EMAK Workshop, Washington, 10 May 2010

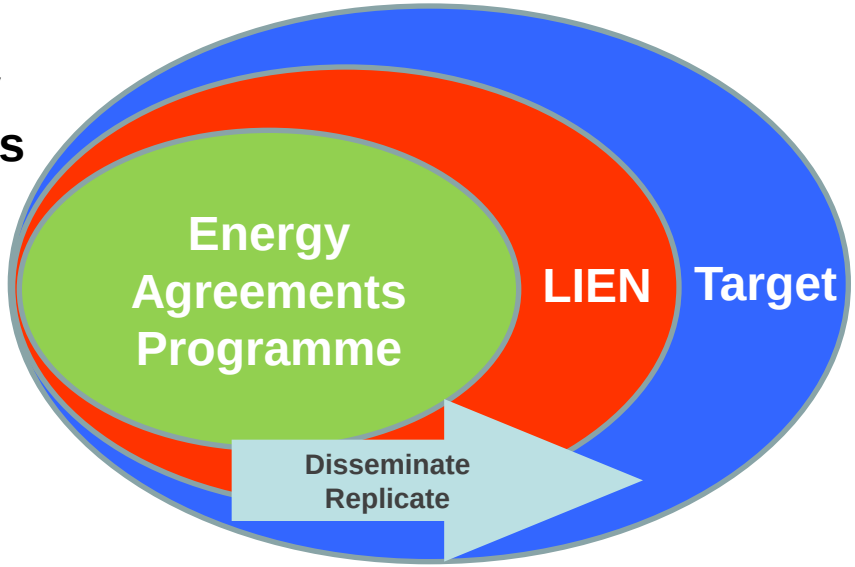
ISO 50001 Workshop:

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

Business sector programmes: www.seai.ie/business

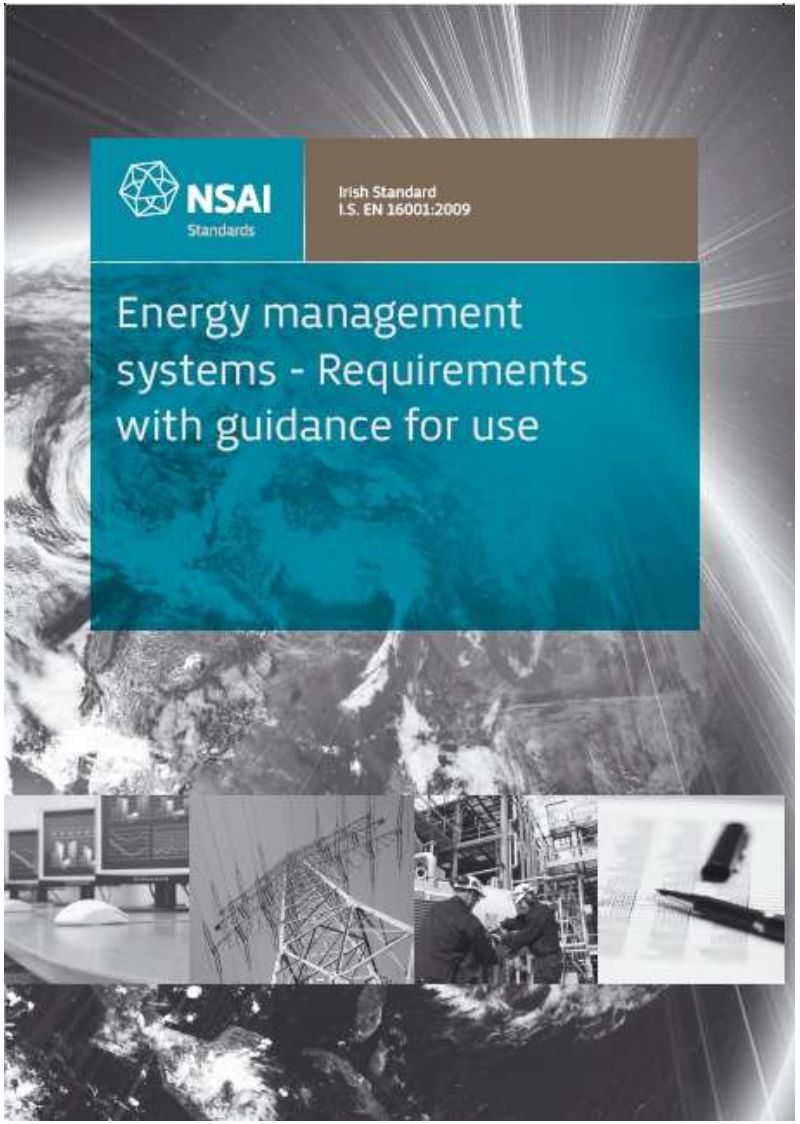
- **Large Industry Energy Network:**
  - Currently 140 companies
  - €1B p.a. energy expenditure
  - 61% of total industrial energy use (14% of national energy use)
  - Coverage across all sectors

  >> 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

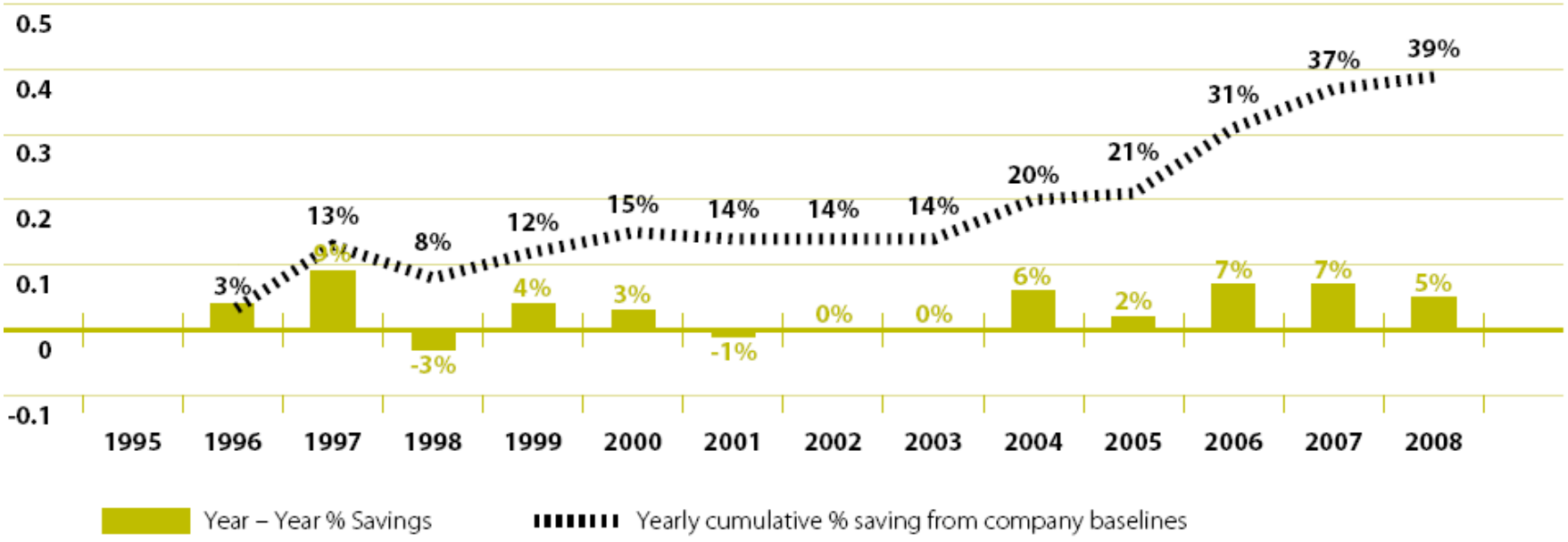
IS EN 16001: framework for Industry Agreements



- 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

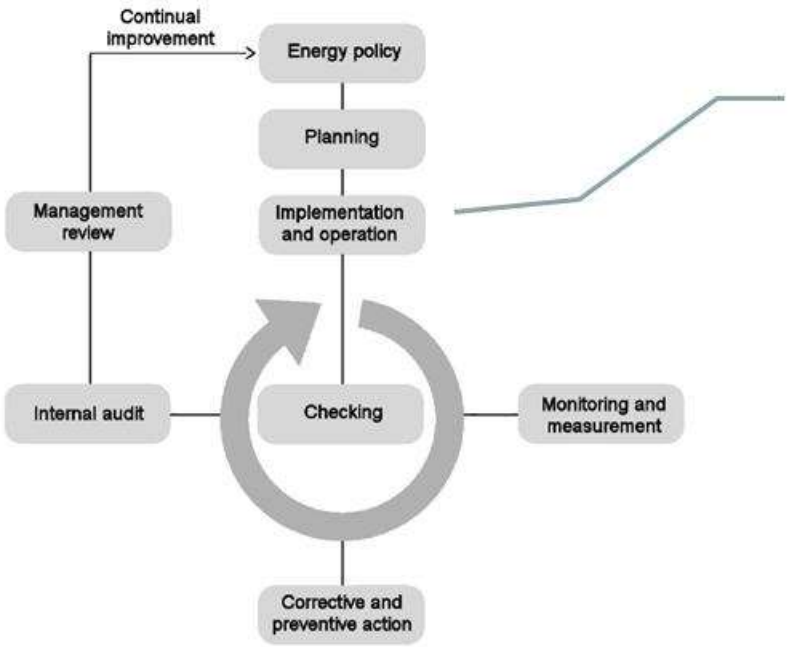


Energy Management System Performance Indicator		
Year	EAP	LIEN-only
2007	8%	1%
2008	6%	4.7%

Energy Agreements Programme - Leading

EnMS

Management System Model



• 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	+

IS EN 16001: System and elements

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

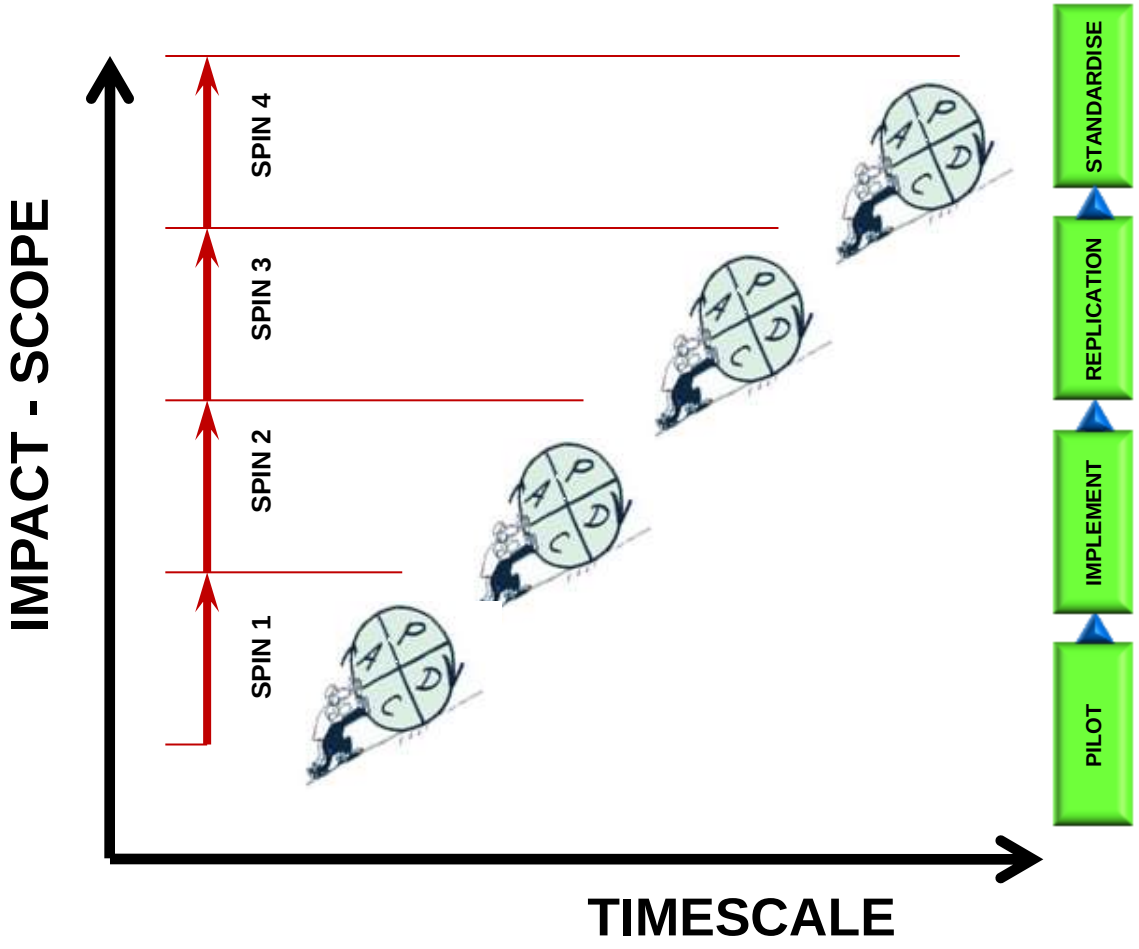
4.4 Implementation & Operation
4.4.1 Structure and responsibility
4.4.2 Awareness, training & competence
4.4.3 Communication
4.4.4 Energy mgt system documentation
4.4.5 Document control
4.4.6 Operational control

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

PIRS



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 Training development
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
CB Awareness of initiative
Whet appetite Special Investigation
Desktop research Desktop Studies
Basic Benchmarking

EN 16001

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

seai SUSTAINABLE ENERGY AUTHORITY OF IRELAND

Thank You

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Programmes 2007 - 2013

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