

Improving a BER rating

From RVR

A good BER rating is desirable, as it can increase the value of a property and will result in lower fuel bills for the dwelling. There are several ways of improving a BER either in an existing building or pre-construction:

- Ventilation:

1. Change chimney to open flue by installing a wood stove or similar
2. Should the house be pre-construction a draught lobby may be added to the design
3. Air pressure leakage test can be carried out and the value entered. Ensuring the air tightness of the building during construction will improve this value, especially for timber frame construction.
4. Increase draught stripping to 100% on all windows and doors
5. Install a balanced whole house ventilation with heat recovery
6. Seal suspended wooden floors
7. Using a 'heat recovery' ventilation system will mean that the fresh air supplied to your home is pre-warmed by the stale air being simultaneously extracted from wet areas – heat losses will be reduced.

- Building Elements: Improve U values

1. Use a better grade of insulation and use a greater thickness of insulation
2. Better quality materials (e.g. some building methods such as ICF – Insulated Concrete Form can give improved U values)

- Improve U values for Windows and Doors

1. Better grade materials (i.e. argon filled/air filled/triple glazing)
2. Reduce over shading if possible
3. There should be fewer windows at the north of the house and more to the south to increase the solar gain and reduce heat losses.

- Water Heating: (NB, consider the system as a whole.)

Some simple Improvements:

1. Increase insulation on cylinder
2. Insulate primary pipe work
3. Install a cylinder thermostat
4. Install a solar water heating system

- Light and Internal Gains:

- Increase % of low energy lighting outlets

- Net space heat demand:

- Reduce living area % if possible
 - Improve thermal mass of the building

- Distribution losses and gains:

1. Improve controls category to time and temperature controls
2. Improve responsiveness if possible from underfloor to radiators
3. Put boiler inside if possible

- Energy requirements

Improvements on energy requirements for a dwelling depends on heating system choices, which will be influenced by many factors such as the fuel and space available on site. Some possible improvements are:

- o Change to a condensing boiler with a high efficiency rating from the HARP database
- o Fit compensators to improve the energy adjustment factor of the heating system
- o By choosing a wood pellet or wood gasification boiler a low carbon performance coefficient can be achieved.
- o Replace open fires with efficient wood stoves as a form of secondary heating.

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