



training handbook summary

For Small and Medium Sized businesses

INTELLIGENT METERING FOR BUSINESSES TRAINERS PACK : SUMMARY

European Commission Intelligent Energy Europe programme

Automatic Intelligent Metering for Small and Medium sized Businesses (aIM 4 SMEs)

Contract ref. EIE/07/136/SI2.466711

Website: www.aim4smes.com

Leicester Energy Agency (Leicester City Council)

Leicester Energy Efficiency Centre

2-4 Market Place South

Leicester

LE1 5HB

UK

Tel. +44(0)116 262 4698

Email info@energyagency.co.uk

1 Introduction

1.1 The European Commission supported Intelligent Metering for Businesses project

With rising fuel prices there is a need for small to medium sized businesses (SMEs) across the European Union to have access to independent energy efficiency advice and training in order to reduce costs to help maintain their competitiveness.

The European Commission, through its Intelligent Energy Europe programme, is providing support for the project 'Automatic Intelligent Metering for Small and Medium-sized Businesses' (aIM4SMEs) (Contract ref. EIE/07/136/SI2.466711), involving partners in Austria, Hungary, Poland, Portugal and the United Kingdom. The project runs from December 2007 to March 2010.

1.2 Purpose of the training package

Objectives of the training:

- To train staff of participating SMEs in the use of automatic intelligent metering information and in energy saving opportunities.
- To train employees/facility users in how to save energy and water through behavioural change and
- To relate to the data being provided to support behavioural change.

2 Changing the Behaviour of Building Users

2.1 *The Model*

The aim of the training package is to provide support so that building users can change their usage patterns in order to save energy and water. It has 3 main stages.

Figure 1 shows a set of factors that can have an impact on the sustainability of a person's behaviour and actions.

Enabling

- range of techniques and factors to provide alternatives to existing unsustainable (e.g. energy inefficient) actions and behaviours.

Engaging

- tools available to communicate with people and engage them in the sustainable development process.

Incentivising

- interventions by the SME or the trainer, for example rewards for reducing energy and water use.

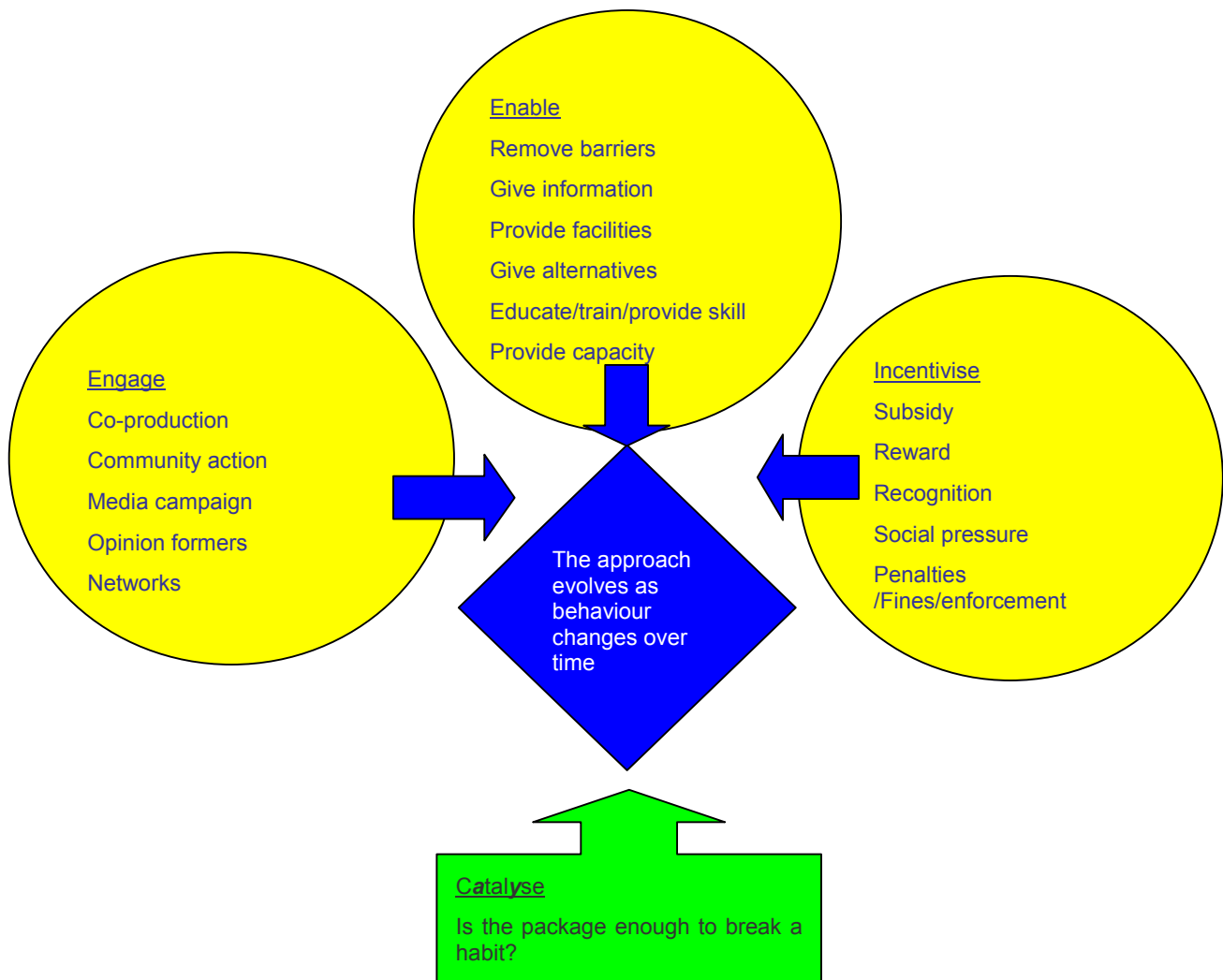


Figure 1

2.2 Enabling

These are the structures that the trainers will be putting into place to allow users of the SME buildings to act more sustainably and reduce energy and water consumption.

2.2.1 Remove barriers

An early action for 'enabling' the SME staff/facility users includes removing barriers to the occupants saving energy. For example where there are many light switches together are they clearly labelled so building users can easily identify their local lighting point? Are users practically able to attend training?

2.2.2 Information giving

Be "consumer orientated". What don't we understand about our target audience?

An exchange: Offer users of SME buildings something they really want.

2.2.3 Staff development

Help create a motivated workforce.

Professional development programmes can encourage change in individuals. Many courses now exist that can not only link sustainability to their existing jobs but can also be used to help with promotion to other jobs.

2.2.4 Intelligent Metering for Businesses – Increasing the capacity of building users

Those responsible for monitoring and setting energy and water targets can get a very rapid response and instant feedback to the building users. In fact they can often know about an energy or water related problem even before the building user knows.

2.3 Engaging

Approaches that engage people can play an important role in changing behaviour.

Typically these are actions of groups or individuals that promote citizens to act more sustainably. For the project to be successful in changing behaviour this needs to be addressed from the start.

Involving building users in other projects on 'sustainability' can have a big impact on engaging building users in the project.

2.3.1 Community action

Setting energy efficiency and sustainable development in a wider context can have a large impact on changing behaviour. There are many opportunities for engaging the local community in energy efficiency, whilst using intelligent metering.

2.3.2 Co-production

This is where building users are involved in developing energy efficiency/sustainability training and activities for their business. For example, an 'E-team' can involve a range of staff in the intelligent metering process.

2.3.3 Personal Contacts

Individuals will listen to those in positions of credibility when they communicate a message outside their field. External professionals from other fields can be involved in delivering the training. For example consider inviting local health officials to talk about 'healthy buildings'.

2.3.4 Media campaigns and opinion formers

Use the local media network, and issue regular press releases. Businesses may have their own local media networks. For example the local daily newspaper may be interested in publishing articles on the theme of energy efficiency, climate change or sustainable development.

2.4 Incentivising

Investigate the use of incentives for the users of the SME buildings.

2.4.1 Rewards

It is very motivational to ensure that adequate incentives exist to recognise the change in behaviour of building users. Intelligent metering can give fast feedback when different training activities are implemented.

Local teams in businesses can be rewarded for achieving energy and water targets.

Energy saving campaigns

An E-team can have a focus on 'switching off lights' for example. Using intelligent metering the actual difference in energy savings can easily be calculated for the chosen period. The business achieving the largest savings could receive a reward.

The 'yellow card system'

When computers are left on overnight a yellow card is left on the computer. The teams that have the fewest cards in a period of time can be rewarded.

2.4.2 Recognition and social pressure

Using the power of 'social pressure' can have a big impact on changing behaviour.

Intelligent metering needs to be focussed on 'quality of life and sustainability exercises'. These could be advertised in 'in-house' business publications. Local teams could be involved in energy saving campaign/'sustainability action' weeks. Staff can use 'carbon footprinting' exercises to challenge themselves and each other to reduce this over time.

Benchmarks can be used to compare performance to other similar businesses.

2.5 Catalysation

This is the key factor that makes behaviour change happen on a large scale. For example, it appears that it is the ethical and moral reasons that have underpinned the change from recycling being a peripheral to a mainstream activity.

3 Intelligent Metering for Businesses – The Training Action Plan

These are the first steps in the use of intelligent metering in SMEs. Our aim is to change the behaviour of building users; this is a long and complex process.

The training pack gives advice on the complex factors involved in changing the behaviour of individuals and groups with regard to energy and water.

3.1 Pre launch data collection

Before the training, at least 1 month of consumption data from intelligent metering for the buildings is analysed to identify savings opportunities and inform the training.

It is important to gather the information about the SME buildings that the people you are going to train work in. The half hourly data of their building can be used to show how energy is consumed every half hour each week. The trainees should be able to recognise that pattern and help identify opportunities for energy and water consumption reductions.

The energy manager/energy representative for the SME should have a role in this process.

3.2 Individual training meeting

A meeting can be held with a representative at the SME to explain the intelligent metering graphs and the short analysis report on the first data being produced for each business. A walk round survey can be carried out and a short action plan produced, for example with no cost, low cost and higher cost energy/water saving measures. How other training will be delivered in the SME can be discussed.

Best practice guides

These allow tailored training to be carried out for specific business sectors.

- Whole group training of 'specialist building users', for example business 'Facility Managers'.
- One to one discussions, for instance when setting energy and water targets with the key financial stakeholders of the SME.

Good Housekeeping

This section is aimed at SME building users to enable them to address energy efficiency in their day-to-day work. It is divided into 4 sections.

Scenario	Problem	Answer	Intelligent Metering Notes
<p>1. HEATING</p> <p>What is the temperature of the building?</p>	<p>The recommended temperature in offices is 19°C. Costs rise by about 8% for every 1°C above 19°C.</p>	<p>Check the setting of the thermostat.</p> <p>Discuss temperatures at team briefings.</p>	<p>Staff often expect the temperature to be set much higher and are unaware of the recommended levels.</p>
<p>2. LIGHTING</p> <p>Are people encouraged to turn off lights when they leave areas?</p>	<p>It's cheaper to turn off the rest of the lights than leave them on. It can save up to 15% of lighting costs.</p>	<p>Use promotional materials to encourage people to turn off lights when they are not needed.</p>	<p>Have a whole day/week focus on lighting. A 'turn off day'. Look at the impact on electricity use by analysing the IM graphs.</p>
<p>3. ELECTRICAL EQUIPMENT</p> <p>Are computers switched off when not being used?</p>	<p>Leaving computer equipment switched on for long periods wastes money.</p>	<p>Identify which equipment can be switched off when not in use. Encourage people to switch it off.</p>	<p>Specific promotional materials are available.</p>
<p>4. HOT WATER</p> <p>Are people aware of the need to prevent water being wasted?</p>	<p>Taps that are not properly turned off still consume a substantial amount of water.</p>	<p>Encourage people to turn off taps completely and not to leave taps running when they don't need to be run. Use promotional materials. Use team briefings.</p>	<p>Have a 'water awareness week'. Using the broad approach in the rest of this training manual can motivate staff to take part. Intelligent Metering can be used to analyse the effectiveness of the campaign in different buildings.</p>

3.3 Posters and stickers

Posters and stickers can remind staff of the training they are receiving and important actions they can take.

3.4 Training for all SME building users

Other training for all SME building users is provided. This can be based on training resources referred to in the full training pack, including the Learning for Sustainability approach, and other relevant materials which are available.

4 Environmental Good Practice

4.1 Environmental Management Systems

The Eco Management and Audit Scheme (EMAS) framework

- 1 **Adopt an environmental policy.** This should include both compliance with all relevant regulatory requirements and a commitment to continuous improvements of environmental performance.
- 2 **Conduct an environmental review.** This should include compiling a register of significant environmental effects and a register of legislative, regulatory and other policy requirements.
- 3 **Introduce an environmental programme.** An environmental programme and an environmental management system should be implemented to achieve the commitment outlined in the policy and achieve the specific objectives.
- 4 **Organise and document a management system.** This must be fully integrated into the company's existing management structure.
- 5 **Carry out environmental audits.** Regular environmental audits should assess the environmental management system and determine compliance with the environmental policy and programme.
- 6 **Prepare an environmental statement.** An environmental statement, including descriptions of activities, an assessment of their environmental impact, data on emissions, energy and raw materials and a description of the environmental policy and management system should be prepared.
- 7 **Submit the environmental policy.** This should include the programme, management system, audit procedure and the statement which will be examined by a credited external verifier.

4.1.1 Intelligent metering - a whole SME approach

For Intelligent Metering for Businesses to have a larger impact on building users it is important that the SMEs make adopting a policy to improve the building's energy and water performance a priority. All building users need to be aware of this remarkable tool and that it is a key part of the business's 'Sustainable Development' strategy. Publicity material is available in section 3 and this should be referred to in the official communication documents within the business. For all personnel to be aware of intelligent metering then it must become integrated into the communication systems that exist in the business. A poster campaign will be meaningless if it is seen to be an 'add on' to the strategic plan.

In addition 'resources' must be looked at in a broad sense. Time is a key resource and we must build in the capacity for key personnel to be able to influence the rest of the building users.

It is important that the successes of the energy and water policy are publicised and promoted. This should also include clear targets of what still needs to be done and changed. Intelligent Metering for Businesses will lose its impact and become part of other failed initiatives to change building user behaviour if this is not addressed. Small-scale mechanisms that applaud success and challenge failure must be used to publicise Energy and Water targets alongside big impact celebrations.

5 Learning for Sustainability

5.1 The WWF 'Pathways project'

The Learning for Sustainability - Pathways training material was adapted for non-school building users in the previous EC Intelligent Metering project. This gives a global perspective on Intelligent Metering and can be delivered to large and small groups. It can help building users in the project understand the project in the wider context of sustainable development.

5.1.1 The Activities and Tools

In the development framework there are **six activities and tools** that will help to plan, implement, monitor and evaluate the Intelligent Metering for Businesses project.

Do the SME facility users/energy managers know why we're interested in developing good practice through understanding *Sustainability* and what the **journey's destination** might look like?

The activities and tools are described in the following sections and the more detailed explanation of how to use this approach is in the WWF Pathways *Learning for Sustainability* booklet (www.wwflearning.org.uk/data/files/pathways-310.pdf).

Activities 1 and 2 set sustainability in context and could be used during a launch day or at the beginning of working with a new group. They are good for engaging staff.

Activity 1 Understanding Sustainability

This explores sustainability and the characteristics that are needed to address the challenges of decision making. It also looks at the actions that will shape and define communities in the future.

Activity 2 Defining learning for Sustainability.

This builds a working definition of *Learning for Sustainability* and can be used to link life-long learning and this project.

Do the SME facility users/energy managers know where **we are** on our Intelligent Metering for Businesses project journey?

Activity 3 My personal *Sustainability* journey

This helps individuals identify key influences that have shaped personal and professional understanding of *Sustainability*. It helps people to better understand the opportunities and barriers that may hinder efforts to advance a whole building approach to sustainability using intelligent metering.

Activity 4 The building sustainability journey

This helps identify the key influences that have shaped the building users'/energy manager's understanding and practices of Sustainability. It helps with understanding the opportunities and barriers that may affect efforts to advance Intelligent Metering for Businesses.

Activity 5 Taking stock

This is a self-assessment tool which can be used to recognise accomplishments and identify opportunities for improving a whole building approach to *Sustainability* using intelligent metering. This is more suitable for school building users but an alternative is available in Appendix 1 of the full training pack 'The role of the Energy Manager in Intelligent Metering for Businesses'.

Do the SME facility users/energy managers have **targeted ideas** for advancing Sustainability using Intelligent Metering for Businesses?

Activity 6 Action proposals

This is a process for generating objectives and quick wins that may advance *Sustainability* using Intelligent Metering for Businesses. This has clear links with the environmental management systems operating in some businesses.

Do the building users/energy manager have **tools for planning** a new project or initiative and capturing learning during and after, so that the lessons learned can inform future activities?

Tool 1 : The *work plan* presents a basic work plan model that the SME facility users/energy managers can use to organise the development and implementation of their ideas.

Tool 2 : Learning during offers a process for a 30-minute structured reflection that can be used to monitor progress.

Tool 3 : Learning after contains evaluation guidelines for summarising and capturing learning at the end of a project or initiative.

The sole responsibility for the content of this training pack summary lies with the authors. It does not represent the opinion of the European Communities. The European Commission is not responsible for any use that may be made of the information contained therein.