



## *Renewable Energy Solutions from theEnergyCrowd.com*

### **Conservatories as Heating Appliances**

One of the main problems associated with energy efficient double glazing units is the build up of heat in rooms where they are used— hence the thriving market for blinds tailored to fit conservatories. However in winter the idea of using a conservatory as a household-heating appliance is attractive. In theEnergyCrowd's test installation, warm air from the conservatory rises through a glazed chimney and, in winter and autumn months, is drawn down into the house, via an insulated tube in the loft space. Cold air from the house is vented into the conservatory.

The construction of the passive solar collection system is as much a secondary glazing project as a renewable energy installation. As most secondary glazing installers also construct conservatories this solar energy capture system would provide an ideal added value product for installers who were diversifying by addressing the green energy market.

Air conditioning engineers already supply systems that manage the flow of air around buildings. Passive solar energy would add value to air conditioning systems and could also be used to upgrade existing installations.

The third area where this technology is relevant is in building design with passive solar heating becoming an important component within a zero energy building.



If you are looking for ways to reduce domestic and commercial energy use then perhaps you should be talking to theEnergyCrowd.

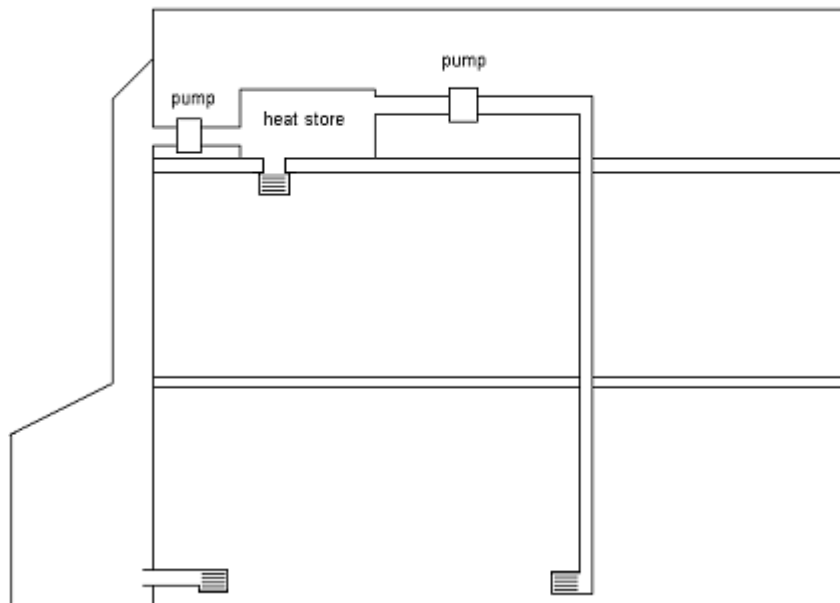
With up to 40% of non-transport related energy being used for space heating we feel it is important that ways are found to reduce the cost of heating homes, offices and public buildings.

We work with partners to develop energy saving and heat management solutions

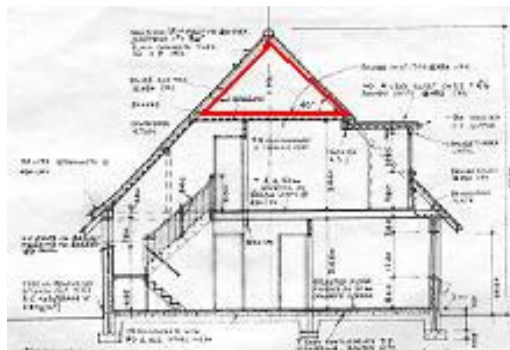
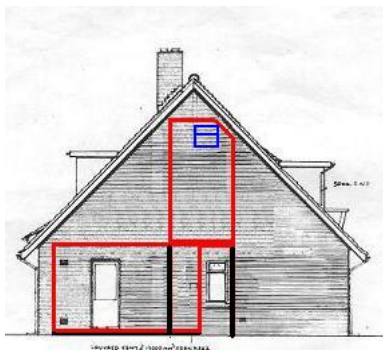
# How It Works

The 'solar chimney' has been mounted on the southwest facing gable end of the house. This takes advantage of the afternoon sunlight and, the fact that it was mounted on the wall as opposed to the roof, means it has an angle of incidence with the winter sun as close to 90° as possible. Air warmed in the chimney is drawn into the loft space – see house section and marked plans below.

The conservatory is a totally glazed structure incorporating 24mm (roof) and 28mm (walls) thick K glass DGUs. It has an opening into the solar chimney so that warm air flows upwards from the conservatory into the loft space of the house via the chimney. There is a vent between the house and the conservatory to improve the airflow around the system.



In the early afternoon during mid-winter the maximum area of the combined chimney and outhouse exposed to sun at an angle of 90° is 16 square metres.



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