Make it evergreen

With climate change high on agendas everywhere, **Jerry Tyrrell** looks at commonsense things builders can do to improve the environment – and their bottom lines.

What is this climate change stuff? Does it matter, and can we builders do anything about it? Can we make a quid by supporting and adopting different and maybe better ways of building?

Here's my spin. I reckon climate change is just another example of human stupidity – like 'pooping in your nest' or pouring toxic chemicals in the water catchment. We didn't do this when we were living in tribes and villages, and we wouldn't do it now if we listened to primitive instincts deep inside us.

If climate change is mostly man made, why has it taken so long for us to remember how important our relationship is with nature? Is it because we are distracted by short-term nonsense like "consumer's can't afford to install insulation" or "we just build what the clients want"?

We know this type of thinking is wrong, and we know it affects our industry's image.

The cost of ignoring our instinct and doing nothing is what we are paying now. And, like many things, it was so much cheaper to fix 20 years ago when the bleeding obvious was ignored by politicians, association leaders and manufacturers.

Now we are being saturated with media coverage about carbon cost, greenhouse gas and climate change.

When I was building, I wasn't a saint. But I was pretty good about putting different products together in such a way that they worked for a long time. I also knew value when I saw it. I quickly worked out how valuable it was that the things I built actually worked well and lasted as long as possible.

This is what life-cycle cost is about. It involves what a building costs to build, to live in and to modify, improve or upgrade during its life. A well-designed, durable and energy-efficient building is good fun to live in and much cheaper to run and maintain over the next 50 years.

So I don't think it matters what trade or course you have done. All of us know what to do, or can find out what to do, about climate change. And we want to do it. I think of it this way:

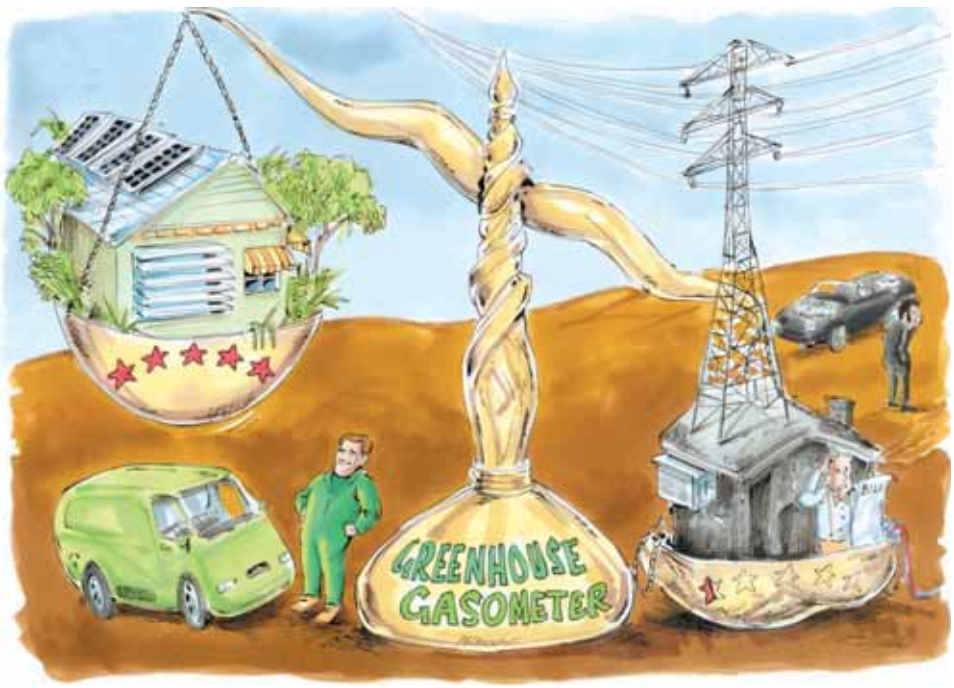
Green + durable = minimal climate change.

The first part of the solution is making decisions in line with nature. It means we get serious about supporting good products and choices – including informing and encouraging our clients and architect/designer and developer mates about the best products and practices.

For instance, two factors affect comfort and therefore running costs. The first is the aspect of the building. Aspect is how the building is angled to the sun. If there is any doubt about what I'm saying, think about what you and your family like about the homes you have lived in.

I suspect they will say something like "we love the cool breezes in summer" and "gee Dad, how did you manage to get the yummy sun to warm us in winter?"

Most of you know that all living areas should face north, and glass should be kept



to minimum on the west wall.

The other issue is the way the building manages extremes of temperature. It's not a problem on the many days of the year when the temperature stays between 18° and 26°. But when temperatures range beyond that, some buildings are hell to live in and expensive to cool or heat.

However, when the building is properly insulated, with lots of easily opened windows to use the north-south natural air flow, it will be much cheaper.

Ironically, you will put more money in your pocket by helping the client to reduce the cost of heating, cooling or maintaining their building. You'll get that added $650 for sarking a tiled roof, plus the $1,320 for a galvanised mesh trellis supporting a deciduous vine on the western wall.

Anything that unnecessarily adds to the life cycle cost of building decreases energy efficiency and therefore affects climate change.

Two of the main contributors to the costs at construction stage are product failure and avoidable mistakes. Early failure of products is a 'no brainer' – you will look bad and will be dragged back to replace any faulty product.

The Building Code of Australia does not give clear directions on the durability of products, so it is up to us to say to clients "what do you want – something long term or something that rusts or breaks within three years?" And clients should know from the beginning that choosing more durable products will reduce running and maintenance costs but will cost a little more.

I'm recommending use of human-proof doors and linings, stainless steel products for most fixings, and built-in box gutters/valleys. It's so much cheaper for everyone over the life the building, and the finish looks better without degraded coatings and rust stains.

The other way we can stop wasting energy when building is to avoid silly mistakes. In earlier articles, I've encouraged you to steer clear of problem clients, who will be hell to work with and won't appreciate you.

RULES

- **Be organised.**
- **Trust your common sense and instinct.**
- **Avoid waste.**
- **Minimise use of high-energy products – eventually, manufacturers will display energy cost on all products.**
- **Use self-finishing materials and products, eg: polished concrete, unpainted masonry, stainless steel cladding/roofing.**
- **Use durable products – glass, lead, concrete, solid-core doors.**
- **Use nature – sunlight, sunshine, fresh air, gravity.**
- **Avoid using products that need complex or excessive maintenance, eg: motorised awnings, internal gutters, ornaments with difficult access.**
- **Make sure every surface requiring periodic maintenance can be easily accessed.**
- **Support energy-saving products – solar hot water systems, photovoltaic cells, dual-flush cisterns.**
- **Use diesel vehicles.**

The other main mistake is making choices without checking – for instance, not helping the bricklayer install cross cavity flashings in a wall above the middle of lounge below, or not phoning your hydraulic engineer to check the hot water pipe size feeding a ring main in a block of six townhouses.

Mistakes cost more than you think. They cost energy for your car, and energy making and delivering replacement materials. Even simple mistakes can waste energy – like the unnecessary trip to get the nails you should have remembered. Then there's the negative energy you radiate to everyone else as you deal with a stuff-up.

Do we follow or can we lead? The reason things are as bad as they are is that we have been meekly following for too long. Let's make sure we support improvements based on sound ecological science.

Here are a few examples of what we will see in the next decade:

- Good design lasts and can be more cheaply modified – users won't give up on something that is good to live in and works well.
- Low-voltage technology will become huge. Not only does it save energy, it also saves lives.
- Wireless technology makes our job easier, and saves cables and installation.
- Improved battery technology is an essential ingredient to help us store solar/wind/geothermal energy more cheaply. Let's start pressuring manufacturers to supply universal batteries/chargers for our tools. Isn't it stupid that we can't use our DeWalt battery in our Bosch drill or a Nokia battery in a Sony phone?
- Prudent maintenance is cheaper than replacement – maintenance will become a huge part of our industry as buildings age.
- Use of latent heat in the building – we will eventually pump roof air into heating systems and drying rooms. Or cool air during the evening against internal masonry walls.
- The use of things that are unsuitable or prematurely break, leak or rust is silly. We get blamed for their failure and the community pays the energy cost of what should have been installed in the first place – or the energy cost for us to fix it.

So I'm making an appeal to your strong 'ecological' conscience. I really hope you will make better choices and recommend more durable, energy-efficient products to your clients. By conserving energy you will be wiser and probably wealthier. ■

Jerry Tyrrell is co-founder of Tyrrells Property Inspections and has more than 30 years' experience as a labourer, tradesman, contractor, architect, mediator, building consultant and author. He has been involved in the inspection and building of more than 60,000 properties (including 30,000 timber pest inspections and 3,000 disputes). Email your thoughts or experiences to jwtyrrell@tyrrells.com

Next issue : The 2007 Report – have our associations and rule makers had a good year?