheets
Management System for Energy & SEP Experience

Internal challenges during implementation...

• Resource availability
  – Personnel reductions
  – Additional workload for implementation team
  – Re-alignment of duties
  – Team member turnover

• Integration of MSE into existing Operating Mgmt System time consuming (multiple stake-holders)

• Control/management of energy is secondary to control of product quality
Benefits for a large, mature company implementing MSE…

- Increase of energy awareness at plant floor level
- Energy management becomes more than a one man show - it becomes a shared responsibility across operations, maintenance, finance
- Common structure of managing system (quality, environmental, safety, now energy)
- Aligns with and drives continuous improvement following PDCA model
- Enhanced communication between Sourcing/Global Energy (Supply resources) and plant
Management System for Energy & SEP Experience

Waxahachie Plant Audit Results…

• Recommended for MSE 2000:2008 certification

• Achieved SEP Silver level; a 9.6% energy intensity reduction over 3 years
Management System for Energy & SEP Experience

Challenges going forward for Owens Corning…

- Ability to maintain continued EI reductions as result of:
  - continued production reductions,
  - process/product changes, and
  - diminishing opportunities; lower paybacks

- Availability of capital & expense funds

- Resource availability to maintain system (i.e. internal audits, documentation, conversion to ISO, etc.)

- Availability of R&D to develop innovative energy savings opportunities
Questions?