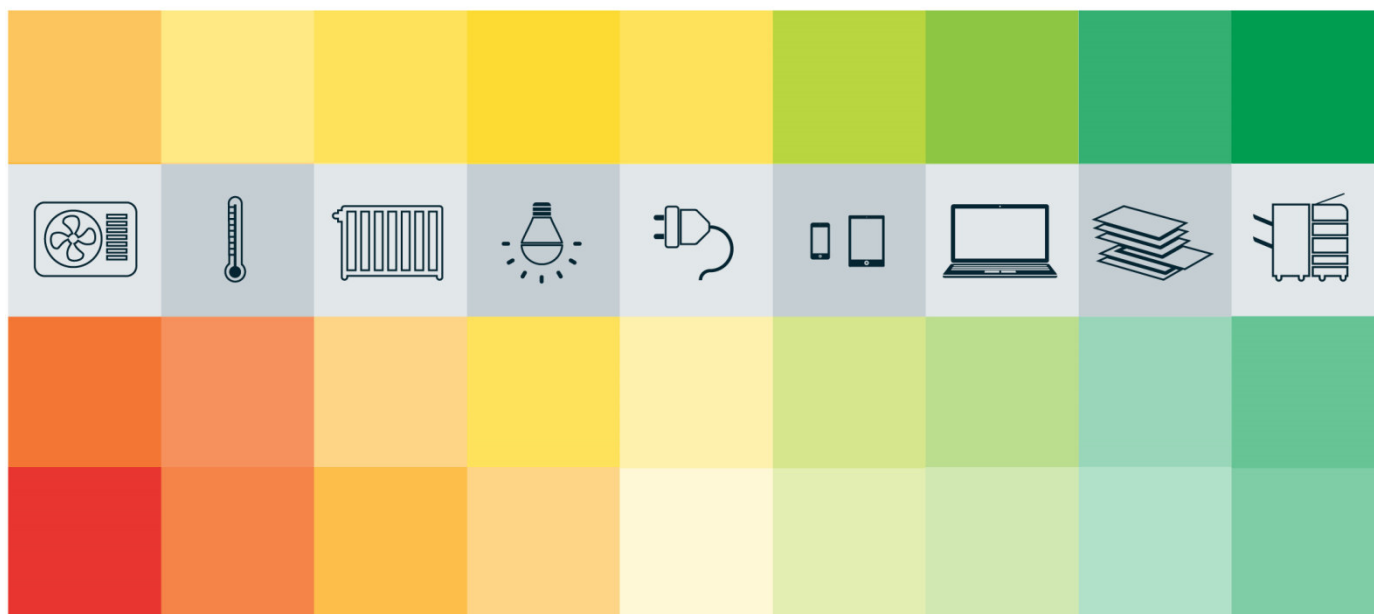




ENGAGING EUROPEAN STARTUPS AND YOUNG SMES FOR ACTION FOR SUSTAINABLE ENERGY



## D4.1 START2ACT training kit

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PROJECT NO.	696069
PROJECT ACRONYM	START2ACT
START DATE	01.03.2016
DURATION	36 months
DELIVERABLE ID	D4.1 START2ACT training kit
DUE DATE OF DELIVERABLE	31.03.2017
LEAD BENEFICIARY FOR THIS DELIVERABLE	CT

NAME			ORGANISATION
AUTHOR(S)	Rob Hatcher		
	Helen Andrews Tipper		
	Lucy Hunt		
CONTRIBUTOR(S)	Paul McKinney		

## DISSEMINATION LEVEL

- ☒ Public
- ☐ Confidential, only for members of the consortium (including the Commission Services)

DOCUMENT HISTORY			
VERSION	DATE	NOTE	ISSUED BY
01	24.03.2017	Final document created from multiple iterations of individual documents.	CT





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# Training Kit – Visit 1

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



# Introduction to START2ACT

START2ACT aims to reduce energy consumption in the EU by triggering behaviour change in young enterprises, through engaging entrepreneurs, owners and staff of small businesses.

Through this fully-funded training programme you will receive three one-to-one onsite visits to identify and implement low cost and no cost measures to reduce energy consumption.

Research in recent years has shown that around 20% of energy consumption can be saved through measures targeting behaviour change. This can result in direct financial savings from your current energy bills. In addition, you will also receive a range of reputational benefits and marketing opportunities, through promoting your involvement in the programme.



# Activities for today

## Step 1

Site  
orientation

## Step 2

Create a  
company  
energy  
statement

Create a  
company Buy  
Smart Strategy

## Step 3

Understand  
metering and  
monitoring

Check your  
meters

## Step 4

Engage your  
staff in energy  
reduction

## Step 5

Review your  
energy saving  
action plan

Next steps





# Site Orientation

 Step 1



# Step 2: Energy Statement

## Step 2

### Why

A company energy statement provides the basis for reducing your energy consumption. A clear statement of intent, supported by senior management, is essential to ensure that energy efficiency is taken seriously. An effective statement should be relevant and appropriate to the size of your organisation and provide the focus needed to actively reduce your energy consumption.

### What

The document should be short and to the point i.e. no more than two pages. It should be developed with the chief executive/managing director (or equal), and if possible, be in the public domain. Key elements include:

- A clear expression of your organisation's energy/carbon aspirations.
- Commitment to raising the energy awareness of all staff.
- Commitment to regular and formal review by management.
- Commitment to determining ways of reducing your energy consumption.
- Commitment to consider energy consumption in all relevant decision-making.
- Commitment to ensure resources are in place to meet the policy objectives.
- Commitment to review relevant legislation and requirements.

Common weaknesses in energy statements that allow poor energy management are: not actively supported by senior management; too long; lacking targets and commitments; out of date; and not supported by an action plan with the ability to deliver reductions.

### Next steps

Use the template provided to develop your own customised energy statement. You should aim to have the statement reviewed and signed-off by senior management.





# Step 2: Buy Smart Strategy

## Why

You should have procedures in place to ensure the lifetime energy use of equipment is taken into account when procurement decisions are made. This is an opportunity to improve energy performance through the purchase of more efficient products and services and influence your supply chain.

## What

Your Buy Smart Strategy and the procedures in place to manage purchasing should include:

- Reference to particular low energy standards, labels, low energy ratings, energy efficiency etc.
- Whole life cycle cost approach - not just decisions made on initial cost but how much will it cost to run over its lifetime in energy/operational costs.
- A named person who has ultimate responsibility/sign-off for the purchasing of significant energy using equipment.

Make sure your Buy Smart Strategy is integrated into your organisation's overall purchasing policy and is backed by senior management.

You may have to arrange training to ensure that appropriate staff are aware of the requirements, the reasoning for it and how to go about the purchase of environmentally preferable goods and services. The policy should apply to all budget holders and be well communicated throughout your organisation.

## Next steps

Use the template provided to develop your own Buy Smart Strategy document. See the Buy Smart section on the [Knowledge Base](#) to learn more.



# Step 3: Metering & Monitoring

## Step 3

### Why

The collection of energy data is a fundamental action for all organisations, regardless of size or expertise. Understanding consumption will enable you to identify energy waste, predict and account for expenditure more accurately and, assist with better decision making through access to more detailed information.

### What

To manage energy successfully, you need to **measure how much you use**. This means collecting your own meter readings rather than relying on figures provided by utility companies. How frequently you collect meter readings depends on your circumstances. Monthly monitoring, which has historically been the norm, can be a blunt instrument, while fine-grained (30-minute intervals or less) can bring data overload and interpretation/analysis complexities.

You should decide for yourself (with help from your guide) what is appropriate for you. If possible, a minimum of weekly collection should be considered. Insights obtainable from a higher 'granularity' of data intervals are generally worth the effort of collecting and monitoring them.

You should also consider collecting 'driving factor' data – this can be something as simple as weather data or daily office occupancy which usually has an effect on the amount of energy your business uses.

### Next steps

Review the actions on the template provided to help you set-up an energy data collection system. See the Metering & Monitoring section on the [Knowledge Base](#) to learn more.



# Step 4: Energy awareness

## Why

Most businesses could save 5% off their energy bills through behavioural measures. Energy awareness and behaviour changes should complement other elements of good practice as part of an integrated approach to energy management in your organisation. Energy awareness can also help you shape your organisational culture.

## What

The best way to raise energy awareness in your organisation depends on your own circumstances. Some companies are more advanced than others, and some individuals will be less 'energy aware' than their colleagues. There are however three essential steps to creating a higher level of energy awareness:

### 1. Research and planning

Understand your current situation and energy use taking a quantitative and qualitative approach. Set appropriate goals. Establish existing and required resources. Think about timing and the roles and responsibilities for all involved. Prioritise activities. Identify your target audience. Get top-level support.

### 2. Delivery

Use the right communications channels and target your messages. See the 'Involve your staff' and 'Staff awareness resources' as guide. Treat all activities as pilots that you should and can refine. However avoid sudden or often changes in direction which can undermine the credibility of your awareness raising campaign.

### 3. Monitoring

Always allow room for two-way feedback on your activities. Remember to monitor and review awareness following any set of activities. Don't forget to close the feedback loop for staff and let them know the impact of any changes they've made.

## Next steps

Follow the steps above and in the 'Involve your staff' document and use the 'Staff awareness campaign tools' document to start communicating energy awareness messages to your staff.



# Step 5: Next Steps

## Step 5

We will come back in six months' time to review your progress with you and identify further energy-saving actions for your company. You can edit this list in the 'Visit 1 checklist' document.

Action	Time estimation	Due by	✓
Customise the energy statement template and seek senior review and sign-off.	0.5 days	Visit 2	
Complete/edit Buy Smart procurement policy template and seek senior review and sign-off.	0.5 days	Visit 2	
Work out what your monthly and annual energy consumption and costs are (kWh and cost).	0.25 days	Visit 2	
Set-up an energy data collection system using the templates and guidance provided.	0.5 days	Visit 2	
Review and understand the energy awareness materials ( <i>Involve your staff and campaign tools</i> documents).	0.5 days	Visit 2	
Use the Walk-around checklist to identify staff engagement actions for your company.	0.5 days	Visit 2	
Develop your own customised awareness raising communications.	2 days	Visit 2	
Visit the START2ACT Energy Saving Platform (to view the Knowledge Base, Energy Saving Competition and E-Learning modules).	0.25 days	Visit 2	
<b>Optional Actions</b>			
Find out if half hourly data is available.	0.5 days	Optional	
Appoint an energy champion.	1 day	Optional	
Inform new employees about energy management in your organisation via the induction process.	0.5 days	Optional	



# Top 3 Tips



1. SWITCH OFF ALL NON-ESSENTIAL LIGHTING OUT OF BUSINESS HOURS – TO SAVE **10%** OF LIGHTING COSTS



2. SWITCH OFF ALL PCs, LAPTOPS AND MONITORS WHEN NOT IN USE – TO SAVE **5%** OF ENERGY COSTS

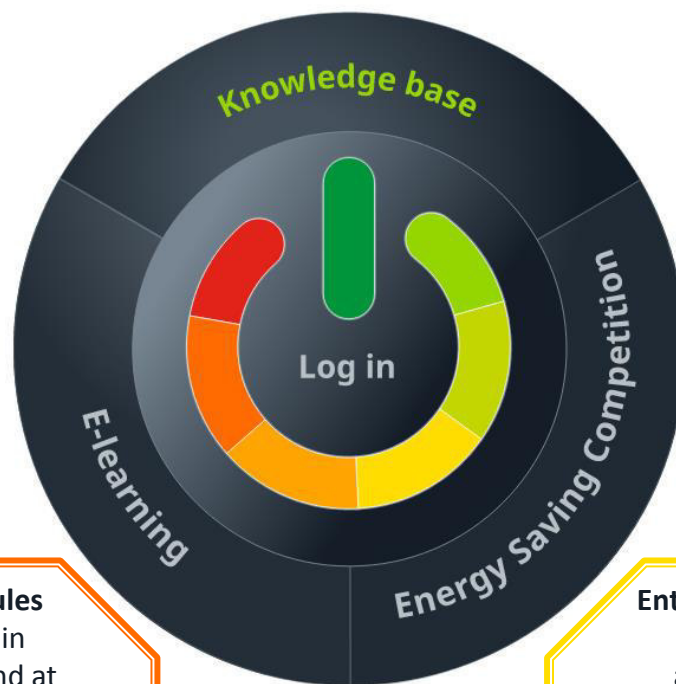


3. EXPERIMENT WITH SWITCH-ON AND SWITCH-OFF TIMES FOR HEATING AND AIR CONDITIONING AND SWITCH OFF BEFORE THE END OF THE WORKING DAY - TO SAVE **20%** OF HEATING AND COOLING COSTS



# START2ACT Tools & Resources

**Access the Knowledge Base for specific energy saving advice on:**  
lighting, heating & cooling, office equipment, procurement,  
employee engagement, monitoring & reporting, procurement,  
green finance and choosing energy efficient offices.



**Complete the E-Learning modules**  
to increase your own expertise in  
energy management at work and at  
home.

**Enter the Energy Saving Competition**  
to increase your energy saving  
actions, to promote your efforts to  
clients and to have a chance to win



# Other Tools & Resources

You can use these other tools and resources to assist you with energy management and reduction.



## Introduction to Energy Management Guide

<https://www.carbontrust.com/resources/guides/energy-efficiency/energy-management/>

Simple and effective ways to help your business save money through energy management, energy monitoring and managing your energy use more efficiently.



## SME Energy Checkup

<http://energycheckup.eu/en/home/>

Use this online tool that to compare your energy consumption to similar companies, learn how to reduce energy costs and explore financing options for energy saving measures.



## SEAI Energy Awareness Resources

[http://www.seai.ie/EnergyMAP/Energy\\_Awareness/Energy\\_Awareness\\_Resources/Energy\\_Facts/Energy\\_Facts.html](http://www.seai.ie/EnergyMAP/Energy_Awareness/Energy_Awareness_Resources/Energy_Facts/Energy_Facts.html)

SEAI energy facts for employee awareness to use for messaging and communication when designing your staff awareness campaign.



## Creating an Awareness Campaign Guide

<https://www.carbontrust.com/resources/guides/energy-efficiency/creating-an-awareness-campaign-download/>

This 29-page guide to employee engagement provides ideas and resources to motivate everybody to save energy, to help engage staff in making your workplace more energy efficient.



# Any Questions?

Contact your trainer, [insert name], at: [insert email address]

Ask an expert at: <http://start2act.eu/activities/ask-the-expert>

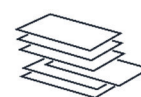
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 696069





# Visit 1 checklist

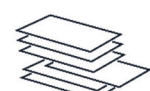
Action	Time estimate	Due by	✓
Customise the energy statement template and seek senior review and sign-off.	0.5 days	Visit 2	
Complete/edit the Buy Smart procurement policy template and seek senior review and sign-off.	0.5 days	Visit 2	
Work out what your monthly and annual energy consumption and costs are (kWh and cost).	0.25 days	Visit 2	
Set-up an energy data collection system using the templates and guidance provided.	0.5 days	Visit 2	
Review and understand the energy awareness materials (campaign tools document, involve your staff document).	0.5 days	Visit 2	
Use the Walk-around checklist to identify staff engagement actions for your company.	0.5 days	Visit 2	
Develop your own customised awareness raising communications.	2 days	Visit 2	
Visit the START2ACT Energy Saving Platform	0.25 days	Visit 2	
Optional Actions	Time estimate	Due by	✓
Find out if half hourly data is available from you supplier.	0.5 days	Optional	
Appoint an energy champion.	1 days	Optional	
Inform new employees about energy management in your organisation via the induction process.	0.5 days	Optional	



## Further comments

## Top 3 Tips

1. SWITCH OFF ALL NON-ESSENTIAL LIGHTING OUT OF BUSINESS HOURS - 10% OF LIGHTING COSTS
2. SWITCH OFF ALL PC/LAPTOPS AND MONITORS WHEN NOT IN USE - 5% OF ENERGY COSTS
3. EXPERIMENT WITH SWITCH-ON AND SWITCH-OFF TIMES FOR HEATING AND AIR CONDITIONING AND SWITCH OFF BEFORE THE END OF THE WORKING DAY - 20% OF HEATING AND COOLING COSTS





# Sample Energy Statement

[COMPANY NAME] is committed to improving its environmental performance by reducing its emissions of carbon dioxide and other greenhouse gasses. We will achieve this through proactively managing and reducing our use of fossil-fuel derived energy.

Our short term objectives are [delete as appropriate]:

- Publish a corporate energy statement
- Reduce environmental impact of fuels used by reducing our emissions of a tonnes of CO<sub>2</sub> by x% over y years
- Reduce consumption of energy by x% of z units of energy delivered over y years
- Reduce energy consumption to typical/good practice benchmark levels within y years
- Achieve the emissions reduction target set in our climate change agreement
- Implement a regular programme of energy audits
- Set and publish performance improvement targets
- Report performance changes & improvements annually
- Increase staff awareness
- Nominate employees to act as energy champions
- Seek competitive tenders for energy supplies
- Identify all cost-effective energy efficiency measures
- Establish a monitoring and targeting system
- Provide regular management reports on costs & consumption
- Establish a budget for investing in energy efficiency
- Specify energy efficient design of new buildings/processes, and procure energy efficient plant and equipment

Our long and medium-term corporate goals are [delete as appropriate]:

- Commit organisational resources to energy management
- Reduce our energy costs
- Give high priority to energy efficiency investments
- Consider life-cycle energy costs for all new projects
- Minimise CO<sub>2</sub> emissions
- Minimise environmental impact
- Where possible, to use energy from sustainable sources
- Implement an Energy Management System to ISO 50001
- Implement an Environment Management System to ISO 14001

## Publication

This policy is available [internally/externally] and we will publish the results of our energy management activities each year.

## Review

This policy is due for review and renewal by senior management on \_\_\_ / \_\_\_ / \_\_\_\_\_ at \_\_\_ yearly intervals thereafter.

Signed

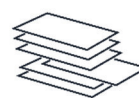
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\_\_\_\_\_

Date

\_\_\_ / \_\_\_ / \_\_\_\_\_





# Buy Smart Strategy

## Our goals are to:

- Minimise our environmental impact and deliver benefits through better selection and improved usage of products and services.
- Minimise the life cycle impact of procured items.
- Encourage suppliers to adopt practices that minimise their environmental impact and deliver benefits in relation to our supply chain.

## Our objectives are *[delete as appropriate]*:

### Recommended

- Procure equipment with low energy ratings, labels and energy efficiency standards.
- Consider life-cycle energy costs for new products and modifications to existing plant.
- Where cost allows, purchase the most energy efficient equipment available.
- Assign responsibility for review and sign off of procured items that use energy.
- Encourage suppliers to provide products/services that consider the carbon/energy footprint.

### Optional

- Purchasing energy at the most cost-effective price
- Establish technical guidelines for new projects and refurbishments.
- Procure grid supplied (share) of energy from renewable sources.
- Purchase replacement lighting that has low energy use.
- Use lighting controls where possible.
- Purchase items locally where possible.
- Purchase recycled and recyclable items.
- Procure low emission vehicles.
- Establish ownership of energy costs at departmental level
- Establish ownership for energy invoice verification
- Reduce carbon emissions from procured items by \_\_ tonnes of CO<sub>2</sub> by \_\_% over \_\_ years.

Signed

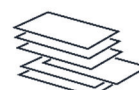
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# Energy data collection template

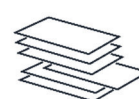
- Decide at what interval to read the meters – monthly, weekly, daily and set a target reading time such as the first working day of the month or every Monday
- Make someone responsible for taking the readings and nominate a deputy to cover absences
- Remember most meters are cumulative sum of energy use therefore you will need to subtract the previous reading from the current reading to determine period energy use
- Find out your unit rate (price/kWh) so you can quickly fill in the charges column
- Brief the nominated meter reader and seek further advice if necessary
- Gas meter readings are can be volumetric and must be corrected for temperature and pressure variations (unless the meter has a built in correction) and for calorific value – ask your START2ACT expert for help with this

## Monthly template (electricity)

Billing Period e.g. 14 Sep- 15 Oct 2016	Electricity Bill	
	Units used (kWh)	Total electricity charges (cost)
TOTAL	kWh/yr	Cost /yr

## Weekly template (gas)

Billing Period e.g. Week commencing November 14 <sup>th</sup> 2016	Gas Bill	
	Units used (kWh)	Total electricity charges (cost)
TOTAL	kWh/yr	Cost /yr



# Involve your staff

## Key fact

Behaviour change and staff awareness can reduce your organisation's energy use by around 5%. It can also increase employee satisfaction by making them feel involved and that they work for an organisation with good environmental credentials.

## Introduction

Engaging employees on energy use in your organisation can bring multiple benefits. It can contribute to creating a more profitable company, a happier workforce and a better brand.

Employee engagement is the human side of energy management. It should also be complemented by technical energy management, such as upgrading building fabric and controls.

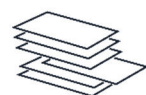
Benefits include:

- **Energy savings:** A well-designed and implemented behaviour change programme can lead to energy savings of approximately 3-5%. Saving energy saves money and reduces an organisation's carbon footprint.
- **Employee satisfaction:** Participation in employee engagement schemes can make employees feel valued. Knowing that their organisation cares about sustainability can improve employee satisfaction and employee retention.
- **Reputation:** Taking action on sustainability shows that an organisation cares about the environment. This can improve your brand and help attract potential employees.

## Recommendations

There are 3 key stages to successful employee engagement. Each stage is explained in more detail in the next section.

1. **Research & Planning:** It is essential to do your research and create a plan of action before launching your engagement activities. Every organisation is different, so you need to understand your company's needs and abilities in order to engage your employees accordingly.  
*In practice:* at this stage you will identify actions that you would like your employees to focus on, such as turning off lights when leaving meeting rooms.
2. **Delivery:** This is the main stage where the engagement will take place. Throughout this stage you will need to refer back to your plan, but you can update this as you learn what works well and what doesn't.  
*In practice:* You will need to use the right communications channels and target your messages. For example, if you want people to switch lights off, use stickers and reminders next to switches in meeting rooms to prompt them.
3. **Monitoring:** Review awareness following any activity, and always allow room for feedback. Don't forget to close the feedback loop for staff and let them know the impact of any changes they've made.  
*In practice:* After the campaign period has passed, you should communicate the results to employees and request feedback. Using our example, it may be that meeting room lights are now



switched off 90% of the time when not in use. Staff may have feedback about whether it was a positive or negative campaign, whether it can be applied to other areas and what can be done differently next time.

## Research & Plan

The more research you can do the more effective your awareness campaign will be. There are two elements to effective office sustainability research: quantitative and qualitative.

If you have access to quantitative data (ranging from energy bills to advanced energy metering and monitoring), you can use this to identify areas where energy is being wasted and to set a benchmark of energy use, against which you can measure your process during the monitoring stage.

Whether you have quantitative data available or not, any organisation can collect qualitative data. Walk around your office building to identify where energy is being wasted, or create a staff survey to get feedback from employees on where energy can be saved. Use the START2ACT Walk-around checklist to help you with this.

Goal setting: It is important to set achievable targets-you will need to create a positive feedback loop for staff so you may want to focus on small, achievable goals that you can use to generate a positive message about energy saving, and create further support for future activities. For example, reducing electricity use by 20% may not be an achievable target if you don't have access to metering or billing and you don't know how much electricity is being wasted. A better goal might be 'lights are never left on overnight'.

Senior support: This is particularly important in smaller organisations, where the individuals in charge can really set the tone, culture and influence individual working practices. Identify who influences behaviour most and make sure that they demonstrate the behaviours you want everyone else to adopt.

Available resources: Think carefully about how much time your engagement actions will take – if you're going to ask for staff time then make sure that senior management approve and promote it. If the activity as simple as switching off a light when leaving a room, no extra time is needed. However, if the engagement action focusses on encouraging the last person to leave the building to turn off all lights and electric appliances, then you will need to pay more attention to the time required.

## Delivery

Now that you have identified a list of engagement actions from your quantitative and qualitative research (energy data, the walk-around checklist or staff surveys) and you have created a plan of how you will engage employees in these actions and over what period of time, you can implement your awareness campaign.

Timing: Timing is critical – this includes time of year, time of day, and timing alongside other things going on in the business. If you're running a PC switch-off campaign and sending emails to encourage people to shut down at the end of the day, don't send the email in the morning! Or if you want to run a heating campaign asking people to wear more layers to reduce heating needs, you need to have your material ready to share as soon as the temperature drops.

Target audience: Make sure that you are targeting the people whose behaviour you actually want to influence. Based on walk-arounds, surveys and observation you can identify which individuals or departments you really need to target. For example, there is no point telling employees to switch lights



off when they leave the building, if the cleaners come in after everyone has left and leave them on again. Target the person performing the behaviour.

Messages: Try to make your messages as closely aligned with existing corporate goals and staff motivations as possible. The most effective messaging is values-led – instilling brand new values in staff will be very challenging, so try to identify and build on existing motivations wherever possible. For example, if staff already have high environmental values, you can use this in your messaging. If they are more driven by saving costs or saving time, try to tailor your messages to those values – do not assume that everyone cares about the environment! Use your knowledge of individuals in the company, talk to staff and use surveys to check you've correctly understood common motivators. Remember that many motivators are subconscious so be prepared to think creatively.

Communication channels: Think about which communications channels are most effective and build on that. You should think about who is the most appropriate vehicle for the message for each activity – this will depend in part on the target audience (e.g. it might be senior management for a general staff message but the contract manager would be more effective for asking cleaners to turn out lights). Also think about which channels fit best for which activity – e.g. it may not be effective to place printing messages on a poster by the printer if people will already have sent the document from their PC by the time they get there, so you may wish to consider alternative tools.

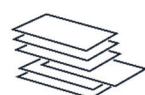
## Monitoring

Regularly monitor your campaign to discover successes and failures, gather feedback and maintain momentum and interest. Use the learnings to refine your messages and improve future activities.

Evaluation: Be rigorous about monitoring – re-do everything you did at the beginning (data analysis, walk-arounds) to check whether anything has changed as a result of the engagement campaign. Have you made a difference? If there has been no change then examine whether your approach could be altered, by asking staff for feedback. For example, if you asked them to turn out the lights, did they know where the switches were? Use that understanding to refine future activities, for example signs for light switches. Check for external factors such as weather (colder, hotter) or purchase of new equipment increasing energy use.

Feedback: Be prepared for positive and negative feedback and try to take it all on board. Consider anonymous feedback if you think people might tell you what they think you want to hear. Planning how you will ask for feedback before you begin an intervention will make the feedback process easier.

Maintaining momentum: Two-way feedback is one of the most important and effective factors in securing long-term commitment, from both staff and senior management. Make sure that staff and champions understand not just that the engagement and awareness campaign has happened, but what outcomes it has achieved. For example, how much energy have they saved? Are the lights now always off overnight? Look out for unintended positive outcomes or 'co-benefits' and try to link everything to core company objectives. Be open to new people getting involved – they can accelerate culture change within the company.





# Staff awareness campaign tools

Review the below campaign tools and pick one or more methods to communicate the energy efficiency messages you wish to convey.

## Emails

Email messages should be relevant and interesting. Make the email short and snappy – aim to get straight to the point. If possible, use graphics and/or colour. Don't overload recipients with too many messages as this can cause a negative reaction. Emails:

- Are a direct method of communication in workplaces where most staff use computers.
- Allow you to send targeted messages.
- Are an appropriate delivery route for messages about computer use.
- Can be used to gather further questions, ideas and suggestions.

Tip: time your email communications so that they are likely to be seen at the appropriate time – e.g. don't send an email reminding people to 'switch off their computer at the end of the day' at 9am!

## Displays

You can use part of an existing notice board or create a dedicated energy display as a focal point for communications. Try to:

- Focus your communications. Concentrate on one or two issues at a time and change them regularly to maintain interest.
- Place the display where everybody can see it, including visitors.
- Use compelling images. People will be put off by a lot of text. Use images such as photos, cartoons or energy use charts.
- Use durable material. Laminating display materials ensures their quality and longevity.

Tip: make your messages relevant to your core business wherever possible – try to tie-in energy efficiency with achieving company goals with which everyone already identifies.

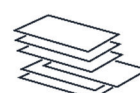
## Posters

Posters can contain different types of messages: news, questions and commands. You could produce a series of posters tailored for your organisation, or use the general posters available from the Carbon Trust [Adjust to national circumstances OR general START2ACT posters]. Remember to:

- Focus on a different issue for each poster.
- Use images – internet search engines will guide you to royalty-free images.
- Replace them regularly, as they have a limited shelf-life.
- The better the quality of the posters, the more effective the campaign.
- Place posters at the point of use and at eye level. Don't place them on windows as this will cut out light.

A poster usually suggests an action that can take place now. The message must be short so that the lettering can be bold and large and seen at a distance. Posters can also generate word-of mouth communication.

Tip: place the posters in areas that are relevant for the topic they cover – e.g. posters about printing shouldn't necessarily go by the printers if people send documents to print from their desk.



## Stickers

Like posters, stickers can be used to target different equipment or individuals.

- Use stickers at the point of use, on or near equipment, like photocopiers, printers, computers, light switches and machines.
- Label equipment with colours. Red could mean “switch off after use” and green could mean “allowed to be left on”, for example.
- Label those light switches which should be switched off first – usually rows of lights beside windows.
- Label equipment that uses a lot of energy.
- A simple image can convey a command but remember to add an explanation, as it may simply be ignored.

Tip: get feedback from staff on stickers to check they understand what they are supposed to do and when – use that feedback to make improvements to your sticker systems.

Download the START2ACT stickers under the Results and downloads site of [start2act.eu](http://start2act.eu).

## Staff newsletter/magazine

Does your organisation produce a newsletter or publish a magazine? You could use it to publicise the energy awareness programme.

- Think about the publication’s audience – is it taken home by staff or sent to clients or suppliers?
- Make raising energy awareness a regular feature.
- Report on success stories and, if possible, include photos of the people involved.

Tip: use this as an opportunity to show a personal commitment to energy efficiency by senior staff: this can help to generate a positive culture change.

## Staff suggestion schemes

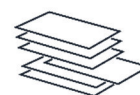
These will generate energy saving ideas or related suggestions from staff. Has your organisation used suggestion schemes in the past? Think about what made the scheme successful or unsuccessful.

Provide a suggestion box or email address where people can make their suggestions. Make sure this is accessible to everyone in the organisation. Ensure that you establish rules for the scheme, including time-scales for responding to ideas, judging criteria and judges.

Establish an award, prize or monetary incentive for chosen suggestions. If possible, give it right away. If the reward is based on a percentage of the energy cost saved, ensure that you set an upper limit in the scheme rules.

Make sure you respond promptly to suggestions – preferably within a week or sooner, otherwise you could meet with apathy or resentment. If possible, respond to suggestions publicly – through general email or a notice in the staff kitchen, for example – so that others are aware of your response. Try to make the awarding of prizes into a regular mini-event.

Make sure that the proposer gets credit for their suggestions. Show how their ideas are being implemented. Publicise the results of any changes you make, along with who suggested them.



## Messages and slogans

**What a waste!** Air conditioning an office for one extra hour a day uses enough energy in a month to power a TV continuously for over a year.

**Hot and bothered** Overheating your building by 1°C adds up to 8% to your heating costs.

**Cut and dried** A 20% cut in energy costs represents the same bottom line benefit as a 5% increase in sales in many businesses.

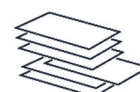
**Less is more** Taking a few simple actions could reduce your energy costs by 10% to 20%. *[Adjust values if appropriate]*

**Don't get into hot water!** Heating and hot water can account for up to 60% of a building's energy use – don't waste it.

**Double trouble** Having heating and air conditioning switched on at the same time is a massive and all-too common source of wasted energy.

**Uncomfortably hot fact** Office equipment of some kind or another is used by almost all UK businesses, and accounts for around 15% of all the electrical energy used in UK offices. *[Adjust to national circumstances]*

**Switch off!** Effective management of office equipment can reduce its energy consumption by up to 70%.

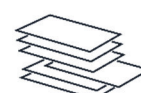


# Walk-around checklist

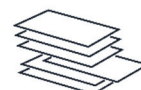
Date of energy walk-around: \_\_\_\_\_

Walk-around completed by: \_\_\_\_\_

Heating / cooling	Checked ✓	Further action needed?
Are there staff complaints about the temperature?		
Have heaters/boilers/air conditioners been serviced in the last 12 months?		
Are portable heaters/fans being used?		
Are heaters and air conditioning units operating in the same space?		
If hot water is provided, is it being wasted (such as dripping taps, or leaking urns)?		
Do all areas have the same heating/cooling requirements?		
Is the room thermostat working and set to the correct temperature?		
Do you have a dress code? Does it allow staff to dress appropriately for hot or cold weather?		
Are other heating/cooling controls working and on the correct settings?		
Are there obstructions in front of radiators, heaters or air conditioning units?		
How are extractor fans controlled (e.g. in toilets)?		
Are windows and doors open when heating or air conditioning is on?		
Do you naturally ventilate the building at any time during the day or night?		
Are there any cold draughts coming from windows or doors?		
Are 'out-of-hours' audits carried out to ensure that heating/cooling systems are not being left on unnecessarily?		



Lighting	Checked ✓	Further action needed?
Are lights switched off when there is enough daylight or the room is empty?		
Are any old, large diameter (1.5 inches) fluorescent tubes still in use?		
Are lamps, fittings and rooflights clean?		
Are traditional tungsten light bulbs still in use?		
Are automatic lighting controls used (such as motion sensors or timers)?		
Are any light sources blocked by furniture?		
Are light switches arranged conveniently and labelled?		
Does the last person to leave the building know which lights need to be switched off – do cleaners come in after staff have left?		
Is exterior lighting switched off when not needed?		
Office equipment	Checked ✓	Further action needed?
Have computers got built-in energy saving features — and are they activated?		
Are computers left on overnight?		
Are monitors and fans switched off when not in use?		
Are photocopiers located in air conditioned areas?		
Are printers and photocopiers left on overnight/at weekends?		
Are vending machines/water coolers/coffee machines left on all the time?		





## Training Kit – Visit 2

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



# Introduction to START2ACT

START2ACT aims to reduce energy consumption in the EU by triggering behaviour change in young enterprises, through engaging entrepreneurs and owners and staff of small businesses.

Through this fully-funded training programme you will receive three one-to-one onsite visits, to identify and implement low cost and no cost measures to reduce energy consumption.

Research in recent years has shown that around 20% of energy consumption can be saved through measures targeting behaviour change. This can result in direct financial savings for from your current energy bills. In addition, you will also receive a range of reputational benefits and marketing opportunities, through promoting your involvement in the programme.



# Activities for today

## Step 1

Review progress:  
energy statement and  
Buy Smart Strategy

## Step 2

Review progress:  
metering and monitoring

## Step 3

Review progress: staff awareness

## Step 4

See how much you can save with plug-in timers

## Step 5

Review your energy saving action plan  
  
Next steps





# Step 1: Document review

## Why

An energy statement provides structure and drive to your energy management efforts and delivers a clear signal to your staff and customers of your environmental credentials. A Buy Smart Strategy is a tool to allow you to effectively manage the energy performance of products and services you buy.

## What

Review your energy statement and Buy Smart Strategy with your guide and make sure it meets the minimum criteria as set out in the template.

For both documents, confirm whether they have been reviewed by senior management. If not, discuss whether this will/will not be possible with your guide.

Additional items to discuss with your guide are:

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

## Next steps

Review your energy statement and buy smart strategy against the criteria provided. Discuss progress/problems with your guide and whether these have been reviewed by senior management.



# Step 2: Metering & monitoring review

## Step 2

### Why

The collection and analysis of energy data is crucial tool in ongoing energy management efforts for any organisation. Review your energy data collection system with your guide and look at the guidance provided on analysis.

### What

Now that you have begun to build up a database on energy consumption and costs you can begin to analyse and understand it. The collection of data will not in itself save energy - it is the insights you gain and the subsequent actions you take that will help make reductions for your business.

A good place to start is to construct a few graphs to plot your energy consumption (and costs) against the intervals you have collected e.g. kWh of electricity against weekly intervals. This will show you a 'trend' of energy use and the related cost. Your guide can help you with this and will discuss the results.

Is your consumption very stable or does it vary widely? There are multiple drivers for energy consumption but being aware of your usual 'trend' can help better understand those drivers and identify ways of reducing consumption. By regularly monitoring your energy you will subsequently see if any 'unexpected' consumption occurs and takes steps to address it.

### Next steps

Review the suggested analysis techniques in the 'Visit 2 supplementary materials' document. If you have been unable to collect/determine your energy use please move onto the supplementary section (next page).



## Step 2: Energy, power and carbon

### Step 2

#### Why

Whilst some aspects of energy efficiency require a technical understanding, the fundamentals are based around a few simple concepts. This section reviews information important to understanding energy efficiency.

#### What

Many would define energy as 'electricity, fuel, and/or heat'. A physics teacher would certainly define it more rigorously as 'capacity to do work' but the real world definition works here. When we buy energy it may be billed or reported in a variety of units of measurement, but all have their equivalents in kilowatt hours (kWh) which is how electricity and gas consumption is commonly expressed.

'Power' has quite a specific meaning: it is the rate at which energy is delivered, commonly expressed in watts (W) or kilowatts (kW). The energy used by a piece of equipment running at fixed power is the time multiplied by the power. A 3 kW electric heater running for two hours will use  $3 \times 2 = 6$  kWh. To determine what the energy cost is of running equipment you need to apply the unit rate to the kWh. In the case of our 3kW heater running for 2 hours at €0.15/kWh:  $6 \times 0.15 = \text{€}0.90$ . To work out the related carbon you need to apply an emissions factor. Different fuels have different emissions factors which are published by national governments. In the UK, the 3kW heater running for two hours would produce roughly 2.47kg of carbon ( $6 \times 0.41205$ ) using 2016 figures.

#### Next steps

Review the kW rating of a piece of electrical equipment in your office (ask your guide for help if required) and try to work out what the annual cost of operation is. Most equipment will only state its maximum watt or kW figure therefore its average use may be less if its power intensity varies (e.g. computers/fridges/motors etc.)



# Step 3: Energy awareness review

## Step 3

### Why

Most businesses could save 5% off their energy bills through behavioural measures. Monitoring and feedback should be an integral part of planning any energy awareness and staff engagement activity. Energy awareness and behaviour change should complement other elements of good practice as part of an integrated approach to energy management in your organisation.

### What

During the first visit we took you through the process for developing an energy awareness and staff engagement programme. By now you should have done some research and planning, and started delivering one or more activities with staff. Once you start engaging with staff you need to start monitoring and providing feedback:

**1. Monitoring:** You should have planned in some monitoring when you were preparing your engagement activities. This could have been based around data and metering or around human observation, depending on your physical environment and the type of behaviour you're targeting. Tip: remember to take into account other changes that may affect metered data. E.g. people may be switching off equipment more but if you've bought more equipment since starting the engagement then the savings may not show up in your energy use data.

**2. Feedback:** The greatest challenge in changing staff behaviour is persistence, as it can take 6-8 weeks for a behaviour to become an habit. Feedback can help achieve that, by making people feel that what they are doing is recognised and worthwhile. If people feel good about a new behaviour, they're more likely to keep doing it. Tip: people can be more inclined to do something if they think everyone else is doing it – think about using this fact in your feedback. E.g. if people think most staff now turn out lights after leaving a room then that becomes the 'normal' behaviour, and they'll be more likely to do it themselves.

### Next steps

Continue monitoring and giving and collecting feedback – actively engage and listen to your staff, and use their feedback to refine your upcoming engagement activities. Keep momentum going. See the 'Visit 2 supplementary materials' document and the 'Involve your staff' page on the [Knowledge Base](#) for more information.



# Step 4: Plug in timers

## Step 4

### Why

Office equipment is one of the fastest growing energy users in the business world; the electricity it consumes can represent up to 15% of total energy consumption. Top energy saving measures in this area are simple and cost effective.

### What

#### Install plug-in (seven day) timers

These can be bought for minimal cost from DIY stores or online and will help to reduce the likelihood of machines being left on out of hours. Timers can be fitted to communal equipment such as printers, photocopiers and even vending machines, although it is advisable to check with your supplier first about how this may affect your service agreement. Choose timers which can programme over all seven days of the week to enable shut down during weekends and public holidays. Periodically review the settings to make sure these are appropriate for your operations.

Where you can't install timers, **manually switch off all equipment** when not in use and enable power down modes (such as computers/monitors). As well as reducing the energy consumption it also reduces the heat produced by equipment which in turn, lowers cooling costs. Equipment lifespan will also be extended and maintenance costs and risk of breakdown will be reduced.

### Next steps

Walk round your office with your guide and identify what equipment has the potential to be brought under automatic control using plug-in timers or automatic power down.





## Step 5

# Step 5: Next Steps

We will come back in six months' time to review your progress with you and identify further energy-saving actions for your company. You can edit this list in the 'Visit 2 checklist' document.

Action	Time estimation	Due by	✓
Finalise your energy statement and buy smart strategy and communicate these internally and externally where possible i.e. publish on your website.	0.5 days	Visit 3	
Perform analysis on your energy data as detailed above.	0.5 days	Visit 3	
Review staff engagement progress and implement improvements.	0.5 days	Visit 3	
Collect feedback on staff awareness activities.	0.5 days	Visit 3	
Update your staff awareness strategy and implement improvements.	1.0 day	Visit 3	
Maintain momentum on staff awareness.	Ongoing		
Purchase plug-in timers where you have identified equipment that can be brought under control using these.	0.5 days	Visit 3	
<b>Optional Actions</b>			
Set up a procedure to regularly submit your own meter readings to your supplier to avoid inaccurate estimates.	0.25 days	Optional	
If available, ask your utility supplier to send your half hourly data on a regular basis and periodically review this.	0.25 days	Optional	



# Top 3 Tips



1. **TURN OFF UNNECESSARY EQUIPMENT DURING THE DAY AND ESPECIALLY OUT OF HOURS TO REDUCE HEAT BUILD-UP AND UNNECESSARY ELECTRICAL COSTS – TO SAVE 5% OF ENERGY COSTS**



2. **CARRY OUT A STAFF AWARENESS CAMPAIGN – TO SAVE 5% OF ENERGY COSTS**

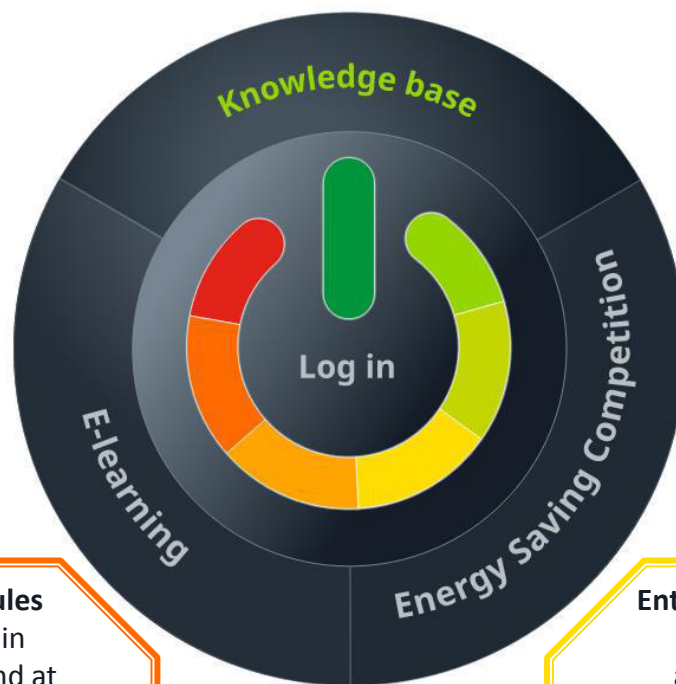


3. **WALK AROUND YOUR OFFICE AT DIFFERENT TIMES OF THE DAY AND DURING DIFFERENT SEASONS TO SEE HOW AND WHEN HEATING AND COOLING IS WORKING. CHECK TIME AND TEMPERATURE SETTINGS - TO SAVE 5% OF HEATING AND COOLING COSTS**



# START2ACT Tools & Resources

**Access the Knowledge Base for specific energy saving advice on:**  
lighting, heating & cooling, office equipment, procurement,  
employee engagement, monitoring & reporting, procurement,  
green finance and choosing energy efficient offices.



**Complete the E-Learning modules**  
to increase your own expertise in  
energy management at work and at  
home.

**Enter the Energy Saving Competition**  
to increase your energy saving  
actions, to promote your efforts to  
clients and to have a chance to win





# Other Tools & Resources

You can use these other tools and resources to assist you with energy management and reduction.



## Office Equipment Guide

[https://latam.carbontrust.com/media/13151/ctv007\\_office\\_based\\_companies.pdf](https://latam.carbontrust.com/media/13151/ctv007_office_based_companies.pdf)

This overview for office based companies introduces the main energy saving opportunities for businesses and demonstrates how simple actions save energy, cut costs and increase productivity.



## 3EMTool

<http://www.ceemproject.eu/3emt-tool/>

This is a web-based tool for companies to raise awareness of what you can do to step up your green habits. SMEs will self-assess their eco-energy performance and get a free benchmark (Central Europe basis).



## Implementing Sustainable Procurement Guide

<http://www.wrap.org.uk/sites/files/wrap/Implementing%20sustainable%20procurement%20-%20summary%20v2.pdf>

A guide to addressing the barriers to sustainable procurement, using an inclusive approach that embodies change management, which is key to successful implementation.



## Green your Business for Growth Guide

<https://www.carbontrust.com/resources/guides/carbon-footprinting-and-reporting/green-growth-green-your-business-for-growth/>

Grow your business by improving its environmental credentials with our guide to succeeding in the green economy.



# Any Questions?

Contact your trainer, [insert name], at: [insert email address]

Ask an expert at: <http://start2act.eu/activities/ask-the-expert>

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## Visit 2 checklist

Action	Time estimate	Due by	✓
Finalise your energy statement and buy smart strategy and communicate these internally and externally if possible i.e. publish on your website.	0.5 days	Visit 3	
Perform analysis on your energy data as detailed above.	0.5 days	Visit 3	
Review staff engagement progress and implement improvements.	0.5 days	Visit 3	
Collect feedback on staff awareness activities.	0.5 days	Visit 3	
Update your staff awareness strategy and implement improvements.	1.0 day	Visit 3	
Maintain momentum in staff awareness.	Ongoing		
Purchase plug-in timers if you have identified equipment that can be brought under automatic control using these.	0.5 days	Visit 3	
Optional Actions	Time estimate	Due by	✓
Set up a system to regularly submit your own meter readings to your supplier to avoid inaccurate estimates.	0.25 days	Optional	
If available, ask your utility supplier to send your half hourly data on a regular basis and periodically review this.	0.25 days	Optional	



## Further comments

## Top 3 Tips

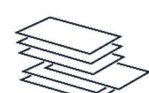
1. TURN OFF UNNECESSARY EQUIPMENT DURING THE DAY AND ESPECIALLY OUT OF HOURS TO REDUCE HEAT BUILD-UP AND UNNECESSARY ELECTRICAL COSTS – 5% OF ENERGY COSTS



2. CARRY OUT A STAFF AWARENESS CAMPAIGN - 5% OF ENERGY COSTS



3. WALK AROUND YOUR OFFICE AT DIFFERENT TIMES OF THE DAY AND DURING DIFFERENT SEASONS TO SEE HOW AND WHEN HEATERS AND COOLERS ARE WORKING. CHECK TIME AND TEMPERATURE SETTINGS - 5% OF HEATING AND COOLING COSTS



# Visit 2 supplementary material

## Policies

Review your Energy Statement with your guide and make sure it meets the minimum criteria as set out in the template and training kit. Review your Buy Smart Strategy and make sure it also meets the minimum criteria set out.

For both policies, confirm whether they have been reviewed with or by senior management. If not, discuss whether this will/will not be possible.

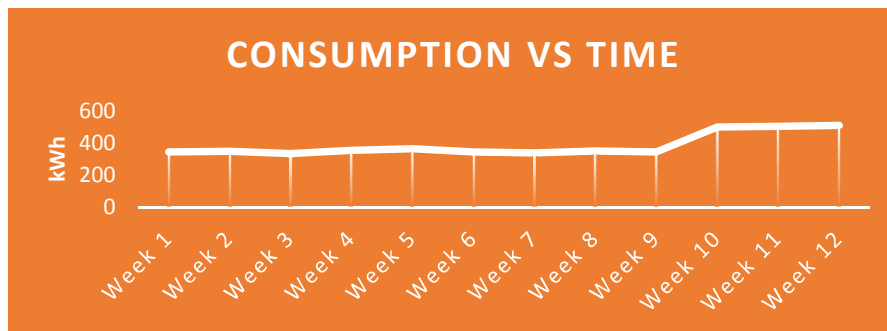
Additional items to discuss and review include:

- Where are the policies to be kept/displayed?
- Is your energy policy to be made publicly available?
- How have you made colleagues aware of the new policies?
- Have either policy been applied to any real situations yet?

## Metering & Monitoring

Review the suggested analysis techniques below. If you have been unable to collect/determine your energy use please move onto the supplementary section (Energy, power and carbon).

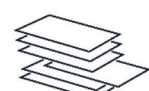
The below figure shows an example of energy consumption plotted against weekly intervals. You can see that consumption increases by approximately 30% during week 9 and stays at the new higher level. In this instance it would be important to determine if the increase in consumption is legitimate or needs to be addressed. Try plotting your energy consumption graph similar to the below to identify any trends or variations.



In the vast majority of business, it is possible to save energy by shutting down equipment that is left running needlessly when the building is closed. It is fairly straight forward to calculate this out of hour's consumption for your business. If you are billed on a day and night tariff your invoices should show what your consumption is overnight. Another way to do this is to take a meter reading when you leave at the end of the day and again when you arrive in the morning the next day. How does this compare to your overall energy consumption? If your nightly use is greater than 20% of the total use there is likely to be potential to save energy by switching more things off.

## Energy awareness monitoring

Monitoring and feedback should be an integral part of planning any energy awareness and staff engagement activity. It is therefore important to make sure that you link back to that initial planning and use the monitoring and feedback techniques that you have initially identified as these will work best for your organisation.



### Tips for monitoring:

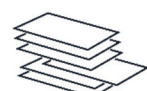
- If you're using baseline energy data, from bills or meters, make sure that it's a representative sample or that you adjust accordingly. For example, if you're using monthly energy bill data, think about whether anything happened during that time period that would make the data non-representative – e.g. a cold snap meaning more heating was required, a project that required a significant amount of printing, the purchase of a new piece of energy-using equipment.
- Thinking about similar factors, consider whether any relevant changes have occurred since the point at which you took your baseline and the point at which you're monitoring for improvement, which would mean a change in staff behaviour wouldn't show up in the figures.
- Use human observation to establish what people are actually doing – in smaller organisations without very detailed metering this can be the most effective way to gauge whether behaviour is changing or not.
- Think about whether other building users could be affecting your results – for example, do you have a centralised heating system that you cannot control?
- Be aware of positive bias in staff responses to direct questions or surveys – if we know we're supposed to be performing a particular behaviour then we're more likely to claim that we are conforming – it's difficult to admit failure!

### Tips for feedback:

- Make sure feedback is timely. You will need to strike a balance between making sure that you have something to tell people, and not leaving too long a gap between their actions and the feedback. It takes 6-8 weeks for a behaviour to become a habit (e.g. switching off a light when you leave a room) so you need to think about how you can offer positive feedback throughout that period to keep people motivated.
- Link the feedback to the reason why people are asked to do something differently. E.g. if you ask people to switch off computers to save money to purchase a new piece of equipment that makes people's jobs easier, make sure that when you purchase the piece of equipment you tell staff that it was their actions that enabled that purchase.
- Even if you've not used messages around energy and climate change, take this opportunity to generate cultural change. In the example above, in addition to the feedback on the new equipment purchase, you could also take the opportunity to tell people how much energy and carbon they've saved. This type of positive feedback can help contribute to greener values among staff.
- Make sure you're exploiting our pack instincts and using "normative social influence" in your feedback as well as in developing your awareness messages. For example, if most people already wear extra layers in cold weather, telling staff that most people are already doing it will help the few people not already layering up to conform. At the feedback stage, if you succeed in persuading most staff to wear extra layers but a few still dress for a warmer environment **and** need extra heating, combine telling everyone who has started layering-up what a great job they've done and emphasis the fact that most staff are now doing it.

### **Plug-in timers**

Walk round your office with your guide and identify what equipment has the potential to be brought under automatic control using plug-in timers.





# Training Kit – Visit 3

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



# Introduction to START2ACT

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# Activities for today

## Step 1

Review  
progress of  
action plan

## Step 2

Make sure  
your heating  
and cooling  
system are not  
creating  
unnecessary  
energy waste

## Step 3

Understand  
the options  
available to  
you for saving  
energy  
through  
lighting

## Step 4

Consider how  
you can save  
energy  
through  
equipment  
upgrades

## Step 5

Review your  
energy saving  
action plan  
  
Discuss how to  
progress in the  
future





# Review action plan progress

 Step 1



# Step 2: Heating and cooling controls

## Step 2

### Why

Heating and air conditioning systems are usually the largest users of energy in offices. Using simple and low cost measures many organisations can reduce energy consumption of these systems by up to 20%.

### What

#### Match working hours

Check that the system operating hours match the times when heating, ventilation and cooling are required. Observe the working patterns and make adjustments to the controls. You should check that your heating, ventilation and AC system are set to a timer that matches occupancy of your office. It may be possible to go one step further and turn off systems earlier or later. This should be regularly reviewed to make sure settings are always appropriate.

#### Consider comfort and temperatures

Most people feel comfortable in an office temperature range of between 19-24°C. If it is cold outside, staff and visitors will typically be wearing warmer clothing, so ensure temperatures are set accordingly. Encourage staff to dress for the conditions and ensure workspaces are shielded from draughts and direct sunlight. These are no-cost solutions that save money and help maintain comfort. The recommended temperature range for offices is 21–23°C in the winter and 22–24°C in the summer.

### Next steps

Review your offices time and temperature settings for heating or cooling with your guide. If you are not able to review/determine this, request the information from your landlord or 3rd party managing agent.



# Step 3: Lighting management

## Step 3

### Why

Did you know lighting often accounts for around 15% - 25% of an office's energy bill? The good news is you can significantly reduce this cost without having to make an investment.

### What

**Natural daylight and blinds** - Where possible make use of natural daylight and turn off your lights. It costs nothing, and can reduce your lighting costs by up to 20%. Often offices will have all the lights turned on and the blinds down to reduce glare. Where possible, encourage staff to adjust blinds so they make the most of natural light while still cutting the glare.

**Switch off** - In many offices, especially open plan ones, lights often remain on much longer than necessary. Staff at all levels should be involved in making savings. Where appropriate, appoint someone to take responsibility for turning the lights off.

**Brightness levels** – the total amount of light provided by your lighting system or 'Lux' should be reviewed. In some cases lighting systems are over designed and could be much brighter than they need to be. In this instance offices can be 'de-lamped' to reduce the brightness to a acceptable level. Ask your guide for help with this.

### Next steps

Walk round your office with your guide to identify where there are opportunities to switch off and make use of natural light.



# Step 3: Lighting upgrades

## Step 3

### Why

Once you have taken action to minimise your current lighting as much as possible you should consider installing lighting controls and upgrading your lights to LED alternatives. LED lighting alone saves approximately 50% of consumption compared to traditional light sources.

### What

**Switch to LED** - The best lights on the market are now LEDs with a brighter output, better colour range and longer life. By replacing incandescent, halogen and fluorescent lighting with LED, you could reduce lighting energy consumption by 50%. The long lamp life can also significantly reduce maintenance costs (lamp changes) - LEDs typically have a life of up to 50,000 hours (3-5x times longer than traditional lights). Further benefits include better colour rendering (appearance of light), greater flexibility with colour temperatures (warmth of light), lower heat output and reduced flicker.

**Lighting Controls** - These help to save time, money and energy with automated switch off. Consider installing occupancy sensors in areas with relatively low foot fall such as storerooms, toilets, and meeting rooms. These can achieve savings of up to 30%. Light sensors or 'photocells' can also be used to control lighting when there is sufficient natural daylight. As daylight hours vary throughout the year, these sensors help to provide closer control and thus substantial savings can be achieved.

### Next steps

Walk round your office with your guide to identify what sort of lighting types you have and whether they can be replaced with LED versions and whether automated controls could be added.



# Step 4: Equipment upgrades

## Step 4

### Why

PC and Laptops can account for a significant proportion of the electrical use of your business. When upgrading this equipment make sure to take into account its lifecycle cost and energy efficiency standards as this will save you money and carbon in the long run.

### What

**Upgrades** - Some computers can simply be upgraded with newer, more energy efficient models. Look into the efficiency levels before purchasing new machines and make sure automatic power down modes are specified and enabled. Where possible purchase laptops/docking stations and 'thin-client' machines as these use much less power than traditional PC/monitor set ups.

**Purchase for your requirements** - Choose equipment that caters for current business needs and predicted requirements only. Do not over specify – high spec PCs with large screens and fast processors use more energy; ask if your staff really need them. Always take operational/running costs into account.

**Labels** - Ensure all new equipment has energy saving features meeting at least 'ENERGY STAR' performance specifications.

### Next steps

Walk around your office with your guide to identify computers and items that could be upgraded. Find out what the replacement process is – does your buy smart strategy cover their specification?



# Step 5: Next Steps

## Step 5

As this is your final START2ACT visit, we please use the checklist to keep setting your own actions in the future. Use the START2ACT [Knowledge Base](#) for ideas on what else you can do. You can edit this list in the 'Visit 3 checklist' document.

Action	Time estimation	Due by	✓
Find out what schedules your heating/cooling systems run to and what the temperature set points are.	0.5 days		
Identify what type of lighting you have in your office and whether you can upgrade this to LED.	0.5 days		
Investigate whether your office equipment is procured with energy efficiency in mind. Find out if there are more efficient models available.	0.5 days		
<b>Optional Actions</b>			
Investigate the potential to utilise or install optimum start/stop control of your heating/cooling system. Ask your guide about this.	0.5 days	Optional	
Replace 1 or 2 light fittings with LEDs. Ask your guide to help quantify potential energy savings.	1 days	Optional	
Upgrade your computers or office equipment to a more efficient model when it reaches the end of its useful life. Try to quantify the energy saving based on the information supplied.	1 days	Optional	



# Top 3 Tips



1. ENSURE THERMOSTATS ARE SET CORRECTLY — INCREASE TEMPERATURE SET-POINT FOR COOLING AND REDUCE SET-POINT FOR HEATING — A 1°C REDUCTION IN HEATING TEMPERATURE CAN CUT COSTS BY **8%** AND A 1°C INCREASE IN COOLING TEMPERATURE CAN CUT COSTS BY **2-4%**



2. REPLACE TRADITIONAL TUNGSTEN AND FLUORESCENT LAMPS WITH LEDs TO REDUCE OPERATING AND MAINTENANCE COSTS - **80%** OF LIGHTING COSTS



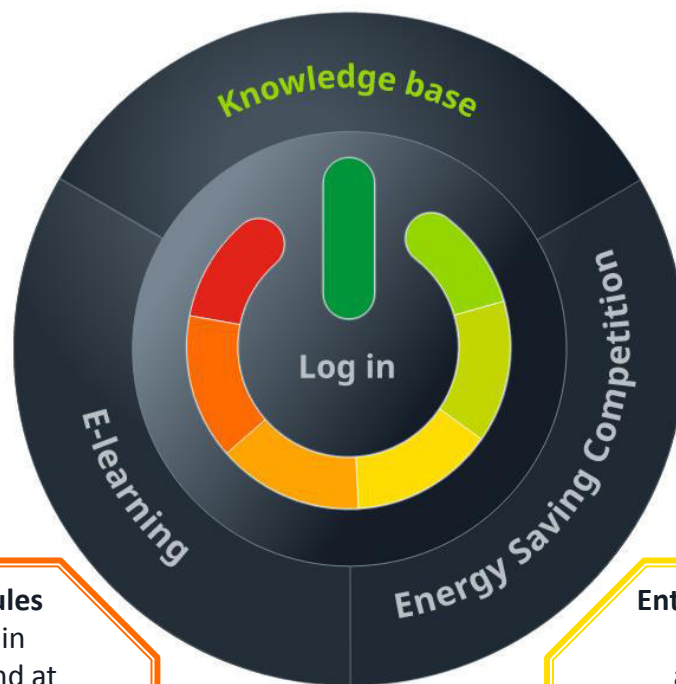
3. PURCHASE EQUIPMENT WITH LOW ENERGY OPTIONS THAT MATCH YOUR REQUIREMENTS - THIS COULD SAVE AROUND **10%** OF YOUR PRINTING COSTS ALONE





# START2ACT Tools & Resources

**Access the Knowledge Base for specific energy saving advice on:**  
lighting, heating & cooling, office equipment, procurement,  
employee engagement, monitoring & reporting, procurement,  
green finance and choosing energy efficient offices.



**Complete the E-Learning modules**  
to increase your own expertise in  
energy management at work and at  
home.

**Enter the Energy Saving Competition**  
to increase your energy saving  
actions, to promote your efforts to  
clients and to have a chance to win



# Other Tools & Resources

You can use these other tools and resources to assist you with energy management and reduction.



## EU Energy Star office equipment database

<https://www.eu-energystar.org/products.htm>

This database contains products that are qualified under the latest active ENERGY STAR specifications. Visitors can navigate by product category and filter results to view relevant products.



## LED Savings Calculator

<http://www.philips.co.uk/c-m-li/led-lights/led-savings-calculator>

SEAI energy facts for employee awareness to use for messaging and communication when designing your staff awareness campaign.



## SEAI Energy Wizard

[http://www.seai.ie/EnergyMAP/Energy\\_Wizard/App/SectorList/](http://www.seai.ie/EnergyMAP/Energy_Wizard/App/SectorList/)

Create a bespoke energy saving action checklist by navigating through sector-specific advice relating to heating and cooling, lighting, office equipment, renewable energy, manufacturing and more. Track your progress against these actions over time.



## Creating an Awareness Campaign Guide

[https://latam.carbontrust.com/media/13151/ctv007\\_office\\_based\\_companies.pdf](https://latam.carbontrust.com/media/13151/ctv007_office_based_companies.pdf)

This overview for office based companies introduces the main energy saving opportunities for businesses and demonstrates how simple actions save energy, cut costs and increase productivity.





# Achievements and the future

Thank you for participating in the START2ACT programme. We hope that you have found the training sessions useful, and that you have significantly improved your energy management processes as a result.

Please help us to assess the success of START2ACT by filling in the final survey that will be emailed to you shortly. You can use the comments box at the end of the survey to share your experience of the programme with us.

We hope that your energy saving progress will not stop here, and that you will continue to green your business as it develops and grows. There is a wealth of tools and resources available online to assist you with energy management and reduction. Visit the START2ACT [Knowledge Base](#) for more energy saving ideas, and use the tools and resources section on there to build on your progress and set yourself even more ambitious targets for the future.



# Any Questions?

Contact your trainer, [insert name], at: [insert email address]

Ask an expert at: <http://start2act.eu/activities/ask-the-expert>

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





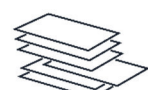
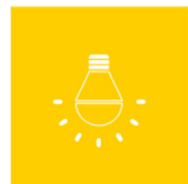
## Visit 3 checklist

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## Further comments

## Top 3 Tips

1. ENSURE THERMOSTATS ARE SET CORRECTLY — INCREASE TEMPERATURE SET-POINT FOR COOLING AND REDUCE SET-POINT FOR HEATING — A 1°C REDUCTION CAN CUT COSTS BY 8%
2. REPLACE TRADITIONAL TUNGSTEN AND FLUORESCENT LAMPS WITH LEDs TO REDUCE OPERATING AND MAINTENANCE COSTS — 80% OF LIGHTING COSTS
3. PURCHASE EQUIPMENT WITH LOW ENERGY OPTIONS THAT MATCH YOUR REQUIREMENTS — THIS COULD SAVE AROUND 10% OF YOUR PRINTING COSTS ALONE



# Visit 3 supplementary material

## Heating and AC controls

Where possible, review your office's time and temperature settings for heating or cooling with your guide. If you are not able to review this, request the information from your landlord or 3rd party managing agent.

Always check or seek to confirm that time and temperature control is flexible enough to match heating and cooling to your patterns of occupation and requirements. In most offices that means the ability to set-up different occupational occupied periods depending on the day of the week, to provide for occasional out-of-hours use, and to schedule for public holidays. Today, wireless digital programmable thermostats are cheap enough for domestic use meaning there is no excuse for the existence of fixed 24 hour time switches. Where a computerised building management system exists, it's really just a question of starting to use its features correctly.

## Lighting

Walk round your office with your guide to identify what sort of lighting types you have and whether they can be replaced with LED versions or there are options to switch off and make use of natural light.

There are a number of easy and inexpensive steps you can take. There are some workplaces, for example, where staff may not even know where the light switches are or, if they do, it may not be clear which bank of switches controls which area. Clearer labelling is simple: it need not be flashy and, combined with increased energy awareness, it will help cut costs and carbon.

A common issue is not understanding who is last out of the office. This will often be the cleaners rather than office staff so they are the people to engage with.

Where replacing traditional lights with LEDs remember to be aware of the 'colour temperature' and the 'lux' levels. In simple terms, this is how 'warm' the light feels and how bright it is. A good rule of thumb is to try and match-up existing colour temperature and lux levels but be aware – these may not have been appropriate in the first place. Your guide will be able provide further advice if required.

## Equipment upgrades

Walk around your office with your guide to identify small power items that could be upgraded. Find out what the replacement process is – does your procurement policy cover their specification? Always try to match PC/laptop specifications to actual business requirements and don't over-spec.

