

Towards Zero Carbon Buildings in Canterbury

What Can I Do?



The Context



The choices we make as individuals, households and businesses can reduce our impact on the causes of climate change. We can all reduce what we buy, reduce our travel and save energy in our homes and businesses

If you are thinking of building new, or refurbishing, retro-fitting or extending your existing home or business, this booklet is for you.

As 40% of all CO₂ emissions are from buildings and the construction process, reducing energy in our homes and businesses is extremely important. CCAP is lobbying Canterbury City Council to ensure that, going forward, all new buildings built in the District are zero carbon in use by 2025 or earlier, but as most of our existing buildings are old and inefficient, tackling these is a matter of urgency. Approximately 80% of the national stock is older housing, using about three times as much energy or carbon as modern houses.

Energy efficiency brings benefits all round. It's good for the economy by creating green jobs, it improves our buildings and the environment, it is healthier for the occupants, it saves us money and it increases the value of our property. It also helps to reduce, or eradicate, fuel poverty.

This booklet will highlight some of the important things we need to do first and gives advice on where to get the best help.



Thinking of Building

Where do I start?



Firstly, if you are thinking of building new, think again. We need to build less and if possible reuse the buildings we already have. When we reuse our existing buildings, we save the energy needed to build them and the energy needed to make the building materials.

When refurbishing, retrofitting or extending our existing home or businesses, it is important to get as near to zero carbon emissions in use as possible.

Because of this, we recommend the use of the Passivhaus EnerPHit standard or an equally recognised and well tested standard (such as the Government backed Trustmark PAS 2035:2019 scheme) and, most importantly, that professional advice is sought from an suitably qualified designer who will analyse all the interacting factors to come up with the best solution.

It is important when designing a scheme to minimise the amount of carbon "embodied" in the construction building materials (in extraction, manufacture and transport) as well as carbon consumed in operating the building. Try to select materials with low embodied energy and materials that will reduce environmental and ecological damage.

Wherever possible, use local materials to reduce transport, use recycled materials and materials that can be readily reused, and avoid the use of plastics such as uPVC, polythene, polyurethane, polyisocyanurate and polystyrene as they cannot be recycled.

Alongside insulation, it is important to seal the building against unwanted air leakage (draught proofing) and to fit the best quality double or triple glazed windows and doors possible,

Old or inefficient gas boilers should be replaced with heat pumps that use renewable power, or with biomass boilers that burn wood pellets. Then check out your electricity and water consumption and take measures to reduce these by, for example, changing to low energy LED light bulbs or by fitting garden water butts.

Finally, when you have your house in order, consider installing your own renewable power generation such as solar panels or solar heating.



Where can I get good advice?



There is much energy advice available. The key places to start are:-.

- **Kent and Medway Warm Homes Scheme** - including **Kent Green Action** - www.kent.gov.uk/about-the-council/campaigns-and-events/warm-homes#tab-5
- **Energy Saving Trust** – www.energysavingtrust.org.uk has useful advice on energy saving generally and possible sources of financial help available
- **Simple Energy Advice** – www.simpleenergyadvice.org.uk
- **Passivhaus Trust EnerPHit** – www.passivhaudtrust.org.uk/competitions-and-campaigns/passivhaus-retrofit
- **Trustmark PAS 2035:2019** – www.trustmark.org/ourservices/pas-2035
- **The Association for Environment Conscious Building** – www.aecb.net
- **Get the advice of an architect or registered “Passivhaus” designer** – more information can be found on the websites of the Royal Institute of British Architects (RIBA) www.architecture.com/find-an-architector the Passivhaus Trust www.passivhaustrust.org.uk/member/architects_and_designers



Energy Saving Principles

Save energy and also save money

Insulate, build tight and ventilate right.



As most of the energy lost in buildings is through the fabric, concentrating on improving the fabric is the first priority; this is achieved by super-insulating the building. Insulating buildings not only saves us money on our energy bills but also increases the value of our property.

However, installing insulation may lead to condensation problems so it is very important to get professional advice on “vapour control” and “breathing membranes” to overcome these potential problems.

The ideal location for retrofitted insulation is either within a cavity wall or if no cavity present, on the outside of the building, finished with a stylish render or weather boarding for example. Where walls are solid or where buildings are in a Conservation Area, internal insulation may be the only answer, but this in turn does create problems with period details and space loss in older, historic buildings. When refurbishing very old or historic buildings therefore, getting the right advice is even more important.

Don't forget the windows and doors. These should be well insulated and sealed and should ideally be triple glazed.

Heat loss through draughts (unwanted ventilation) is also very high in older buildings (draughts account for about 20% of a building's heat loss) and so sealing a building against unwanted draughts (making it air-tight) is important too. Once the building is sealed, mechanical ventilation, ideally with heat recovery, will be required and once again, specialist advice will be necessary when installing.



Heating, power and water consumption



Once the fabric is well insulated and sealed, attention can be turned to heating, power and water consumption.

In a typical UK home, more than half our energy goes into space and water heating so changing an inefficient gas boiler for a ground source or air source heat pump or a biomass boiler for example will provide a “greener” option, especially if the heat pump is powered by a 100% renewable energy tariff. The situation in our businesses is very similar.

The most effective way to save electricity is to fit energy saving LED lighting throughout and look closely at the way you live, both at home and at work. There are many energy saving tips in the various links on page 4. These include looking at the energy rating of appliances and ensuring that appliances are turned off when not in use.

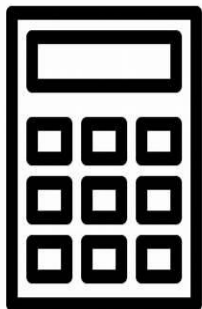
Switching to a 100% renewable energy tariff from one of the increasing number of “green” energy suppliers will also help you reduce your own carbon emissions.

Tips for saving water in the home and at work abound but collecting and reusing rainwater in butts for garden watering is one of the most useful, together with the avoidance of power washers and checking product efficiency and labelling. Recycling used water where suitable (using bathwater for flushing toilets for example) should also be considered.

Finally, when you have your house in order, consider installing your own renewable power generation such as solar panels or solar heating.



Financial help available



We in CCAP will be lobbying CCC and KCC to, in turn, lobby central Government to provide the necessary funding, in the form of grants, to ensure that the current stock of buildings in our District are able to reach zero carbon as soon as possible. In the meanwhile, here is some of the current financial help available:-

Your first port of call should be to Canterbury City Council or Kent County Council who may be able to help with local initiatives such as the Kent and Medway Warm Homes Scheme. See www.kent.gov.uk/about-the-council/campaigns-and-events/warm-homes#tab-3

Others include:-

- Solar Together - The governments Feed-in Tariff Scheme (FIT's) closed on 1st April 2019 but CCC are working with KCC on an innovative scheme offering high quality solar panels at competitive prices. The scheme sees households combining their buying power to secure a discount – see www.solartogether.co.uk for more details.
- Help with insulation and the replacement of inefficient boilers via the Energy Company Obligation (ECO) – if you are on benefits or meet other requirements such as pension guarantee credits. Contact is via your energy supplier.
- RHI – Renewable Heat Incentive – for both domestic (including social and private tenants) and non domestic buildings (commercial, public and industrial) – funding directly from the Government for heating from low carbon sources including biomass, ground source heat pumps (GSHP's), air source heat pumps, (ASHP's) and solar thermal. Contact is via Ofgen. For more details see – www.ofgen.gov.uk
- Green finance – secondary mortgages for retrofitting – see www.gov.uk/government/news/homeowners-could-cut-mortgage-rates-bills-and-emissions-with-new-green-mortgages
- Smart Export Guarantee (SEG) – this scheme came into force on 1st January 2020, to provide payments to those who wish to export locally generated renewable energy to the National Grid – technologies include solar PV, wind, combined heat and power CHP, hydro and anaerobic digestion – up to 5MW or 50KW for CHP – will need an export meter – check with your energy supplier for more details or see www.ofgen.gov.uk





A partnership of local residents, organisations and institutions working together to help Canterbury City and District act on Climate Change. For more, see

www.ccap.org.uk

Or contact us at

ccap@gn.apc.org

Want to know more about what you can do see

www.52climateactions.com

This leaflet has been printed using the most sustainable printing and paper we could find.

