SUSTAINABLE ENERGY IRELAND | power of one

Power of One community

group leader resource pack

What is the Power of One community?

The Power of One community is a continuation of the Power of One Street projects and the Ard Easmuinn Estate Energy Saving project, but on a larger scale. It involves applying previously tried and tested approaches used to help reduce energy consumption in the home and while driving. The actions undertaken and lessons learned from previous projects which were carefully measured and monitored, proved that by applying simple energy-saving tips and by following a structured regime, householders were able to save up to 30% on their energy bills, through simple changes in their behaviour.

The most important part of the initiative is to encourage householders to understand that simple changes in their behaviour regarding energy use in the home (e.g. space heating, hot water, small power etc.), will allow them to make energy savings without spending any money.

This guide is for group leaders, to assist householders in carrying out the five step plan as detailed in the *Householders, be your own energy manager* guide.

What are the objectives of the Power of One community?

The objectives are to encourage people to become more energy conscious in their everyday lives, and to achieve a measurable change in awareness and behaviour regarding how they use energy in the home and while driving. Energy bills can be substantially reduced by following simple energy-saving tips in relation to:

- → Space heating
- → Domestic hot water
- → Small power (washing machines, dishwashers, TVs, stereos etc.)
- → Lighting
- → Cooking
- → Transport

By adopting new habits and becoming more aware of how they use energy at home, householders have a greater understanding of the types of energy systems in their own homes (space heating, hot water, small power, lighting, cooking and transport), allowing them to become more attuned with these systems by making simple adjustments when necessary. As a result, this allows householders to make a connection between saving energy and saving money, experience the benefits of improved comfort levels and understand that they are helping to reduce their impact on the environment through a gradual change in their behaviour.

By coaching and guiding householders through the different key areas of how they are using energy, they become more confident and aware of how easy and important it is to understand the various energy systems in their homes. Every house is different; households living and occupancy patterns, and energy needs will vary a lot. It's important that each household should understand and control their own specific situation in order to make energy savings.

How the Power of One community works

- Any group committed to making energy savings can become involved in the Power of One community.
- The initiative is structured with group leaders/energy coaches who clearly explain energy-saving tips to householders as detailed in the *Householders, be your own energy manager* guide.
- Groups have designated group leaders/energy coaches (at least 1 per 20 households).
- Group leaders/energy coaches themselves are mentored in detail for each of the energy end uses in order for the tips to be applied successfully.
- Group leaders/energy coaches are responsible for making sure that the householders fully understand each task, are able to answer any questions, and for keeping householders motivated.

Getting a programme underway

Where possible use door-to-door recruitment to directly engage with as many households as possible. A meeting involving all the energy coaches and the group participants will help get everyone more involved in the project. It will allow people to ask questions so they can understand what they are getting involved in and how to take part. An initial presentation to residents should give a general overview of the objectives, the steps, the myths and environmental impacts of energy use.

The most important factor is that everything should be clearly and simply explained so people realise that it's not just energy experts who can get involved in being more aware and energy efficient. Explain that it's easy to get involved and that, like anything, it will take a little time and effort before the householders are up to speed with what they are trying to achieve.

It is intimidating for anyone to start something new, so by repeating the information and emphasising how easy it really is, the residents will be more at ease with the idea and feel that it is doable, and that it is worth taking part in.

The phased approach

The pace that changes can be made by householders in their energy use depends on which energy system they are focusing on. Not all changes can take place at the same pace so a phased approach is used which gives more time to the more involved steps. This must be clearly explained to homeowners.

1 Space heating (60%*)

This step is allocated five weeks because it accounts for the largest percentage of energy consumption in the home and householders need time to become familiar with the energy system they have, how it's controlled, and how to make the most effective adjustments.

2 Domestic hot water (24%*)

This step is four weeks long because it is the next most complex system to fine tune and adjust.

3 Small power (7%*)

This step is three weeks long because householders have already gotten to grips with changing their behaviour for the more complex space heating and hot water tasks.

4 Lighting (6%*)

This step is two weeks long as it isn't very complicated.

5 Cooking (3%*)

This step is only one week because it represents the smallest overall percentage of energy use and potential savings which can be made.

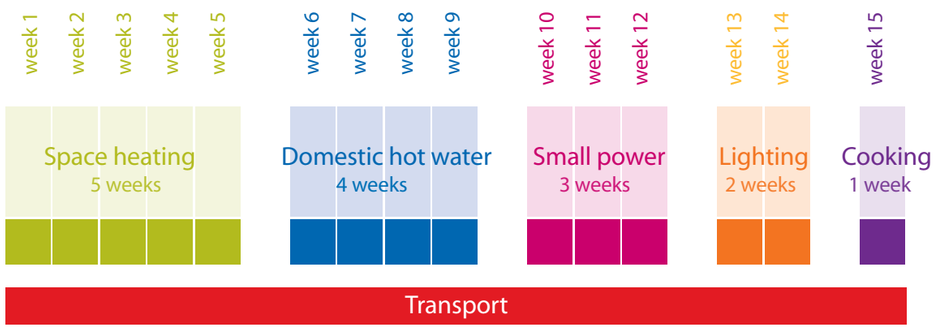
Transport

The phased approach relates to energy efficiency in the home, however personal transport is also a large energy user among households. For this reason, the transport and efficient driving recommendations in the *Householders, be your own energy manager* guide should be followed in tandem with the above five steps.

** of a typical household's energy use*

Each energy coach should allocate themselves some time between each task to contact each home, explain the various tips to the householders and gather feedback on how they got on as each task is completed. (The lighting and cooking tips can be given on the same day as they are shorter and simpler tasks.) The timeline given is to be used as an indicative guide only.

Timeline



Step-by-step coaching

An important part of coaching the residents is to remind them of the need to apply the tips in the correct order, with the most effective (but possibly most difficult) tips being listed first, and to ensure that they understand why they need to do it this way.

This applies to all the end use categories of space heating, domestic hot water, small power, lighting, cooking and transport. The best way to do this is when you are going through the list of tips under each energy category, clearly explain each tip, what effect it should have, and why it's important to gradually apply all of the tips.

It might seem like you are constantly repeating yourself, but it's important to remember that many of the householders will be starting from scratch and it will take time for things to make sense. The householder should understand the effect of each change they make, no matter how small, so they can find the right balance to allow them to save energy in their home.

Once the list of tips is given to the householders, it's best to either visit or phone householders on a weekly basis to see how they are getting on, answering any questions they might have and motivating them if they feel they are not having much success. Generally people will be quite busy with their everyday lives and some might need to be encouraged to persevere, until it eventually becomes part of their daily routine.

Understanding the various house types and their energy requirements

Not all of the tips can be applied in the same way by the different households. This depends on the type of house someone is living in. It's important to get householders to understand their house type; this mainly depends on when it was built (gives an indication of the overall level of insulation in the fabric of the house), and whether any renovations have been done to improve its thermal performance. Generally, householders will know whether their house is draughty, if it's difficult to retain heat, and to maintain a comfortable temperature, and how old the boiler is, etc.

From a brief conversation with householders, on how often and how efficiently they use their heating and hot-water systems and what their small power, lighting and cooking needs are, the energy coach should be able to determine how effective the various tips will be, and in what areas they will be likely to make the greatest energy savings.

Regardless of the house type or age, the same common issues tend to arise when the coaches begin to engage with the householders. Some of the most common conditions which coaches might encounter in relation to the energy end use categories are:

step 1 Space Heating

This step will take **5 weeks**

House fabric and system controls

- Older houses will tend to be draughtier, have less insulation and have basic heating and hot-water controls. These houses will be more difficult for the householder to control and to maintain a comfortable and constant temperature, and will usually require a bit more effort to explain the best ways of applying the tips.
- Modern houses will have more insulation and better control systems, so its easier for householders to make simple changes more often, and to notice their impacts quite quickly. Better thermostats, timers and programmers will make it easier to apply tips in relation to space heating and domestic hot water, so less coaching is required.
- Even if some houses have an integrated heat control system or a Building Energy Management System, it's still possible to make simple changes and adjustments to help improve energy efficiency. These systems can be adjusted regularly with small variations to see which changes give the best balance.

Ventilation and draughts

- A lot of houses will have open fire-places which during windy winter months cause a lot of draughts and heat loss. If such houses have chimney dampers, these can help reduce overall energy loss and draughts, and should be opened and closed depending on the weather conditions (e.g. opened in warmer weather). Otherwise, unused chimneys can be temporarily blocked during the winter months, but a small gap should be left to allow for airflow.

Zoning and temperature

- There may be problems with the distribution of heat around the house from the heating systems if some of the radiators are fully or partially blocked, or if thermostatic radiator valves (TRVs) are not working properly because they have seized up over time. This will limit potential benefits from the space heating tips and should be corrected if possible.
- If open fires or solid fuel burning stoves are used to provide secondary heating, it's important to keep a log of how much solid fuel is being used and whether the temperature of the room gets too warm because the fire keeps getting stoked even though a comfortable temperature has been reached. This can lead to temperatures in these rooms to exceed 30°C and as a result the rest of the house will feel cooler than it actually is when someone leaves the room. Generally the heating system will be switched on to give the rest of the house a boost. This leads to more energy being consumed.

Electric heating

- If the house has electric storage and panel heaters, it's important to spend some time explaining the best ways of using these. Being aware of the upcoming weather forecast for a number of days in advance will help the householder use them as efficiently as possible by adjusting the timer settings and using the boost options accordingly.

Cooker boilers

- If an oil/gas fired cooker-boiler is being used as the primary heating source simple adjustments can help improve overall efficiency. These cooker-boilers can have quite complex controls and functions, and the chances are, the householder is only using the most basic of functions. It's well worth reading the operating manual and understating what the various available functions are.

Heating efficiency

- Large areas of glazing with no blinds or curtains will affect the evening and night time temperature and comfort levels in rooms being used regularly. This can lead to householders boosting the heating system when in fact the rest of the house is already at a comfortable temperature. The living and kitchen–dining areas tend to have this problem.

- If there are large areas of south-facing glazing that can lead to some over heating, trickle vents in the window frames can be used effectively to control thermal comfort and ventilation needs, rather than having to fully open windows.

step 2 Domestic Hot Water

This step will take **4 weeks**

- If the heating and hot-water systems are on the same zone and timer control, then the possibility of significant savings for the hot-water category will be reduced during the winter months because the hot water cannot be controlled separately. During the summer months the radiators can be switched off allowing the hot-water system can be controlled separately.

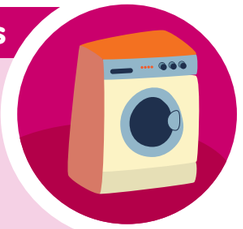
- Some households which use an immersion heater for hot water and a hot press to air their clothes tend to leave the immersion on all of the time because the heater doesn't have a timer and they feel by turning it on and off their clothes won't air properly. The clothes will still dry out, it might take a little longer, but it's much more energy efficient to switch the immersion on only when hot water is needed.

- The length of time it takes for a heating source to heat the amount of hot water that a household needs, will depend a lot on whether their hot-water cylinder has a lagging jacket, is factory insulated, has a cylinder thermostat, or if they use a gas/oil boiler or an immersion.

- Some houses might have solar water heaters. There is still potential to make simple adjustments to how these are being used to reduce energy use by boosting them less often during the winter months using either the oil/gas or electric supplementary heating, and waiting until you are sure the solar hot-water system needs to be boosted. Small regular adjustments to the cylinder thermostat can help reduce the need for supplementary heating.

step 3 Small Power

This step will take **3 weeks**



- If a household has a lot of electrical equipment, electronics or a home office with PCs, printers, scanners, photocopiers etc., the chances are, they are left on standby when not being used, so there is scope here to save substantial amounts of energy over the period of a year. The more people there are in the house, the more important it is to get all of them involved in switching off all electrical equipment when it is not being used.

- Some of the 'eco' settings on kitchen appliances can actually mean they operate at higher temperatures and the 'eco' actually relates to using less water not energy. It's important to check the appliance manuals to see what the different temperature and cycle settings are. (Remember these may not be the 'eco' ones.)

- There are currently a vast number of so-called 'convenience' appliances which are used around the house and which run on electricity. Have a look around and see what can be done without or used less frequently.

step 4 Lighting

This step will take **2 weeks**

- In the more modern houses there will be a lot of halogen spot lights controlled by one switch, so regardless of whether all the lights are required at any one time, they end up being switched on. Getting householders to use free standing or table lamps (called task lighting) rather than always switching on all of the spot lights will lead to a significant reduction in the amount of energy being used, especially during winter months.

- External security lighting generally uses very high wattage bulbs, so its possible to reduce the wattage of the bulbs and still get adequate lighting. You can also place them on a timer or trigger them using motion sensors rather than leaving them on all night.

- Nowadays there are many energy-efficient lighting options available for homes. For more information visit www.sei.ie, www.esb.ie or ask your lighting supplier.

step 5 Cooking

This step will take **1 week**

- In some instances, the only way of being able to achieve any significant savings in relation to cooking, is when old kitchen appliances are replaced when they reach the end of their operating lives by newer more energy-efficient ones.

Space heating

- **I tend to leave the heating on all the time, should I be doing anything differently?** It is more energy efficient to switch the central heating off at night, when you are out of the house, and away for weekends. Only switch it on for appropriate lengths of time when you are in the house during the day. A good tip to save energy would be to switch off your heating an hour before you go to bed.

- **How can I save energy by controlling the temperatures around the house?** It is better to maintain a constant temperature of approximately 20°C in the living, dining rooms and kitchen, and a temperature of 16–18°C in hallways and bedrooms. To achieve this, turn off radiators in rooms not being used and close the internal doors separating heated from unheated areas in your home.

- **What should I do if I am only going to be using one room in the house?** It's important not to heat the whole house if you are only using one room. If you can't turn off radiators in rooms you are not using use a space or portable heater rather than heating the whole house. When buying portable heaters, make sure they are the right size for the rooms that you are heating and that they have thermostatic controls.

- **I like using the conservatory in the winter so should I be heating it?** Conservatories are not designed to be heated. Use conservatories on sunny winter days when they are heated naturally by the sun and use this warm air to help heat the rest of the house. This can be achieved by opening the doors from the conservatory leading into the house when it's sunny, allowing the warm air to pass into the house. Keep the doors from the house to the conservatory closed when it is overcast or dark outside.

- **Does closing your curtains or blinds at night really make a difference?** By closing your curtains or blinds you save more energy as they help retain the heat in your room which would otherwise be lost through the glass. Keep your curtains and blinds closed at night and make sure you are not heating the space between the curtains and the window pane by tucking the curtains behind the radiator or resting them on the window board.

Domestic hot water

- **I leave my immersion on all the time – is this wrong?** It is not necessary to leave your immersion on all of the time and it wastes energy compared to turning it on and off when you need it. The trick is to think about when you need to have hot water and how much hot water you are going to use, for example, when you need hot water, set the immersion timer for the exact length of time it takes to heat up the quantity of hot water you need.

For more information visit **www.sei.ie/powerofone**

Small power

- **Is it not better to leave my TV and computer on standby rather than switching it off and on all the time?** All electrical devices should be fully switched off when they are not being used especially overnight. PCs, laptops, printers and scanners should be set to 'energy saving' mode where they automatically use less energy when they are not being used throughout the day.

- **My mother always told me that putting on a half load in the washing machine uses less energy?** It's a common misconception that by doing this you're actually saving energy. It's more efficient to always put on a full load, and select the most appropriate washing cycle, and the lowest water temperature required for the items being washed.

Lighting

- **I've heard you waste more energy by switching lights on and off – is this true?** Switching lights off when you leave a room is more energy efficient than leaving lights on in rooms that are not being used for an extended period. It is also important to utilise natural daylight where possible by not switching on lights until needed in the evening. Changing your light bulbs to CFLs will also help you save energy and money.

Cooking

- **What's the most efficient way of using the oven when I am cooking?** The oven is expensive to use, it should be used sparingly and as efficiently as possible. Where possible use it for more than one item at a time and remember you can cook at a higher temperature at the top of the oven, and simultaneously at a lower temperature at the bottom of the oven. Opening the oven door to check cooking too often results in the loss of 20% of the accumulated heat.

Transport

- **Will I save fuel if I change my driving style and by reducing unnecessary drag?** A more conservative, energy-conscious driving style will save you more than 10% on fuel and is also safer and more relaxing. Remove unused bike racks or roof boxes to save 15–40% in fuel consumption. Keep cool by using the cars vents, rather than leaving the windows or sun roof open, to save a further 3–5%.

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