

tenement fact sheet

5 General information on energy efficiency improvements in tenements

৫ গ্রান্টস, লাইটিং ও সরঞ্জামাদি

৫ 補助金、照明設備及装置

৫ المنح المالية و الإضاءة و الأجهزة الكهربائية

৫ گرانٹس (مالی مدد)، بجلی اور استعمال کی اشیاء

Grants, lighting and appliances

This is the fifth of six fact sheets on how to improve the energy efficiency of traditional stone-built tenements. It describes the energy efficiency measures that may be eligible for grant support, as well as the energy efficiency savings that can be achieved using energy efficient lighting and appliances.

Grants

There are various grants available to help the consumer become more energy efficient.

These are constantly changing and advice on what is currently available – including all the schemes mentioned below – is provided by your local Energy Efficiency Advice Centre on 0800 512 012.

The main source of grant assistance is through the Energy Efficiency Commitment, an energy efficiency target placed on the fuel utilities under their licence arrangements. These include grants for insulation measures, as well as for lighting and appliances. Some offer a discount on usual retail costs, and are available to all households regardless of income.

The Scottish Executive provides grants targeted at people on low incomes. These grants are for loft

insulation, cavity wall insulation, draughtproofing, and the insulation of cold and hot water tanks and pipework. To qualify for one of these grants the applicant must be in receipt of an income-related benefit or be over 60. Details are available from Scottish Gas on Freephone 0800 316 6009.

The Scottish Executive also provides grants for central heating, targeted at those over 60 who do not have central heating, or where their existing system is beyond repair. Details are available from Scottish Gas on Freephone 0800 316 1653.

What are the benefits of energy efficient lighting?

Lighting accounts for between 10 and 15% of electricity used in the home. Energy efficient lighting, in the form of compact fluorescent lamps (CFLs), uses one fifth of the electricity used by traditional (incandescent) lightbulbs. CFLs are available with standard Bayonet Cap (BC) or Edison Screw (ES) fittings, as well as smaller BC and ES fittings for decorative lighting. They are similar to fluorescent (strip) lighting, in the way they light up in that they take a few seconds to come to their full brightness. The advantage of CFLs over traditional fluorescent tubes is that most CFLs incorporate a starter, so they can be

installed in most light fittings replacing ordinary lightbulbs with the energy saving alternative.

There are six main types of CFL:

- Stick fittings, where the tube has been folded into a series of small tubes or spirals.
- Globe fittings, which is a variant on the tube fitting but covered by a glass diffuser.
- Compact globe fittings which are similar in size to traditional lightbulbs.
- Small decorative bulbs in various forms including candle fittings and spotlights.
- 2D fittings are two folded tubes, each in the shape of a letter D, with pin connectors which are used with a separate connector/adaptor. Their advantage is that the adaptor can last for up to 30,000 hours of lighting use,



Stick and 2D fittings



Globe and decorative fittings

and the 2D tube is the only part that is replaced. This can prove cheaper than replacing the tube and adaptor everytime the fitting stops working.

- Tubular fittings with pin connectors to be installed in light fittings specifically designed for them, with integral starter motors.

CFLs typically last between 8,000 and 15,000 hours compared to ordinary lightbulbs which last about 1,000 hours. Their significantly longer life makes them particularly useful in rooms with tall ceilings, and in fittings which are hard to reach, as they have to be changed less often.

Fluorescent lighting is far brighter than ordinary (incandescent) lighting. The brightness of a 20W CFL is the equivalent of a 100W ordinary lightbulb. Generally to compare brightnesses the wattage of a CFL is one fifth of that for a traditional lightbulb.

Most CFLs cannot be used in fittings controlled with dimmer switches, though more recent models can be. This will be confirmed on the packaging.

The colour of the light from CFLs is slightly different from ordinary lightbulbs. This can deter people switching to them. However it is worth bearing in mind that in older tenemental properties there have been significant changes as lighting technology has developed from oil to gas and then to electric lighting. CFLs need to be tried out in different situations in the home to test the quality and nature of the light. They work best in fittings with a lampshade or diffuser which reduces the harshness of the light given off by bare CFLs.

CFLs should be used in the lights that are used most. This will help to get the fastest energy saving and payback. A 20W CFL used on average 3 to 5 hours a day over a year will repay its purchase cost (£3 – £10) in less than a year and continue to deliver savings for a further 6 to 10 years. Each 20W lamp will save over £100 on fuel bills over its life.

Whilst the greatest amount of savings is made from higher wattage bulbs 20W (equivalent to a 100W traditional lightbulb), it is also worth installing lower wattage CFLs in lights where the traditional lightbulb wattage is lower. Working on the principal that energy saving lightbulbs operate at one fifth of the wattage of a traditional lightbulb, a 75W traditional lightbulb should be replaced with an 18W CFL, a 60W traditional lightbulb should be replaced with an 11 or 13W CFL.

Even lower wattage CFLs are available as 7W and 5W, equivalent to 40W and 25W traditional lightbulbs.

Not all CFLs are of same quality – always look for the Energy Efficiency Recommended logo kitemark.

What are the benefits of energy efficient appliances?

Appliances account for about 25% of electricity used in an average home. Whilst new energy standards have been introduced including larger white goods, including home laundry and cold food storage, the number and range of domestic appliances has grown significantly.

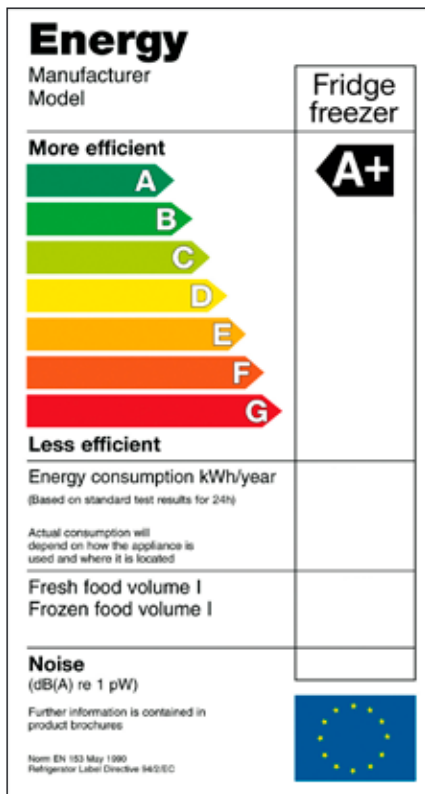
Appliance Energy labels

Under a recent European Directive, certain types of new appliances such as fridges, ovens, dishwashers, washing machines and lightbulbs must have an Energy Label. The Label provides information on the energy efficiency and annual consumption of the appliance. Appliances are rated from 'A' (the most efficient) to 'G' (the least efficient) except for fridges and freezers which are rated 'A++' to 'G'. The most efficient appliances also carry the 'Energy Efficiency Recommended' logo.



Without Energy Labels, it would be difficult to make comparisons between similar appliances. Cold appliances, especially fridge freezers, are particularly difficult to compare as no two appliances have identical capacities (recorded in litres).

Buying an energy efficient appliance is well worth it. Replacing an older fridge freezer with an energy efficient model could save between £30 and £50 a year on electricity



- Ill fitting doors where the doors are not hanging straight
- Missing controls
- A tendency for the appliance to ice-up even at low settings

Cold appliances should not be positioned next to other heat emitting appliances such as boilers or cookers. It is also sensible to avoid placing them in direct sunlight.

Siting of fridges and freezers

There are issues other than the Energy Label which affect the operating efficiency and cost of running the appliance. Cold appliances are designed to give off heat through a series of grilles at the back of the appliance. Where a fridge or fridge freezer is installed under a worktop, in a fitted kitchen, ventilation must be maintained to the top, back and sides of the appliance to allow this heat to move away from the appliance.

The choice of where a cold appliance is installed can influence the initial choice of cold appliance and its capacity. To be efficient an appliance should be chosen based on the capacity required inside the appliance. Most people buy a cold appliance which is far larger than their day-to-day needs, thus wasting energy. Cold appliances operate at their optimum efficiency when they are between two thirds and three quarters full.

The sensible siting of a cold appliance is something that should also be considered at the design stage when installing or replacing an older kitchen, in the same way that the options for boiler replacement are also limited by kitchen layouts, (see Fact Sheet 4).

costs. Over the lifetime of the appliance (typically 10 to 12 years), the savings would more than pay back the purchase cost.

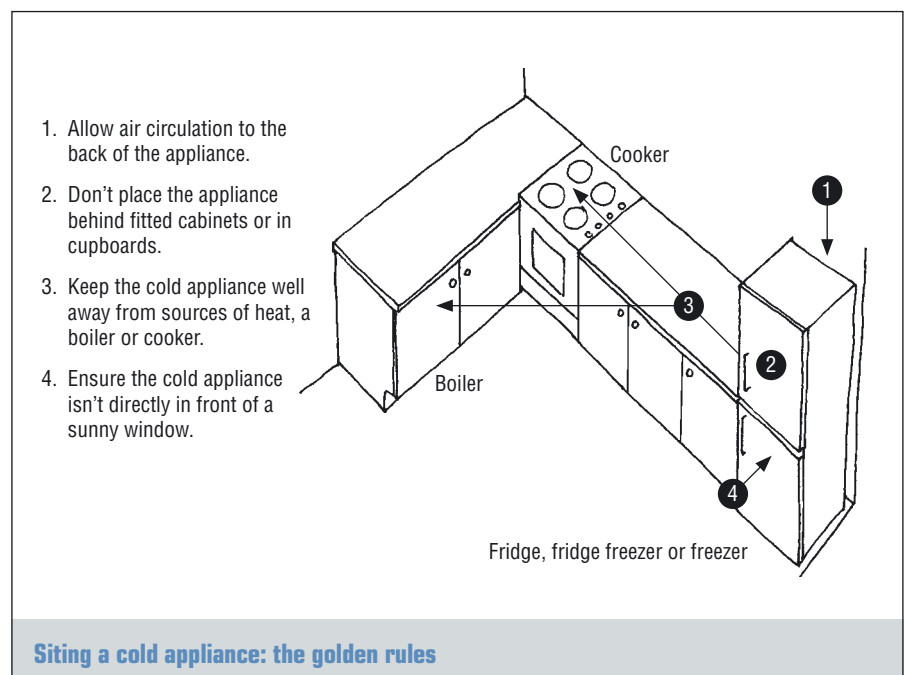
Energy efficient appliances come in a range of models and prices. More efficient appliances are not always more expensive than lower efficiency models. The next time you buy a new appliance, choose an 'A' rated one (or higher).

Age and condition of the appliance

Any cold appliance which is more than five years old and has any minor faults is probably suitable for replacement. The most obvious minor faults include:

- A damaged seal to the doors
- Any missing component, for example ice box covers in fridges with an ice box inside

This is particularly important in fitted kitchens where the appliance is hidden behind doors fitted to match other cupboards, or where the cold appliance is put into a cupboard or box room.



Siting a cold appliance: the golden rules

Other energy saving appliances

Washers, washer dryers, tumble dryers and dishwashers also carry Energy Labels rated from 'A' to 'G'. The respective savings that these can deliver, by opting for an energy saving (A rather than E for example) model are lower since annual fuel consumption by these appliances is significantly less than for cold appliances.

Paybacks will be less attractive, though there may be associated benefits of low temperature wash programmes and lower water usage which are reflected in their energy rating, and save on water heating costs.

More efficient washing appliances are not always more expensive than lower efficiency models. Running costs can be reduced by having full rather than half loads, and using detergents which are designed for low temperature washes.

When thinking of buying an appliance always look for the Energy Efficiency Recommended logo.

General information is available in test reports in 'Which' magazine.

One significant energy efficiency saving is through switching off appliances otherwise kept on standby and used with a remote control. Keeping appliances on standby rather than switching them off on the appliance accounts for 8% of all electricity used in the home.

Typical costs of running different appliances

Appliance	Electricity rating	Typical daily use	Typical annual running cost
Cooker/oven & hob (A)	12kW	1 hour	£85
Microwave oven	850W	20 minutes	£10.20
Television or stereo	100W	3 hours	£11
Washing machine (B)	2.5 – 3kW	6 cycles weekly	£24
Freezer	300W	24 hours	£70
Refrigerator new	60W	24 hours	£20
Refrigerator between 5 and 10 years old (C)	60W	24 hours	£60
Fridge freezer new	100W	24 hours	£45
Fridge freezer between 5 and 10 years old (D)	100W	24 hours	£90
Lightbulb traditional	100W	5 hours	£18
Compact fluorescent Energy saver	20W	5 hours	£3.60
Cost of appliance switched via a remote	NA	NA	£5-10

NOTE all costs based on typical cost of Standard Rate electricity of 10p per kW/hr
 (A) Oven hob costs based on quarter of kW capacity used at any one time.
 (B) Washing machine data based on 'Which' test data, and hot water from domestic supply.
 (C) The Billsavers Project data, Lothian and Edinburgh Environmental Partnership.
 (D) Estimates provided by the Environmental Change Unit, University of Oxford.

Energy Performance Certificates

From May 2007, anyone viewing a newly built home will get information about its energy efficiency. Energy Performance Certificates (EPCs) will be similar to the energy labels on appliances, and will rate the property on a scale of AA (very good) to G (poor). The certificate will also list recommended measures to improve the energy efficiency of the property.

All domestic property sales from mid-2008 will require an EPC. From January 2009, anyone looking to rent a council, housing association or private property, must be shown an EPC. It is expected that, over time, more energy efficient properties will attract higher sale prices and rents.