

# Carbon Literacy Project Ideas

## Doing it differently: Home energy - electricity

### Renewables



'Doing it differently' for home energy means reducing the 'carbon intensity' of the electricity you use.

#### Project Aims

- Increase the number of solar PV systems in the community.

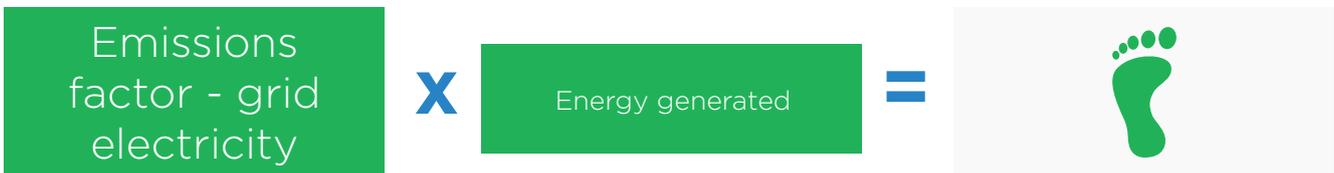
#### How does that save carbon? What's the measurable outcome?

Each unit (kWh) of electricity from the national grid used by a householder has an associated amount of CO<sub>2</sub>e produced in its generation. If a householder installs solar PV panels then the electricity generated by them is considered to create zero CO<sub>2</sub>e emissions, displacing the same amount of higher carbon grid electricity, thus reducing carbon emissions

**Measurable outcome:** Reduce household electricity carbon intensity.

The CCF reporting tool and data collection guidance explains how you can monitor and evaluate how much your project has saved.

#### Before project



#### After project



Carbon footprint from electricity.

#### What are the co-benefits? What are the potential 'community outcomes'?

Although there is an upfront cost to the householder for installing solar PV panels, there are financial benefits which mean that usually after 10 years or so they will 'pay for themselves'.

- Householders can benefit from lower electricity bills, especially if they are able to use energy-hungry appliances (such as washing machines and ovens) during the day.
- Householders will benefit financially from the Feed-in-Tariff, a UK government subsidy which pays a fixed amount per kWh of energy generated.

Typically a household in Scotland will make a saving of £265-280 per year combining reduced energy bills and Feed-In Tariff (FiT) payments.

## How do we demonstrate co-benefits?

**Financial benefits:** When working with householders to collect data about their energy usage you could also collect information on the financial benefit to the householder. Sensitivity is required when asking people for information about their financial situation.

## What are the risks?

Solar PV panels are not suitable for all households. Some factors to consider when considering running this type of project are:

1. Do people in your community own or rent their homes? If your community are mostly tenants it's probably not appropriate to run this kind of project.
2. Do people live in houses or tenements/flats? Solar panels are not suitable for shared roofs.
3. Are people willing and able to pay for the technologies? Some financial support is available and although costs are recovered over time, these technologies involve significant upfront costs for householders.

Individual financial savings are dependent on the householder using the electricity being generated by the solar panels during the day time. If a household is out at work all day this will reduce the financial savings they are able to make. New battery technologies can help reduce this risk by storing the low carbon energy for use at a later time.

## How do you increase home renewables in your community?

**Designing your project:** If you wish to develop a project to increase home renewables in your community, you should investigate what are the most important barriers and opportunities in your community. Your consultation could look into:

1. Which technologies are most appropriate in your community (given the building types, tenure of homes and average incomes)
2. How likely people are to take part in your proposed activities.
3. The real or perceived barriers to people installing home renewables.
4. What assets are there in the community, or wider opportunities, that could support your project aims?

The four questions, four zones grid from Shifting Normal can help you identify factors that could influence the willingness or ability of people to install these technologies.

### Example project activities

Below are some examples of typical activities that CCF projects run in order to increase home renewables or low carbon heating systems in their communities.

**Information evenings:** With expert speakers and people who have already had renewables installed helps to dispel myths and assist householders to make informed decisions. Impartial advice about costs and benefits and which technologies are suitable in which situations will be well received.

**Individual home energy visits:** Knowledgeable advisors, can help householders understand which technology would be best for them. Ongoing, local and impartial support to help householders make sense of quotes helps remove some of the uncertainty and confusion for householders.

**Ongoing support:** Carbon emissions reductions depend greatly on how technologies are used by householders. Providing information, ongoing and peer support are important ways that community projects can help.

**Co-ordinating surveys, assessments and installation:** In addition to providing the advice and promotion above, some groups have acted as a co-ordinator to organise surveys and assessments of households' suitability for renewable technologies, and to streamline processes with installers. Providing this kind of project management/handholding support can sometimes lead to lower costs overall for the householder.

Visit our website to view a selection of case studies from past CCF projects:

[www.keepsotlandbeautiful.org/ccf](http://www.keepsotlandbeautiful.org/ccf)

