ISO 50001 Workshop:
How can ISO 50001 support both government and industry to promote energy efficiency?

Kevin O’Rourke (SEAI)
EM in business sector: Ireland/SEAI programme model

Large Industry
Large Business

Energy Agreements Programme
LIEN Target

Disseminate Replicate

Energy Agreements Programme (EAP)

An Energy Agreement based on the European Energy Management Standard – I.S. EN 16001
Enter into Three Year Relationship with SEI
Implementation of I.S. EN 16001 Energy Management Standard
Three Special Investigations over three year period

Large Industry Energy Network (LIEN)

Voluntary network of companies committed to strong energy management practices

Develop an energy management programme
Setting and reviewing energy targets
Undertaking an annual energy review
Annual SEI Questionnaire
Large Industry Energy Network:
- Currently 140 companies
- €1B p.a. energy expenditure
- 61% of total industrial energy use (14% of national energy use)
- Coverage across all sectors
  > Networking, training, knowledge and experiences sharing, access relationships, disseminating, replicating, test bed for new initiatives

Energy Agreements Programme:
- Subset of LIEN
- Currently 80 members, 100 sites
- IS 393/EN 16001 is the framework
  > Higher commitment, EN 16001 EMS, formal rigour, more support
  > Test bed to pilot new initiatives, greater level of interaction, higher performance expectation, standardising solutions

SME Support Programme
- Panel of EM advisors mentors & trainers
- Currently 2,000 companies registered
- ‘Energy MAP’ (EN 16001 ‘lite’) offers structured approach
- Supports scaled to energy usage
IS EN 16001: framework for Industry Agreements

- Recommended approach for large industry
- Implement with engineering and operational emphasis
- Results focus
- Structured approach to energy management
Summary of Performance

Figure 4.8: Historic LIEN energy performance

Energy Management System Performance Indicator

<table>
<thead>
<tr>
<th>Year</th>
<th>EAP</th>
<th>LIEN-only</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
<td>8%</td>
<td>1%</td>
</tr>
<tr>
<td>2008</td>
<td>6%</td>
<td>4.7%</td>
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</tbody>
</table>
Energy Agreements Programme - Leading

EnMS

- Achieving BAU+

Management System Model

- Continual improvement
  - Energy policy
  - Planning
  - Implementation and operation
- Management review
- Internal audit
- Checking
- Monitoring and measurement
- Corrective and preventive action

Additional Programme Requirements

- Average of One Special Investigation per year
- Yearly data submitted to SEAI
- Consider Special Initiative Project application
- Performance Statement
  - EMS Independently audited by Certified body
  - Audited to:
    - Standard
    - Annex
    - SEAI Technical Guideline
- Advise and mentoring support, Special Initiative project voluntary membership, materials, methodologies, new tools, training, workshops, seminars, networking events, financial assistance
4.1 General Requirements
4.2 Energy Policy

PLAN
4.3 Planning
4.3.1 Review of energy aspects
4.3.2 Legal & other requirements
4.3.3 Objectives and targets
4.3.4 Energy management programmes

DO
4.4 Implementation & Operation
4.4.1 Structure and responsibility
4.4.2 Awareness, training & competence
4.4.3 Communication
4.4.4 Energy mgt system documentation
4.4.5 Document control
4.4.6 Operational control

ACT
4.6 Management Review

CHECK
4.5 Checking
4.5.1 Monitoring & measurement
4.5.2 Evaluation of compliance
4.5.3 Nonconformity, corrective action & preventive action
4.5.4 Control of records
4.5.5 Internal audit

Same management system model as ISO14001
PIRS

TIMESCALE

IMPACT - SCOPE

SPIN 1

SPIN 2

SPIN 3

SPIN 4

EN 16001

Links to Regulatory Bodies, BATBREF Submission
CEO Engagement, Continuous measurement
EN16001 Documentation, Corporate procedures
Training delivery, International collaboration projects
CB Awareness of initiative, IDA/EI Collaboration
Measurement methodology for impact, Conference
Further demonstration project sponsorship
LIEN Replication discrete project, Case Study development
SEI Promotion, CB Awareness, Grant incentives
Detailed Benchmarking, Training content development
Technical papers, Opportunity specific investigations
Marketing materials, Links to stakeholder agencies
Demonstration projects, DOE Projects
New process development, Case Study development
New methodology development, Demonstration of new tools
Run to failure projects, Desktop research
New tools development, Benchmarking
Opportunity identification, New tools demonstration
New Initiative, Assessments
Whet appetite, Stakeholder analysis
Desktop research, CB Awareness of initiative
Special Investigation, Desktop Studies
Basic Benchmarking
# Current Projects

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<thead>
<tr>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
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</thead>
<tbody>
<tr>
<td><strong>Industrial Best Practice initiative (Grant scheme)</strong></td>
<td><strong>SEEEEP Initiative (Grant Scheme)</strong></td>
<td><strong>EDRT TBA</strong></td>
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<tr>
<td><strong>Compressed Air SWG</strong></td>
<td><strong>Food &amp; Dairy Sector SWG</strong></td>
<td><strong>Food &amp; Dairy Sector SWG Spin II</strong></td>
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<tr>
<td><strong>HVAC SWG</strong></td>
<td><strong>HVAC SWG Spin II</strong></td>
<td><strong>HVAC SWG Spin III</strong></td>
<td><strong>HVAC SWG Spin IV</strong></td>
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<td><strong>Energy Efficient Design SWG</strong></td>
<td><strong>Energy Efficient Design SWG Spin II</strong></td>
<td><strong>Energy Efficient Design SWG Spin III</strong></td>
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<td><strong>Alternative Methodologies SWG</strong></td>
<td><strong>Alternative Methodologies SWG Spin II</strong></td>
<td><strong>Alternative Methodologies SWG Spin III</strong></td>
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<tr>
<td><strong>Refrigeration/Cooling SWG</strong></td>
<td><strong>Data Centre Sector SWG</strong></td>
<td><strong>Data Centre Sector SWG Spin II</strong></td>
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<tr>
<td><strong>Commercial Buildings SWG</strong></td>
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<tr>
<td><strong>LIEN HVAC Benchmarking (Project)</strong></td>
<td><strong>Large Fleet Transport SWG</strong></td>
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<tr>
<td><strong>LIEN Compressed Air (Project)</strong></td>
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Dimensions of ISO 50001: success factors, risk issues

• A ‘framework’ standard for a business process

KEY SUCCESS ATTRIBUTES:
• Commitment: senior management, formally embedding energy in normal operations
• Systematic: establishing a challenging continuous improvement ethic and cycle
• Holistic: capturing all aspects of energy supply, procurement and usage
• Actioning: aligned and prioritised towards key areas of energy usage
• Powerful: facilitating deep action, revealing more new opportunities
• Secondary benefits: often other, non-energy, operational savings are stimulated
• Capital investment barrier: Seek project/process integration opportunities to improve overall ROI
• Inclusive and flexible: configurable to business specifics, enable modular approaches
• Participative: success depends on team rather than individual effort
• Standardised processes: ensure savings are sustained and cumulative

  >> Demonstrated value for money in practice

But CAUTIONS:
• Focus: must be on results, visible value adding (‘lean’), enable prioritisation of actions
• Substance: Caution against box ticking culture, ‘ISO 9000-itis’, implement with engineering and operational emphasis
• Resourcing burden: internal and external
• Communication: ensure it’s not only a compliance roll out, but fits business needs, purpose and aims
Dimensions of ISO 50001: Next steps?

- **Integration**: alignment with other standards – including ISO 14001 & ISO 9000
- **Reach**: extend and adapt conceptually similar frameworks, learnings and best practice solutions to SMEs and public sector generally (e.g. Ireland ‘Energy MAP’)
- **Leverage**: role in energy/carbon tax & incentive mechanisms, target or action based?
- **Obligation**: national energy efficiency legislation, (e.g. Ireland SI 542 of 2009):
  - emerging obligations on energy suppliers
  - registration of energy auditors/ managers

- **Extending menu** of opportunities: Evolving from IS393 to EN16001 to ISO50001 is broadening our experience and the variation in the standards can be considered and applied to improve existing effectiveness and add value, including:
  - Greater emphasis on **design** and **procurement**
  - Greater emphasis on **energy supply** and **renewable alternatives**
  - Further business performance improvements as the system matures and is better utilised

- As programme matures, initiatives should stimulate new activity, and support replication and standardisation of solutions
- The EMS must also be challenged to continuously improve
Dimensions of EM: Role of government?

- **Policy: national policy targets** (e.g. EU National Energy Efficiency Action Plans to 2010-2020)
  - Regulation
  - Incentive
  - Promotion and support services
  - RD&D

- *Energy agencies* are key actors in:
  - Extending existing agreements: plus monitoring and verification
  - Appropriate supports to SMEs & public sector
  - Registration of energy managers?
  - Complementary supports: best practise guides, training, awards etc.

>> a process of PARTNERSHIP & PROFESSIONALISATION
Thank You