

*EMAK Workshop, Washington,
10 May 2010*

ISO 50001 Workshop:

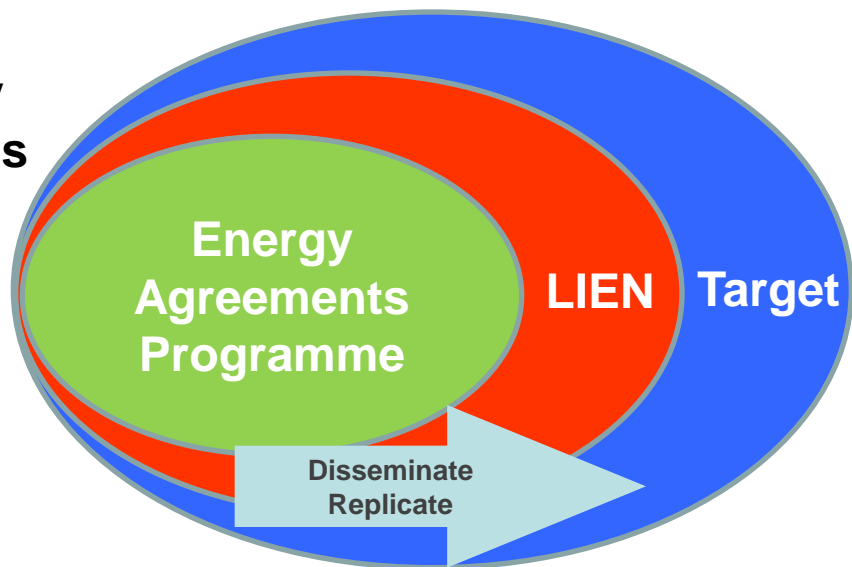
*How can ISO 50001 support
both government and industry
to promote energy efficiency?*

Kevin O'Rourke (SEAI)



EM in business sector: Ireland/ SEAI programme model

**Large Industry
Large Business**



**SMEs
Public Sector**

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

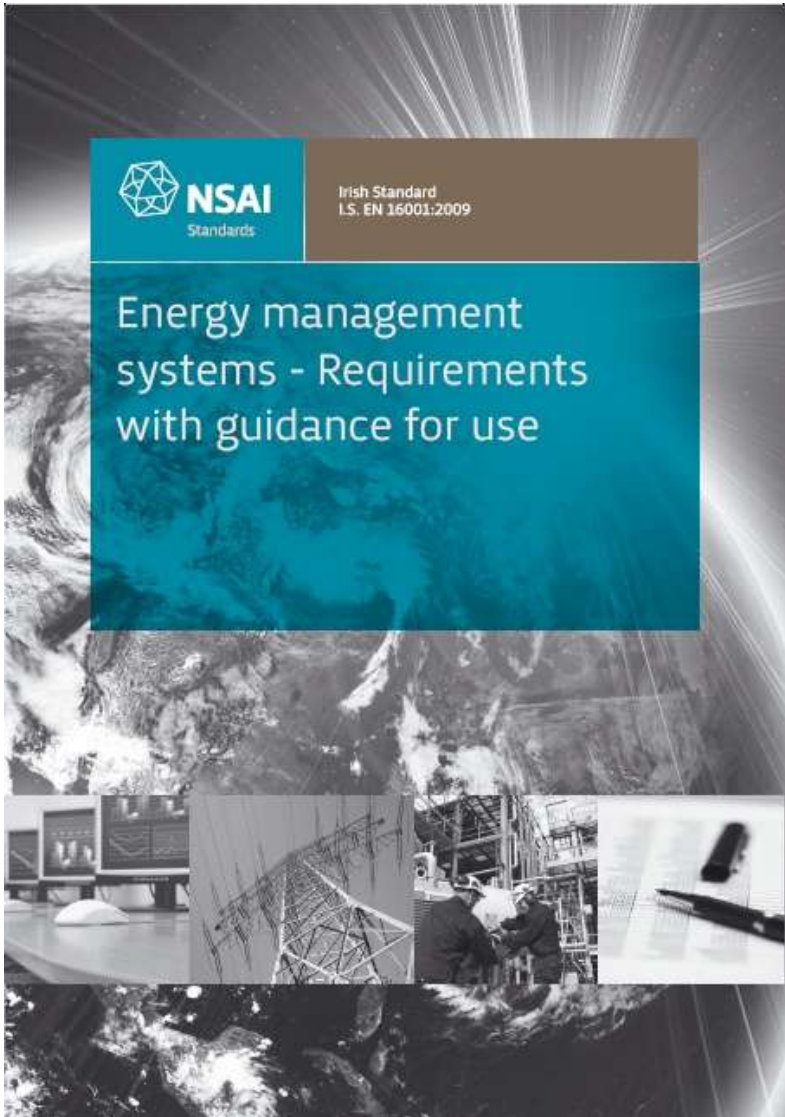
Setting and reviewing energy targets

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

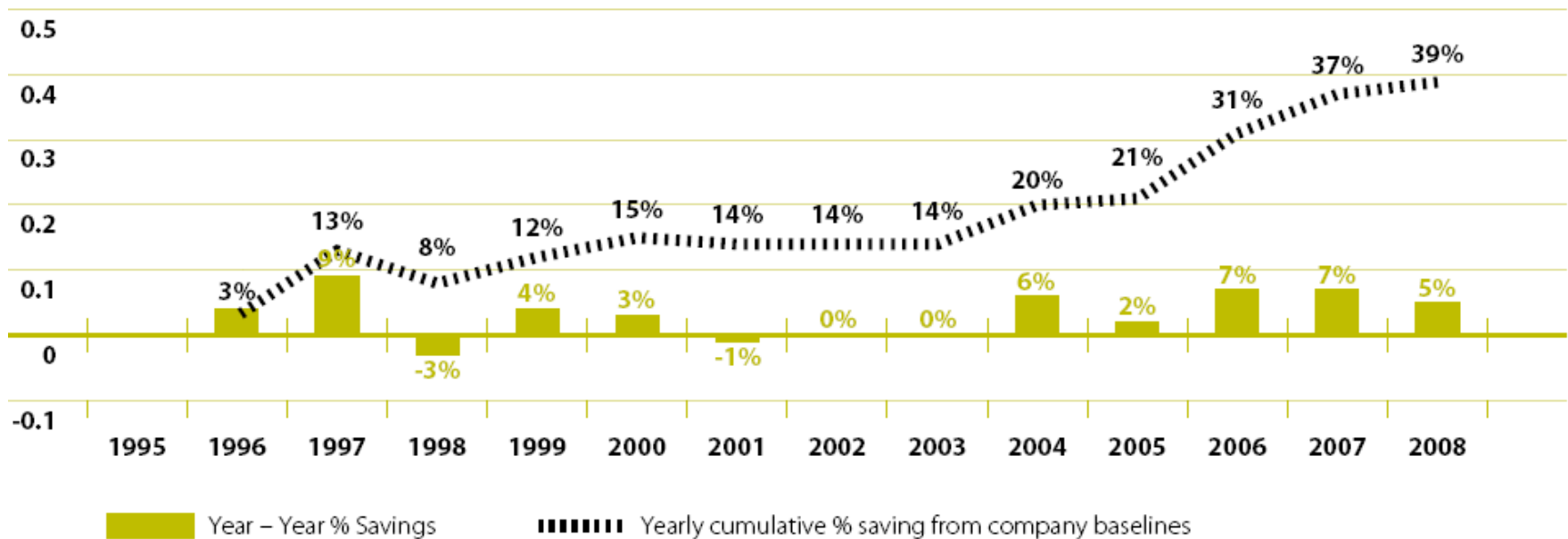
IS EN 16001: framework for Industry Agreements



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

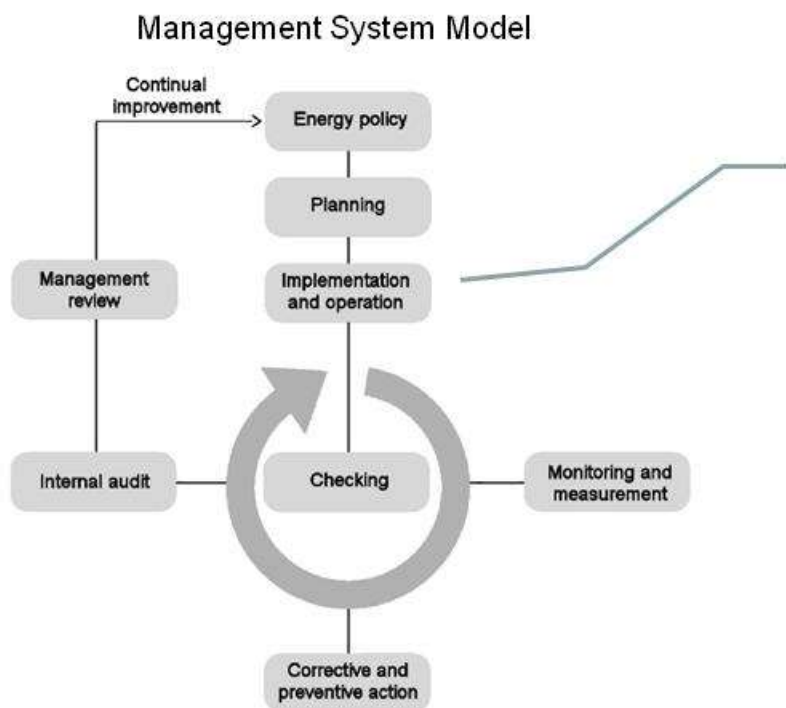
Summary of Performance

Figure 4.8: Historic LIEN energy performance



Energy Management System Performance Indicator		
Year	EAP	LIEN-only
2007	8%	1%
2008	6%	4.7%

EnMS



• Achieving BAU+

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

ACT

4.6 Management Review

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

CHECK

4.5 Checking

4.5.1 Monitoring & measurement

4.5.2 Evaluation of compliance

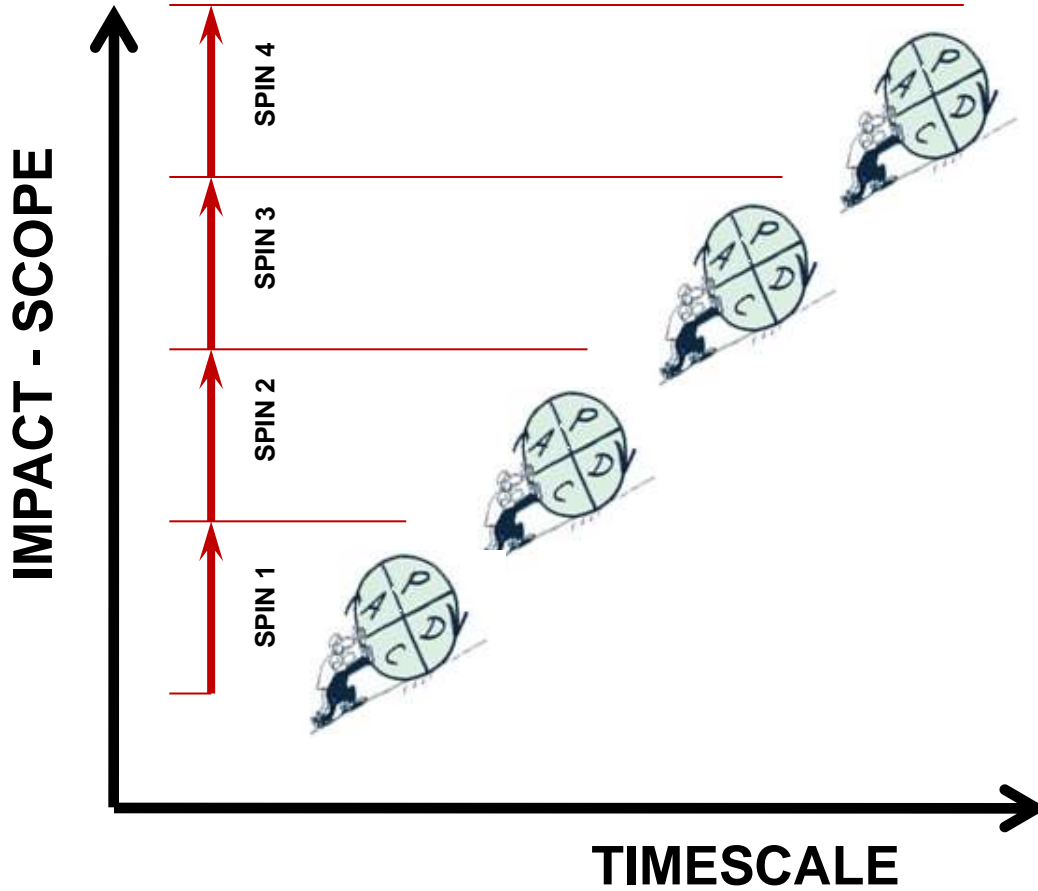
4.5.3 Nonconformity, corrective action & preventive action

4.5.4 Control of records

4.5.5 Internal audit

**Same management
system model
as ISO14001**





- 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 Stakeholder analysis
- Whet appetite CB Awareness of initiative
- Special Investigation
- Desktop research Basic Benchmarking Desktop Studies



Current Projects

■	Technology Analysis focus
■	New Methodology Focus
■	Business Sector focus
■	Grant Scheme

2007	2008	2009	2010
Industrial Best Practice initiative (Grant scheme)		SEEEP Initiative (Grant Scheme)	EDRT TBA
Compressed Air SWG		Food & Dairy Sector SWG	Food & Dairy Sector SWG Spin II
HVAC SWG	HVAC SWG Spin II	HVAC SWG Spin III	HVAC SWG Spin IV
	Energy Efficient Design SWG	Energy Efficient Design SWG Spin II	Energy Efficient Design SWG Spin III
	Alternative Methodologies SWG	Alternative Methodologies SWG Spin II	Alternative Methodologies SWG Spin III
	Refrigeration/Cooling SWG	Data Centre Sector SWG	Data Centre Sector SWG Spin II
		Commercial Buildings SWG	Commercial Buildings SWG Spin II
	LIEN HVAC Benchmarking (Project)		Large Fleet Transport SWG
	LIEN Compressed Air (Project)		

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

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



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