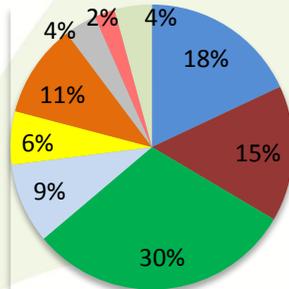


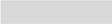
## CASE STUDY: 4 BEDROOM VICTORIAN END-TERRACE, BUILT 1873, READING



*Where are the energy costs in this house going?*



**Key**  
(labelled clockwise from top in numbered order)

1		Hot Water	6		Heating Inefficiency
2		Walls	7		Roof
3		Appliances	8		Floor
4		Draughts	9		Lights
5		Windows / Doors			

### COMMENTS ON THE PROPERTY

The property is an east facing three storey semi-detached house, built in 1873.

The property is in a conservation area.

#### WINDOWS

Most of the windows in the property are double glazed sash and casement windows in good condition.

#### WALLS

The property has solid brick walls, although the side wall has been extensively externally insulated by converting it to a cavity wall.

#### ROOF

The main loft space currently has about 70mm of PIR insulation, equivalent to about 100mm of mineral wool. The sloping roofs of the loft extension are already reasonably well insulated with around 75mm of PIR.

#### HEATING

The primary heat source in the dwelling is a condensing gas boiler connected to a radiator system. Hot water is provided by solar hot water panels on the roof and supplemented by the boiler.

#### LIGHTS AND APPLIANCES

Most of the lighting fixtures in the property are fitted with compact fluorescent lamps.

**CLIENT: DR JONATHAN GREGORY**

### CLIENT FEEDBACK:

“I found the Masterplan a useful document because it evaluates a lot of possibilities by various methods and is clearly presented. Numbers are what I need to help make decisions.

Since my priority is CO<sub>2</sub> emissions reduction, the measures ranked by CO<sub>2</sub> were most useful.

Your analysis confirmed that space heating is the biggest source of emissions and wall insulation the most effective measure.

Following the guidance, I have had all the first-floor bedroom exterior walls internally insulated with 100 mm of PIR. In addition there is now 125 mm PIR in the sloping ceiling in the spare room and 190 mm PIR in the flat ceiling. In the next fortnight the front exterior wall of the sitting room is going to be internally insulated.”

## Summary of Bespoke Recommended Packages for this Property

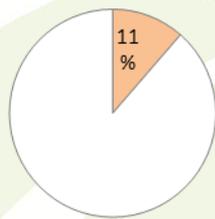
Based on the client's budget, ambitions and timescales we group different measures that we evaluate into bespoke recommended packages in order to show their net effect. This is a high level summary of what could be achieved with the packages we have put together for this property. *Note: At the client's request CO<sub>2</sub> savings were prioritized.*



### No Brainer

Annual saving:	£42
Total cost:	£95
Payback:	2.2 years

Annual CO<sub>2</sub> saving



Measures that have paybacks shorter than 5 years and cost less than £150 each:

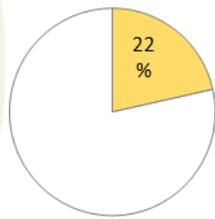
- Install an ultra low flow showerhead
- + 1 other measure



### Some Consideration

Annual saving:	£88
Total cost:	£725
Payback:	8.2 years

Annual CO<sub>2</sub> saving



Measures that have paybacks shorter than 15 years and cost less than £5,000 each.

All 'No Brainer' measures PLUS:

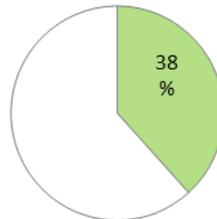
- Replace fridge with a new A++ rated alternative
- + 1 other measure



### Green Halo

Annual saving:	£154
Total cost:	£4,915
Payback:	32 years

Annual CO<sub>2</sub> saving



Measures that have paybacks shorter than 30 years and cost less than £10,000 each.

All 'Some Consideration' measures PLUS:

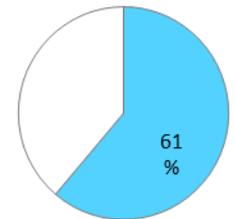
- Add 50mm PIR internally to all solid brick walls
- + 4 other measures



### Green Halo + PV

Annual saving:	£384
Total cost:	£10,215
Payback:	27 years

Annual CO<sub>2</sub> saving



Measures that have paybacks shorter than 30 years and cost less than £10,000 each.

All 'Green Halo' measures PLUS:

- Install an additional 1kWp solar PV array on the rear roof, based on a Feed In Tariff (FIT) rate of 21p per kWh

\*Note: These measures, plus others, have been or will soon be carried out.

This is just a snapshot of a **Home Energy Masterplan**. The full package gives you a detailed break-down of the different building elements along with your home's existing energy and CO<sub>2</sub> profile and how you compare to similar homes. It then presents the analysis of a large range of energy saving measures across all aspects of your house and how you use it, including estimated costs, £ savings and CO<sub>2</sub> savings, that can be applied to the property and sorts these into bespoke packages depending on your specification. No other product on the market offers such a deep and bespoke analysis of your home.

**For more information on the process or to arrange a survey please call our office on 0208 874 6433, or fill out the online enquiry form.**

