



11 September 2008



Ref: P-08-042

Mr Glenn Brumby
Director
Building Codes Queensland
Department of Infrastructure & Planning
PO Box 15009
CITY EAST QLD 4002

Dear Mr Brumby

Improving Sustainable Housing in Queensland

Master Builders Queensland (Master Builders) thanks the Premier and Deputy Premier for the opportunity to comment on the Discussion Paper entitled "Improving sustainable housing in Queensland" issued in June 2008 and supported by an extensive program of regional visits and consultations.

Master Builders also acknowledges the meetings held with Mr Steve Storer of the Department to clarify and discuss our preliminary comments.

We ask that the attached submission be accepted as our contribution to this important issue.

Master Builders broadly endorses the matters raised in the discussion paper and in particular the migration to 5 stars in housing. That said, we are concerned that many important elements of the movement to a more sustainable future within building design and construction are not addressed by the discussion paper and instead deferred for future consideration, with no timeframe proposed for that consideration.

Please feel free to contact the undersigned on (07) 3404 6420 to discuss any aspect of this submission. Master Builders looks forward to participating further in this process.

Yours faithfully

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MASTER BUILDERS QUEENSLAND

Improving Sustainable Housing in Queensland

Submission to The Queensland Department of Infrastructure & Planning

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INTRODUCTION

Master Builders is Queensland's premier building and construction representative organisation. Master Builders represent over 11,000 businesses within the Industry, including builders, subcontractors, supplier / manufacturers, certifiers, consultants and students.

Due to the depth and scope of Master Builders' members spanning the spectrum of the building and construction industry (including development) we are able to offer a unique perspective on all facets of the building industry and in particular how sustainable building practices, materials, design and processes can best be introduced into the existing and new housing stock within Queensland.

In this submission Master Builders comments on the Discussion Paper holistically. That is, while we comment on matters directly related to the building and construction industry – we are also mindful of the broader socio-economic factors and issues arising from the Discussion Paper.

This submission is dissected into three discrete parts, as follows:

- Part One: Discussion of Designing and Building a sustainable home
- Part Two: Discussion of creating an efficient home through fixtures and fittings
- Part Three: Conclusion / Recommendations

Master Builders thanks the Premier and Deputy Premier for the opportunity to contribute to the debate on this important issue. Master Builders would be pleased to make our policy analysts available to discuss this submission and our views in more detail.

PART ONE: DESIGNING AND BUILDING A SUSTAINABLE HOME

In this Part of the submission Master Builders provides commentary upon Section 2.0 of the Discussion Paper in the order of the structure of the consultation document. Master Builders only provides comment on those areas where we have formed a view. We reserve the right to raise further issues over time as more information and analysis becomes available.

Whether one accepts the issue of global warming or not is irrelevant, in our opinion, to the need for a more sustainable built environment and the lessening of any footprint caused by human habitation. Climate change and the resultant human reaction is real (irrespective of cause) and as such the need for different design and standards is accepted within modern society.

The Discussion Paper forms the basis for the Queensland Government's response to the effect of the built environment on the issues of climate change. It is stated in the Discussion Paper that *"The Queensland Government wants to make sure that sustainable housing improvements are practical and cost effective for householders and industries."*

In that regard Master Builders notes that the Queensland Government has had a long history of influencing local building design and material selection, for example through the *Workers' Dwelling Act 1909*, to ensure our impact upon the environment is recognised and that building design encapsulates the environmental, economic and social principles of sustainable design by identifying ways to incorporate passive design principles to better suit the Queensland climate. The old Queenslanders and Workers Cottages were homes that used orientation, ventilation, shading and building materials to make them naturally cooler in summer and warmer in winter. Master Builders sees the Discussion paper as continuing in this tradition.

In the rest of this Part Master Builders comments specifically upon the design elements of sustainable housing as identified by the Discussion paper.

REQUIRE ALL NEW HOUSES TO BE BUILT TO A 5 STAR ENERGY EQUIVALENT RATING

Master Builders concurs with the Department of Infrastructure & Planning's (DIP) view that all new houses be constructed to a 5 star energy efficiency standard. Master Builders does not however agree that this should be implemented from 1 January 2009. Instead we recommend that these changes have effect at the industry recognised and standard date of 1 May 2009, in line with implementation of other agreed changes to the Building Code of Australia for 2009.

Further to this the issue that constrains achieving the full extent of benefit to consumers and the environment from the introduction of 5 star energy efficiency standards revolve around the twin attributes of housing design and orientation so as to ensure the full advantages of the location available are realised. Several impediments to gaining these advantages exist, primarily:

- Residential covenants : Irrespective of the will or desire of prospective home owners to build their dream homes in a sustainable and energy efficient manner quite often minimum size, orientation, colour (mandatory roof colours, etc), product (mandatory tile roofs), minimum size and orientation garages (i.e. minimum or 2 car spaces and / or siting of the garages at the front of the premise) and restrictions on placement of water tanks (i.e. not within view of the street) all combine to either reduce energy efficiency availability or increase the carbon footprint of the abode beyond that necessary to meet the needs of the owner.
- Orientation of houses and blocks within estates : At times the layout and design of new estates does not provide the best opportunity for houses to be orientated on site to catch breezes, etc and maximize energy efficiency. While it is necessary for minimum size parcels of land to be devoted to parks, reserves and corridors for wildlife and to protect communities, Master Builders would encourage some relaxation of planning requirements to allow parkland within new estates to be apportioned differently and for street design to maximize the possibility for house orientation to face north, catch breezes, take advantage of natural water run-off, etc so as to reduce the energy needs for occupants and promote a better lifestyle. In these cases the benefits to consumers can be significantly enhanced with minor amendments to the ways in which estates are planned and developed.

Recommendation 1: 5 Star energy rating equivalent be adopted with a commencement date of 1 May 2009.

Recommendation 2: Review the Planning Approvals process to ensure that site and building orientation can be maximized to provide least cost energy efficiency (and general sustainability outcomes) for consumers from the design stage of sub-divisions.

INVESTIGATE REQUIRING ALL NEW UNITS TO BE BUILT TO A 5 STAR STANDARD

Master Builders supports the investigation of introducing 5 star energy requirements into multiple dwelling and unit complex developments as soon as possible. Many of the issues surrounding the introduction of 5 star ratings into multi-dwelling developments mirror those mentioned above for single dwellings.

That said, it is often easier for design elements and orientation issues to be eliminated or substantially reduced due to the larger land size of the development in multi-dwelling situations and hence enhances the ability of the development to incorporate leading edge designs.

Of some concern to Master Builders is that multi-dwelling energy ratings are an average of the individual ratings for units within the development. This means that some units will have high ratings, perhaps 6 or more and others significantly less than 5 with the average then being determined at 5. While such an assessment process recognises the difficulty of units being provided their own star rating, the processes similarly does not allow unit owners to understand the energy efficiency issues of their individual abodes.

Further, with the proposed introduction of point of sale and point of lease energy assessments with the use of averaging will mean that many consumers will be provided with incorrect information as to the energy efficiency of their particular unit. Finally, with large scale unit developments significant untapped opportunity exists for additional water conservation and rain water catchment and re-use due to the high percentage of catchment area available. It may be beneficial that communal rainwater requirements be considered for multi-dwelling developments (i.e. application of MP4.3) and for existing water savings initiatives to be extended for multi-unit complexes. Master Builders believes that while the star rating system revolves around energy use, true sustainability requires consideration of other resources such as water use and recycling in totality.

Finally we are concerned that the Discussion Paper does not provide an indication as to when the review and subsequent implementation of the 5 star rating to units will be undertaken, or the methodology for that review. Master Builders believes that it is imperative that this review be undertaken as soon as possible and that the outcome be implemented in the 2010 Building Codes of Australia update.

Delay in this review is not acceptable as it diminishes the efficacy of the SEQ and other regional plans across Queensland which themselves seek higher levels of urban density and thus multi-dwelling developments. Without prompt action on implementing this review the Queensland Government faces the possibility of creating an artificial cost distortion in the market by favouring units with a lower minimum star rating (at 3.5) over single dwelling housing stock thus creating a distinct cost advantage to multi-dwellings over single dwellings on their capital / acquisition process. In the long run however the higher operating / energy costs for multi-unit developments (at 3.5 stars) over single dwellings at 5 stars (thus affecting the lifecycle costs of units relative to houses) means that a false economy will have been created by the Government that works against its policy objectives in sustainability, energy use and efficiency and water sensitive urban design.

Recommendation 3:

DIP to review of the introduction of a 5 star standard for all new multi-unit developments to have effect from 1 May 2010.

Recommendation 4:

DIP to consider the introduction of communal water recovery requirements for multi-unit dwellings complexes and the application of MP4.3 to multi-unit developments.

Recommendation 5:

DIP to consider the methodology for providing energy ratings assessments to align the ratings with individual units rather than averages for blocks of units. These changes should be introduced from 1 May 2010.

INVESTIGATE PROVIDING BETTER RECOGNITION OF OUTDOOR-INDOOR AREAS IN QUEENSLAND'S BUILDING STANDARDS

The Discussion Paper suggests that the inclusion of outdoor-indoor areas be added to the assessment of dwellings for star ratings within Queensland. Master Builders agrees such a change would recognise the significant cooling effect, amenity, promotion of cross-ventilation and energy use reduction impact of these areas relative to dwellings in other States where the use of outdoor-indoor areas is either limited or non-existent.

Providing better recognition of indoor-outdoor areas should also be differentiated depending upon the climate zone that the dwelling is in as well as the floor area and orientation of the outdoor-indoor area.

Master Builders encourages DIP to go further than stated and specifically investigate this issue. DIP should announce a review of this issue as soon as possible, engage industry in an expert working group on the matter and then undertake a full submission process to the Australian Building Codes Board with a view to having any amendments introduced with effect from 1 May 2010.

It is important that imposts to making housing more sustainable within existing legislation be removed. An example of this is mandating a maximum area for sun hoods under exempt development regulation. It is recommended that Building Regulation 2006 Schedule 2 Building Work section 2 be removed. In an environment where the Queensland Government is seeking maximum sustainability it is not sensible to place artificial restrictions on devices that reduce energy consumption through unnecessary approval requirements.

Recommendation 6:

Delete Building Regulation 2006 Schedule 2 Section 2.

Recommendation 7:

DIP to review amendments to the BCA to recognise indoor-outdoor areas as currently undertaken in Queensland using an industry working group.

Recommendation 8:

DIP submit to the Australian Building Codes Board a series of amendments to incorporate indoor-outdoor living areas into the BCA with effect from 1 May 2010.

INVESTIGATE DEVELOPING A STAR RATING FOR BUILDING MATERIALS

With regard to development of a system of rating building materials the information and the detail as to how such a system would work has not been adequately detailed in the Discussion Paper to allow a definitive view to be formed on this topic and how it would apply to the building sector.

That said, at the high level presented, Master Builders would consider supporting a scheme for grading and rating building materials where the public benefit of such a system could be proven to exist. In our view any scheme developed would need to consider and accommodate issues such as:

1. Water : Use of water (and water efficiency outcomes) in the manufacture and installation / use of the product.
2. Energy used : The energy intensity and carbon footprint of the product.
3. Lifespan : How long the product is envisaged to last under normal conditions (and what those “normal” conditions are).
4. Potential for reuse : An assessment of the ability for the product to be recycled in whole or part and the environmental impact of the recycling process.
5. Life cycle impacts : Consider such issues as the use of chemicals in the manufacture / installation / maintenance of the product
6. Environmental and performance of products : A broad category where the product is examined for its specific environmental footprint.
7. Origin of products and the reliability of source : Assessment of the origin of the product and its sustainability (i.e. rainforest timber versus plantation, etc)

It is agreed that better life cycle analysis information could be made available to consumers to allow better informed decisions to be made than that which is presently provided. This said though, it is important that the information deduced be done so in a cost effective manner and that a building material rating scheme does not transform into a complex regulatory information scheme which adds little (or only marginal) value to the end-use consumer. It is for this reason that Master Builders would encourage the scheme to be undertaken on a voluntary basis initially where the requirements of the scheme, information content and methodology be developed, reviewed and monitored. Further we suggest that any scheme be undertaken on a voluntary basis and not subject to regulatory compulsion.

Master Builders would encourage the formation of an industry specific working group to assist DIP in the development of this scheme with a timeframe for the trial scheme to be one of the initial deliverables.

Recommendation 9: An industry specific working group tasked to develop a trial scheme should be initiated by DIP as soon as possible to allow a voluntary trial to be developed.

INVESTIGATE PREVENTING RESIDENTIAL ESTATE COVENANTS THAT RESTRICT THE USE OF ENERGY EFFICIENT DESIGN FEATURES AND FIXTURES

The Discussion Paper suggests that the use of covenants within residential estates have the unintended consequence of restricting the use of energy efficient design and / or materials. Master Builders agrees with this assessment. At this point in time a number of “standard” covenants work either solely or in unison to the detriment of sustainable housing, housing affordability and the environment (by encouraging over-building or design features that are not desired by the owner). Examples of such covenants include:

- **Minimum dwelling sizes :** Many estates require dwellings to be of a minimum size to ensure a similar look and feel across the estate. The effect of this is that owners may be overbuilt to their requirements (say a 4 bedroom home rather than a 3 bedroom) with the effect that additional resources are consumed, higher carbon footprints result and homogeneity occurs across the estate minimizing the prospect of social and cultural diversity.
- **Garages :** A number of estates require that all dwellings have a 2 car space garage. Similarly a number include a requirement that the garage be physically located at the front of the property (rather than to the side). Again these minimum standards have the same effects as mentioned above. In addition though it is sometimes the case that due to the orientation of the home-site itself and the dwelling thereon that the placement of the garages may occupy the eastern side (rather than the west) etc and therefore the principles of design for sustainability are overridden by the covenant.
- **Colour :** It is common for roof and outdoor colours on houses be restricted to ensure that individual properties do not “offend” the streetscape. Quite often the colours selected for these restrictions are dark or non-reflective thus minimizing the effectiveness of insulation, etc.
- **Mandatory product :** It has become common for some estates to require that certain building product is either used (or not as the case may be) to ensure that the estate retains its “look” and streetscape. For example, there are instances where tiled roofs must be used and where colourbond roofs are banned.

- **Water Tanks :** With the increase in water tank use, particularly in south east Queensland, it is starting to emerge that some estates are seeking to restrict the location of water tanks such that they cannot be seen from the front of the premise or the curbing. Again, the location of the water tank should be where it will harvest the greatest and most regular quantity of resource and where that resource will be used to replace potable water supplies. A lack of convenience will mean that water tanks, while installed, will not result in the maximum level of water saving from communal supplies.

The above are examples of restrictive covenants that, generally speaking, Master Builders believes discourages proper design, site orientation, resource usage and promote amenity / streetscape to the detriment of society. Residential covenants generally promote the development of bland estates which may not provide the variety of dwellings to ensure the estate comprises a mix of social influences and styles – possible leading to equally bland communities.

Master Builders believes that most covenants are not required. We would encourage DIP to remove the ability for developers to give effect to covenants in Queensland that impact upon sustainability.

Subject to appropriate building design and recognition of the features of sustainable design Master Builders would also encourage a planning approvals process whereby ensuring each property is orientated correctly within the allowable building envelope to maximize the use of sustainable design principles would allow the dwelling to promote passive energy conservation. Where site orientation, size, materials proposed conflict with covenants, the approving authority should be able, and encouraged, to override the covenants.

Recommendation 10: Residential covenants should be banned within Queensland that impact upon sustainability.

Recommendation 11: DIP should ensure Local Authorities / planning approvers have the right to override restrictive covenants to the extent they conflict with sustainable design / housing principles.

PART TWO: CREATING AN EFFICIENT HOME THROUGH FIXTURES AND FITTINGS

In this Part of the submission Master Builders provides commentary upon Section 3.0 of the Discussion Paper in the order of the structure of the consultation document. Master Builders only provides comment on those areas where we have formed a view. We reserve the right to raise further issues over time as more information and analysis becomes available.

INCREASE THE STANDARD OF WATER SAVING TOILETS AND TAP WARE AND ENERGY EFFICIENT LIGHTING IN NEW HOUSES AND UNITS

For new dwellings Master Builders supports the introduction of 3 star water tapware within homes. In the case of refurbishment / remodeling / improvements of existing dwellings we again concur that the introduction of star rated water appliances is beneficial and can be undertaken as part of the planning / design process with little incremental cost. This said we believe it is vital that the existing discretion of Assessment Managers to determine whether a star requirement would apply or not based upon the percentage of floor area affected by the renovation against the total floor area should remain.

Master Builders supports the introduction of minimum star ratings on toilets.

Recommendation 12: Introduce the implementation of 3 star water efficiency and savings requirements (tapware).

Recommendation 13: Retain the discretion of Assessment Managers to determine whether 3 star water efficiency measures are required as part of a renovation (tapware).

The migration to more efficient lighting is broadly supported as reflected in the Federal Government's announcement of 5 June 2008, fast tracking the phase out of the incandescent light bulbs in Australia through import bans effective November 2008. That said we note that with only a few months remaining we are yet to see an information or education campaign be undertaken by any Government to alert consumers to the changes.

Recommendation 14: DIP should engage the Commonwealth Government to develop an information /

education campaign to alert consumers to the changes to incandescent light bulb availability in Australia.

ELECTRIC HOT WATER SYSTEM PHASE OUT FROM 2010

We note the following comments in the Discussion Paper:

“For existing homes the improvement measures will include phasing-out the installation of electric hot water systems in gas reticulated areas from 1 January 2010.” (page 7) and that for the second stage that:

“A date has yet to be determined for the second stage, which will require houses located outside a gas reticulated area to install a greenhouse efficient hot water system when their existing systems requires replacing.” (page 27).

Stage One has been broadly communicated to the public, especially those within the reticulated gas supply areas. Stage Two still requires a degree of policy consideration and then education to the consumer. The Discussion Paper does not appear to envisage or comment upon how and when this will occur – but rather leaves the matter hanging to a future time.

SUSTAINABILITY DECLARATION AT POINT-OF-SALE AND POINT-OF-LEASE

Master Builders supports the initiative as outlined of requiring the owner / agent to complete a declaration at point of sale or point of lease in order to increase the purchaser / leasor’s knowledge of the sustainability (and access / security) of the premise. This said, it is vital that the person making the declaration knows what they are filling out and has the knowledge to be able to adequately complete of the form (for example ascertain whether the premise has a star rating or not).

Master Builders is concerned that many people, while well meaning, will incorrectly complete these forms simply due to their lack of knowledge of the subject matter of the declaration. It is for this reason that we believe the forms should be accompanied by a detailed guide to assist users to complete the forms accurately. Further, as the forms are intended to be self-assessed it will be vital that they be amended to ensure that innocent incompleteness is not considered a violation. Also, it will be important to ensure that the cost of selling and / or leasing a premise is not increased through unnecessary regulation that requires or implies that the certificates are to be (or should be) competed by a building professional.

If a building professional provides a buyer / seller with a report on a new premise as party of the sale / purchase process we encourage the minimum requirements for that process to require the inclusion of a Sustainability declaration this should be part of the building professionals certification.

Recommendation 15:

DIP should create a detail guide to assist those who will complete the forms to do so effectively.

Recommendation 16:

It is recommended that the requirements of the report generated by a Completed Residential Building Inspector includes the content required of the Sustainability declaration at point of sale / lease.

PREVENT THE SALE AND INSTALLATION OF INEFFICIENT AIR-CONDITIONERS

Master Builders is concerned that DIP seeks to discuss a policy of removing from sale inefficient air-conditioners and yet fails to define how one determines if an air-conditioner is inefficient. In simple terms it could be an air-conditioner that:

- Has a low energy efficiency rating (i.e. 1 or 2 stars);
- Is too small (by motor size or output) for effectively (and hence efficiently) cooling (or warming) the area where it is installed; or
- A combination of both.

It could also be taken to mean an air-conditioner that is aged and no longer operating effectively, or that has been poorly maintained. Master Builders encourages DIP to define “inefficient” for the purposes of classifying air-conditioners.

Master Builders are aware that many dwellings do not necessarily have air conditioning making possession and use of air-conditioners a behavioral rather than design issue across South East Queensland. Linking the desire to remove inefficient air-conditioning to the design of abodes for sustainability (as defined in Part 2.0 of the Discussion Paper) it appears to Master Builders that providing extra star ratings (i.e. as a credit) for houses designed to operate absent air-conditioning is one way of embedding star ratings and supporting the design of adequate subtropical houses. If an air-conditioner is proposed to be installed into such a dwelling after an agreed build date then modifications could be required to increase the energy efficiency of the dwelling prior to installation of the air-conditioner, such as higher degrees of insulation .

Recommendation 17:

Queensland should immediately ban the sale of air-conditioners with an energy efficiency rating of less than 2 stars with a move to 3 stars within say 5 years.

Recommendation 18:

DIP should engage with Industry through a working group to define “inefficiency” in the context of air-conditioning.

Recommendation 19:

5 star rating of premises (from 1 May 2009) should be requires prior to an air-conditioners being allowed.

INVESTIGATE REQUIRING PHOTOVOLTAIC (SOLAR) ENERGY TO BE INSTALLED ON LARGE HOUSES

Master Builders Queensland does not support any proposal to mandatorily require the installation of photovoltaic cells on large houses.

DIP does not define in the Discussion Paper the term “Large House”. Such a term could mean anything such as the house and land mix or building site coverage (as a percentage of total land area), Further such a proposal ignores the socio-economic impacts of household, for example, a large family may require a large house and thus making the house more unaffordable via photovoltaic cells will not promote affordability.

If the Queensland Government was seeking to encourage the introduction of photovoltaic cells then detailed conversation with the Commonwealth Treasury as to the “industry killing” effect the implementation of a means-test on these cells in the 2008 federal budget would be welcome. Further greater adoption could take place by the Queensland Government introducing a replacement scheme to the one removed by the Commonwealth Government.

Finally, it would be more sensible for the Government to consider a mandatory cell requirement of large industrial buildings due to the orientation of their roofs and the surface area available for cells.

Master Builders is concerned that this initiative appears to be little more than a “throw away” line in the Discussion Paper and is not supported by substantive analysis or even definition. The concept should be removed from further consideration of sustainability.

This said, Master Builders would welcome the formation of a working group on this issue to assist the Queensland Government in assessing a realistic policy option for the mass uptake of photovoltaic cells across the community in a least cost fashion.

Recommendation 20:

DIP for an industry working group to examine in detail whether and in what way mass adoption of photovoltaic cells can be achieved in Queensland.

Recommendation 21:

DIP cease all activity aimed at introducing a requirement for photovoltaic cells on large houses.

INVESTIGATE REQUIRING MINIMUM ENERGY STAR RATINGS ON SWIMMING POOL PUMPS

A significant majority of pool pumps are already connected to interruptible supply tariffs through both Energex and Ergon Energy Distribution. The electrical industry has been educating consumers widely on the benefits to their “hip-pocket” and the environment on the use of T31 and T33 for many years. As a consequence we see little additional benefit that can be derived from further work in this area that what is already being undertaken. Master Builders encourages DIP to engage Energex and Ergon Energy to more fully understand their activity in this areas as well as the Electrical and Communications Association of Queensland.

On the issue of ensuring newly installed pool pumps have a minimum mandatory star rating for energy efficiency Master Builders is supportive of further engagement in the Federal Government’s Minimum Energy Performance Standards process – with the final outcome to be subjected to further community consultation prior to its adoption.

Master Builders supports the introduction of a star rating system for water pumps being used for swimming pools and encourages the Government to consult further on the ratings to be applied as the minimum.

PART THREE: Conclusions

Master Builders welcomes the Discussion Paper and subsequent public consultation. In this submission we raise a number of issues that we believe require further attention and in many cases provision of more detailed policy consideration prior to their adoption by the State. In particular Master Builders has recommended in many instances that an appropriate way forward may be for the establishment of an Industry specific working group to more fully examine the issue and its implications. Master Builders would be pleased to assist the Queensland Government in that regard and would welcome further discussion and consultation.

Master Builders would be pleased to engage in further detailed presentation and representation on its thoughts as provided in this submission on the Discussion Paper with the view to ensuring that the implementation of sustainable housing and design principle throughout new housing stock can be achieved in the most cost effective manner.