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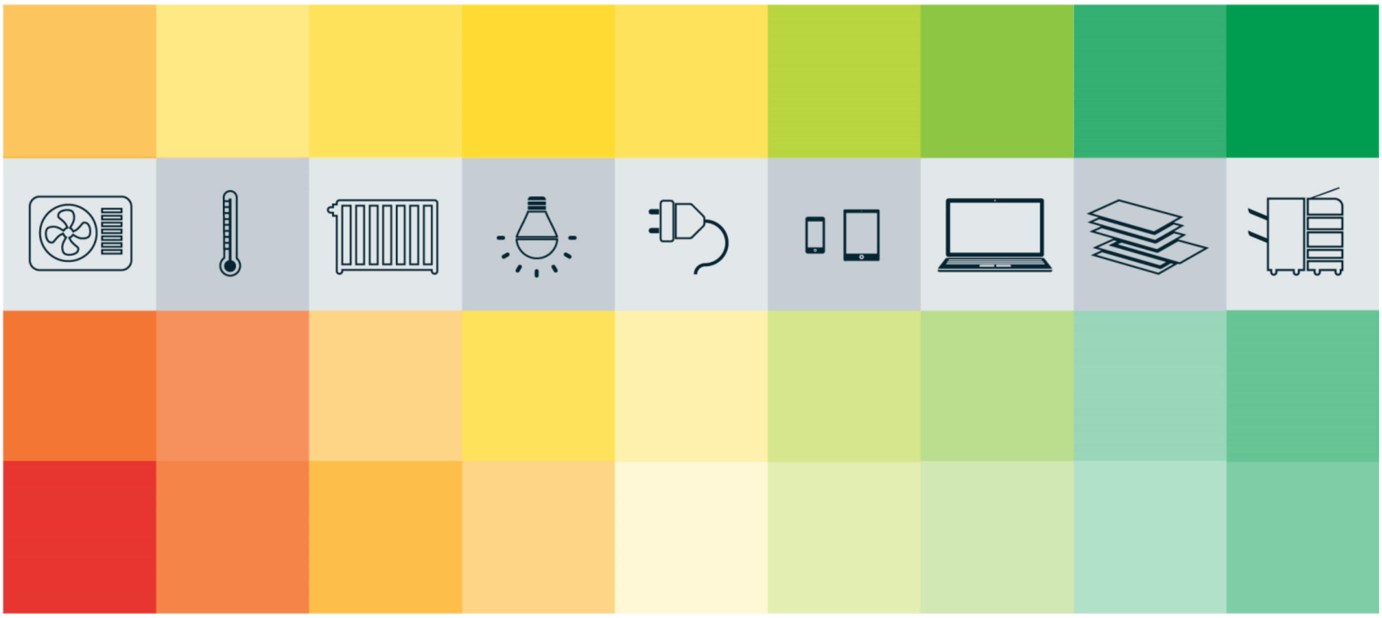
ENGAGING EUROPEAN STARTUPS AND YOUNG SMES FOR ACTION FOR SUSTAINABLE ENERGY



D4.2 Handbook for on-site capacity building activities

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 696069

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1. Introduction to START2ACT Work Package 4: Training and Capacity Building for Young SMEs

The primary objectives of Work Package 4 are:

- To provide the owners and staff of young SMEs with a sound understanding of the energy and cost saving potentials in their offices;
- To enable the owners and staff of selected companies to utilise the existing tools and solutions for implementing energy efficiency measures;
- To trigger change in the behaviour of the owners and staff of companies in their everyday lives, at work and at home; and
- To engage SME owners and managers to implement energy efficient procurement.

In order to achieve these objectives, each local partner (SOFENA, ENVIROS, EIHP, GEO, KAPE, ENERO, SIEA, and CT) will have the responsibility to identify potential young SMEs to conduct the capacity building activities. The “business breakfasts for energy efficiency” planned under Task 4.2 above will be instrumental in identifying companies with interest to receive further training and support. In addition, all of the local partners have very strong links towards their local chambers of commerce and industry, other business networks and organisations as well as to individual companies. The partners will thus use this outreach capacity to identify and recruit 50 companies who have an interest in implementing energy efficiency measures, but have not been able to proceed due to lack of capacity and know-how.

The local partners will undertake training and capacity building activities with each of the 50 identified young SMEs in each country, visiting each SME three times over the course of 1.5 years (at the beginning, during progress and at the end to see the outcomes). The Carbon Trust has provided a package of materials for you to use during the site visits, including a Training Kit, a Handbook (this document) and a Manual, all of which are described in more detail in the following section.

The impact of the training and capacity building SME visits is expected to be energy saving actions and increased energy awareness. The impact will be measured through a series of surveys, which will be organised by CentERdata. Each SME will complete this survey when they sign up to the programme, and after each visit from their START2ACT trainer. As well as measuring the SME’s progress, the survey data will also allow you, as the trainer, to learn about the SME and plan your training visits accordingly.

Alongside this task, a variety of interactive online materials have been created for START2ACT. These include energy efficiency advice pages (the Knowledge Base), E-Learning modules, and energy saving competition and an ‘ask the expert’ online forum. You should use these resources and encourage the SMEs to use them for independent learning too. They are described in more detail in section 8.

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2. Introduction to Task 4.1 (Training Kit, Handbook and Manual)

As part of Task 4.1, the Carbon Trust has designed three deliverables to support the START2ACT trainers working on-site with SMEs.

2.1 Training Kit

The Training Kit comprises a folder of training content that will be given to each SME for guidance to help them track progress over time.

There will be two parts to the Training Kit: (1) a guide to be implemented during the site visit; (2) accompanying materials for the SME to use to make progress between the visits, including checklists, templates and further tips.

Figure 1: Training Kit Guide

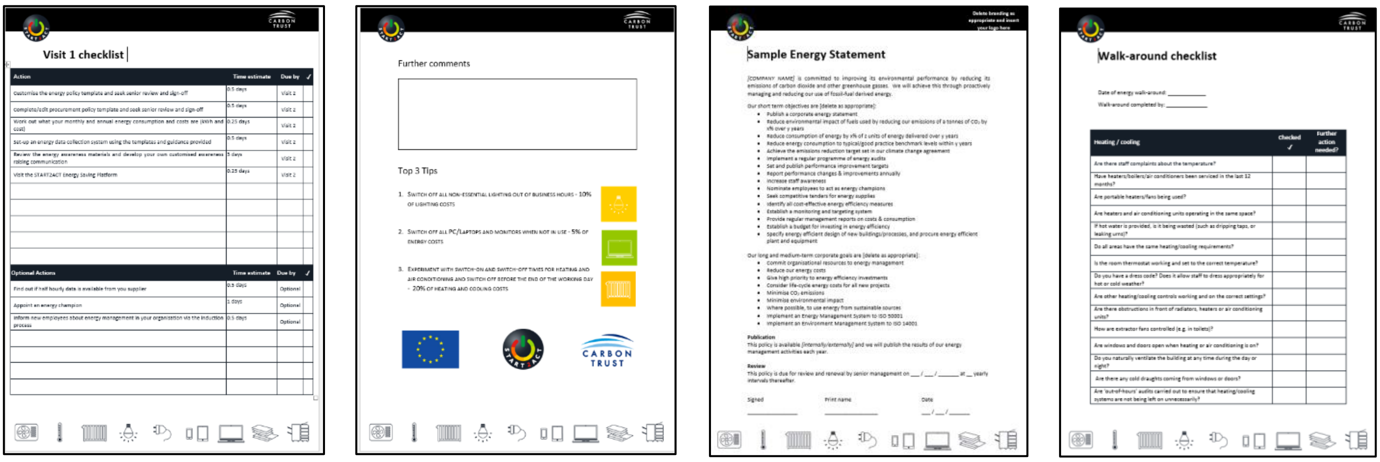

Figure 2: Training Kit Accompanying Materials

Separate Training Kits are provided for Visit 1, Visit 2 and Visit 3, allowing the SME to incrementally improve their energy management and implement energy saving activities over the course of the training. Each visit should aim to provide clients with information and actions that will enable SMEs to reduce energy consumption and save money.

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Whilst the Carbon Trust has provided the original version of the START2ACT Training Kit, each local partner will tailor the content to their country-specific needs. You, as the trainer, can also tailor the Training Kit to each SME that you visit, to match their needs on a case-by-case basis. We have provided more guidance on tailoring in section 7.

2.2 Handbook

The Handbook (this document) accompanies the Training Kit, and provides detailed additional information for the trainer, to enable you to effectively implement the Training Kit during the three site visits.

The remainder of this document therefore provides a step-by-step guide for you to refer to. It will help you to:

- Prepare for your site visits
- Understand how to implement each stage of the Training Kit with the SME
- Tailor the Training Kit to different SMEs, whether as part of the preparation stage or during the visit itself
- Identify the other START2ACT resources available, so that you can direct the SMEs to further information.

You should refer to the Training Kit in conjunction with this Handbook.

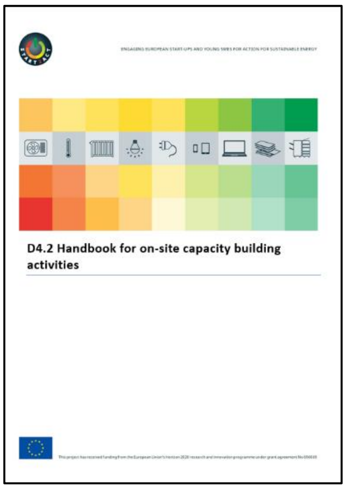

Figure 3: START2ACT Handbook

2.3 Manual

The Manual is used to 'train the trainers' on how to use the Training Kit and Handbook. It is a PowerPoint presentation that was presented by the Carbon Trust at the Training of Trainers event in London on 28th March 2017.

This PowerPoint presentation will be provided to you and your colleagues after the Training of Trainers event. You can use it to remind yourself of what you learned during the Training of Trainers, or if you were not able to attend the event it can be used as a self-learning tool. Similarly, a colleague that attended the event could present the Manual to colleagues to train them on the START2ACT training content.

Figure 4: START2ACT Manual

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3. Preparation

It is recommended that you review this whole document ahead of Visit 1 in order to prepare for the entirety of the programme.

3.1 Logistics

Before each visit you should contact the client to confirm the time and date of the visit, and ask whether they have any questions. We recommend that you ask for a room or dedicated area to base activities from, especially for the first visit which will be largely desk based. Each visit is anticipated to take a maximum of 2 hours. Due to the limited time allocated to the local partners for this task, where possible it is recommended that you carry out up to three visits in the same geographical location in the same day.

Before Visit 2 and Visit 3 you can also use this as an opportunity to ask how they are getting on and if they have made any progress since the previous visit. This will allow you to prepare accordingly, and may encourage the SME to undertake some more activities.

Things to consider/review ahead of each visit include:

Visit 1 (see section 4)

- Site orientation
- Policy and procurement templates
- Visiting of energy meters (arrange any access requirements)
- Staff awareness communication and campaign methodology

Visit 2 (see section 5)

- Progress with the policy and procurement documents
- Energy data analysis techniques
- Troubleshooting with energy data access issues
- Staff awareness - feedback and monitoring advice
- Plug-in timers review use and obtain device (if possible)

Visit 3 (see section 6)

- Review heating/cooling control instruction manuals
- Review lighting energy reduction techniques and hardware measures
- Review labelling schemes / energy efficient IT equipment

3.2 Materials

You will provide a copy of the Training Kit to the SME in either hard copy format or on a memory stick. It is up to you how you deliver and present the content (see section 7). There will be a survey link that will be emailed to the client before each visit - this should be prioritised for them to fill-in and submit. Depending on your experience and access to equipment you may also consider using a plug watt meters (second visit) and a lux meter (third visit) to help you.

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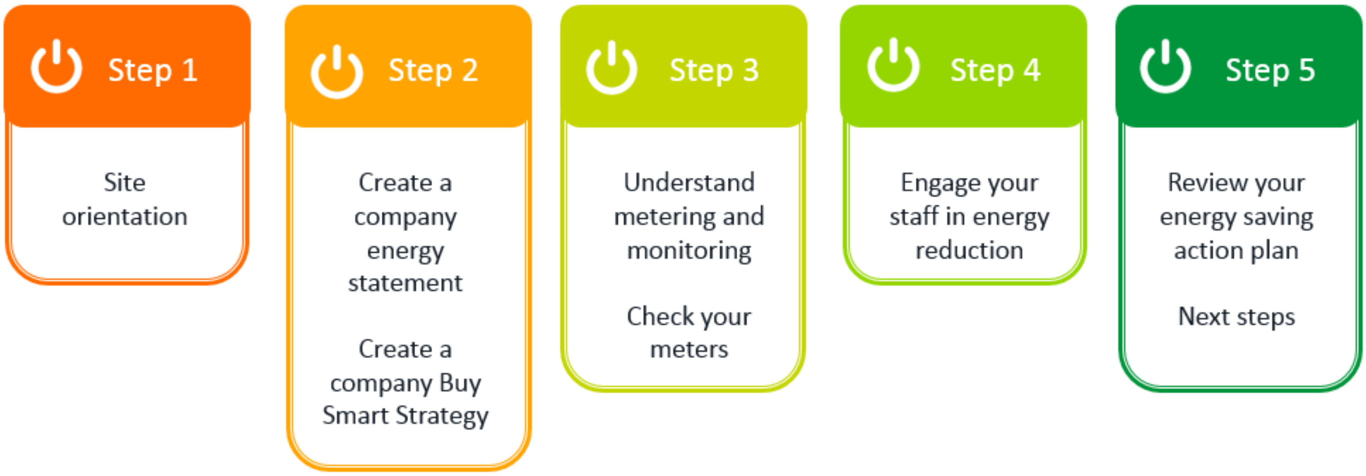
4. Visit 1

The activities for Visit 1 are shown below. Please review the Visit 1 Training Kit to gain a full overview of the process.



4.1 Step 1 – Site orientation

It is recommended that you request an initial site orientation

This will allow you to:

- Familiarise yourself with the site and operations
- Make initial notes on potential energy reduction opportunities (within scope of this programme)
- Allow the client to introduce any key members of staff

Where information is readily available you should make a note of the following during the site orientation:

- Type of services/building systems/IT systems/lighting etc.
- Locations/numbers of relevant energy using equipment (lights, IT equipment etc.)
- Any obvious inefficiencies (equipment left on unnecessarily, windows open etc.)
- Level of staff awareness
- Useful metrics such as hours of operation, numbers of employees, floor area etc.

In order to assist, please find a few optional questions you may wish to ask during the site orientation. This is *not* intended to be a full list of questions you are required to get answers for. You may however wish to pick a few questions to help you get to know their site operations and energy management standards.

<u>Energy Management Assessment</u>

- Do you have a written energy policy?
- Is it agreed by senior management and communicated to all employees?

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- Is the policy recently written and contains a commitment to produce targets?
- Is there a policy that includes the consideration of energy consumption in all procured equipment?
- Is energy performance specified in new pieces of major plant and IT hardware upgrades?
- Has there ever been any formal staff awareness campaign?
- Do you regularly collect energy use and cost data?
- Is energy data compared against energy drivers? (External temperatures, occupancy etc.?)
- Is energy data compared with energy bills?
- Is energy use/cost regularly reported on to senior management?

Energy Efficiency Assessment

- What are your annual/monthly energy costs?
- How many employees do you have?
- Do you know what your gross internal floor area is (m^2)?
- What are your usual hours of operation?
- Do you have access to any building logbooks/plans or asset lists of equipment?
- Are you in a leased building or is it owned?
- What level of control do you have over the management of the building services?
- Do you know where the controls for the heating and cooling systems are located?
- Do you know where the controls for lighting are?
- Are all IT equipment/small power items shut down over night?

4.2 Step 2 – Energy Statement and Buy Smart Strategy

The first two tasks for step 2 are mostly desk-based so you should request that a meeting room or dedicated space is made available.

4.2.1 Energy Statement

Using the materials provided explain to the client the importance of producing an energy statement to underpin energy management efforts. You should run through the template energy statement which you may be able to start filling out with the client. You may also wish to share examples of other (similar) organisational energy polices (not provided here). It is important that you feel confident that the client is empowered and able to carry out this task. Emphasis should be given to senior management endorsement of the policy and communication (internal/external).

4.2.2 Buy Smart Strategy

Sustainable procurement is a key aim of the programme so equal emphasis should be given to putting an effective procurement policy in place. Using the materials provided you should explain to the client the importance of formalising such a system. As before, use the template provided (and examples if you wish) to make the process as straight forward as possible for the client. Senior endorsement should also be emphasised here and additionally, training/understanding/competence of appropriate staff at the organisation should be outlined.

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4.3 Step 3 – Metering and monitoring

Whilst this exercise will also be largely desk-based, if possible you should visit the energy meters. You may wish to request this before you arrive on-site as access arrangements may need to be made.

The ultimate aim here is to empower the client to collect and monitor their own energy consumption/cost data rather than relying on supplier invoices. For most micro/small and startup office businesses, the collection of monthly data should be suffice. Where possible/appropriate you may wish to encourage more regular data collection however (e.g. weekly/daily or half hourly if it's automated).

You should use the materials provided to present a basic spreadsheet lead approach to collecting data. Remember to clarify that meters are cumulative so they will need to do a subtraction to arrive at the correct figure for each measurement interval. Where volumetric readings for gas are concerned, you will need to assist the client to carry out the conversion to kWh (or Joules). You can use online calculators to help you here if required.

You should aim to visit the relevant meters in order to carry-out the first reading exercise with the client. If you are not able to do this then the client may struggle on their own. Meters readings should be read on a regular basis so decide with the client when this will be and what system they will use to manage this i.e. who will be the responsible person, who will act in their place when they are out the office and how will they be reminded when to collect the data and what process to follow.

If at this early stage the client is certain that they will not be able to access direct meter reads, you will need to adjust the delivery programme slightly. It is still necessary to explain the importance of metering and monitoring as part of good energy management to the SME, but if they do not have access to data you may focus on other steps in the Training Kit, such as spending more time on the staff awareness step. Metering and monitoring will also be part of Visit 2, but for SMEs without access to meter reads alternative content has been created in the "Energy, power and carbon" slide.

4.4 Step 4 – Staff awareness

Staff engagement is a key aspect of any resource management programme. It is important to articulate that staff engagement is more than displaying generic posters and stickers without thought or specific tailoring to the company, as these frequently characterise ineffective campaigns. Effective awareness raising should be tailored around the organisation and its operations. For the purposes of this programme, it will be difficult to design an effective campaign *for* the client in the timeframe involved. Instead you should use the Training Kit and the below guidance to encourage them to design *their own* campaign. You can help them to identify actions to focus on by using the Walk-around checklist, or by highlighting areas of energy wastage that you noticed during the site orientation. For example, if you noticed that the blinds were closed and the lights were on, you can identify this as potential behaviour change action to use in the campaign. A campaign can be scaled according to the requirements and time availability of the SME; it may be a large campaign with several behaviour change actions and different messaging techniques, or it could be focussed around one simple change that the client wants its employees to adopt.

An in-house well thought out behaviour change campaign can be a very effective way of reducing energy use and promoting resource efficiency for a business.

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4.4.1 How to design an effective staff awareness campaign

The three key steps outlined in the Training Kit are the best way to guide the SME through the setup of an effective staff awareness campaign:

» Research and planning
» Delivery
» Monitoring

Use the 'Involve your staff' document to explain these steps to the SME. We have included a few tips for you in the following three sub-sections.

4.4.1.1 Research and planning

The research and planning step can include both quantitative and qualitative research. Encourage the SME to do as much research as they can with the time and resources they have available.

If they have access to quantitative data, e.g. energy metering, encourage them to use this as much as possible. Metered data can be used to set a baseline against which energy reductions can be recorded, to identify unnecessary out-of-hours energy use and to spot times when energy use is unexpectedly high. See the 'Track your energy use' page on the Knowledge Base to learn more about metering and monitoring and how to use this data. If the SME has no access to data, they can consider the use of a plug-in watt meter as an interim low cost measure, to look at the energy consumption of certain pieces of equipment that you think may be using significant amounts of energy and which are under 'human control'.

If you have time, use the Walk-around checklist with the SME to start off the qualitative research. The checklist is also simple enough for them to be able to use it on their own. You can also encourage them to involve staff by asking for suggestions on what they think can be changed to save energy.

Once the SME has undertaken this research, they should be able to identify one or more behaviour change actions that they would like to base their campaign around. They should build a plan around these actions, assigning a responsible staff member to each one and setting a goal to be achieved within an agreed time period.

4.4.1.2 Delivery

The SME will need to implement the delivery stage on their own, and they can use the 'Involve your staff' document to guide them through this. Recommend that they use the 'Staff awareness campaign tools' document to build their messages to help them to communicate effectively.

4.4.1.3 Monitoring

The monitoring stage is covered in more detail in Visit 2, as by that point the SME will have ideally made some progress on staff engagement. At this stage, make the SME aware of the importance of monitoring and feedback to round off the campaign. If they find it useful, they can also start to ask for feedback during the campaign, especially if they find that it is not working as well as they had hoped. Sometimes there are simple barriers to behaviour change actions that the SME may not be aware of, e.g. employees don't know where the light switch is, or they

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don't know how to turn the coffee machine off. Identifying barriers is an important part of continuously improving campaign communication.

4.5 Step 5 – Action plan and next steps

The final item on the agenda is to run though the checklist to make sure the client is clear on what they need to have completed by the next visit. The checklist can be found in the 'Accompanying Materials' pack. You should feel confident that the client has the motivation and all information required in order to complete the tasks. Empty rows have been left deliberately for you or the client to identify and add in additional actions.

You may also wish to discuss the 3 optional actions (or any others you have determined) if the client is advanced in these areas. You should run through the 3 top energy saving tips with the client in order to catalyse direct energy saving actions from this first visit (some of these overlap with main topics items on later visits).

There are two *Tools and resources* slides at the end of the Training Kit. The first slide points the client to existing tools and resources that they can use for further assistance. These are in English, so you will need to update the slide with tools and resources that are relevant for your country. You should use the second *Tools and resources* slide to encourage the client to visit the Energy Saving Platform on the START2ACT website, to complete the E-Learning modules, participate in the Energy Saving Competition and view the energy efficiency advice pages on the Knowledge Base.

Finally talk about preparation for the next visit. Introduce the tasks for the next visit and briefly explain the expectations. You may need to alter this depending on what has occurred during the first visit.

The SME will need to fill in a survey after each visit, so that the impact of the training and capacity building can be measured. Remind them that they will need to do this and send them the survey link as soon as possible after the visit.

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5. Visit 2

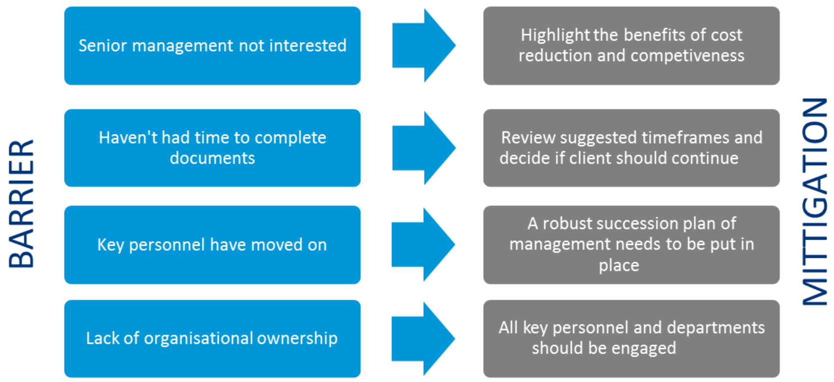
The activities for Visit 2 are shown below. Look at this alongside the Visit 2 Training Kit so that you can see the guide that you will be working through with the SME.

5.1 Step 1 – Document review

The first step on this visit is to review the progress that has been made with the energy statement and buy-smart strategy documents. You should re-iterate the importance of having these documents/processes to underpin best practice energy management efforts within their businesses. You should confirm the client has produced or drafted these documents and that they have been embedded and communicated within the organisation. Review the documents/Training Kit with the client and troubleshoot any issues. Check off that the energy statement and Buy Smart Strategy include all of the required items (Training Kit Visit 1). In addition you could ask:

- Where are the policies to be kept/displayed?
- Is the client’s energy statement to be made publicly available?
- How have they made staff aware of the new policies?
- Have either document/procedure been applied to any real situations yet?

You may need to resolve a number of potential problems/barriers. See below for common risks and mitigation actions that may assist you in this process.



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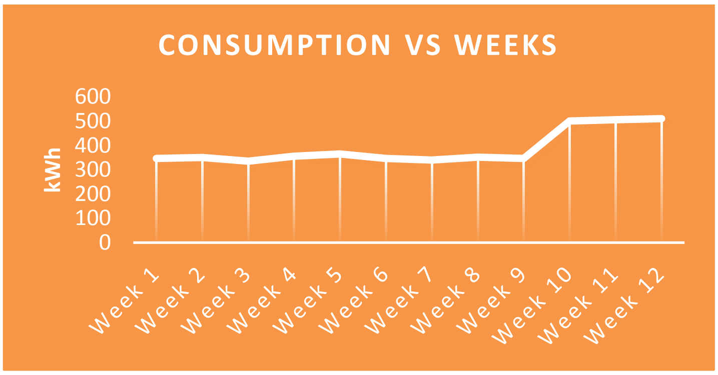
5.2 Step 2 – Metering and monitoring review

In this second step please review the client's progress on their energy data collection system. You should let them know you will be reviewing this ahead of the visit so they can fully prepare. Make sure that they have been collecting kWh and associated cost data at regular intervals as agreed during the first visit. If the client has not been able to complete this task you may need to troubleshoot a number of issues. If these barriers are deemed insurmountable e.g. no physical access to meter/landlord not cooperating, please review the additional step 2 item 'Energy, power and carbon'. If there is time and you deem appropriate you may wish to prompt the client to review this 'Energy, power and carbon' slide regardless.

The second action within this step is to discuss basic analysis techniques with the client. Where possible you should use the client's data to plot a basic consumption vs time interval graph as described in the Training Kit. An example of a consumption graph can be seen below.



You should highlight to the client the benefits of regularly monitoring and analysing energy and cost data. This includes:

- Identifying trends and unexpected energy use
- Forecasting budgets and reconciling supplier bills with your own data
- Gaining a deeper understanding of the variables that drive energy use

If deemed appropriate you can also discuss the merits of collecting and comparing energy data against variable data such as occupancy levels and external temperatures. Remember this needs to be appropriate to the size of the energy spend, resource available and likely 'usefulness' of carrying out this exercise.

5.3 Step 3 – Staff awareness review

Monitoring and feedback should be an integral part of planning any energy awareness and staff engagement activity. You should review the progress that the client has made with staff awareness – ask them whether they think that their campaign was successful, focussing on what worked well and what didn't. Use their responses to guide them towards improvements that they can make. If the actions that they chose for the campaign have been successfully adopted, think about how they can retain these good behaviours. If they were unsuccessful, consider whether they can make changes, or whether the barriers are too great and these actions should be abandoned. To keep momentum going, ask them if there are any new actions that they could add to the campaign.

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There is a section in the ‘Visit 2 supplementary materials’ document with a number of tips on monitoring and feedback. Work through these with the SME to provide assistance with this task.

5.4 Step 4 – Plug in timers

The purpose of this step is to introduce the concept of plug-in timer controls and identify if the client has any equipment that can be brought under automatic control using these devices. Use the Training Kit materials to explain what they are, their benefits and how to go about installing them. If you have access to an example device you should take it with you on the visit to demonstrate its usage.

You should identify vendors and reliable models to recommend. Where possible the client should purchase seven day time controls rather than 24 hours models. This will allow them to control equipment against each particular day of the week e.g. allow a complete shutdown over weekends. You should consider recommending devices with built in digital display watt maters as this can be another way of raising energy awareness.

Once you have introduced the concept you should aim to conduct a walk round survey of the clients office. The aim here is to identify equipment that plug timers can be applied to. The sorts of equipment that are usually appropriate include:

- Photocopiers
- Printers
- Multifunction devices (combined printer/photocopier/scanner)
- Potable hot water boilers
- Vending machines
- Kitchen equipment (not refrigeration)

You should confirm with the appropriate person(s) that potential equipment can be safely shut down automatically without causing any issues or problems. You should discuss with the client what the optimal time settings for the equipment are in order to minimise energy wastage as much as possible.

Figure 5: Plug in timers

5.5 Step 5 – Action plan and next steps

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The final item on the agenda is to run though the checklist to make sure the client is clear what they need to have completed by the next visit. You should feel confident that the client has the motivation and all information the required in order complete the tasks.

You may also wish to discuss the 3 optional actions (or any others you have determined) if the client is advanced in these areas. You should run through the 3 top energy saving tips with the client in order to promote more direct energy saving actions (some of these overlap with main topics items on other visits).

Like Visit 1, there are two *Tools and resources* slides at the end of the Training Kit for Visit 2. The first slide points the client to existing tools and resources that they can use for further assistance. These are in English, so you will need to update the slide with tools and resources that are relevant for your country. You should use the second *Tools and resources* slide to encourage the client to visit the Energy Saving Platform on the START2ACT website, to complete the E-Learning modules, participate in the Energy Saving Competition and view the energy efficiency advice pages on the Knowledge Base.

Introduce the tasks for next visit and briefly explain the expectations. You may need to alter this depending what has occurred during the second visit.

The SME will need to fill in a survey after each visit, so that the impact of the training and capacity building can be measured. Remind them that they will need to do this and send them the survey link as soon as possible after the visit.

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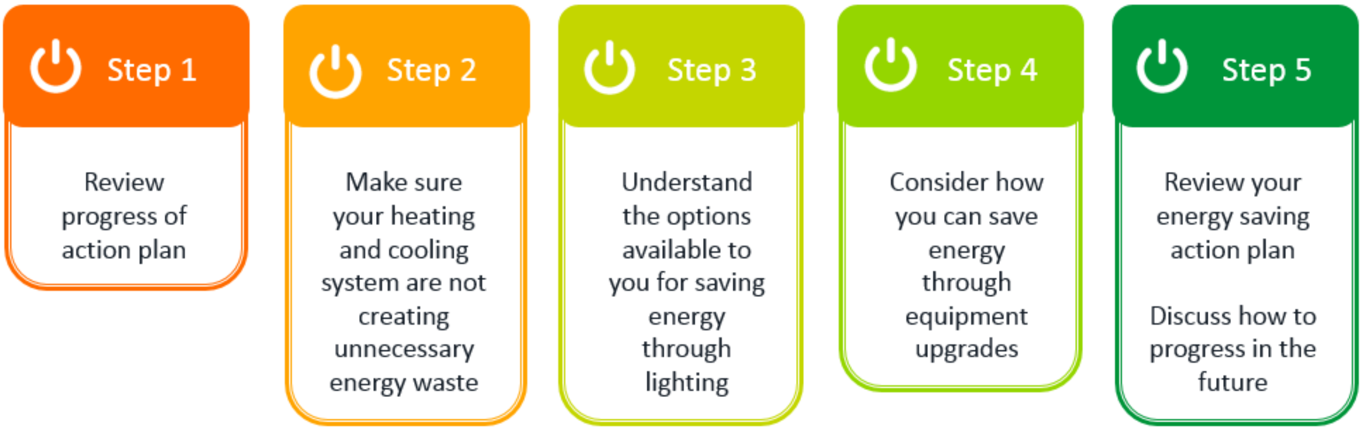
6. Visit 3

The activities for Visit 3 are shown below. Look at this alongside the Visit 3 Training Kit so that you can see the guide that you will be working through with the SME.



6.1 Step 1 – Review action plan

You should begin the final visit by reviewing actions from Visit 2. Please review and troubleshoot and issues with the clients:

- Energy data collection and analysis system
- Staff awareness activities
- Plug-in timer controls

This visit will look at some of the major energy using equipment in more detail, for example the controls for HVAC systems and the lighting. If you and/or the client are not confident navigating the controls for the HVAC system you shouldn't attempt to make changes. The point is to find out what the current time and temperatures controls are set to – if this is unknown/unobtainable then further investigation should be carried out involving competent persons.

6.2 Step 2 - Heating and cooling controls

The primary aim of this action is make sure the current heating and cooling systems are under appropriate time and temperature control. You should highlight the fact that the heating and/or cooling system is likely to be the single largest user of energy for the business. By ensuring time and temperature controls are fully optimised energy wastage can be minimised without any required investment.

You should let them know you will need to review the heating and cooling controls ahead of the final visit so the client can arrange access. Remember that controls can often be locked out using a passcode so confirm you will

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have full access to the system. Where possible you should involve the person(s) who has responsibility for the controls.

It may be the case that the office has a number of localised control panels/remote controls e.g. split AC systems. You should aim to inspect each of these control points for current set points and schedules. You should encourage the programming of on-off times if systems are currently controlled manually to avoid system being left on unnecessarily. Use the figures in the Training Kit to recommend temperature set points and discuss the energy saving merits of seasonal set points for heating/cooling systems. E.g. people will be dressed for warmer weather in the summer so you only need to cool down to 24degC and conversely in the winter you should only need to heat – up to 21degC.

You should also encourage early shut down and/or late start-up for systems particularly in milder weather (Spring/Autumn) to create further energy savings. If systems have in built-in optimum start/stop controls you should make sure these are correctly set. You may need to consult instructions to navigate the controls therefore you should request this to be made available. Alternatively you may be able to find an online copy of the correct instruction manual ahead of your visit. You should inspect heating/cooling system on the second visit therefore if you have time.

Where the client does not have access to controls you should discuss with them the potential energy savings achievable around tighter time and temperature controls. You seek out the reasons why they don't have access and encourage them to request what the current settings are.

Whilst it may be difficult to quantify potential energy cost savings from this exercise you should use the "top tips" information to indicate the type of energy and costs savings the client could achieve.

6.3 Step 3 – Lighting

The lighting section is split into 'soft' measures such as improving switch off regimes and 'hard' measures such as upgrading luminaires.

6.3.1 Management

The aim here is to introduce the measures that can be taken to reduce lighting energy use without investment. Use the Training Kit to explain the various measures that can be implemented such as optimising the use of daylight, switching off lights when they are not needed and reviewing lux levels.

As part of this task you should then aim to carry out a walk round survey of the office to review any opportunities to reduce electric lighting energy through 'soft' management measures. Things to look out for include:

- Appropriate use of blinds
- Electric lighting where natural daylight would suffice
- Measures to minimise solar gain and optimise natural light i.e. solar film, brise soleil etc.
- Condition/cleanliness of windows
- Condition/cleanliness of luminaries and diffusers
- Location and labelling of light switches
- Appropriate illuminance levels (quantifying will require a lux meter)

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- Staff awareness of lighting controls and required levels of light

6.3.2 Upgrades

The aim here is to introduce the benefits of LED lighting and an improved automated control strategy. This may require the client to make a capital investment therefore strong emphasis should be made on the benefits and payback of investing in these measures. If the client does not have responsibility for lighting system maintenance you should discuss options for engaging the landlord.

Use the Training Kit to discuss the benefits of LED in terms of reduced energy demand and the extended life of lamps. Don't forget to also discuss the benefit of daylight and occupancy controls. You should then conduct a walk round survey of the office to help the client identify what lamp types they have and the appropriateness of automated controls. Things to look out for include:

- Are LED luminaires deployed extensively throughout the building/facility and externally?
- Are luminaires in intermittently occupied areas under automatic presence/absence detection control?
- Are luminaires in areas that benefit from good levels of natural daylight under automatic photocell control?
- Are external luminaires under photocell and time control?

Where you believe there is a reasonable opportunity for a cost effective upgrade you should encourage the client to investigate further using specialist support. A rough implementation plan which you could recommend may include:

1. Review all existing light fittings in work space to establish a full lighting schedule for the site noting lamp type and rating
2. Consider and document the requirements for the new LED lighting systems
3. Obtain proposals and quotations from two (or more) reputable suppliers
4. Appoint preferred supplier
5. Ensure that all members of staff are trained to be proficient users of the new LED-based solution especially programming of controls

The aim of this step is to promote the use and benefits of LEDs and while you may have experience and understanding of the local implementation approach, this is beyond the scope of this programme. Instead you should aim to impart as much information to the client on the benefits of upgrading to LEDs under suitable automatic control so they are empowered to optimise their lighting systems. Many "traditional" lighting systems can be replaced cost effectively even when they have remaining serviceable life.

6.4 Step 4 – Equipment upgrades

The final step on the programme is to discuss the purchase and use of energy efficient IT equipment and small power items. You should primarily focus on PCs and laptops but you may have identified other equipment that you could discuss here.

You should discuss the merits of reviewing the energy performance of IT equipment at the point of purchase. Whilst lighting systems can be cost effectively replaced before they have reached end of life, the replacement of IT

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equipment that has remaining serviceable life should *not* be encouraged. The aim is to encourage the proper review life cycle energy cost when new equipment is purchased. This step links directly to the buy smart strategy step from Visit 1 and 2 which you should reference here. You should identify appropriate equipment labelling schemes and information that can help the client make informed decisions. More information on labelling schemes can be found in the Knowledge Base on the Energy Saving Platform, under the *Buy Smart* topic.

If possible you should then conduct a walk-round of the office to identify PC/laptops other small power items that could be included in future upgrades. You may wish to combine this with the lighting walk-round.

6.5 Step 5 - Action plan and the future

You should run through the Visit 3 checklist, discuss the optional actions and answer any final questions the client has. Please also run through the top 3 energy saving tips and encourage the client to review final steps from Visit 3 after you have left.

The SME will need to fill in a final survey after Visit 3, so that the impact of the training and capacity building can be measured. Remind them that they will need to do this and send them the link soon after the final visit so that the programme is still fresh in their minds.

It is hoped that by the end of the programme that the client is motivated and empowered to continually improve their energy performance. However, you should encourage them to utilise the recommended online resources shown in the Training Kit for all three visits. You should also encourage them to keep using the Energy Saving Platform on the START2ACT website in the future for further assistance and resources.

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7. Tailoring

Partners will need to tailor each kit to make them relevant to the country and the SME

7.1 Tailor to your country

There are a number of sections where the Training Kit materials will need to be amended in order to make it fit for purpose for your particular country and SME market. The training materials provided should be used as a guide and we would encourage the tailoring of materials as much as you deem necessary in order to make them as effective as possible. Below are some areas and points that you should consider when tailoring your Training Kit and materials:

- Language: translate the documents to the local language to make them as accessible as possible
- Provision of the Training Kit to the client – you can provide this to them in hard copy or by using the files (on the provided memory stick) on a laptop/projector.
- Review the metering and monitoring advice and alter to reflect local circumstances e.g. you may be more familiar to report gas consumption in Joules rather than kWh and therefore you should amend the appropriate information in the Training Kit and template guidance
- Depending on local climatic conditions you may feel the focus of space temperature controls advice should focus more on heating than cooling or vice versa
- Depending on how advanced the client is in terms of energy management you may need to bring certain sections forward from later visits i.e. you may deem it appropriate to bring sections/steps forward from future visits if there is limited potential with the recommended steps for each visit.
- Depending on the makeup of the clients systems and operations you may need to identify alternative content in order to make the programme appropriate. E.g. additional information for refrigeration for a retail outlet etc.

7.2 Tailor to the SME

7.2.1 Pre-visit

The partners will need to send an online survey to each SME before the first visit. CentERdata will share their responses to this survey with the partners.

The survey asks a number of questions based on attitudes, perceptions, motivations, intentions and actions, as well as hard indicators (annual energy use).

Before the first visit, use this information to tailor the Training Kit. If the SME has filled in their energy use data for example, it may mean that they already do metering and monitoring to some extent. In this case you could be prepared to bring the metering and monitoring content from the second visit forward to the first.

Where energy data is simply not available for the client you may wish to use local/appropriate benchmarks to predict their energy use on a floor area of per person basis. This way you can at least provide them with some

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information on what their likely energy use and costs are in order to inform them about potential savings, carbon emissions potential reduction etc.

7.2.2 During the visit

There are a large number of potential scenarios and issues that you could come up against during each visit. It is impossible to prepare for every eventuality. However we have listed a few potential problems area's below for you to think about in preparation. Hopefully this will enable you to adequately troubleshoot these when you are on site. Potential issues to think are include:

- What if the client has largely done most of the activities scheduled for this visit?
- What if the client has been unable to complete any of the tasks and no progress is made?
- What after the first visit the client is not interested in completing the programme?
- What if they are located in a tenanted building with very little control over the maintenance and upkeep of the property?
- What if they are physically unable to collect their energy data?
- What if they are interested in on focussing on other areas not covered in the programme?
- What if they are interested in further support?
- What if they have seen no measureable reduction in their energy use?

8. Additional START2ACT resources

As well as the one-to-one training and capacity building, SMEs can use other START2ACT tools and resources to learn more about energy management and reduction on the Interactive Online Platform. We have explained these resources below, so that you can introduce them to the SMEs that you visit.

8.1 Knowledge Base

The Knowledge Base is a collection of energy efficiency advice pages, for both SMEs and startups to learn more about low cost and no cost energy saving measures for a variety of topics. The topics are as follows:

- Save on lighting
- Save on heating and cooling
- Save on IT: office equipment
- Buy Smart: procurement
- Involve your staff: employee engagement
- Track your energy use
- Share your story
- Find a green office
- Greening products and services
- Save energy at home
- Why save energy?
- Green finance

As well as specific content for managers and owners, separate content for SME employees has been written that the managers and owners can share with their employees. This includes simple behavioural actions that the employees are able to change, whereas the manager/owner content is focussed on actions within their control, such as upgrading the building fabric and procuring efficient equipment.

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You can access the Knowledge Base here.

8.2 E-Learning

The SMEs can substantiate their knowledge by completing a series of E-Learning modules. Participants will answer a short series of questions on six different topics (lighting, heating and cooling, office equipment, procurement, monitoring and reporting and saving energy at home), and will receive a score upon completion of each module.

The E-learning section will be available from Summer 2017. You can access the E-Learning modules here.

8.3 Energy Saving Competition

All eligible young SMEs can take part in the START2ACT Energy Saving Competition. The competition is a motivating framework for the staff of SMEs to change behaviour. The companies will have the opportunity to show their sustainable energy commitments to the public and engage their staff in energy reduction.

The Energy Saving Competition will be available from Summer 2017. You can access the Energy Saving Competition here.

8.4 Ask the Expert Forum

The START2ACT web platform will also allow for the individual SMEs to share learning and results between themselves. This part of the platform will be available to registered users who will be provided with a topic based forum where learning can be shared and individuals can offer support and advice to each other. This forum will also have an ‘ask the expert’ area where each project partner will be responsible for providing tailored web-based expert advice to questions posed by participating SMEs.

The Ask the Expert section will be available from Summer 2017. You can access the Ask the Expert Forum here.

9. Concluding points

This Handbook has been written by the Carbon Trust, and should be used in combination with the START2ACT Training Kit (Deliverable D4.1) to implement Task 4.1: On-site training and capacity building for young SMEs. If you have any questions about this content, please contact START2ACT@carbontrust.com.

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