

Greenhouse Regulations

Regulations are never welcomed, but are a response to a need which was not otherwise able to be addressed. Having a clearer understanding for the science and statistics behind the regulations can assist in communicating the changes in a positive light to clients.

The new Sustainable Housing Regulations and the Energy Efficiency Provisions in the Building Code of Australia have and are increasingly forcing builders to adopt practices that will enable Australian homes to operate with reduced electricity requirements.

Primarily the legislation has been implemented to slow the growth in electricity consumption, moderate electricity peak loads and to contribute towards lowering Australia's significant greenhouse footprint and our impact on global climate change. Australia is the highest per capita emitter of greenhouse emissions on Earth.

Electricity consumption in Queensland homes averages 22 kWh per day. Because the vast majority of Queensland's power is generated by burning the fossil fuel, coal, this means that each home through electricity consumption alone is generating 7 to 8 tonnes of greenhouse gas emissions (CO₂-e) each year. Australian households generate 20% of Australia's total greenhouse gas emissions.

So why has the government focused recent regulations on the areas they have? Specifically, banning of electric storage hot water heating, mandating of water efficient shower heads and a requirement for improvements in the climate responsiveness of buildings for the climate in which they are located.

Electric storage hot water heaters, which are currently used in 90% of homes in North Queensland, generate on average between 2 and half and 3 tonnes of greenhouse gas emissions (in other words, 30% of the greenhouse emissions caused by electricity use in housing).

Solar panel, solar heat pump and 5-star gas water heating alternatives generate between half and 1 tonne on average per household. A choice that once adopted in all Queensland houses will result by this measure alone in a reduction in greenhouse emissions per home of 25%.

AAA or 3-star **water efficient showers** use only 9L of water per minute instead of up to 20L per minute. In using less water, less hot water heating is required. In addition to saving around 50,000L of water each year, around \$80 a year is saved by the occupants on reduced hot water heating costs (assuming electric storage hot water heating) and the greenhouse emissions avoided is proportional.

A variety of factors have contributed to an exponential increase in the numbers of **air-conditioners** being purchased, installed and used in Queensland homes. Homes that use air-conditioning typically have electricity bills twice or more of that of homes that do not. It is clear, that highly air-conditioned homes are significant energy users and produce a proportionally larger share of greenhouse gas emissions.

Greenhouse gas emissions aside Queenslanders especially those in the tropics have much to gain from homes that are more suited to our tropical climate. Benefits include: more pleasant homes, a greater likelihood of enjoying our tropical climate throughout the year, a stronger relationship to nature though increased outdoor living, lower electricity reliance and economic savings in running the home.

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