



Department for  
Business, Energy  
& Industrial Strategy



# TOOLKIT GUIDE

SUPPORTING THE DELIVERY OF ENERGY  
EFFICIENCY ADVICE TO CONSUMERS  
DURING SMART METER INSTALLATIONS

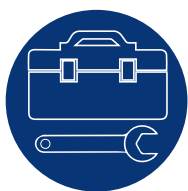
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**Sharing best practice from a pilot study**

November 2016



# WHO IS THE TOOLKIT FOR & WHY IS IT NEEDED?



This Toolkit has been developed for **energy suppliers** (including consumer strategy, operational strategy and also training teams) to support them in meeting the obligation to offer energy efficiency advice alongside the smart meter roll-out. It provides guidance on:

- How smart meter installers can deliver simple and easy tips to consumers to encourage

energy saving behaviours that will be sustained; and,

- How to ensure this is practical for installers to deliver and fits within the installation visit

This Toolkit will also aid the **wider advice community**, including consumer support and advice bodies, local councils, housing associations and third sector organisations.



# HOW WAS IT DEVELOPED?

Ipsos MORI and Energy Saving Trust developed this Toolkit as part of a pilot study into the delivery of energy efficiency advice at smart meter roll-out. This was commissioned by the Department of Energy and Climate Change. In the pilot, energy efficiency factsheets were used by installers to support advice delivery, and to act as leave-behind materials for customers to refer back to. These factsheets are appended at the back of this Toolkit. This Toolkit provides further detail on selecting the appropriate factsheets for customers, tailoring the approach and avoiding disengagement by information overload.

The energy efficiency advice, and the facts and figures featured in the factsheets, are based on standard recommendations by Energy Saving Trust as of April 2016.



## **Listening, testing, sharing**

The Toolkit's recommendations are based on best practice findings from:

- an evidence review
- stakeholder consultation

- consumer research
- installer training
- piloting in over 400 households conducted by two major energy suppliers



# HOW TO USE IT

The Toolkit recommends ways of enhancing the delivery of advice to have the most impact, with tips on how this can be done practically.

**Make** use of the Toolkit's recommendations and adopt them within your own strategy

**Think about** how to apply these tools to different consumer needs

**Be aware** that not all of the tools will be suitable for everyone

**Use the toolkit** in conjunction with the energy efficiency advice contained in the factsheets, appended at the back of this Toolkit

## TOOLKIT CONTENT

The Toolkit is split into three sections:

**What** key advice messages to focus on – changes to habits, as well as purchasing behaviours and changes to the home  
**Who** to deliver specific messages to and how to tailor this to different households  
**How & when** to provide advice around and during the smart meter installation visit, including verbal, written and demonstration-led strategies



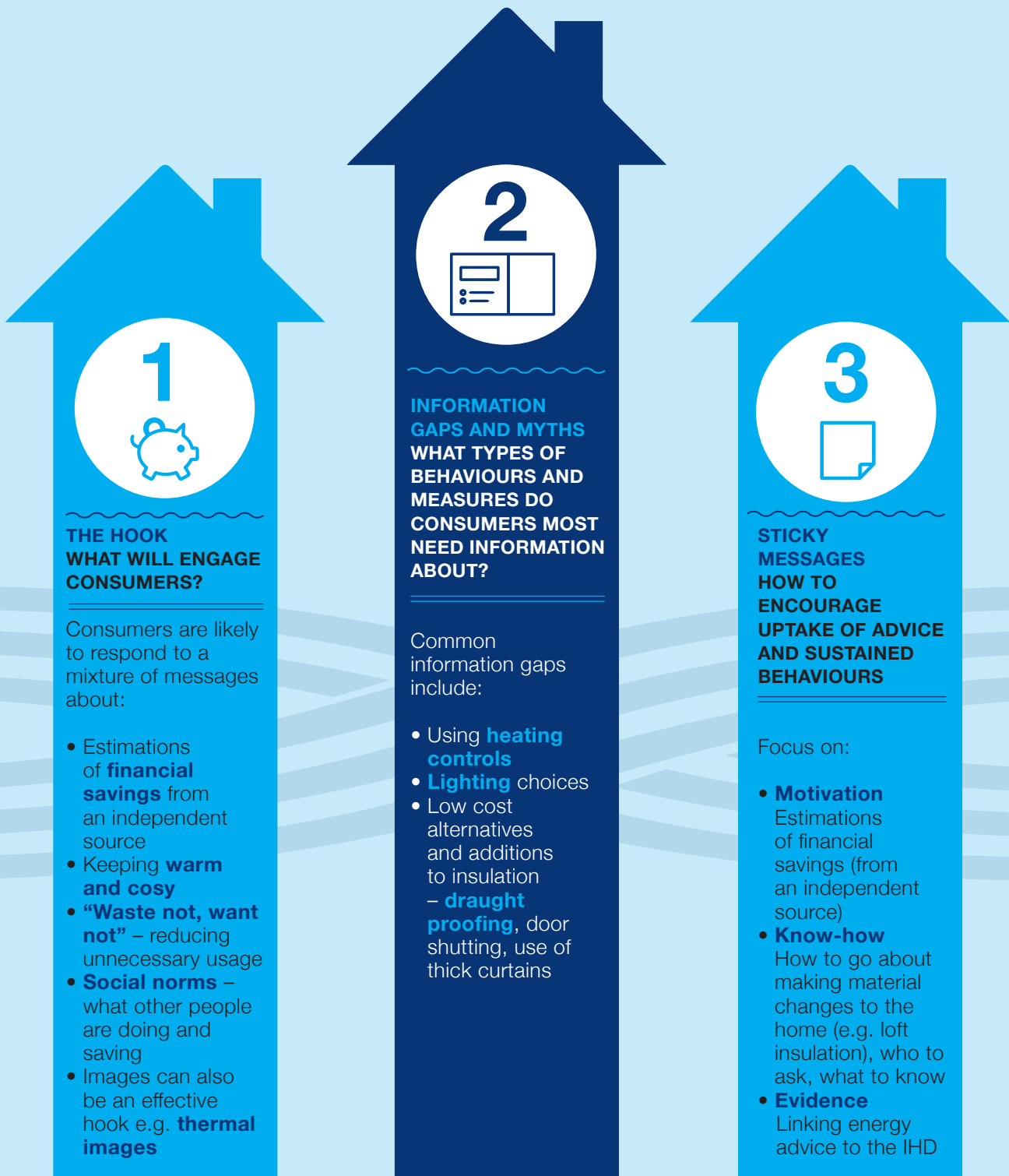
### Top tips included in the Toolkit

- Strategies for advising more vulnerable households
- Training areas for installers that may be helpful
- Smart ways of linking advice to the IHD
- Suggestions for embedding the advice efficiently within the installation visit
- A set of 'factsheet' materials to be used or adapted (PDFs included at the end of the toolkit, editable versions available at: <https://www.gov.uk/government/publications/best-practice-guidance-for-the-delivery-of-energy-efficiency-advice-to-households-during-smart-meter-installation-visits>)



# WHAT ARE THE KEY ENERGY EFFICIENCY MESSAGES TO FOCUS ON?

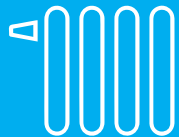
# 3 KEY INGREDIENTS FOR ADVICE



# BREAKING OLD HABITS, CREATING NEW ONES

## Overcoming common myths

## Suggested responses



It's better to keep the heating on low all the time than keep turning it on and off



This means your home is heated when you are not there and it may be too cold when you are there. It's better to use a programmer/timer; it doesn't use a lot of energy to turn your heating off and on, and the timer can be used to avoid frost damage to pipes in winter



Energy saving lightbulbs take a long time to get bright, and they are expensive too



LED technology has made big improvements in the last few years. LED lightbulbs reach full brightness immediately, typically last for over 20 years and the running costs are around a third of a halogen bulb



The standby mode doesn't take up much energy as the appliance is not on



Appliances on standby do still use a lot of energy – turning them off completely when not in use could save as much as £45 per year based on an average household



If I'm cold my only option is to turn the heating up

.....  
Beyond insulation, there's nothing more I can do to conserve heat



Draught proofing windows, doors and blocking cracks in floors and skirting boards can save £25-35 per year on energy bills. Plenty of DIY stores sell draught-proofing materials



My appliances are to blame for the level of energy we consume, and we can't cut this down



Heating typically accounts for half of the energy used at home, reflecting the relative balance between gas and electricity consumption



# DIAGNOSING ENERGY USE WITH THE IHD

Findings from the pilot study suggest consumers are often keen to utilise the IHD as a tool for understanding, quantifying and tracking their energy use. Consumers often engage with energy advice when the conversation is closely tied in with the IHD demonstration.

Link advice to the **IHD demonstration** – in the pilot this was a key **hook to engage** interest, particularly:

- a single kettle boil
- turning on an electric shower
- turning on a tumble dryer
- turning energy intensive appliances off standby

Also use the IHD to **promote sustained changes in behaviour** by encouraging consumers to use it to check usage:

- when they have changed a daily habit, or been out of the house or on holiday
- after the purchase of a new appliance
- on a weekly or monthly basis to help estimate their bill



## IHD Demo Tip

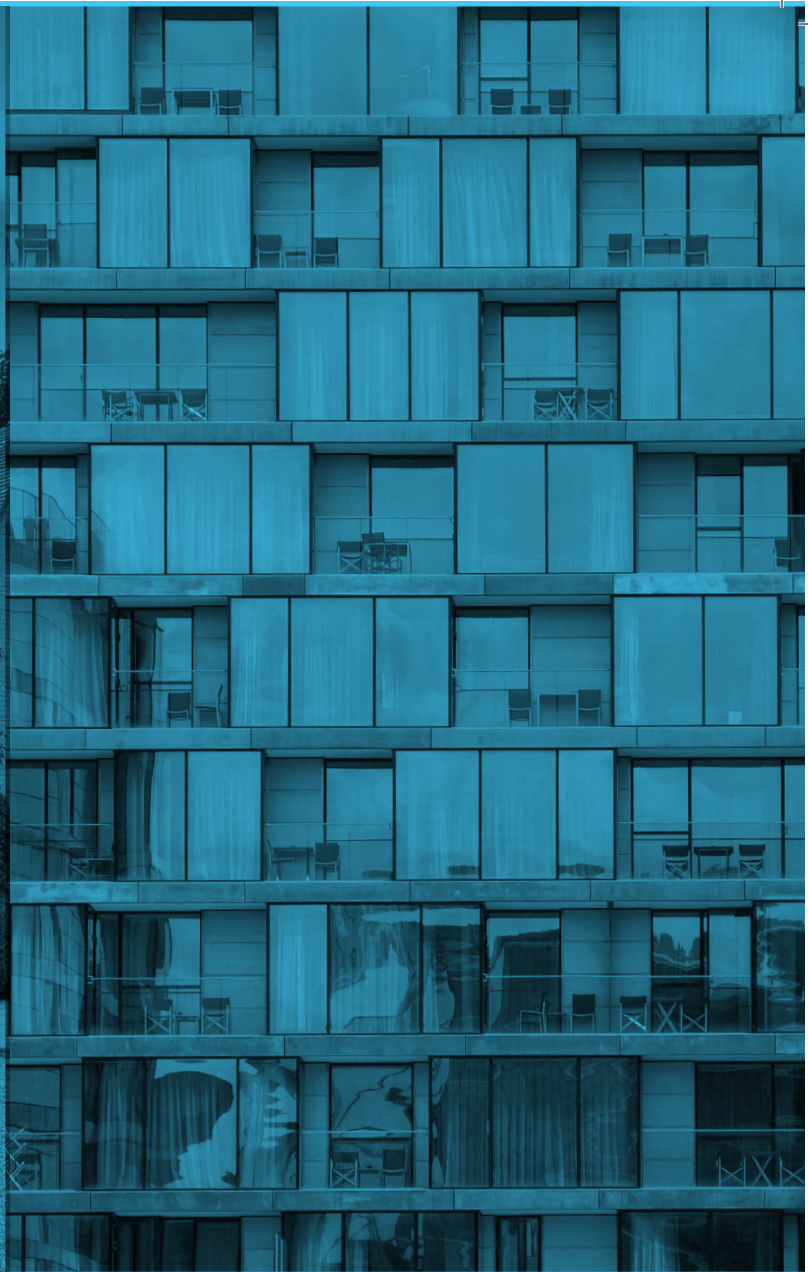
- Consumers may need reminding of the lag time before gas use is reflected on the IHD, and the impact on gas consumption of heating – monitoring gas use may need to be done over longer periods than with electricity use
- Consumers may use the IHD in the longer-term if they are encouraged to use it for **monitoring purposes** – it is beneficial therefore if the emphasis of the demonstration is not only a one-off demonstration of the cost/wattage of appliances



# REINFORCING MESSAGES IN HARD-COPY

Key advice ingredients can be incorporated in printed materials

- Break common assumptions about energy usage with ‘myth busting’ sections
- Include quick energy-saving tips that the consumer can action easily and cheaply, including DIY
- Provide financial information
- Use photos as a hook and to improve understanding of the advice. For example thermal images can help conceptualise heat waste
- Signpost further information, including phone numbers and links



# WHO TO TELL WHAT TAILORING ADVICE FOR DIFFERENT HOUSEHOLDS

# TAILORING ADVICE FOR DIFFERENT CONSUMERS

## OLDER CONSUMERS

- Focus on measures that provide quick fixes in warmth and heating e.g. use of heating controls, draught proofing
- It is important to talk in terms of helping to reach a healthy temperature range for all members of the household and not to encourage under-usage of heating or appliances – some elderly customers may require a warmer temperature
- Check insulation depth, age of boiler and frequency of heating system servicing – advise on payback periods and explain it may be more cost effective to replace a low-energy-rated appliance or boiler now, than waiting until it breaks down

## SIZE OF HOUSEHOLD

- Provide advice on suitable sizes of boiler and other major appliances (e.g. fridge-freezers), and explain size is as important as energy rating
- In larger households, encourage use and discussion of the IHD data across different members

## OFF-GAS GRID PROPERTIES

- Focus on insulation measures and provide advice on a range of heating options, including renewables (off-gas grid consumers are likely to be the most interested)

## HOME OWNERS

- Focus on home improvements and measures that can add to the property value
- Include DIY measures



## RENTERS

- Focus on zero-cost behavioural measures e.g. heating controls
- Encourage use of the IHD to help control running costs
- Provide guidance for buying energy saving lighting and appliances, and suggest low-cost measures e.g. heavier curtains, draught proofing

# TAILORING ADVICE FOR DIFFERENT PROPERTIES

Starting a dialogue with the consumer by asking a few broad questions will help encourage engagement with the information as well as tailor the advice.



**HOW MANY BEDROOMS DOES YOUR HOME HAVE?**



Bigger homes with more external walls have higher heating requirements – focus on insulation and heating behaviours



**DO YOU KNOW WHEN YOUR HOUSE WAS BUILT?**

.....  
**WHAT TYPE OF WALLS DOES YOUR HOME HAVE?**



Helps gauge what insulation levels the home is likely to have



**DOES YOUR LOFT HAVE ANY INSULATION?**

.....  
**HOW DO YOU HEAT YOUR HOME? WHERE IS YOUR THERMOSTAT? HOW QUICKLY DOES YOUR HOME WARM UP?**



The efficiency of the heating system and the location of the thermostat in the property (e.g. in the hallway or within a room) affect the amount of energy required for heating



## **Top tip**

This may be better than initially asking "how old is your boiler?", for example, which may make consumers more wary of a marketing or "sales chat".

# DEALING WITH DIFFERENT CONSUMER ATTITUDES

1



## The “I’ve already done everything”

These consumers could be energy savvy, and are often DIYers. They are likely to have already made some improvements to their home

**Obstacles to a maximised energy efficient home:** they may still be wedded to some energy wasting habits or have energy myths and barriers holding them back from taking the “next step”

**Strategies for delivering advice:**

- Ask them to talk through their heating and energy routine – are there any “myths” or is there room for improvement?
- Provide validation of good behaviours (e.g. in pounds saved) to encourage them to sustain these, and to gain their trust in other less familiar energy-related advice
- Signpost independent sources to back up facts
- Check they’ve done the basics, for example they might have insulation but is their boiler efficient and do they have draught proofing?
- Introduce micro-generation as a next step to improving energy efficiency in the house, such as solar, air-source and ground-source energy

2



## The “What difference would it make?”

People who don’t really believe it will work and don’t want to change

**Obstacles to a maximised energy efficient home:** don’t want to change, even though they might have high bills, because they do not see how they can reduce their consumption

**Strategies for delivering advice:**

- Emphasise monetary and ‘visual’ savings
- Include advice such as “other customers who have smart meters were most surprised by...” to give evidence that small changes can make a difference
- Separate ‘want’ from ‘need’, using their heating timer as an example (e.g. you don’t need the heating on when you’re out – use the timer instead)

3



### The “It’s not me, it’s them...”

Could be people living in larger households, with children or other housemates

**Obstacles to a maximised energy efficient home:** feeling out of control of overall usage and not knowing where “quick wins” can be made

**Strategies for delivering advice:**

- Show how the IHD can be used to monitor energy use and set a target for the household
- Discuss relative users of energy (for example heating for an hour vs. shower vs. watching the TV) so that they can understand where energy savings can come from
- Recommend they engage others in the home in the IHD – if anyone else is at home for the installation visit invite them to see the IHD demonstration too
- Check the size of their boiler and appliances and advise on selecting the right size for the space and energy demand

4



### The “I don’t need or want to change”

Could be households that are fairly comfortable financially and may live a busy lifestyle

**Obstacles to a maximised energy efficient home:** money saving is not the main motivator, and their energy bills may be comfortably within budget, they could be protective of their current habits and routines

**Strategies for delivering advice:**

- Focus on home improvements and signpost where they can find relevant installers and any available financing schemes
- Make sure to use the IHD – this engages people a lot and may get them thinking about wasteful behaviour they have previously disregarded



# HOW AND WHEN KEY PRINCIPLES OF EFFECTIVE DELIVERY



# STARTING FROM THE SAME PLACE

In addition to confirming the practicalities of the visit, it is good practice to do the following in the letter, email or call prior to the visit.

**Consider the terminology used to describe the installer and the installation itself, to set the right expectations for customers, for example:**

- ‘Smart energy experts’ rather than ‘installers’
- ‘Smart energy advice and installation visit’ or, ‘smart energy consultation’

**This gives the impression that the installer is not just there to install – but to give advice, and that they are skilled in it**

**Promote strongly the advice element of the visit:**

- Suggest consumers may wish to consider questions they would like to ask the smart energy expert
- Include a few initial tips, hooks or themes to demonstrate the type of advice available
- Consider seasonality: ahead of winter months, the advice could be framed in terms of preparing for colder weather, for example
- Consider what information is already known about the household and property in advance, and how this could be shared with the technician to help tailor the visit

**Link to electronic advice materials, including factsheets and video content for those immediately interested**



## Why do this?

The benefits of setting expectations:

- The most interested householder may elect to be home for the visit
- Consumers may be more willing, and

have time to engage in a discussion about energy efficiency advice

- Consumers may be more willing to ask, and be prepared with questions

# DURING THE INSTALLATION VISIT

Here are some key principles of sequencing the visit to include energy efficiency advice – though the exact style and timing of the delivery of advice will vary depending on many factors, such as the consumer’s attitude, any technical challenges and the meter location.



**1 Set expectations** at the start so consumers expect to be offered advice and can consider questions

**2 Return to the topic and encourage questions** in order to maximise engagement

**3 Look and listen to drip-feed advice** based on observations

**4 Use a mixture of written, verbal and demonstration-led advice**

**5 Select the appropriate written advice** rather than giving it all – seeing irrelevant information could lead consumers to disengage with and dismiss all factsheets

**6 Link advice to the IHD demonstration** so consumers see the value of changing their energy use patterns

## Delivery approach tested in the pilot study

Visual inspection

Introduction - set expectations

Questions - build up a picture of the household

Diagnosis and prioritisation

Give appropriate fact sheets

Smart meter installation

IHD Demo

Advice and clarification

Visit ends

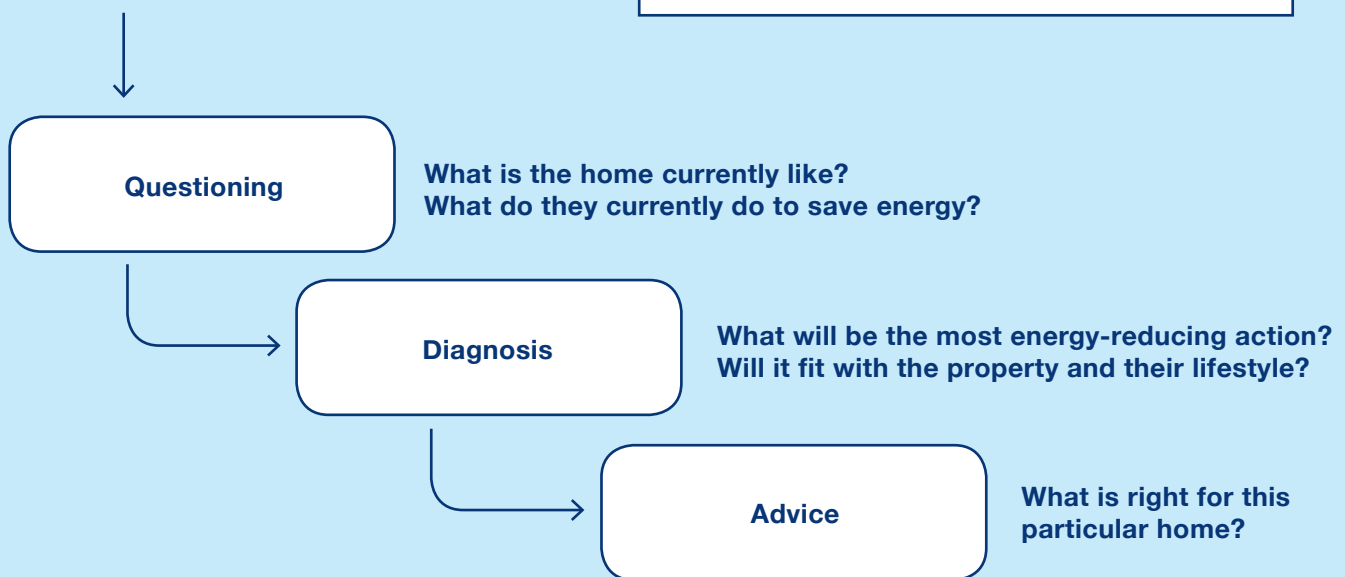


### Training top tips

It is worth refreshing points covered in training sessions to help remind and maintain consistency over time. This could be achieved outside

training, via installer communications, for example. The installer training delivered during the pilot study was a ½ day session.

### Key steps in diagnosing trusted and credible advice



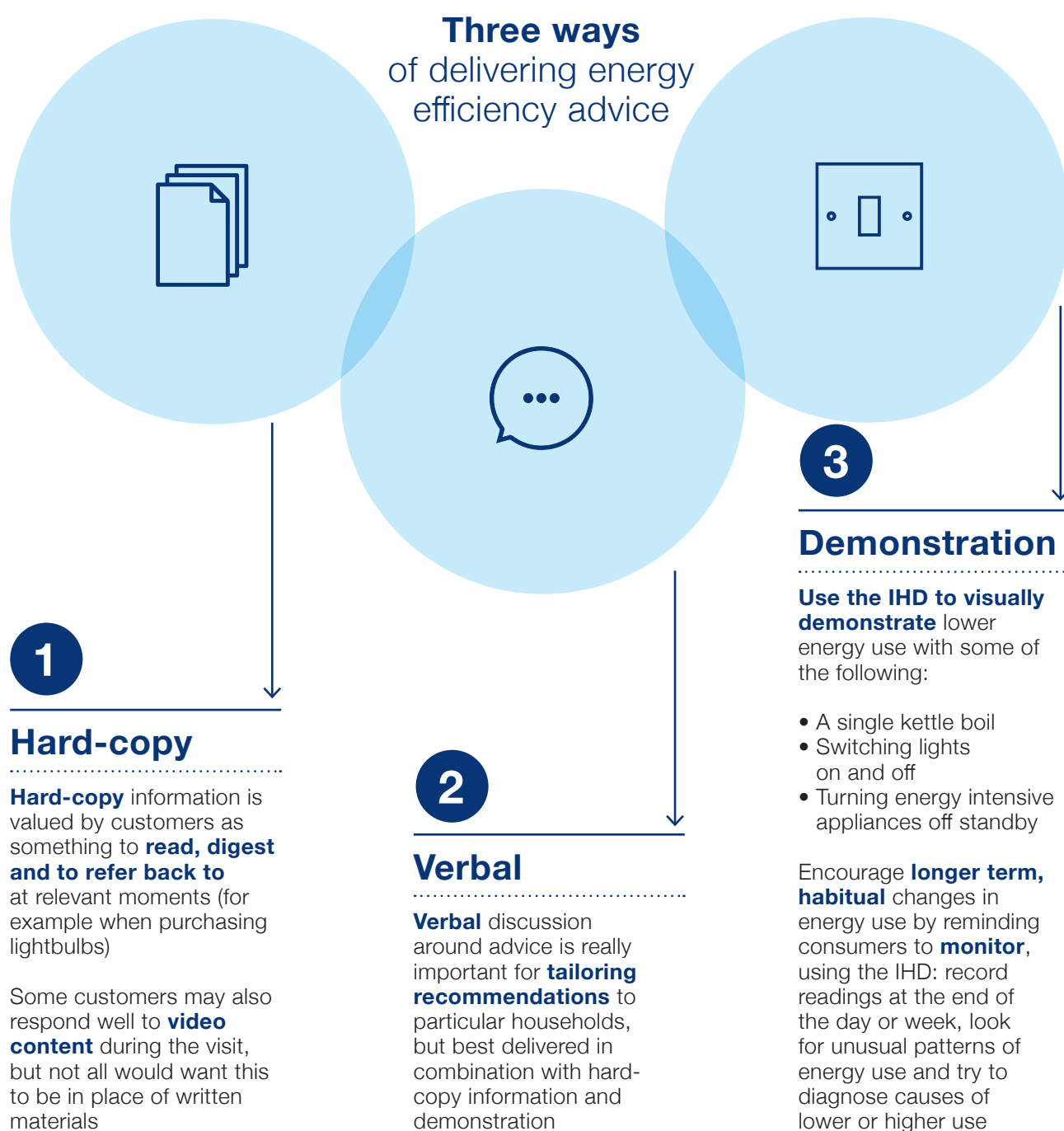
# BEING A TRUSTED & EFFECTIVE MESSENGER

Entering into a dialogue with consumers about their energy behaviours and encouraging questions will help messages to sink in, be trusted and acted upon. Consumer research finds that installers are highly trusted and seen as experts, helping customers to trust the advice given. Advice providers may benefit from having a working knowledge of the following:

- What questions to ask consumers and what to look and listen out for in homes and routines to help tailor the advice
- The potential benefits of both behavioural and hard measures e.g. setting heating controls, shutting doors and cooking behaviours, but also choice of boilers or lighting
- Estimated cost savings over a year (for a certain household size and type)
- Sources of independent information on these measures and to confirm estimated savings

# APPROPRIATE CHANNELS & FORMATS

A mix of verbal, written and demonstration-led advice is likely to be most effective in providing energy efficiency messages – catering for different consumer needs

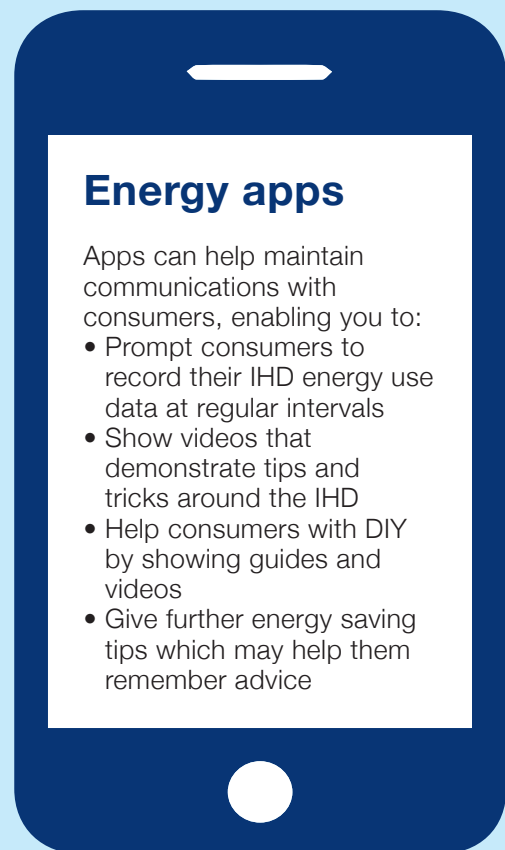


# MAKING THE INSTALL THE START OF THE JOURNEY

## Follow-up by suppliers

Consider expanding consumer call backs with the householder present at the install to check:

- Satisfaction with the energy efficiency advice provided
- Further questions in relation to energy saving behaviours or measures
- Experience and success of any new energy saving behaviours or measures adopted
- Experiences using the IHD and any questions around it
- Ask if they can remember some advice given and reiterate some useful tips





# HELPING THE MOST **VULNERABLE** HOUSEHOLDS

Vulnerable consumers can include those who are on the lowest incomes, those living in fuel poverty, those who live with long-term conditions or disabilities as well as those with particular communication needs. Consider:

- Focusing on **zero-cost behavioural measures** that are easy to adopt and highlight potential cost savings
- **Using printed factsheets or videos as a visual aid** – pointing out images and explaining and reading the content. This can help to jog consumers' memories later when revisiting the advice, and by reading the text out, demonstrating that the information is simple and easy to understand
- Reinforcing messages through **supporting channels**, including support and care workers as well as consumer advice bodies. Remind Housing Association tenants there may be energy advisors available to help provide further advice and assistance with the next steps for installing low-cost measures
- **Separate visits** to discuss energy saving advice if a consumer has very specific energy use or communication needs. Sustained change may require more than one visit
- Remember **not to encourage under-heating or under-use of energy** among elderly and disabled consumers

# WRAP UP:

## DOs AND DON'Ts



### Do

- Use **'myth busters'** to break common beliefs around energy saving. Use story telling (e.g. 'Another customer found draught proofing helpful...') to avoid a confrontational tone or telling customers their beliefs are wrong
- Include independently sourced money saving **estimations**, with information about the type of property they are based in
- Give **simple and straightforward DIY** tips
- **Use the IHD** to demonstrate usage and encourage a **monitoring approach** to using it. Try to **include more people in the household** when demonstrating the IHD, especially children
- **Regularly refresh advice training** to keep it up-to-date and consistent
- Encourage consumers to **keep written advice materials** for future reference, emphasising their value at the point of purchasing a new boiler or appliance or considering new insulation



### Don't

- Forget to engage consumers in discussion and **questions** about their routines to help tailor advice
- Focus on **drastic changes** or messages
- Use **jargon** and industry specific words
- Spend the time talking about **generic advice**; tailor the visit to the consumer's needs and only give them the **most relevant factsheets**
- Be afraid to **challenge** consumers' energy myths
- Leave without giving information on **where to find further advice**
- Be deterred by those who don't seem receptive to advice – many **welcome an expert view** once it is given



# FACTSHEETS




**The following factsheets were trialled and tested during the pilot phase of this study. They are designed to prompt customers to act on the tailored advice given to them by the smart energy expert. Only the most appropriate factsheets should be selected by the smart energy expert to discuss with the customer during the visit and to leave behind after the visit (rather than provide them all).**

You can download versions of these factsheets at: <https://www.gov.uk/government/publications/best-practice-guidance-for-the-delivery-of-energy-efficiency-advice-to-households-during-smart-meter-installation-visits>. If using the factsheets or replicating their content elsewhere, please note the following:

- The estimated costs and savings are based on a family of 4 sharing a 3 bedroom semi-detached home – this context must always be presented with the figures where used
- The estimated costs and savings in the factsheets should always be sourced to ‘Energy Saving Trust, April 2016’, unless any of the costs or savings are changed (including the caveats and explanations) in which case they must not be sourced to Energy Saving Trust. The costs and savings will change over time as the technology and market for different measures changes and as energy prices change. Energy Saving Trust can provide up to date costs and savings, please contact [dataservices@est.org.uk](mailto:dataservices@est.org.uk).
- These versions of the factsheets must be used exactly as they are as they are not editable, so branding and logos etc. must not be added. Editable artwork versions of the factsheets (minus the image right protected images) in InDesign format are available. Please contact [smartmetering@beis.gov.uk](mailto:smartmetering@beis.gov.uk) for access to these. The images in these factsheets must not be reproduced other than as part of these factsheets without the permission of Getty Images. Please contact [GettyImageservice.UKI@gettyimages.com](mailto:GettyImageservice.UKI@gettyimages.com)





During the pilot study, factsheets that were relevant to the consumer were given to them in an A4 folder. Inside, this also signposts customers to further sources of advice on smart meters and energy efficiency. The folder can be downloaded at:

<https://www.gov.uk/government/publications/best-practice-guidance-for-the-delivery-of-energy-efficiency-advice-to-households-during-smart-meter-installation-visits>



# Zero-cost ways of saving energy around your home

£ Estimated saving per year based on typical usage in a home with three bedrooms

Try some of these energy saving measures and use this space to record notes or observations from your in-home display.




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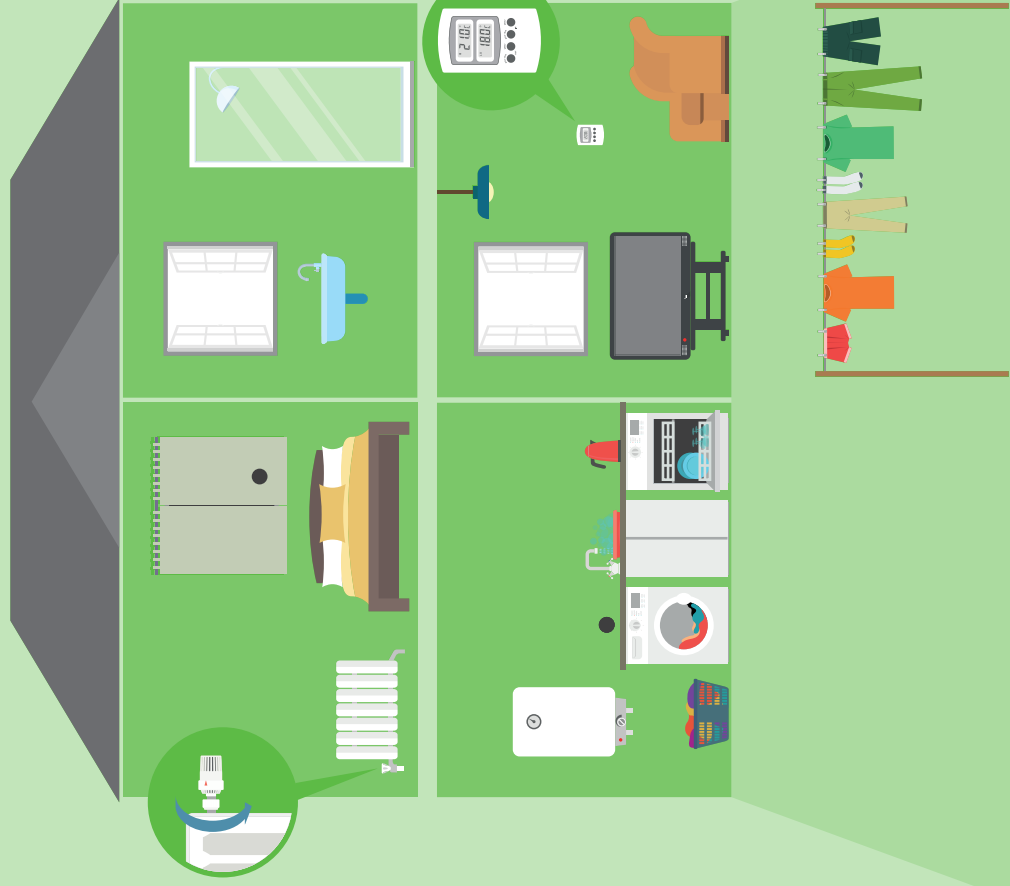
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## Bedroom

Set your heating to only come on in rooms where you need it, by using your radiator controls

## Kitchen

Only boil what you need in the kettle

Wash dishes in a bowl, instead of under a running tap

Fully load your washing machine and wash at 30°C

Only have the heating come on when you need it, by using your boiler programmer

Fully load your dish washer and use the Eco setting

£95

## Bathroom

Try taking one minute off your shower and fit aerating showerheads and tap inserts\*

\*normally provided free of charge by your water company

£13

## Living room

Turn out the lights when not in use

£30\*

Set your thermostat between 18°C to 21°C

\*savings estimate based on turning down gas heating from 22 to 21°C

£30

Switch off appliances when not in use and avoid standby

£29

## Garden

Line dry your clothes, especially in the summer

Estimated savings based on a family of four sharing a 3 bedroom semi-detached home (Energy Saving Trust, April 2016). For expert and impartial free advice on reducing your fuel bills, saving energy and making your home more comfortable, visit [energysavingtrust.org.uk](http://energysavingtrust.org.uk) or call: England and Wales - The Energy Saving Advice Service on 0300 123 1234 (charged as a national rate call). Scotland - Scottish Government's Home Energy hotline on 0808 808 2282 (calls are free).

# Buyer's guide

## Choosing lighting for your home

Installing energy efficient lighting can reduce your energy bills. Recent improvements in technology mean that you can now get much better performance – including immediate switch-on and warmer glows – than you could a few years ago. If you had a bad experience previously why not try one of the newer LED bulbs? There are energy efficient light bulbs that are suitable for all shapes and sizes of fitting.



### Did you know?

Lighting accounts for 14% of a typical household's electricity bill.

Replacing halogen down lighters with LED alternatives will typically save around £30 per year.



### Myth busting

Q. Does turning lights off and on use more energy than keeping them on?

A. No, it is true that compact fluorescent light bulbs (CFL) bulbs use more power when they are starting up, but this only lasts for about one tenth of a second. You will save more energy by turning the light off even if it is only off for a few seconds.

Q. Do energy saving light bulbs take ages to fully light up?

A. Some CFL type bulbs take a short while to warm up to full brightness but the technology has improved and most bulbs purchased today warm up much more quickly than those purchased a few years ago. LED lights reach full brightness immediately.

Q. Will energy saving light bulbs work with dimmer switches?

A. Most LED lighting works with dimmer switches and some CFL bulbs do too – just check the box.

Q. Will I be able to get the same type of light with an energy saving bulb?

A. These days a range of colour ratings are available, from 'warmer' to 'colder' colour temperatures.

Estimated savings and costs quoted are based on a family of 4 sharing a 3 bedroom semi-detached home (Energy Saving Trust, April 2016).

For expert and impartial free advice on reducing your fuel bills, saving energy and making your home more comfortable visit [energysavingtrust.org.uk](http://energysavingtrust.org.uk) or call: England and Wales - The Energy Saving Advice Service on 0300123 1234 (charged as a national rate call).

Scotland – Scottish Government's Home Energy Scotland hotline on 0808 808 2282 (calls are free).

# How to choose the best light bulbs

1

## Identify the correct fitting:

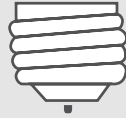
if you have a 'standard' fitting you need to identify whether it is a: Bayonet, B15, ER27 or E14:



bayonet



B15



ER27

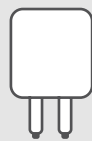


E14

If you are replacing a downlighter/spotlight you will probably need to identify whether it is a GU10 or MR16.



GU10



MR16

2

## Think about the type of bulb you want

There are two main types of energy efficient lighting:

**Compact Fluorescent Lamps (CFLs)** are available to fit almost all shapes and sizes of fitting. These are what most people think of as low energy light bulbs.

**Lifetime:** 10,000 hours  
**Typical purchase price:** £5.50

**Light Emitting Diodes (LEDs)** are ultra-low energy lights. LEDs are an excellent replacement for halogen downlighters and other spotlights. They are now widely available for 'standard' fittings and mostly work with dimmer switches.

**Lifetime:** 30,000 hours  
**Typical purchase price:** £10.00

Estimated savings and costs quoted are based on a family of 4 sharing a 3 bedroom semi-detached home (Energy Saving Trust, April 2016).

For expert and impartial free advice on reducing your fuel bills, saving energy and making your home more comfortable visit [energysavingtrust.org.uk](http://energysavingtrust.org.uk) or call: England and Wales - The Energy Saving Advice Service on 0300123 1234 (charged as a national rate call). Scotland - Scottish Government's Home Energy Scotland hotline on 0808 808 2282 (calls are free).

3

## Check the brightness:

The brightness of LED/CFL bulbs is measured in lumens. This table shows the lumen rating compared with the wattage of traditional bulbs:

Traditional bulb	LED / CFL bulb
15 watt	140 lumen
25 watt	250 lumen
40 watt	470 lumen
60 watt	800 lumen
75 watt	1,050 lumen
100 watt	1,520 lumen

4

## Check the colour rating:

The colour temperature tells you how 'warm' (yellow) or 'cool' (blue) the light looks. 'Warm' looking bulbs normally have a rating around 2700k. Bulbs with a rating around 4000-6000k will look colder.



If you are not sure which bulb to buy, try buying a single bulb to test. You can then identify the right type of bulbs for you.

## Key recommendations:



We recommend looking at **LED options first**



If you have been disappointed with the brightness of energy saving bulbs before **look for replacements with a higher 'lumen' rating**



Look for **bulbs with around 2700k** for a warm yellow light.

# Keeping cosy and warm for less

## How to set your heating for winter



A range of heating controls can be used and installed – many householders already have these. This factsheet explains what they do and how they can be used to save energy.

Heating your home and hot water is likely to account for 60% of your total energy bill.

Installing and correctly using a full set of heating controls could save you around £80 to £165 a year.

### Programmer/timer

Used to determine when the heating automatically turns on and off.



Programmer / timer

### Thermostatic Radiator Valves (TRVs)

Can be used to control the temperature in different rooms, or turn the heating off completely in a room so that you are not heating rooms you are not using.



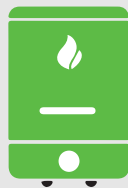
Thermostatic Radiator Valves (TRVs)

### Room thermostat

Turns the heating off whenever the room goes above the set temperature. This means the boiler will not be using energy when the home is warm enough.



Room thermostat



Boiler thermostat



Hot water thermostat

Explaining the most common heating controls

### Boiler thermostat

Controls the temperature of the water the boiler sends to the radiators. It is usually a dial on the boiler with a picture of a radiator on it. Normally this should be set to high and then the heating levels are controlled with the room thermostat and thermostatic radiator valves.

### Hot water thermostat

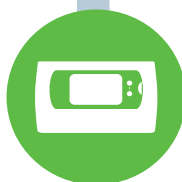
Controls the temperature of the hot water from the taps. If there is a hot water tank, the thermostat will be on the outside of the tank/cylinder. On a combi boiler (without a hot water tank) the hot water thermostat is normally a dial on the boiler with a picture of a tap next to it. The hot water temperature should be set to 60 °C and not lower (to prevent build up of legionella bacteria).

## Setting the heating controls

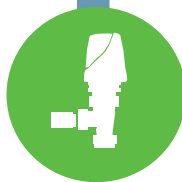
Standardising heating controls in 3 easy steps



Keep your room thermostat set between 18°C and 21°C



Use your timer/programmer to only heat your home at times when you need it



Use thermostatic radiator valves to only heat the rooms in your home that you are using

## Myth busting

**Q.** Should I turn up the thermostat to keep warm when it is cold outside?

**A.** No, the purpose of the thermostat is to maintain the desired temperature, whatever the weather.

**Q.** If I turn up the room thermostat will it heat the room more quickly?

**A.** No, the room thermostat just controls the temperature at which the heating turns off. Turning the thermostat up won't change how quickly your home warms up.

**Q.** Is leaving the heating on low constantly more efficient than turning it on and off?

**A.** No, this will mean your home will be heated when you are not there and it may be too cold when you are there. It is better to use a programmer/timer to ensure the heating is on when you are home and off when you are not.

## Hot water heating

### If you have a combi boiler



It will heat the hot water as you need it

### If your boiler has a hot water tank



Set the hot water to come on around half an hour before you need it in the morning



Try not to use the immersion heater where possible (it is more expensive than using the boiler)



Make sure the tank is well insulated



Estimated savings and costs quoted are based on a family of 4 sharing a 3 bedroom semi-detached home (Energy Saving Trust, April 2016).

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## Buyer's guide:

### Choosing the right boiler for you



Heating and hot water accounts for well over half of total energy use in the home so combining a more efficient boiler with a full set of heating controls will save you money.

### How efficient is my current boiler?

If your boiler is more than 15 years old, it's probably not as energy efficient as it could be. Since 2005, condensing boilers have more commonly been installed. These are more efficient because they recover more heat from the gas (or oil or liquefied petroleum gas), and so use less fuel.

#### Did you know?

Replacing a G-rated boiler with a new A-rated boiler could save you up to £325 a year.



### My boiler was installed after 2005\*, do I have a condensing boiler?

If the following points are true then you have a condensing boiler:

The flue is made of plastic (the flue is the pipe that takes the exhaust gas from your boiler through the wall or roof)

The boiler has a plastic pipe coming out of the bottom, through the wall and into a drain

**i** If you think your boiler is non-condensing then a new boiler should be much more efficient.

### What are my options if I don't have gas?

Boilers can run on oil, liquefied petroleum gas (LPG) from a tank, coal or wood. If you don't have a gas supply to your home but other neighbours do, it might be worth looking into getting a gas connection. The company that owns and operates the gas network in your area may be able to help with the cost of getting a new connection, and it may even be fully funded. Contact them for further information.



\*or after 2007 if it is an oil boiler.

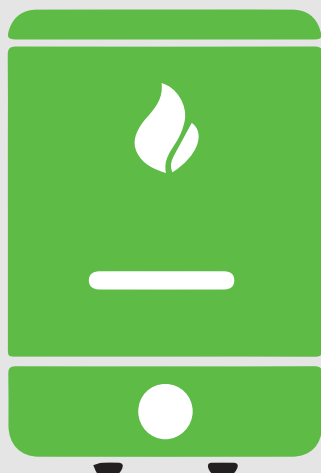
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## What type of boiler should I choose?

There are two types of condensing boiler:

1



### Regular boiler

Heats your hot water and the water is then stored in a hot water cylinder

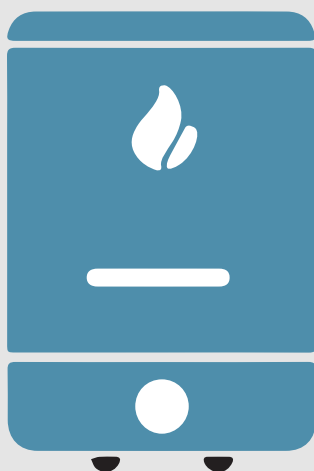
#### Advantages

- ✓ Provide highest flow rates of hot water
- ✓ When programmed, hot water is available immediately when the tap is turned on
- ✓ Compatible with solar water heating

#### Suitable for homes with

- ⬆ Predictable hot water demand
- ⬆ Several people using hot water at once
- ⬆ Considering solar water heating

2



### Combination boiler (combi)


Gives you instant hot water without the need for a hot water cylinder

#### Advantages

- ✓ Can be quicker and cheaper to install
- ✓ Take up less space – no need for separate hot water tank
- ✓ Will not run out of hot water

#### Suitable for homes with

- ⬆ Unpredictable hot water demand
- ⬆ Limited space
- ⬆ No existing hot water tank

Speak to your  installer or an energy advisor about what type of boiler will suit you best.

### Did you know?

Regular boilers lose heat from the hot water cylinder, but combi boilers can use more gas when heating small amounts of water.

Combi boilers are more likely to be suitable for smaller households, but usually people make a choice by considering other factors, such as how they would like to heat their water.

## Top tips for getting quotes for a new boiler:



The average cost for getting a new boiler can vary depending on what work needs to be done. You should always get at least three quotes.



Before you get a quote for a new boiler you should make sure your home is properly insulated and draught-proofed first. It takes less energy to heat a well insulated home so you may require a smaller boiler.



If you are looking for a new gas boiler you should ask whether they are Gas Safe registered. In Great Britain, all work on gas appliances must be carried out by an engineer on the Gas Safe register.



You can contact them on 0800 408 5500 or visit their website [www.gassaferegister.co.uk](http://www.gassaferegister.co.uk)



# Buyer's guide

## Choosing the best windows and glazing for your home



All properties lose heat through their windows. But energy-efficient glazing, and other energy-saving measures, keeps your home warmer and quieter as well as reducing your energy bills. That might mean double or triple glazing, secondary glazing, or just heavier curtains.

## How much money will double glazing save?



Windows should have an energy rating. 'A+' is currently the highest rating and will save more energy.

### Did you know?

18% of heat loss occurs through windows.

Across the UK, around 7% of households have no double glazing.

Heat is lost through single glazing around twice as fast as through standard double glazing.

By installing double glazing in an entirely single-glazed house you could save the following each year for a typical gas heated home:

Energy rating	Detached	Semi detached	Mid terrace	Bungalow	Mid-floor flat
<b>A rated</b>	£120-155	£80-110	£65-85	£55-75	£40-55
<b>B rated</b>	£110-140	£75-100	£60-80	£50-70	£35-55
<b>C rated</b>	£105-135	£75-95	£60-75	£50-65	£35-50

## Other ways to reduce heat loss through windows:

### Low cost options



#### Vents

If you have trickle vents on your windows you can open some of them in the winter to improve air circulation and reduce condensation, without losing too much heat.



#### Secondary glazing

A secondary pane of glass and frame can be fitted inside the existing window reveal. This won't be as well sealed as a double-glazing unit, but will be much cheaper to fit, and will still save energy.





#### Curtains


Well fitting curtains and blinds can reduce heat loss through a window if drawn at dusk. Keeping the curtains open during sunny days where the sun shines through makes best use of the warmth from the sun.


## Common questions about glazing


 Q. Why do I need trickle vents in my new double glazing?

 A. All houses need a certain amount of ventilation to prevent the build-up of condensation, as well as removing unpleasant household odours. Badly fitting doors and windows do this in an uncontrolled way. Trickle vents allow you to control the amount of ventilation and reduce the potential loss of warm air. In some cases trickle vents may also be required to comply with building regulations.

 Q. I live in a conservation area. Can I fit double glazing?

 A. Conservation areas were established to preserve the external appearance of the area, so you may get permission to install new double glazed windows if they are similar in appearance to the original or neighbouring windows. Check with your local planning office before proceeding.

 Q. I live in a listed building. Can I fit double glazing?

 A. Listed building status is there to preserve the building techniques and materials as well as the appearance of a building, so it is unlikely that you will get permission to change the windows. Check with your local planning office to find out your options - secondary glazing and good blinds or curtains may be the best option.

## Getting quotes for double glazing

**The average cost for getting new glazing can vary depending on what work needs to be done. You should always get at least three quotes from installers.**



You should also look for an installer that is registered through a Competent Person window registration scheme (FENSA, BSI, CERTASS Ltd or Network VEKA).



The Competent Person scheme means the installer will fit the windows in line with building regulations and send you a certificate.



If the windows are fitted by someone who is not registered to a Competent Person scheme you will need to notify your local Building Control before new windows are installed.

# Buyer's guide

## Choosing energy-saving appliances

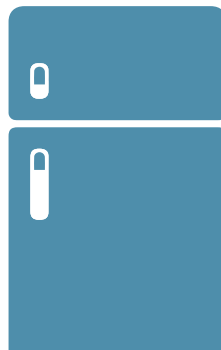
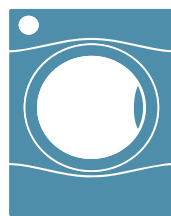
**When looking for energy efficient appliances for your home, you need to look out for the energy ratings label and consider the size of the appliance that you require.**

Large appliances that generate cold (such as fridges and freezers) and those that use heat (such as washing machines and dishwashers) generally use the most energy.

Large appliances consume about 15% of an average home's energy bills.

**i** Energy ratings are generally given to products based on their size category.

Two differently sized appliances with the same rating may use quite different amounts of electricity.



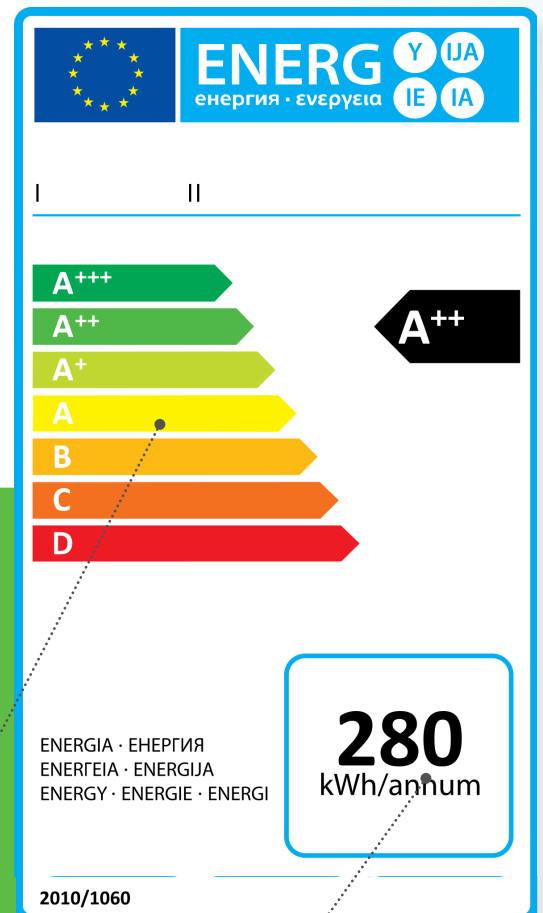
## Look out for the EU energy label

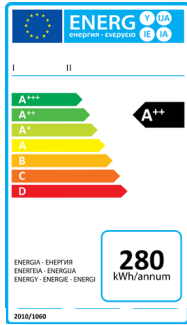
The EU energy label shows the energy efficiency rating of different products.

Previously the top rating was an 'A' but now some types of product can achieve an A++ or A+++ rating.

The kWh figure shows how much electricity an appliance is expected to use in a year.

You can use the kWh figure to compare the energy usage of different sized appliances.





# EU energy label

## What does this mean for my running costs?

Here are some examples of the costs of running appliances with different energy ratings



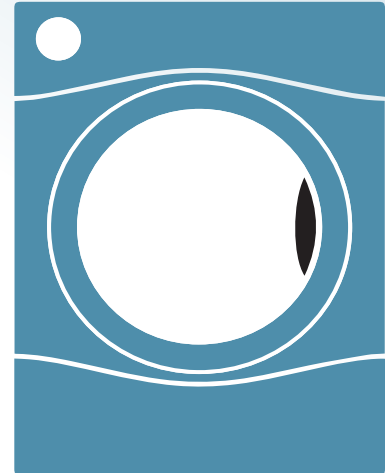
### Washing machines

Choosing an **A+++** washing machine over an **A+** one could save you around **£5 a year**.



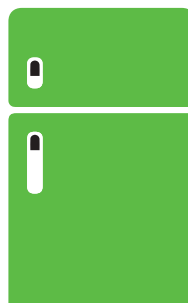
### Tumble dryers

Drying clothes outdoors on a washing line or indoors on a rack costs nothing and uses no energy so it is the ideal way to dry your clothes. But if you need to use a tumble dryer, choose one with a good energy label rating. **Choosing an A+++ tumble dryer over a C-rated one could save you around £46 a year.**



### Fridges, freezers and fridge-freezers

These are switched on 24 hours a day, 7 days a week, so it's well worth finding models that are energy efficient. Typically, **choosing an A+++ fridge freezer over an A+ unit will save you about £190 in energy bills over the lifetime of the product.** However, as the energy rating is based upon classification by size, a smaller 'A' rated fridge could use less energy than a larger 'A+' rated fridge.



### Cookers

A new **A+++** rated electric oven could use around 60% less energy than a **B** rated one.



### Dishwashers

Dishwashers can take up a significant chunk of your electricity bill, costing on average £44 a year to run. Over a year, it costs around £8 less to run a typical new dishwasher than it does an old, inefficient machine of the same size, and it will use less water.

## Using your in-home display:



Keep an eye on your in-home display when using different appliances to understand how much they use



Think about how long appliances are used for in addition to how much energy they use at one time



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# Draught proofing

It's a breeze



**Draught proofing is one of the easiest and most effective ways to keep you cosy at home. Not only will you feel more comfortable, you'll also reduce your heating bills and cut down on emissions that contribute towards climate change.**

## Did you know?

Draught proofing windows and doors can save around £25 to £35 per year.



## Where are draughts likely to come from?

Most homes have unwanted cracks and gaps that let warm air escape and let cold air in. You'll know where they are when the wind blows through them!

In this thermal image the dark patches show cold draughts coming underneath the door



Source: eViz, Plymouth University



## What's involved?

Draught proofing reduces the uncomfortable flow of cold air around your home, and also prevents warm air from escaping - keeping you cosy. You can do this by filling gaps around the home, and it is a fairly easy task for the competent DIY-er. The materials range from brushes, foams and sealants to strips and shaped rubber or plastic. Most can be bought cheaply from your local DIY store, and should come with detailed instructions.



Or if in doubt, you could get it done professionally; a handyman will know exactly the right materials to use and where to use them.

Here's a helpful checklist that can be used to draught proof different areas of your home



**Simple draught proofing measures you could try at home**



**Letterboxes**

Letterbox covers in the form of flaps or brushes.



**Unused chimneys**

Caps over the chimney pots or things to prevent draughts, e.g. chimney balloons or even plastic bags stuffed with other plastic bags. Remember to remove and let the air circulate in summer.



**Around pipes rising into loft space above airing cupboards**

Silicone mastic, wall filler, expanding foam.



**Thick curtains**

Fitting curtains made with heavy material can reduce heat loss through a window at night.



**Draught excluders**

If there is a gap at the bottom of a door between a heated room and an unheated room you could block it with a 'sausage-shaped' draught excluder – you can make one stuffed with used plastic bags or bits of spare material.



**Draught proofing measures to try if you're a dab hand at DIY**

**Around windows**

Foam, metal or plastic draught strips. If sliding sash windows – brush seals on sash edges. Alternatively, try draught-stripping internal doors.



**Outside doors**

Brush or hinged-flap draught excluders, fitted along the bottom of the doors.



**Large gaps in the building**

Expanding polyurethane foam or additional block work.



**Redundant extractor fan outlets**

These should be blocked up and may need to be filled with additional block work.



**Cracks in walls**

Cement or a hard-setting decorators' wall filler.



**Floorboards and skirting boards**

Flexible fillers, clear or brown silicone mastic, decorators' caulk or other mastic type products.



**Loft hatches and doors**

Strips of draught excluding material, fitted around the edges of the frame, and don't forget to insulate the hatch itself.



**Via downlighters in bedroom ceilings**

Use a wall filler to fill any gaps around the light fitting and the ceiling.



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# Loft insulation

Do you have enough loft insulation? Use this ruler to find out



27cm

Congratulations – you've got the recommended level of loft insulation.

**Did you know that up to a quarter of the heat in your home could be escaping through your roof? That's heat that you have already paid for, so it makes sense to keep it inside where it belongs.**

Installing loft insulation is one of the most cost effective ways to stop wasting energy and it's easy to install too. It will reduce heat loss year after year, paying for itself many times over. It also helps to create an even temperature in your home, keeping you warmer for less. It's also good for the environment as it cuts down your carbon dioxide (CO<sub>2</sub>) emissions – the biggest contributor towards climate change.

## Here's a quick breakdown of the numbers:

### Remember

Even if you have loft insulation, it might need topping up for you to get the full benefit. By increasing your insulation depth from 5cm to the recommended 27cm, you could save around £35 a year on your heating bills.

### The right material

Loft insulation is a good idea if your home has an accessible loft with no damp or condensation problems. Insulation is laid between and over the ceiling joists.

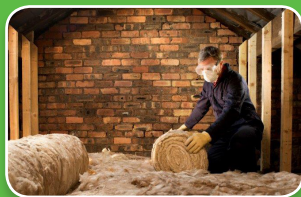
Insulating material acts as a barrier and stops the warmth in your house escaping through the roof.

12cm

You need to top up with 15cm thick insulation for maximum energy and money savings.

7cm

You need to top up with 20cm thick insulation for maximum energy and money savings.



## There are three main types of loft insulation:

### Quilts

Mineral wool and natural wool are the most straightforward and common materials used to insulate accessible lofts.



### Blown insulation

Mineral wool or cellulose can be used both for lofts with normal and with difficult access. In a normal loft the areas to be insulated must be sectioned off to prevent the insulation blowing everywhere.



### Insulation boards

Expanded/extruded polystyrene (EPS/EXPS) and foam products (PUR/PIR) can be used for flat roofs and lofts which require a hard surface for storage space.

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### Want to use your loft as a storage area?

You can raise the level of the floor and insulate to the recommended depth or use insulation boards on the roof between the rafters.



### Have a loft conversion?

Boards backed with insulation can be cut to fit snugly between the rafters to insulate a pitched roof to keep your loft conversion cosy too.



### Have a flat roof?

Insulation can be installed on top of a flat roof or below it. Not only will it keep your home warm, but it also cuts down on the risk of condensation too. Flat roof insulation tends to be a bit more expensive and more complicated to install than a pitched roof so it's best to leave it to the professionals.

## Can I do it myself?

**Blown insulation should only be installed by professionals, but if you're a dab hand at DIY and have a standard loft with no issues, you can fit insulation quilts and boards yourself. Insulating your loft needs to be done to a high standard though, so get that DIY manual out. And remember to wear protective clothing, gloves and a mask.**

Don't forget to insulate your pipes, water tank and loft hatch too. Insulating your loft will keep your house warmer but make the roof space above colder. Without their own insulation, pipes and tanks could freeze and an uninsulated loft hatch could let cold draughts into your house. However, don't insulate underneath your water tank, because this can cause your water to freeze.



### Where to start?

There are lots of insulation brands and products on the market but you can spot the best products by looking for the Energy Saving Trust Recommended logo. These have to meet strict criteria, set by an independent panel and reviewed every year—so you can be sure you're buying the best products available.



### Choosing a professional

Using a professional installer makes insulating your loft even simpler. It will typically take a professional just a couple of hours to insulate the loft of a three bedroom semi-detached house. Don't worry about having to deal with any mess either, as reputable installers will clean up after themselves.

A professional installation costs around £300 but it may be possible to get grants and offers to reduce the costs.

ECO (the Energy Company Obligation) requires larger energy suppliers to provide funding towards energy efficiency improvements in domestic households in Great Britain. These improvements include loft, cavity wall and solid wall insulation. Some of the funding is specifically directed at people on certain benefits, and can support heating system improvements.

Find out what grants and offers are available in your area at [energysavingtrust.org.uk](http://energysavingtrust.org.uk) or call a friendly advisor at the **Energy Saving Advice Service on 0300 123 1234 (England and Wales)**.

If you live in Scotland, you can contact **Home Energy Scotland on 0808 808 2282**.



## Find an installer

If you decide to get a professional installation done, check the installer's identification.



A registered installer should be a member of at least one of these organisations:

**National Insulation Association (NIA)**  
[nationalinsulationassociation.org.uk](http://nationalinsulationassociation.org.uk)



**The British Rigid Urethane Foam Manufacturers Association (BRUFMA)**  
[brufma.co.uk](http://brufma.co.uk)



Make sure the installer has signed up to the NIA Code of Professional Practice. This guarantees that they have insurance cover and follow strict customer care and health and safety guidelines

### Remember to make sure your loft is ventilated.

This will stop condensation forming so damp won't be a problem. A professional installer will leave adequate space at the eaves of the roof for ventilation. You will need to do this too if you are doing it yourself.

If you have an existing damp or condensation problem, then you should get professional advice about fixing this before insulating.



# Keeping the heat in

## A simple guide to wall insulation

**Wall insulation is a great way to prevent heat escaping, helping you to save money on your fuel bills.**



**Not only will it help keep your home comfy and cosy in winter for less; it also helps to prevent damp forming on your walls and keeps out those dreaded draughts.**

It's also good for the environment as it cuts down your carbon dioxide (CO<sub>2</sub>) emissions – the biggest contributor towards climate change.

### Did you know?

Around a third of all heat in an un-insulated home is lost through the walls.

1

## First step

### Do I have cavity walls or solid walls?

Different types of insulation are suitable for different types of wall. Find out which you have here:

#### ? Was your home built before 1920?

The walls are probably solid, with no cavity.

Solid walls are made of a single layer of bricks and can be insulated from the inside or from the outside.

#### ? Was your home built after 1920?

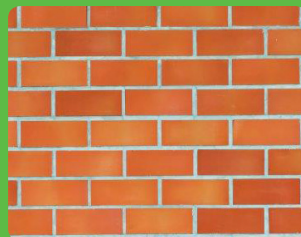
Chances are it has cavity walls.

Cavity walls are made of two layers with a small gap or 'cavity' between them. This gap can be filled with insulation.

**The easiest way to tell a cavity wall from a solid one is from the brick pattern on the outside of your house:**



Solid walls



Cavity walls

2

## Second step

### Do I already have wall insulation?

#### Cavity walls

72% of homes with cavity walls are insulated so if you have cavity walls and your home is less than 15 years old, there is a good chance your walls have already been insulated.

But if you're not sure, an installer can perform a simple test which involves drilling a small hole in your outside wall. They can then check to see whether you have un-insulated cavity walls and whether your home is suitable for insulation.

#### Solid walls

Only 3% of the 8 million homes with solid walls have had solid wall insulation. So if you live in a home with solid walls, it's likely that they haven't been insulated.

## Cavity wall insulation:

### What's involved?

Cavity wall insulation can be made from mineral wool, beads, granules or foamed insulants. All types are manufactured according to British standards and verified by the British Board of Agrément (BBA). Your installer will know the most suitable type of insulation for your home. Installing cavity wall insulation is a straightforward process:

An installer drills small holes at around 1m intervals into the outside walls of your house. The insulation is then blown into the cavity by the installer.

When all the insulation is in, the installer fills the holes in the brickwork, ideally matching your existing mortar.



**Cavity wall insulation costs around £480 for a semi-detached 3 bedroom house and could save £155 a year.**

## External solid wall insulation:

### What's involved?

If you're repairing the outside of your home, it's a great time to install external wall insulation. It involves adding a decorative weather-proof insulating treatment to the outside of your house. The thickness of the insulation needs to be between 80mm and 140mm.

Unlike internal insulation, it won't affect the size of your rooms but you might need planning permission, as it will change the appearance of your home.

External wall insulation doesn't cause any disruption inside your house, and it can actually increase the life of the property because it protects brickwork.



**External solid wall insulation could cost between £8,000 and £22,000. In a semi-detached 3 bedroom house this could save £260 a year.**

## Internal solid wall insulation:

### What's involved?

If you're re-plastering your walls or changing major fittings in your bathroom or kitchen, it's an ideal time to think about installing internal wall insulation.

Internal wall insulation can be carried out one room at a time. You will need to remove skirting boards and electrical fittings and then reattach them to the new wall surface. It will slightly reduce the size of your rooms (by an average of 7.5cm per insulated wall).

The insulation battens or plasterboards are fixed to the walls inside and covered with plasterwork. You can get Energy Saving Trust Recommended 'dry lining' products which can be fixed to the internal surfaces of walls.



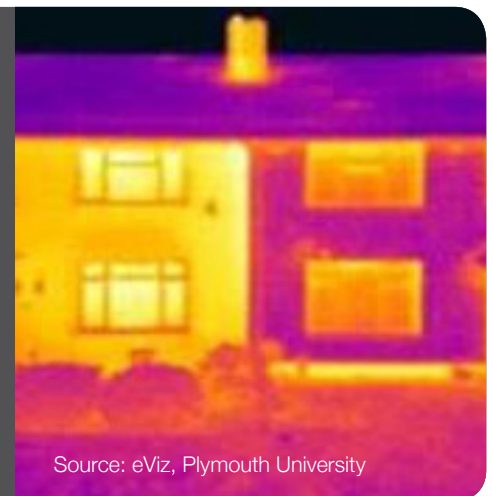
**Internal solid wall insulation could cost between £4,000 for and £13,000. In a semi-detached 3 bedroom house, you could save £260 a year.**

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If you live in Scotland, you can contact **Home Energy Scotland on 0808 808 2282**.

In this thermal image the house on the right has had solid wall insulation installed. The light colour on the left shows the heat escaping from an uninsulated house.



Source: eViz, Plymouth University

## Find an installer

**Always use an installer who has signed up to a professional code of practice**

A registered installer should be a member of at least one of these organisations:



**Insulated Render and Cladding Association (INCA)**  
[inca-ltd.org.uk](http://inca-ltd.org.uk)



**National Insulation Association (NIA)**  
[nationalinsulationassociation.org.uk](http://nationalinsulationassociation.org.uk)



Estimated savings and costs quoted are based on a family of 4 sharing a 3 bedroom semi-detached home (Energy Saving Trust, April 2016).

For expert and impartial free advice on reducing your fuel bills, saving energy and making your home more comfortable visit [energysavingtrust.org.uk](http://energysavingtrust.org.uk) or call: England and Wales - The Energy Saving Advice Service on 0300123 1234 (charged as a national rate call). Scotland - Scottish Government's Home Energy Scotland hotline on 0808 808 2282 (calls are free).

# Powering your own home

## A guide to using renewable energy in your home



**Renewable technologies are powered by sources of energy that can be replenished, many of which are free, like the sun. Generating energy from renewable sources can help reduce our dependency on non-renewable sources like fossil fuels, which take millions of years to replenish. They also produce much less carbon dioxide (CO<sub>2</sub>) and other greenhouse gases – the main contributor to climate change. There are a few different types and styles of solar panel, some of which produce electricity and others which produce hot water.**

### Generating your own electricity

#### Solar Photovoltaic (Solar PV)

Solar PV modules convert sunlight into electricity for use in the home or to export to the National Grid. It's an easy system to install, which is suitable for any house with an unshaded roof (or similar space) facing somewhere between south east and south west.

#### Installation cost

£ £5,000 to £7,000



Solar panels

### Generating your own hot water

#### Solar thermal

Solar thermal panels collect heat directly from the sun and use it to meet a proportion of your hot water requirements. Solar thermal systems can usually be integrated into your existing hot water system. System choices and installation times depend on your existing heating system, the amount of storage space you have and the orientation of your roof. You could also heat water with the electricity produced by Solar PV panels using an immersion heater.

#### Installation cost

£ £3,000 to £5,000



- Energy availability:** Limited electricity provided in winter; most electricity is provided in summer.
- Maintenance:** Once installed and commissioned, limited maintenance is required. Some parts may need replacing after 8 to 10 years.
- Running costs:** Minimal ongoing costs once installed – limited maintenance is required.
- You'll need:** A large area of unshaded roof or other appropriate space – typically about 15 square metres – facing somewhere between south east and south west.

- Energy availability:** Throughout the year but mostly in summer months. Boiler is still required as a top up to meet all your hot water demands.
- Maintenance:** Minimal annual checks with a service every 3 to 7 years. Expect to replace after 8 to 10 years.
- Running cost:** Virtually none. A small electric pump is usually required.
- You'll need:** You'll get the best result if your roof faces south. Will not work with some combination boilers – seek advice from your boiler manufacturer.

## Heat pumps

Heat pumps take low temperature heat from the surrounding area and upgrade it to higher temperature heat that can be used to provide space and water heating for a home. The heat comes from the surrounding air, ground or water, and so heat pumps are mainly classified as air-source, ground-source or water-source.

Heat pumps use some electricity but they generate more heat energy than the electrical energy they use and are a good option to consider if you have no access to mains gas as a fuel.

£ **Air-source heat pump**  
£7,000 to £11,000

£ **Ground-source heat pump**  
£13,000 to £20,000

● **Energy availability:** Energy provided all year round but most efficient when used with a low temperature heating system such as under-floor heating.

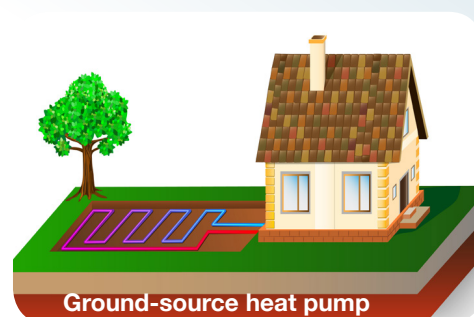
£ **Running cost:** Running costs will vary depending on a number of factors including the size of your home, how well insulated it is and what room temperatures you are aiming to achieve.

● **Maintenance:** An annual service is recommended.

● **You'll need:** Ground-source heat pumps require space and access to bury a loop or drill a vertical borehole in your garden to collect heat. For an air-source heat pump you'll need space outside your home for a collector coil, which is about the same size as an air conditioning unit and attached to the outside wall. Air-source heat pumps are cheaper to install than other types of heat pump, but can be less efficient in cold weather.



Air-source heat pump



Ground-source heat pump

## Wood-fuelled heating systems

Wood-fuelled heating systems, also called biomass systems, burn wood pellets, chips or logs to provide low carbon central heating via boilers or stoves.

For storing fuel for a pellet boiler, several cubic metres are required; this could be a large shed or could take up half a garage.

£ **Pellet Boiler**  
£9,000 to £21,000

### Did you know?

The domestic Renewable Heat Incentive can give you regular payments over seven years if you install an eligible renewable heating system, such as a solar thermal system, a biomass boiler or heat pump. For free and impartial advice visit the **Ofgem website** ([www.ofgem.gov.uk](http://www.ofgem.gov.uk)), contact Energy Saving Trust at [energy-advice@est.org.uk](mailto:energy-advice@est.org.uk) or call a friendly **Energy Saving Trust advisor on 0300 123 1234 (England and Wales)**. If you live in Scotland, you can contact **Home Energy Scotland on 0808 808 2282**.

● **Energy availability:** Wood available throughout the year, large fuel store will help ensure availability.

● **Maintenance:** Ash removal, sweeping the flue.

£ **Running cost:** Fuel can be cheaper than gas and running costs are often lower than other off-grid fuels.

● **You'll need:** Boilers are larger than conventional alternatives, so you will need enough room to accommodate it as well as a large space for fuel storage.

## Finding an installer and getting quotes for renewable energy systems



The cost for different types of system can vary a lot depending on the choice of technology and the amount of work involved. You should get quotes from at least three installers.

To claim any financial support you must use an installer and a product that are registered under the Microgeneration Certification scheme ([www.microgenerationcertification.org](http://www.microgenerationcertification.org)).

If a solar thermal installation includes work on a gas boiler system, the installer must also be registered with Gas Safe ([gassaferegister.co.uk](http://gassaferegister.co.uk)).

If you are fitting a wood fuel boiler then we strongly recommend that you use a member of a relevant Competent Person scheme - see [www.competentperson.co.uk](http://www.competentperson.co.uk).

# FURTHER DETAIL ABOUT PILOT STUDY

The aims of this research, commissioned by DECC, and conducted by Ipsos MORI and EST, were to test and develop approaches to energy efficiency advice provision around the smart meter installation\*. The project's 4 stages were:

- **Learning from best practice** – researching relevant literature and consulting experts on impactful communication that can lead to behaviour change, and using this to design an advice approach to energy efficiency, supported by communications materials
- **Creation and testing of communication materials** – focus groups and in-depth interviews with a broad range of consumers (including more vulnerable groups) to test and refine the initial advice and materials design
- **Delivering advice and communication materials** – delivery of the designed advice and materials in over 400 homes\*\* through two partner energy suppliers, assisted through the training of installers and in-home observation and feedback from these pilot visits
- **Evaluation of advice and communication materials** – 60 follow-up in-depth interviews with piloted households, and group interviews with the installers delivering the advice in order to create the final advice presented in this Toolkit



\* The study used qualitative methods to explore different options for the delivery of advice. Findings from this exploratory stage informed the design of one approach, which was utilised for the study (as opposed to testing numerous approaches).

\*\* Please note that this pilot study did not include households with specific communication format needs (e.g. Braille or foreign language). This reflected the type of consumers currently being targeted for smart meter installs by major suppliers.

**For further information about the pilot study, please contact:**  
[smartmetering@beis.gov.uk](mailto:smartmetering@beis.gov.uk)

