

# **Renewable Energy Systems on Listed Buildings and in Conservation Areas (Solar Panels)**

## **1. Introduction**

This leaflet is primarily aimed at those living and working in a listed property or within a Conservation Area. Guidance, in this instance, specifically considers solar panels; advice is to be subsequently provided for other options (wind power generation, ground source heat pumps for instance).

Climate change remains one of the most significant challenges faced today. Our buildings significantly contribute towards carbon emissions produced in the District. Accordingly, the Council encourages all property owners to use energy wisely and as and where appropriate consider the use of renewable energy technologies.

Living/working in a listed building or within a Conservation Area places particular obligation upon an occupier – attention has to be paid to preserving (and/or enhancing) the particular character of both an individual property and the wider Conservation Area.

**It is important to check what formal consents may (or may not) be necessary, particularly in relationship to unlisted buildings in Conservation Areas. Listed Building Consent will always be required where work is in association with a Listed Building (please contact Planning Enquiries).**

**In virtually all instances building regulation consent will be required (please check with Building Control Section).**

## **2. Use Energy Wisely**

There are a number of basic steps that may, in the first instance, be taken to improve the energy efficiency of a property; simple measures that can include:

- 2.1 Regular general maintenance.
- 2.2 Repair/restoration rather than replacing with new.
- 2.3 Installing loft insulation (either where there is none or additional material added to increase its value (and general effectiveness of the insulation)).

- 2.4 Installing insulation underneath floor boards and (again) additional insulation to improve the overall insulation capacity).
- 2.5 Installing secondary glazing to existing single glazed windows.
- 2.6 Draught proofing existing windows (this can result in significant energy improvement).
- 2.7 Draught proofing doors and using heavy curtains to windows will all assist.
- 2.8 Installing flue dampers in open chimney flues (or perhaps a chimney balloon for winter only).
- 2.9 Upgrading rooflights.
- 2.10 Upgrading boiler heating controls and hot water cylinder. Fitting thermostatic valves to radiators.
- 2.11 Where and as appropriate, look to replace lamps with low energy versions.

### **3. General Guidance on Solar Panels**

Photovoltaic "tiles" (although not without problems) are perhaps less visually intrusive and may be an option in some circumstances and for some locations.

Solar panels invariably sit proud of the roof slope and thus potentially present a significant visual intrusion and change the character (it would be unlikely that we would support a large area of glazed roof lights).

Solar panels that visually look like large areas of roof lights, sitting proud of the roof slope, are generally felt NOT to be appropriate fitted to the roof of a listed building.

Roof character on listed buildings (and others in Conservation Areas) often makes an important contribution to the aesthetics, both of the building in question and the 'wider' townscape of an area.

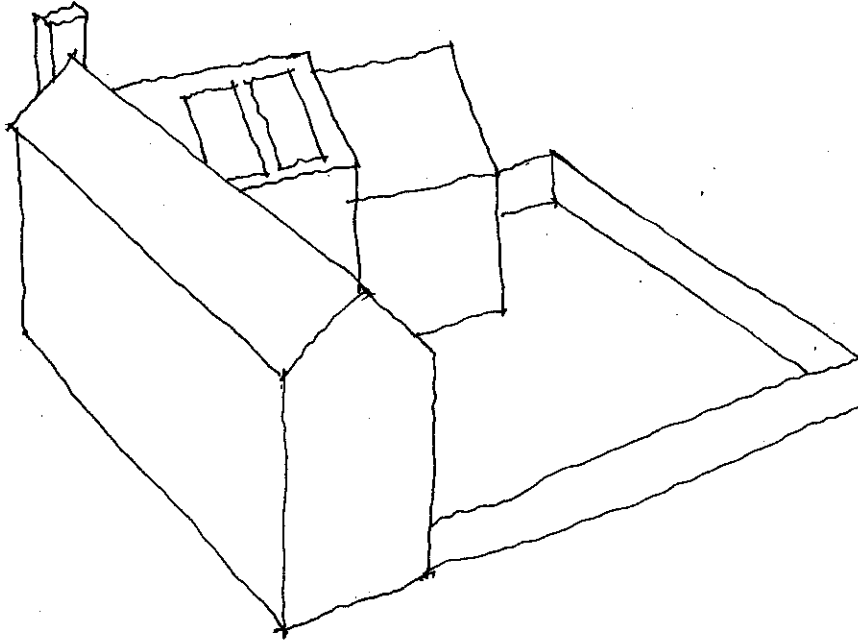
Shading caused by chimneys, trees and other buildings, can seriously reduce the output of any system.

**Some general guidance on how or where you might locate "solar panels" is given as a series of largely visual DOs and DON'Ts.**

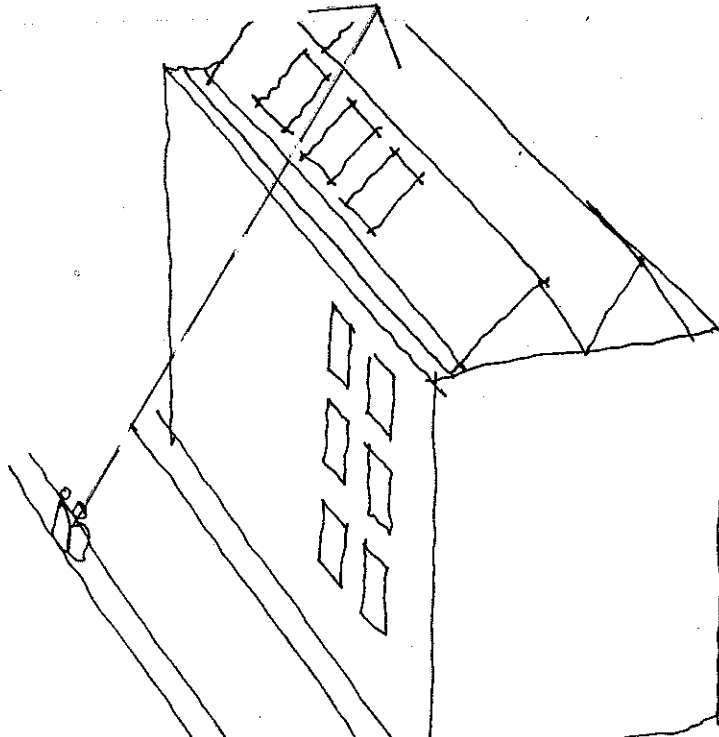
## 4 DOs and DON'Ts (for both Listed and Unlisted Buildings)

### 4.1 DOs

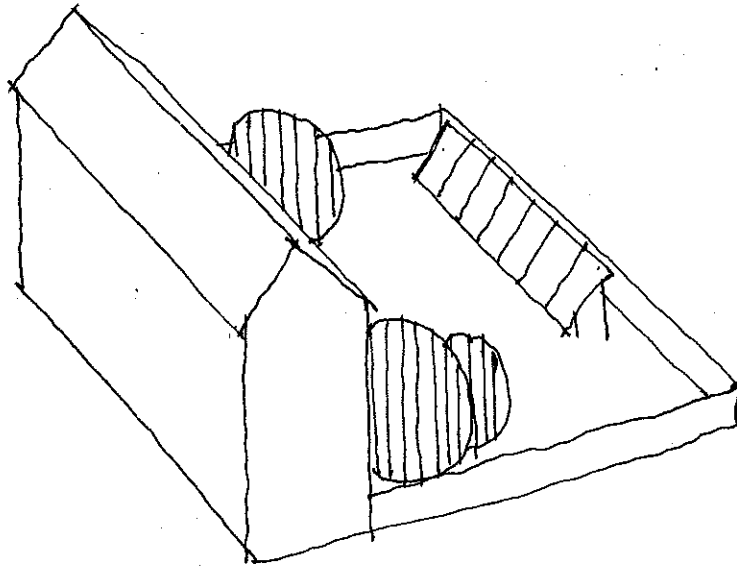
- Do consider locating solar panels on inner roof slopes (that cannot be seen from either the public highway and/or ground level).



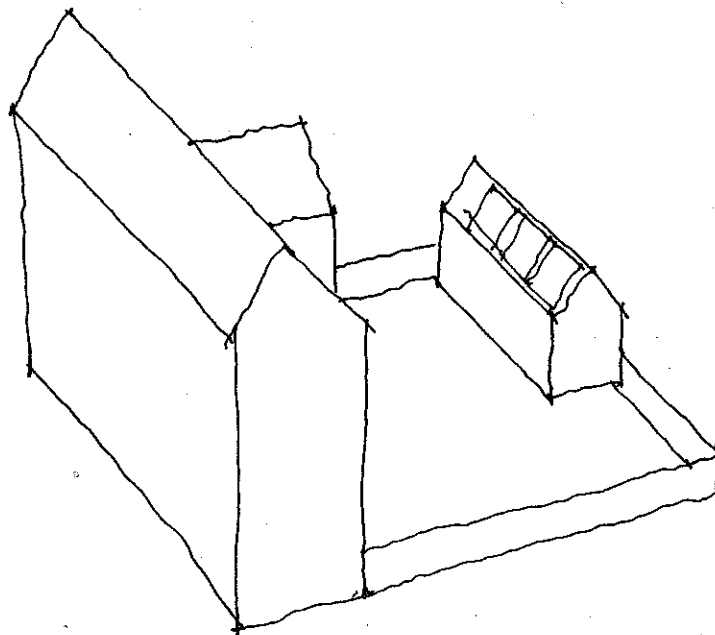
- Do consider locating solar panels behind parapet walls (so that they cannot be seen from the ground). If they need to be located at high level.



- Do consider locating solar panels at ground level, on frames in the rear garden.



- Do consider locating solar panels on ancillary buildings in the garden; again that will not generally be visible.

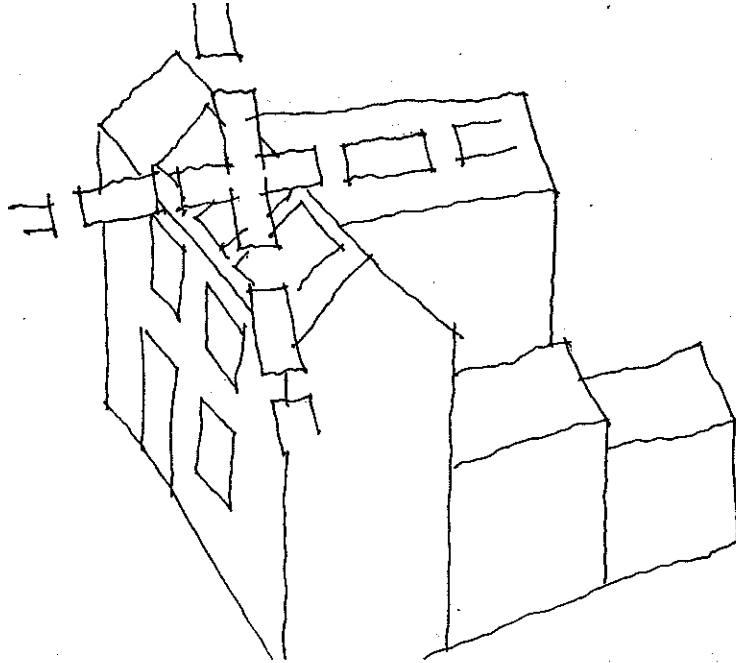


- Do consider the question of possible 'structural uplift'. (Where wind forces can cause problems)

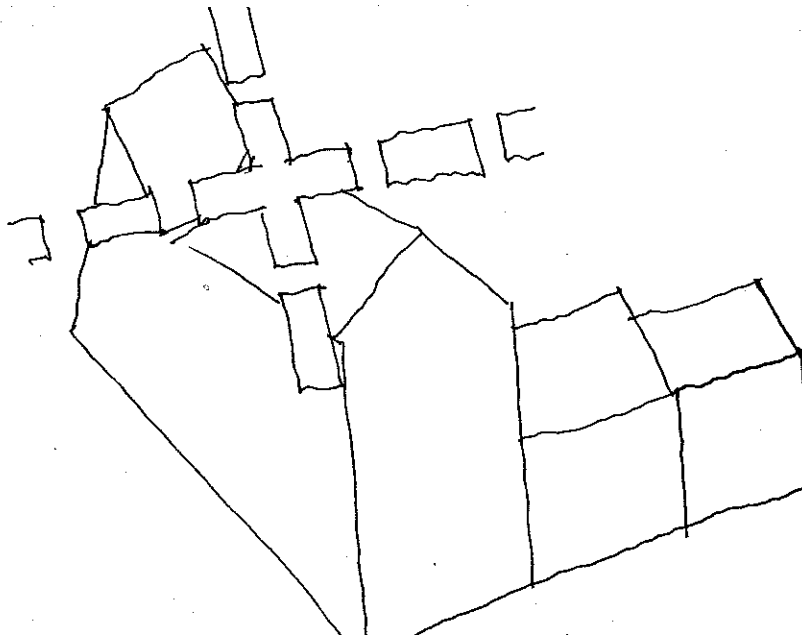
Do ensure that fixings do not damage (or weaken) historic building fabric, roof trusses and so forth.

## 4.2 DON'Ts

- Don't generally locate a solar panel on the main front roof slope (the public face); or other roof slopes visible to the public.



- Don't install a solar panel where it is too heavy for the roof.



*The above represent good practice guiding principles: every case is considered on its merit and how it may or may not compromise the character and quality of a listed building or conservation area.*

*Thought, restraint and sensitivity are the prerequisite requirements in the use of renewable energy sources on any building or structure.*

## **5. Questions that may be asked**

- 5.1 Is the installation too heavy for the roof? (Strengthening measures might impose loads on other 'vulnerable' parts of the building).
- 5.2 Would installing and fitting the product damage any traditional roof material?
- 5.3 Would there be a likelihood of damage to historic building fabric by reason of moisture ingress?
- 5.4 What is the life span of the installation (it might, for instance, be far less than any traditional roof covering)?

## **6. Footnote**

*Technology presently moves so rapidly that what is best value and has the most effective performance today, may be rendered redundant in a number of years time.*

***This publication is to be read in conjunction with the Council's SPD on "Sustainable Buildings". Reference should be made to this document in all instances.***

Where the ongoing energy performance of a building is unsatisfactory, there will almost always be some scope for suitable adaptation to be made without harm to the assets significance. Significance can be harmed or lost through alteration or destruction of the Heritage asset...(as noted under 132 of the National Planning Policy Framework).

Continuing research by the SPAB and Historic Scotland demonstrates that historic buildings in good repair usually 'perform' better than SAP calculation data suggests. **Benefits of interventions may be less than suggested.**