Costs are high. Let’s do an Audit

Waste cutting, some equipment changes

Boss says costs are high again: Where’s that last audit?

Here we go again!

OK, that’s under control. Let’s get back to the core business.

Traditional Energy ‘Management’

5 Years
Need for a Complementary Approach

- Line managers need incentive/responsibility. (Utility engineers lack authority over users).
- Promote continuous improvement.
- Build internal competency.
- Integrate energy with business objectives/culture. Energy as a chapter of improvement programs.
- Unlock savings pool through operational and maintenance savings at lower capital cost.

What We Can Achieve

- Senior management committed to reduce energy costs
- Easy Savings are just the start
- Operations and maintenance staff are finding more savings. Putting in systems to lock in gains.
- Equipment purchasing procedures. New controls
- New plant design is energy efficient.
Bringing Top Management on Board

Energy is about prices. I have it under control.

Does it impact Core Business?

Energy – it's not my problem.

There has got to be a technical solution if only management would fund it.

Key Barriers!

20 Aspects to Plant Decisions

Achievement

Plant & Equipment
- Existing design
- New Plant Design/selection
- Innovation & new technology

Monitoring & Reporting
- Metering and monitoring
- Reporting & Control
- Focus on solution & results

Financial Management
- Capital Expenditure
- Operating Budgets

Supply Management
- Purchasing Procedures
- Quality and Reliability
- Lead Management

Operations & Maintenance
- Operating procedures
- Maintenance

Leadership
- Demonstrated Corporate Commitment

Understanding
- Energy Performance and Savings Opportunities

Planning
- Targets, KPIs
- Plans

People
- Accountabilities
- Awareness & Training
- Resourcing
Steps Toward Best Practices

- Need for Energy Waste Reduction Identified
- Energy Waste Reduction Practiced
- Energy Management Systems Established
- Energy Integrated into Overall Business Systems
- Continuous Improvement – "Best Practice"

Star Rating vs. Energy Cost

![Graph showing the relationship between star rating and energy cost](image)
Only 10% of Industry > 2 Star

Star Rating vs. Energy Intensity

Star Rating vs. Energy Costs
US Industrial Sites with Energy Costs > USD 500,000 per year
(N=189, r=0.247)
Critical Actions in US Companies

Percentage of Sites with Energy Spend > USD $500,000/year

1. Leadership & Commitment
2. Understanding Performance & Opportunities
3. Targets, Feedback & Measures & Policies
4. Performance Management
5. Strategic Planning & Financial Risk Management
6. Supply Management & Alternatives
7. Quality & Reliability
8. Supply Agreements & Optimization
9. Operating Procedures
10. Maintenance Procedures
11. Equipment Retrofit, Repair, Replacement
12. Innovation
13. Monitoring & Measurement
14. Reporting & Feedback
15. Documentation & Record Keeping
16. Achievement (12 Months)
17. Auditing

Driving Continuous Improvement

Corporate Meeting
Site Meeting
Diagnostic
Feedback/Vision
Planning Process
90 Day Plans
Implement/Audit
Long Term Plans
Implement/Audit
Business Review
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