



# HOW TO CONDUCT A WALK-AROUND ENERGY SURVEY



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# Preface

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Reducing energy use makes perfect business sense; it saves money, enhances corporate reputation and helps everyone in the fight against climate change.

The Private Sector Energy Efficiency (PSEE) programme provides simple, effective advice to help businesses take action to reduce carbon emissions, and the simplest way to do this is to use energy more efficiently.

This overview of how to conduct a walk-around energy survey demonstrates how simple actions can save energy, cut costs and increase profit margins.

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# How to conduct a walk-around energy survey

## What is a walk-around energy survey?

A walk-around energy survey is a brief survey of all relevant buildings. This is the primary method of assessing energy use in an organisation. There are three key aims of the survey:

- Identify what equipment uses the most energy within your organisation.
- Understand how energy-using equipment is controlled.
- Identify opportunities for savings.

## Why carry out a survey?

In most organisations, energy is one of the most significant controllable costs. Saving energy improves profitability as well as decreasing CO<sub>2</sub> emissions and reducing impact on the environment.

## Preparing for a walk-around energy survey.

To get the most out of your walk-around survey, you need to prepare properly.

1. Safety first! Make sure you are aware of any risks that may be present, and follow the safety procedures and methods that are in use. Always wear protective clothing and equipment where appropriate and call in an expert when needed.
2. Review relevant information on energy use, such as utility bills, any sub-metering data, process diagrams and maintenance records. This may give you an indication of high base-load or out-of-hours energy use.
3. Prioritise high energy consuming equipment and processes during your assessment. Plan and agree your assessment with relevant

people, operators often have ideas on how to save energy on their equipment so ensure that they are available.

4. Consider carrying out a second walk-around survey out of operational hours, to identify any equipment and lights left on unnecessarily.
5. Make sure you have the tools for the job.  
For example:
  - Relevant safety equipment.
  - Audit checklist.
  - Digital camera.
  - Infrared thermometer.
  - Torch.

You can use the checklist included in this guide or develop one for your own specific business needs.

# Action checklist

Heating, Ventilation and Air Conditioning Equipment	Completed	Action
Age and condition of boiler or other source of heat.		
Has the system been serviced in the last 12 months?		
Are radiators fitted with Thermostatic Radiator Valves (TRVS)?		
Are filters and grills clean and maintained?		
Are motors and pumps fitted with variable speed drives?		

  

Heating, Ventilation and Air Conditioning Controls	Completed	Action
Are there any areas of over or under heating?		
Have timers been set to match the hours of occupancy?		
Check set points and “dead-bands” (the gap between when heating switches off and when air conditioning switches on).		
Is there a risk of heating and cooling operating in the same area?		
Are any unoccupied areas being heated?		
Are windows and doors often left open in conditioned spaces?		

# Action checklist

Building Fabric	Completed	Action
Is the roof insulated to modern thermal standards?		
Are windows double-glazed or fitted with secondary glazing?		
Are there any uninsulated walls?		
Are there any air leaks at windows and doors or other openings?		
Do all exterior doors close automatically and quickly?		

  

Domestic Hot Water	Completed	Action
Age and condition of water heating equipment.		
Has the timer been set to match occupancy?		
Are the hot water cylinder and valves fully insulated?		
Are all hot water distribution pipes insulated?		
Have energy saving taps and shower heads been fitted?		

# Action checklist

Lighting: Lamps	Completed	Action
Are there any areas of over-or under-lighting?		
Are there any tungsten lamps still in use – e.g. in desk lights?		
Have T12 fluorescent lamps been replaced by T8 or T5 lamps or LED luminaires?		
Can halogen lamps be replaced by CFL or LED versions?		
Can light output be reduced in any exterior lamps?		

  

Lighting: Control	Completed	Action
Are there any unused areas being lit?		
Can occupancy sensors control intermittently used areas?		
Can daylight sensors be fitted to lights adjacent to windows?		
Are windows and skylights cleaned regularly?		
Are manual switches accessible and clearly labelled?		
Is there a switch-off policy in place?		
Are all exterior lights controlled by timers or daylight sensors?		

# Action checklist

Other equipment	Completed	Action
Does all IT equipment have energy saving features enabled?		
Is all other equipment switched off when not in use?		
Is all refrigeration equipment A-rated or better?		
Are vending machines and coolers fitted with timers?		
Is there a switch-off policy in place?		
Are all exterior lights controlled by timers or daylight sensors?		

## Taking action

Once you have completed the walk-around survey, summarise your observations and recommendations in an action plan. Discuss the plan and proposed amendments with your colleagues to increase their buy-in to the process. An energy meeting may be useful for this, as all colleagues can then agree on which actions will be taken. It is useful to include senior management in such a meeting, as resources may be required to implement the recommendations.

For each of the items on the checklist the finished action plan should set out:

- An observation (what defect or opportunity has been found?)
- A recommendation (what needs to be done to achieve the energy saving?)
- An agreed 'owner' (who is responsible for taking the opportunity forward?)
- A completion date (when will it be done?)

The next step is to prioritise findings on the basis of business benefit against cost and payback. Implement quick wins and share successes. Keep the momentum going; keep people informed and continue to raise awareness of energy use. Maintain a list of the actions still outstanding and conduct regular reviews of progress against the plan.

Schedule the next walk-around, and consider focussing in more detail on a specific area. Feed the findings from further surveys into your current plans and activities. Follow up on the outstanding actions, implementing them over a time-frame according to your action plan.

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# Plug into energy efficiency with PSEE

The Private Sector Energy Efficiency (PSEE) project aims to improve energy efficiency in industrial and commercial sectors across South Africa. PSEE offers a variety of services to help companies plug in to energy efficiency:

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**Website** – Visit us at [www.psee.org.za](http://www.psee.org.za) for our full range of advice and services.

➤ [www.psee.org.za](http://www.psee.org.za)

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**Publications** – We have a library of publications detailing energy saving techniques for a range of sectors and technologies.

➤ [www.psee.org.za/Resouces](http://www.psee.org.za/Resouces)

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**Case Studies** – Our case studies show that it's often easier and less expensive than you might think to bring about real change.

➤ [www.psee.org.za/Resouces](http://www.psee.org.za/Resouces)



**Remote advice** – Call us on 0801 113 943 or visit [www.psee.org.za](http://www.psee.org.za) to access independent, authoritative advice and our publications and tools.

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**Survey-based support** – Review of energy use for medium-sized companies to identify energy savings opportunities and develop a suggested implementation plan.

➤ [www.psee.org.za/Services/Medium-Companies](http://www.psee.org.za/Services/Medium-Companies)

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**Strategic energy management** – Holistic engagements for large companies to help improve operational energy efficiency and support the development of a comprehensive energy and carbon strategy.

➤ [www.psee.org.za/Services/Large-Companies](http://www.psee.org.za/Services/Large-Companies)

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The Private Sector Energy Efficiency (PSEE) programme aims to improve energy efficiency in commercial and industrial companies in South Africa through the provision of various services to assist companies in identifying and implementing energy saving measures. The PSEE programme is implemented by the National Business Initiative (NBI), supported by the Department of Energy, and funded by the UK Department for International Development (DFID).

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