

GREEN POINT DESIGN

Sustainable • Architecture

Designing Warm Houses for Cold Winters

Few things are more enjoyable than a walk outdoors on a chilly winter morning. Part of the joy, however, is returning to a warm, bright and airy home. Likewise, it is not much fun returning to a cold, damp, or stuffy house. Whether you have an existing house, or are planning a new one, a little forethought can result in an extraordinary degree of comfort.

If building new, locate the main living rooms along the north side to collect winter sun. Smaller, more compact houses are easier to keep warm than large sprawling ones.

There are a number of options for heating systems. Three of the most common are:

- in-slab heating – uses electric cables or water pipes to heat a concrete slab. It is slow to heat up, but provides a nice even heat.
- ducted heating – uses either natural gas or electricity. Very quick response time as it works by blowing warm air throughout the house. Electric units can often be used as air conditioners as well.
- hydronic heating – generally uses a gas or wood fired boiler to heat water that is pumped through the house via wall radiators. Relatively expensive to install, but economical to operate.

Many people use wood fires. They should be located near the center of a house and operated with well seasoned wood. Short, hot burns are cleaner and cause less air pollution than slow burns.

A method of “holding the heat” is crucial during winter. Use at least some heavy masonry materials like concrete, stone, or mud brick. This will stay warmer for longer than an all timber house.

Good insulation is important too. Most heat loss occurs through the roof, so the ceiling is a good place to add extra. If retrofitting an old house, this can dramatically increase comfort and be excellent value for money.

Double glazing of windows reduces heat loss. Also add good weatherseals around doors and windows, and good quality curtains or blinds with pelmets above.

In the garden, trees or tall shrubs planted on the windy side of the house can act as a wind break. Plant deciduous trees to the north so winter sun can shine through.

Many building projects present challenges which will make some of these ideas difficult to achieve. Your architect can help untangle the problems to create a delightful place to enjoy the seasons. Happy winter!

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