

A guide to **saving money** and **reducing energy use** in your home



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**HOME ENERGY
CONSERVATION
AUTHORITY**
Housing
Executive

**energy[®]
saving
trust**

This information booklet is produced by:

Housing Executive

*The Regional Strategic Housing Authority
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www.nihe.gov.uk

Energy Saving Trust Advice Centre

*A government funded organisation that
provides free, impartial advice on energy
efficiency, renewable technologies and
transport.*

**www.energysavingtrust.org.uk/
northernireland
or 0300 123 1234**

There are **MANY REASONS** why we should use our energy as wisely as possible.

**SAVE
MORE
MONEY**



**PRODUCE
LOWER
EMISSIONS**



The
**LESS
ENERGY**
we use

**LOWER
OUR INDIVIDUAL
IMPACT ON
CLIMATE CHANGE**



**LEAVE
THE PLANET
BETTER FOR FUTURE
GENERATIONS**





TOP TIP

*We recommend
you set your room
thermostat between
18°C and 21°C.*

CENTRAL HEATING

In most homes in the UK the central heating system will account for the highest percentage of energy consumed. To make sure your central heating system is operating at its best you should make the following checks:

What type of fuel are you using?

Coal is the dirtiest of the fossil fuels and produces the most emissions.

If you are using coal you could consider moving to a cleaner and more efficient fuel such as natural gas or oil. Perhaps you might even want to go a step further and install a renewable central heating system (See Page 11).

If you have an existing gas/oil system remember boilers become less efficient the older they get.

If your boiler is more than 15 years old you may want to consider upgrading to a more efficient model (See Page 20).

Have a fully controlled central heating system:

A **programmer** which allows you to set 'on' and 'off' times to suit your lifestyle.

A **room thermostat** which will keep an even temperature in the home. We recommend between 18°C and 21°C.

A **cylinder thermostat** to control the hot water temperature in the cylinder, set at 60 - 65°C.

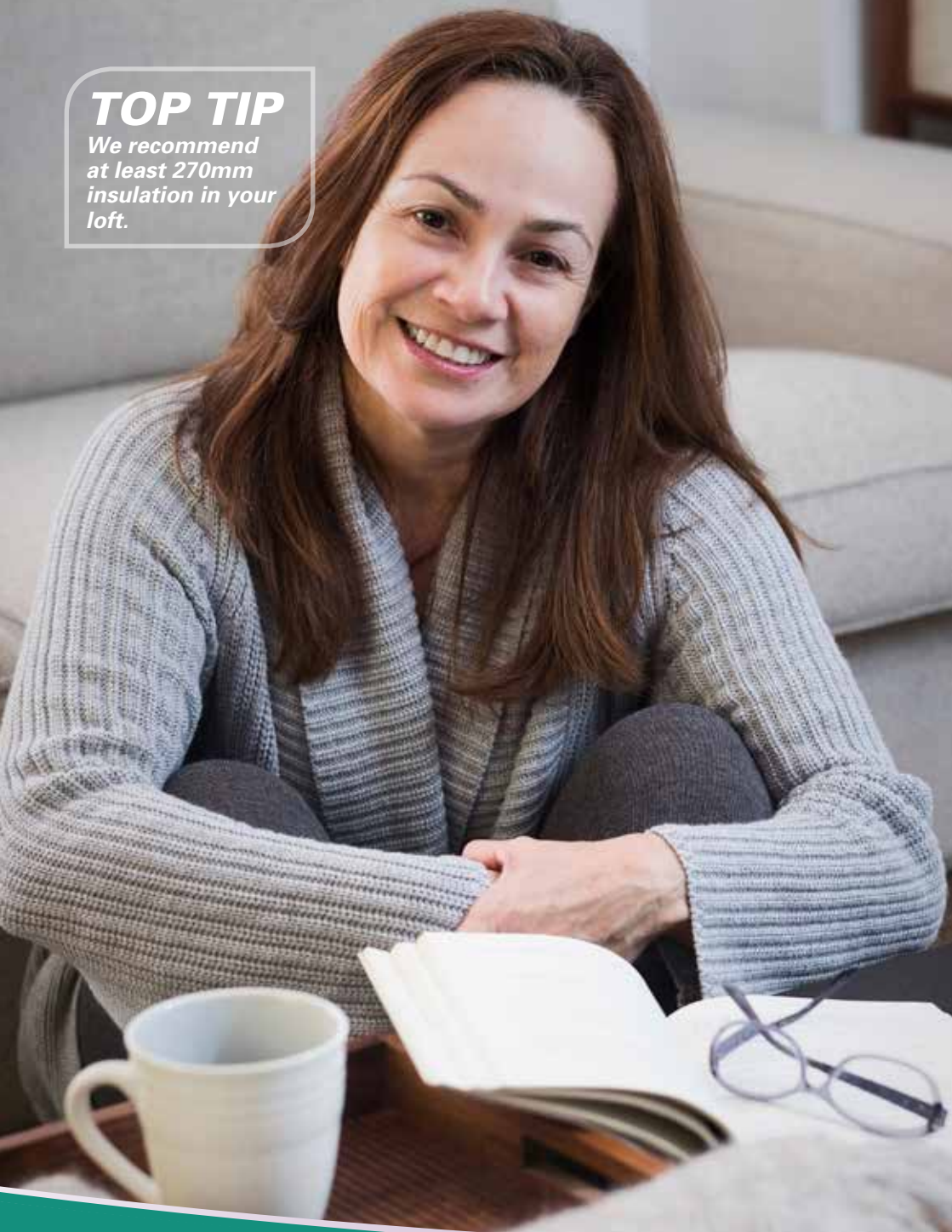
Thermostatic radiator valves which control the temperature in individual rooms.



Control your radiator with a thermostatic radiator valve.

TOP TIP

*We recommend
at least 270mm
insulation in your
loft.*



INSULATION

Once you have a fully controlled, energy efficient heating system in place, you will want to make sure that you keep that heat where you want it for as long as possible. High levels of insulation will ensure your home stays warm no matter what the weather.

Cavity wall insulation

Uninsulated cavities can add up to 25% onto your heating bill. Installing cavity wall insulation is a relatively simple process. The insulation is blown into the cavity from the outside and disruption to the householder is minimal.

Solid wall insulation

If you have solid walls you can have a decorative, weatherproof insulating treatment on the outside. Alternatively add ready made insulation boards internally. Solid wall insulation can be expensive so the ideal time to do it is when your walls need some other remedial work. In the shorter term, install reflective radiator panels behind radiators on external walls.

Loft insulation

Most of us will have some insulation in the loft. Check if it is at 270mm which is currently recommended, if not top it up!



Cavity wall insulation is both simple and effective.

Lagging and draught proofing

Ensure your hot water cylinder has an insulating jacket with no gaps around it. Lag the pipe work around the cylinder. Use draught proofing to ensure heat is not lost through gaps in the fabric of the dwelling (remember to maintain adequate ventilation).

Double glazing

Double glazing can help reduce heating bills but it can be an expensive measure to carry out. It is best done when the windows become defective and need replacing anyway.

Check out what grants are available on pages 16-22.

MONEY SAVING TIPS

Follow these simple guidelines and start saving:

-
- ✓ Close **curtains** at night to keep heat in.
-
- ✓ Do not block **radiators** with furniture.
-
- ✓ Never leave the **hot water** tap running.
-
- ✓ Defrost **fridges** and **freezers** regularly and never leave the fridge door open.
-
- ✓ Use the **shower**, if you have one, rather than the bath.
-
- ✓ Only use the amount of **water** you need when boiling the **kettle** (cover the element of an electric kettle).
-
- ✓ Turn off **lights** when not in use.
-
- ✓ Use **low energy** lightbulbs.
-
- ✓ Never leave **mobile** phones on charge overnight.
-
- ✓ Make sure **computer** equipment is switched off and unplugged when not in use.
-
- ✓ Electrical appliances on **standby** cost money – switch off!
-
- ✓ If you use oil consider joining an **Oil Buying Club**. Call 0800 1422 867 for more information.
-
- ✓ **Steamer pots** reduce hob usage.
-
- ✓ Use “task” **lighting** rather than whole room lighting when only a small amount of light is required.
-
- ✓ Don’t put warm or hot **food** straight into the freezer/fridges - let it cool down first.
-
- ✓ Put **lids on pots** and turn down the heat when the water starts to boil.
-
- ✓ Lids not only **keep heat** in a pot but also reduce condensation in the kitchen.
-
- ✓ Where possible use the **oven** for more than just one item. You can cook at a higher temperature at the top of the oven, and at the same time at a lower temperature at the bottom.
-
- ✓ Avoid opening the **oven door** during cooking you lose 20% of the accumulated heat.
-
- ✓ Check that you are on the best **electricity/gas tariff** (see back cover for contact details).
-

CHOOSE SAVINGS

Energy saving products use less energy and therefore cost less to run. Products which carry the energy saving logo all meet strict energy efficiency criteria set by the Energy Saving Trust and are backed by the Government.



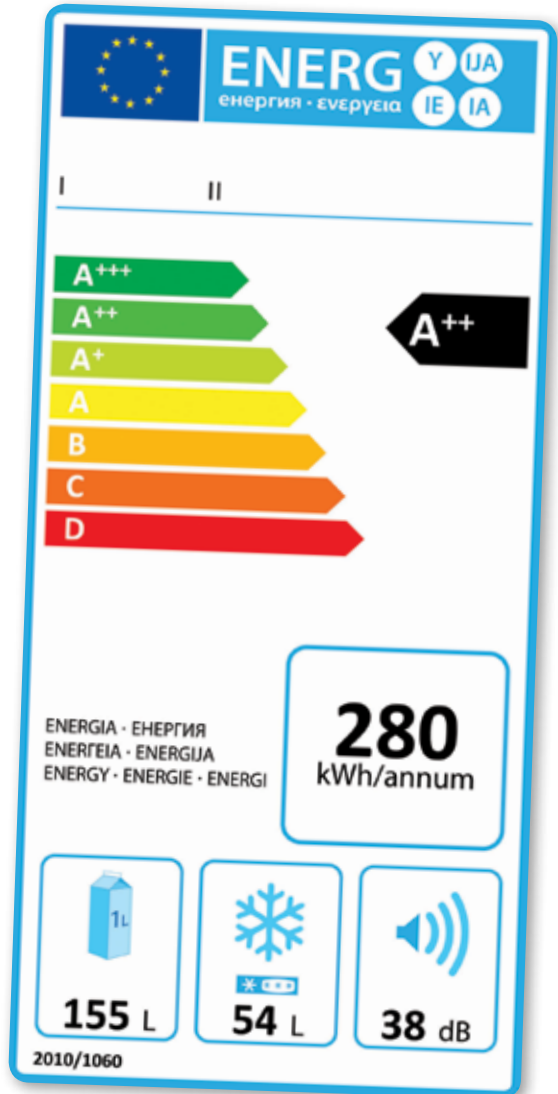
The European Union (EU) energy label rates products in terms of energy consumption.

By law the label must be shown on all fridges/freezers, laundry appliances, electric ovens and light bulbs.

Next time you are buying an appliance look for the EU rating and buy as close to 'A' as you can afford.

An 'A' rated appliance may be slightly more expensive, but you will save the difference many times over the lifetime of the appliance as it uses less electricity.

The most efficient products will also display the energy saving logo.



A European Union energy label

TOP TIP

We recommend closing curtains at night to keep the heat in.



RENEWABLE AND INNOVATIVE TECHNOLOGIES

Photovoltaic (PV) panels

Photovoltaic or solar electric panels generate electricity when exposed to light. The daylight needed to generate the electricity is free; however, the equipment can be expensive and a careful weighing up of the costs and benefits is important. Surplus electricity is exported onto the grid which NIE will buy at a fixed rate. Renewable Obligation Certificates (ROCs) can be applied for (until March 2017 when this grant finishes, see Page 23), which will provide additional income.

However, it is more cost effective to use the electricity generated rather than export it to the grid.

Solar thermal panels

Solar thermal panels or solar water heating collectors were popular until the growth of Solar PV in recent years. The panels absorb energy from the sun and transfer this energy to heat water. The hot water generated is stored in a special, highly insulated cylinder. The panels can provide up to 60% of a household's domestic hot water needs over a year and can work even in cloudy or overcast conditions. Peak output is during summer



Installing solar thermal panels.

months. For maximum efficiency all solar panels should be mounted on south facing roofs (between SE and SW) at an (30°- 50°) angle and be clear of any shade.

There are two types of solar thermal panels, evacuated tube or flat plate.

The **evacuated tube panels** can be marginally more efficient, especially in the winter months. They can be used on shallower sloped roofs by rotating the tubes so that the collectors inside the tubes face the sun. This system is fixed above the roof surface.

Flat plate panels can be sized to produce an equivalent output. They can be integrated into the roof.

Biomass

Biomass is a collective term for all plant and animal material i.e. wood, straw, poultry litter and energy crops, such as willow.

The most popular form of biomass for domestic use is wood pellets which are formed from highly compressed, uncontaminated sawdust. It is important to ensure the wood pellets are purchased from a reputable source and match the specification of the boiler. Modern wood pellet boiler use 100 - 120kg hoppers which can hold 10-12 10kg bags therefore refilling is typically only a weekly process.

Another consideration is cleaning, typically a fortnightly or monthly task. Wood pellet boilers should be seen in a similar light as an open fire, eg they need fed and cleaned regularly, however, they are carbon neutral therefore fully sustainable.

To be regarded as a renewable source of energy the wood burned must come from a sustainable source and trees used for fuel replanted.

Wood pellet systems are available either as stoves for

heating a single room or as boilers to provide full central heating and hot water. Pellets can be supplied in 10kg bags but for maximum economy it is better to buy them loose by the tonne. Storage space for pellets needs to be considered.



Biomass pellets.

Air Source Heat Pumps

An air source heat pump uses similar technology to a ground source heat pump. However, instead of taking the energy from the ground it works by converting energy from the outside air into heat. Since the heat produced is typically between 35°C and 45°C, much lower than a conventional boiler, the heat pump should be incorporated with an under floor heating system and a solar thermal panel (to provide domestic



hot water) for maximum efficiency. It is considerably cheaper than a ground source heat pump to install, as it doesn't require any ground works and doesn't require much space, which makes it ideal for flats, apartments and dwellings with limited space. An air source heat pump should provide the heating requirements for a well insulated property in all but the most extreme conditions.

Ventilation Systems

As homes become more insulated and air tight it is important to make sure there is adequate ventilation to provide a healthy and comfortable living environment.

A mechanical ventilation system that combines heat recovery with ventilation draws air out of warm, moist rooms (e.g. kitchens and bathrooms) with the heat in this exhaust air being transferred to incoming fresh, filtered air in a heat exchanger. This pre-warmed, fresh air is then blown into the habitable rooms (e.g. living rooms, bedrooms) to give a constant supply of clean, fresh air which contributes to a healthy, comfortable living environment.

There are ventilation systems on the market to suit every requirement and wallet. The

simplest versions are located in the roof space and blow air, extracted from the roof space, down into the dwelling.

Wind

Northern Ireland has one of the best wind resources in Europe. Wind speed increases with height so it's best to site a turbine as high as possible and sufficiently clear of any obstructions such as buildings or trees which can create turbulence and reduce the efficiency of the turbine.

Small scale building integrated turbines are now available. These can be mounted on gable walls and



Small wind turbines are now available.

TOP TIP

*Use task lighting
when only a small
amount of light is
required.*



are rated at 1 to 1.5kW depending on the model. It is important to establish the structural stability of the wall where the turbine is to be anchored. Planning approval is required. In certain circumstances noise from the turbine blades could potentially cause problems with adjoining neighbours.

Ground Source Heat Pumps

When the sun shines on the ground its heat energy is absorbed into the ground. The pump extracts this energy to provide for space heating. The heat energy stored in the ground, usually at a constant temperature of about 12°C, is absorbed into a water/antifreeze solution circulating in pipes buried in the ground or in bore holes.

The system works like a fridge in reverse by using a pump and compressor to enhance this heat and

transfer it to an under floor heating system in the building.

Heat pumps do need some power to operate. However for each unit of electricity they use they can generate up to 4 units of heat depending on the outside temperature. This is called the Coefficient of Performance (COP) and models are rated on their COP. For maximum efficiency the electricity used can be supplemented by some other renewable such as photovoltaics or wind.

The fuel used for the heat pump is electricity and usual tariff rates normally apply, although some suppliers offer a special heat pump tariff. Maximum advantage should be taken of any preferential tariffs (off-peak, Economy 7).

Since the system temperature of 35°C to 40°C is not suitable for the provision of domestic hot water (DHW) it is normally used in conjunction with an immersion heater or a solar thermal collector to achieve 60°C for DHW use.



Installing ground source heat pump pipes.

Check out certified installers on www.microgenerationcertification.org/consumers/microgeneration-technologies

INFORMATION ON ENERGY SAVING GRANTS FOR NORTHERN IRELAND 2016-17

The Northern Ireland Sustainable Energy Programme (NISEP) grant aid 2016-17. Schemes will only run while funds are available.

| Scheme Name | COSY HOMES |
|--------------------------|--|
| What it is? | Heating and insulation measures: <ul style="list-style-type: none"> • Grant of up to £1,000 towards heating and £100 towards insulation • Energy saving lightbulbs • Energy saving advice for tenants |
| Who can apply? | Housing association tenants with solid fuel or Economy 7 heating |
| Who do I contact? | Power NI Housing associations will be responsible for selecting properties and funding remainder of cost |

| Scheme Name | HELM ENERGY SAVER PLUS |
|--------------------------|---|
| What it is? | Heating and insulation measures: <ul style="list-style-type: none"> • Grant up to £1,000 towards heating and £150 towards insulation • Water widget • Energy saving lightbulbs |
| Who can apply? | Helm Housing properties with Economy 7 heating systems or no heating |
| Who do I contact? | Fusion Heating Housing associations will be responsible for selecting properties and funding remainder of cost |

| Scheme Name | ENERGY PLUS |
|--------------------------|--|
| What it is? | Heating and insulation measures: <ul style="list-style-type: none"> • Fully funded gas heating system if on gas network; oil system where gas is not available. • Fully funded cavity wall insulation and/or loft insulation • Climate Remote Heating Control • Energy saving lightbulbs • Water widget |
| Who can apply? | Low income households with no heating, Economy 7 or solid fuel heating. Must be homeowner or private tenant. Income criteria: <ul style="list-style-type: none"> • Single person household with income/pension of up to £23,000 gross • Couple or single parent family with income/pension of up to £35,000 gross |
| Who do I contact? | Fusion Heating nisep.applications@fusionheating.co.uk Tel: 028 9044 9499 |

| Scheme Name | ENERGY SAVER HOMES |
|--------------------------|---|
| What it is? | Heating and insulation measures <ul style="list-style-type: none"> • Fully funded gas heating system if on the gas network, oil system where gas is not available. • Up to £800 towards cavity wall and/or loft insulation • Energy saving lightbulbs • Radiator foils |
| Who can apply? | Low income households with no central heating, Economy 7 or solid fuel heating. Must be homeowner or private tenant. Income criteria: <ul style="list-style-type: none"> • Single person household with income/pension of up to £25,000 gross or • Couple or single parent family with an income/pension of up to £30,000 gross or • A single person/household/couple with an income/pension of less than than £35,000 gross AND over 70 |
| Who do I contact? | Power NI Call 0800 0321 894 or visit www.powerni.co.uk |

| Scheme Name | HOME COMFORT £1500 CASHBACK |
|--------------------------|---|
| What it is? | Heating and insulation measures (Firmus Energy network area only): <ul style="list-style-type: none"> • Cashback of £1,500 towards a natural gas heating system • Up to £800 for insulation measures including cavity wall and loft insulation • Energy saving lightbulbs • Energy monitor |
| Who can apply? | Low-income households within the Firmus Energy Gas Network with no central heating, Economy 7, solid fuel or old LPG heating systems and oil boilers broken down beyond repair (not eligible for Boiler Replacement Scheme). Must be homeowner or private tenant. Income criteria: <ul style="list-style-type: none"> • Single person household with income/pension of up to £25,000 gross • Couple or single parent family with an income/pension of up to £40,000 gross |
| Who do I contact? | Firmus Energy (Note: Firmus Energy gas network excludes Greater Belfast, Bangor, Carrickfergus, Larne etc) Apply to Paula Simpson, Tel: 0800 032 4567 psimpson@firmusenergy.co.uk |

| Scheme Name | COSY HOMES INSULATION |
|--------------------------|--|
| What it is? | Insulation measures: <ul style="list-style-type: none"> • Grant of £105 for cavity wall and/or £105 for loft insulation • Energy saving lightbulbs • Energy saving advice |
| Who can apply? | Housing association properties |
| Who do I contact? | Power NI Housing associations will be responsible for selecting properties and funding remainder of cost. |

| Scheme Name | HOME COMFORT PLUS - FREE HEATING |
|--------------------------|---|
| What it is? | Heating and insulation measures (Firmus Energy network areas only): <ul style="list-style-type: none"> • Fully funded natural gas heating system • Up to £800 for insulation measures including cavity wall and loft insulation and a hot water cylinder jacket • Energy saving lightbulbs • Energy monitor |
| Who can apply? | Low income households within Firmus Energy gas network with no central heating, Economy 7, solid fuel or old oil or LPG heating systems (over 15 years). Must be homeowner or private tenant. Income criteria: <ul style="list-style-type: none"> • Single person household with income/pension of up to £25,000 gross • Couple or single parent family with an income/pension of up to £30,000 |
| Who do I contact? | Firmus Energy (Note: Firmus Energy gas network excludes Greater Belfast, Bangor, Carrickfergus, Larne etc) Apply to Paula Simpson, Tel: 0800 032 4567 psimpson@firmusenergy.co.uk |

| Scheme Name | CAVITY WALL |
|--------------------------|--|
| What it is? | Insulation measures: <ul style="list-style-type: none"> • Fully funded cavity wall insulation |
| Who can apply? | Low income households. Must be homeowner or private tenant. Income criteria: <ul style="list-style-type: none"> • A single person household with an income/pension of less than £25,000 gross or • Couple or single parent family with an income/pension of less than £35,000 gross • A single person household/couple with an income/pension of less than £35,000 gross AND over 65. |
| Who do I contact? | Energy Store Freephone 0800 028 3046 or Tel 028 9030 1500 |

| Scheme Name | THERMAL COMFORT |
|--------------------------|--|
| What it is? | <ul style="list-style-type: none"> • Grant of up to £800 towards cavity wall insulation • Grant of up to £800 towards loft insulation • Hot water cylinder jacket • Energy saving lightbulbs |
| Who can apply? | <p>Low income households. Must be homeowner or private tenant. Income criteria:</p> <ul style="list-style-type: none"> • A single person household with an income/pension of less than £25,000 gross or • Couple or single parent family with an income/pension of less than £35,000 gross • A single person household/couple with an income/pension less than £35,000 gross AND over 65. |
| Who do I contact? | <p>Energy Store Freephone 0800 0283 046 or Tel: 028 9030 1500</p> |

| Scheme Name | £250 INSULATION GRANT |
|--------------------------|---|
| What it is? | <p>Insulation measures:</p> <ul style="list-style-type: none"> • Cashback of £250 for cavity wall insulation (minimum installation value will be £300) and/or • Cashback of £250 for full loft insulation (minimum installation value will be £300) |
| Who can apply? | <p>Households that do not qualify for a priority scheme. Must be homeowner or private tenant.</p> |
| Who do I contact? | <p>Energy Store Freephone 0800 0283 046 or Tel: 028 9030 1500</p> |

| Scheme Name | BOILER REPLACEMENT ALLOWANCE |
|--------------------------|--|
| What it is? | <p>Grant of up to £1,000 to help with the cost of replacing boilers which are 15 years or older.</p> |
| Who can apply? | <p>Owner occupiers whose total gross income is less than £40,000</p> |
| Who do I contact? | <p>Housing Executive Call 03448 920 900 or email boiler-replacement@nihe.gov.uk</p> |

| Scheme Name | FREE CAVITY WALL INSULATION |
|--------------------------|---|
| What it is? | Insulation measures: Grant of up to £600 towards a package of measures to include: <ul style="list-style-type: none"> • Cavity wall insulation • Hot water cylinder jacket • Energy saving lightbulbs • Radiator foils |
| Who can apply? | Low income households. Must be homeowner or private tenant. Income criteria: <ul style="list-style-type: none"> • A single person household with an income/pension of less than £25,000 gross or • Couple or single parent family with an income/pension of less than £30,000 gross • A single person household/couple with an income/pension of less than £35,000 gross AND over 70. |
| Who do I contact? | Power NI Call 0800 0321 894 or visit www.powerni.co.uk |

| Scheme Name | KEEP WARM |
|--------------------------|--|
| What it is? | Insulation measures: <ul style="list-style-type: none"> • Grant of up to £850 towards cavity wall and/or loft insulation • Hot water cylinder jacket |
| Who can apply? | Low income households. Must be homeowner or private tenant. <ul style="list-style-type: none"> • Single person household with an income/pension of less than £25,000 gross or • Couple or single parent family with an income/pension of less than £35,000 gross • Single person household with an income/pension of less than £35,000 gross AND meets at least one of further criteria: is over 70, lives in a rural location or has a disability/chronic illness. |
| Who do I contact? | Workspace Apply to: Georgina Grieve Georgina.Grieve@workspace.org.uk Tel: 028 7962 7474 www.theworkspacegroup.org |

| Scheme Name | KEEPING YOU WARMER |
|--------------------------|---|
| What it is? | Insulation measures <ul style="list-style-type: none"> • Cashback of £250 for cavity wall insulation (minimum installation value will be £350) and/or • Cashback of £250 for full loft insulation (minimum installation value will be £350) • Free hot water cylinder jacket |
| Who can apply? | Households that do not qualify for a priority scheme. Must be homeowner or private tenant. |
| Who do I contact? | Warmfill sales@warmfill.com Tel: 028 9042 8260 |

| Scheme Name | NETATMO HEATING CONTROLS |
|--------------------------|---|
| What it is? | Heating controls: Discount of 50% off the cost of installation of a Netatmo smart thermostat which allows remote control of heating from smartphone, tablet or PC. |
| Who can apply? | Households with single zone domestic heating systems and a wireless broadband router. |
| Who do I contact? | Power NI Call 0800 0321 894 or visit www.powerni.co.uk |

| Scheme Name | AFFORDABLE WARMTH - TARGETED SCHEME |
|--------------------------|--|
| What it is? | Priority 1. Insulation/Ventilation Priority 2. Heating Priority 3. Windows Priority 4. Solid wall measures Those addresses identified by local councils as being in an area where fuel poverty is prevalent. |
| Who can apply? | Homeowners or private tenants with a total gross annual household income of less than £20,000. |
| Who do I contact? | Contact your local council |

ROCS (RENEWABLE OBLIGATION CERTIFICATES)

The Renewable Obligation (RO) requires UK electricity suppliers to source a percentage of their electricity from renewable sources.

In Northern Ireland it is called the Northern Ireland Renewable Obligation (NIRO). Renewable Obligation Certificates (ROCs) are certificates issued by Ofgem based on the total amount of electricity generated by a registered renewable energy system.

Northern Ireland's micro generators (up to 50kW) can avail of the NIROC value of electricity generated by their renewables systems via Ofgem or an Agent. A generator is entitled to receive ROCs for 20 years from the date of accreditation under the NIRO.

There are three ways in which customers can benefit from generating their own electricity:

On-site use of electricity:

Customers can benefit from on-site use of the electricity they generate.

NIROCs: ROCs are issued based on the total amount of electricity generated by a renewable energy system. Customers can either administer their own NIROCs via Ofgem, or can appoint an Agent.

Export tariff: Payable to customers for electricity not used on-site and exported to the grid.

The price of export and ROCs can change depending on market values.

For more information on ROCs

Department for the Economy Energy's Division
at www.economy-ni.gov.uk

www.powerni.co.uk/products-services/renewables/sell-electricity/
The current tariff Power NI will pay generators up to 50kW for 1 ROC is 3.91p/kWh.

Action Renewables will also purchase ROCs.
www.actionrenewables.co.uk/roc-trading/

Further information:

Housing Executive 03448 920 900

www.nihe.gov.uk/latest_tariffs

Consumer Council

www.consumercouncil.org.uk/energy/energy-price-comparison/

Bryson Energy Freephone 0800 14 22 865

www.brysonenergy.org

Microgeneration Certification Scheme

www.microgenerationcertification.org/consumers/microgeneration-technologies

Energywise 0300 200 7874

www.nidirect.gov.uk/campaigns/energy-wise

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