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Cheers to Sustainability!

10 Tips ON BUILDING GREEN HOMES

What makes an eco, green, environmental or sustainable home is varied as much as it is specific to each person, organisation or company. The underlying principles are that the home will use less resources, is healthy and comfortable to live in, reduces negative impacts on the environment throughout its life cycle, and reduces the amount of climate change we individually contribute to through our living habits.

The reality is building is the worst act we can commit against the environment. So, if we are going to build, it makes a lot of sense we get it right, rather than building an expensive, resource hungry home that eats up more than it gives back.

TIP 1. UNDERSTAND YOUR SITE. Each site is unique and has a different set of environmental conditions that need to be considered before we start designing. These are some of the questions we should ask about the site. What are the local seasonal sun path directions? Where will it be in mid-June when you need it the most? What unique micro-climates impact on the home?

TIP 2. GET THE FLOOR PLAN LAYOUT RIGHT. Each site is different, each person is different, and therefore every floor plan should be different. Tailor the home to work with your living habits, give priority to maximisation of northern aspect for solar gain, living spaces should be given priority to sunlight followed by the bedrooms.

TIP 3. BUILD SMART AND EDUCATE YOURSELF ON COST. Find out what the real cost of building is for your unique requirements and work backwards to the architectural design. It's better to build an intelligent home which you can afford, rather than building a big house that's not well designed, uncomfortable to live in, expensive to run and won't sell for much more than what you paid for it.

TIP 4. ENERGY EFFICIENCY, INVEST IN INSULATION. Keep in mind the New Zealand building code is the minimum standard we are required to build to. It's not the maximum benchmark we should be aiming for. What this means is, increase your thermal R value rating for walls, ceilings, and floors as much as possible. All windows should be minimum double glazed.

TIP 5. PASSIVE SOLAR GAIN AND THERMAL MASS. Passive solar gain uses what is already provided to us by nature. This is abundant free radiant energy from the sun which New Zealand has plenty of. Correctly designing for sunlight reduces dependency on mechanical devices for heating or can eliminate these altogether.

TIP 6. PASSIVE VENTILATION AND STACK EFFECT. 'Cross ventilation' entails understanding what direction the seasonal winds will come from and allowing for the maximisation of this through the home. 'Stack Effect' works on the principle that outside external cool air is always on the ground level and will be pulled into a home as warm air heats, rises and exits. This in turn creates a continuous movement of natural ventilation.

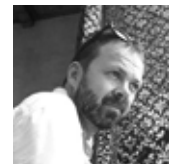
TIP 7. PASSIVHAUS DESIGN. Achieving the Passivhaus standard is reliant on a very high-performance building envelope and computer analysed site-specific weather data, resulting in low energy use. In compromised site situations which don't have consistent exposure to sunlight the design strategy makes a lot of sense.

TIP 8. GREEN MATERIALS AND 'CRADLE TO CRADLE' THINKING. 'Cradle to Cradle' is a circular process in how we perceive and think about green materials. These are some of the questions we should ask about materials. What is the material? Where does the material come from? How is the material made and from what? Where does the material go once we have finished with it?

TIP 9. GREEN TECHNOLOGY. The purpose of all technology is to simplify, economise and improve our lives right? The trick with all green technology like solar, wind, smart insulation, energy efficient appliances and green gadgets etc. is to design homes which intuitively engage with the natural environment, rather than resisting it. This reduces our dependency on green technology.

TIP 10. ENGAGE DESIGN PROFESSIONALS. The reality is, most New Zealanders will try and save a buck where they can, which typically means cutting out the design professional and moving directly to construction. This makes little sense if you're investing your life savings into a poorly designed home and even worse sense for the environment. We have to value and use all resources as preciously as possible; design professionals can help you achieve this.

Building a home is probably one the hardest and most creative, fulfilling life journeys we can make. If we do it well it requires an open mind, determination, patience and persistence, the end results make everything truly worth it. I wish



you all the best with your building journey. ■

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