

## Five-star building problems

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The Victorian Government is considering major changes to its five-star building regulations. These regulations were introduced with considerable fanfare in 2002, but have subsequently proved something of a disappointment. True, there may have been some reduction in energy and water usage in new homes as a result of the regulations, although even this is debatable. On the other hand, the regulations have caused considerable problems particularly for first home buyers that ought to have been foreseen at the outset and avoided.

The major problem has always been that the regulations cause unnecessarily increased cost. Whenever government imposes mandatory requirements which necessitate specific work or products, the cost of that work and those products inevitably rise. It is a market trueism that if a substantial demand is created, including a demand caused by legally mandated requirements, those who supply the requirements will see it as an appropriate justification for increasing their charges or retaining already high charges despite increased sales resulting from the mandating. So it has proved to be with the five-star regulations. Those who support them will argue that their provisions do not justify the charging of increased costs, but the fact remains that it is the regulations which cause the increases and provide no means for preventing them from occurring.

It is currently estimated that the regulations have cost new home buyers something in the order of three times what was originally anticipated by the bureaucracy as being the cost increase which the regulations would produce. The Master Builders Association maintains that in consequence of the regulations, between \$4,000 and \$30,000 has been added to the cost of new homes thereby creating an unfair burden upon new home buyers as against the owners of existing homes. Bearing in mind that the 2002 requirements were in the nature of a 'for starts only' exercise, one shudders to think what new regulations doubling or trebling the existing cost increases for new homes are already on the bureaucratic drawing boards.

But this is not the only problem with the five-star building regulations. The intent behind their imposition was always that they would spur builders, architects and designers to devising new and improved ways of reducing the lifetime energy and water consumption of new homes. But this has never occurred and for good reason.

Because the regulations create impositions, they provide no positive incentive to a builder or its architects and designers, other than to comply with the regulations' requirements. A builder gains no commercial benefit at all from spending more money in search of other and better means for reducing the energy and water consumption of new homes. Had government taken a different course, however, and imposed maximum lifetime consumption profiles for energy and water (separately) instead of imposing selective legal building requirements, things could have been very different.

The imposition of theoretical maximum consumption figures is a realistic option that is currently available either on a whole of building or on a square metre or cubic metre basis. Builders set the task of building new homes within the constraints of maximum usage requirements and rewarded with appropriate star ratings that publicly recognised how well they had achieved those results, would have every incentive necessary to produce new homes with low energy and water consumption ratings. These, in turn, would be progressively lowered still further as the natural result of builders competing for top position as providers of sustainable homes. That competition would fuel further competition between suppliers to the building trade and produce a stream of new innovations from which builders could select in their attempts to outdo each other.

It follows from the above that builders and suppliers would require to be cost effective in the results they achieved because of the competition created. There is no point in putting a new home on the market which has the highest star rating for its energy and water sustainability if, in the process of achieving that status, its cost has been significantly increased.

## Five-star building problems (...continued)

A builder producing a product that has a high sustainability rating and which is provided cost effectively has every chance of competing successfully with builders whose products are demonstrably less sustainable. True, there are many selling points that builders use to encourage buyers to purchase their products. Size is clearly one and this has resulted in proliferation of McMansions. McMansions, however, are, because of their size, inherently less sustainable and consequently less attractive to many potential buyers than a “smart” home which pays attention to reducing energy and water consumption and saving money in the process.

Yet another problem with the five-star system is the stubborn refusal of those who produce it, to include embodied energy in their calculations. For those who do not know, embodied energy is the energy that goes into producing the materials used in constructing a building and also into the construction process of the building itself.

The argument used for the exclusion of embodied energy is that the accuracy of its calculation is not sufficiently certain. The same argument, however, applies equally to the calculation of the estimated lifetime consumption of operational energy upon which the five-star system is based. Just because equipment is provided that theoretically reduces energy or water usage does not mean it will be used, or kept in working order. A further problem is that a new home is awarded five-star status if it complies with the 2002 regulations. Nobody, however, seems interested in examining the ways in which the same home squanders whatever energy savings its five-star rating represents in a host of other ways.

Take for example, the installation of air-conditioning throughout the five-star home. This simple addition to the building is likely to result in the use of more energy than compliance with the five-star rating will have saved in the first place. Much the same will occur if a McMansion is constructed with an ability to house far more occupants than are ever likely to use it. Yet again, Australia lags a long way behind either North America or Europe in constructing homes that are sealed off against exterior weather extremes. This means that an Australian home will consume far more energy in attempting to reverse outside weather conditions than would be necessary if it were constructed in according with the building requirements prevailing in North America or Europe.

Sooner or later, Australians will learn to identify and prefer those goods and services that take less energy and less water to provide. This does not apply only to whitegoods, although these are sufficiently ill-designed to cause considerable problems on their own. Embodied energy lies in materials everywhere we look. A carbon trading market would identify them clearly by forcing their prices up as against comparable materials that took less energy to produce. Australia does not have a carbon trading market at present, but that does not mean Australians cannot publish appropriate details of embodied energy in many of the goods we buy and other Australians cannot take notice of the fact that some materials are energy hogs whilst others use energy very frugally.

The government needs to learn its lesson just as all Australians need to learn theirs. Regulation is not a good way to go about creating a reduction in energy and water use. What is required instead is a complete change to our mindset. We need to be given incentives towards rejecting goods and services and the excessive use of equipment and the purchase of unnecessary equipment which is going to add to the pollution of the planet. We need to have the knowledge about what pollutes and to be selective in what we do as a result of having that knowledge.

In many ways, government can assist in changing the national mindset. Realigning builders towards the market result of being the best builder of sustainable homes is one interesting way of going about this.

All this can be achieved as of now. The results will not be perfect because further research must be done. The result will, however, be sufficiently accurate to give appropriate guidance to government, builders and to new and refurbished home buyers and it will be sufficiently accurate to create an incentive.

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