

# An Introduction to Eco-renovation

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# Eco-renovation

The Principles



Study the ground you are building or sited on and its immediate environment. Observe the microclimate: sun, wind, vegetation.



Do a sketch plan of the present state of the house and re-arrange the function of the different rooms according to the orientation of their outside walls.



Choose low tech options like draught-proofing and insulation before you buy in 'high' tech solutions like PV.



Resource locally where possible: Skills, (architect, craftsman), labour, and materials.



Always look at embodied costs – manufacturing and expertise and material 'miles'.



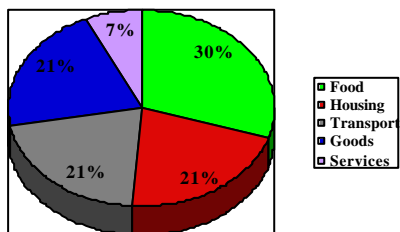
Recycle, reuse, repair both materials and products.



Harvest energy as much as possible. Make use of passive solar gain, heat stores, rainwater...



Have up to three choices for main energy requirements - Donnachadh McCarthy has PV, solar thermal and wind on his London home.



Grow food inside and outside as much as possible. Our food can add up to up a third of our ecological footprint.

Two Chapel Cottages:  
a case study.



Two Chapel Cottages circa. 1910.



Two Chapel Cottages circa. 2006.



The old extension – drafty, subsiding and leaking water.



Repitching the roof. Note the Tyvek High Diffusive Roofing Felt.



Passive solar conservatory and rear walls with 'breathing' membrane under construction.



The finished exterior.



Inside: Insulated floor.



Merging inside and out.



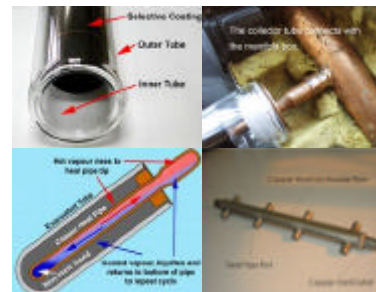
Biotexture: Minimalising passive heating in the heat of high summer and providing food.



Compost toilet: flushing the loo accounts for one third of all our domestic water use.



Installing the solar panel.



The tubes hold a low level vacuum.



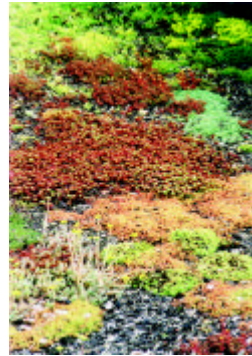
The Controller: Thermomax SMT 100.



Eco-renovating a leaking tar and pitch roof.



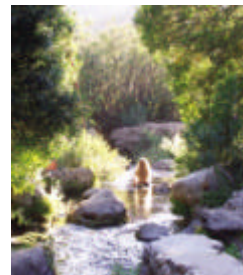
After stripping the roof, we laid a membrane over the existing chipboard, added sifted top soil & planted drought resistant sedum.



The sedum roof doesn't take long to establish and is popular with birds who forage for worms in the mulch and collect nesting material in early spring.



The importance of food: From this tiny garden it is possible to produce the equivalent of 15 tonnes of food per acre with only four hours work a week.



Eco-renovation: reducing our household carbon load and lightening our ecological footprint.

Thank You

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