

LAI'D UPON THE TABLE OF THE HOUSE  
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MP: Hon S Robertson  
Clerk's Signature: \_\_\_\_\_



# Queensland Government Response

to the Environment and Resources Committee's  
Energy Efficiency Improvements Inquiry report  
**Energy Efficiency: Queensland's First Energy Resource**  
released February 2010

**Recommendation 1 - That the Government provides funding to continue ClimateSmart Home Service, subject to the findings of an independent evaluation, and examines the benefits and costs of amending the ClimateSmart Home Service program to include a follow up visit or phone call to clients to reinforce the benefits of the program and gauge their progress (refer to page 14).**

**Response:**

The Government has made a significant and valuable investment in the ClimateSmart Home Service (CSHS) to assist households become more energy efficient while reducing greenhouse gas emissions.

The Government recognises the value of personalised advice on energy savings and assisting households with practical energy saving tools. In 2009, the Government announced \$60 million to provide personalised home energy audits and installation of energy saving products to Queensland households through the CSHS. As at the end of July 2010, over 200,000 households have registered for the service.

Since the CSHS commenced, there have been a range of programs and services established across all levels of Government aimed at improving energy efficiency. Further funding for this program will be subject to normal budgetary considerations.

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**Recommendation 2 - That the Government encourages all local councils and electricity retailers to offer rebates and other assistance to their clients to meet all or part of the \$50 service costs to participate in the ClimateSmart Home Service program (refer to page 15).**

**Response:**

The Queensland Government supports efforts to promote householder access to the ClimateSmart Home Service (CSHS) and is already encouraging local governments and energy retailers to undertake this activity. Local Government Infrastructure Services (LGIS), the contractor delivering the CSHS for the Queensland Government, has contacted councils individually and through meetings of Regional Organisations of Councils to advise them of options for promoting the Service and for sponsoring services. LGIS has also developed a voucher process as a cost effective way for sponsors to fund the customer fee/contribution for the CSHS. The use of vouchers also removes the barrier of the customer having to pay for the service and then apply for a rebate to recover the service fee. LGIS has advised the Government that several councils have purchased vouchers for a CSHS for a limited number of residences. As at the end of April 2010, approximately 6,300 of the CSHS vouchers purchased by local governments have been redeemed by residents. The value of the voucher process was recently demonstrated during Ergon Energy's trial programs in Mt Isa and northern Mackay, as well as in the Brisbane City Council area where it resulted in increases in program uptake.

In April 2010, LGIS and ENERGEX entered into an agreement under which CSHS vouchers would be provided to participants of the ENERGEX Energy Conservation Communities program. Under the agreement, ENERGEX will provide vouchers to approximately 1,500 participants of the initial pilot program on the Sunshine Coast. Options for further integration of the two programs will be explored after the completion of the initial pilot. Ergon Energy also provides these vouchers for their 'hardship' customers to encourage participation in the CSHS.

The Department of Communities promotes the CSHS directly to its tenants and has provided a blanket approval for occupants of all public housing residences to receive the Service. The Department of Communities also promotes the scheme to community housing providers, such as community organisations, churches and local governments, to further encourage participation.

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**Recommendation 3 - That the Government sets targets for the provision of ClimateSmart Home Service visits to low-income households as well as households in remote and regional areas (refer to page 15).**

**Response:**

The Queensland Government is already undertaking activities to increase the uptake of the CSHS in low income and regional households. Information collected to date indicates that these households already comprise a significant proportion of the CSHS customer base. According to data used in the development of recruitment activities more than half of existing customers have been identified as part of low income demographic groups .

LGIS has already implemented strategies to increase uptake of the CSHS in low income households by encouraging local councils and corporations to sponsor services, particularly in regional Queensland. As explained in the response to Recommendation 2, LGIS has developed a voucher system to enable sponsors to fund the customer fee/contribution for the CSHS. This system has proven particularly successful resulting in dramatic increases in program uptake.

The development of strategies to deliver services to regional Queensland is a core part of the customer recruitment strategy for the CSHS program. The Government's contract with LGIS specifically includes service delivery targets for regional and remote areas. Throughout the duration of the CSHS, LGIS has implemented a range of engagement and recruitment activities to increase demand for services outside south east Queensland. In particular, LGIS is collaborating with regional councils and Ergon Energy to promote the CSHS program and concentrate demand for the service in these regional areas. This effort will further enhance the accessibility and delivery efficiency of the CSHS in remote and regional communities. These collaborative programs have been very successful in making regional communities aware of the availability and value of the service, and in increasing regional demand.

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**Recommendation 4 – That the Government investigates new technologies to overcome the barriers to installing smart meters in multiple dwellings that are not individually metered (refer to page 16).**

**Response:**

Smart meters require connection to a household-specific electricity supply that is individually metered and billed. This facility is not as widely available in multiple dwelling situations as it is in detached houses and townhouses due to communal supply arrangements and the provision of only one supply meter per development in the construction phase.

To remedy this, the Queensland Government has taken steps to make electricity sub-metering mandatory in multi-unit developments through the Queensland Development Code (QDC). From 1 January 2010, electricity sub-meters have been required to be installed for each sole occupancy unit in all new unit buildings (class 2 buildings) and office buildings (class 5 buildings).

Electricity sub-meters allow for accurate personalised billing to ensure owners or tenants only pay for the amount of electricity they use (as opposed to shared costs based on total building or floor area). As each individual tenant or unit owner is only billed for the actual amount of electricity used, this may provide an incentive for office and unit occupants to reduce their electricity usage and cut greenhouse gas emissions.

As a result of this policy, residents in multi-unit apartment buildings that have electricity sub-meters will be able to have smart meters installed in their residences.

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**Recommendation 5 - That the Government commits to a program of independent evaluations of all major energy efficiency programs**

**Response:**

The Queensland Government is committed to appropriate periodic evaluation of its programs in order to deliver better targeted initiatives and deliver better results for the community. The ClimateSmart Home Service has been the subject of a rigorous emission reduction assessment by independent auditors engaged by the Australian Government as part of its Greenhouse Friendly program. Independent third party auditors have also been involved in monitoring contract performance, and independent customer satisfaction surveys have found levels of customer satisfaction of the CSHS in excess of 90 per cent.

The successful ecoBiz program is delivering efficiency benefits to participating businesses through the implementation of a range of business-specific initiatives to reduce energy, resource and operating costs. ecoBiz partners must achieve at least 10 per cent savings in either energy, water, waste or greenhouse gas emissions and not increasing by more than 5 per cent in any area. These savings must be verified through re-assessments. To remain part of the ecoBiz program businesses must provide on-going reports of their energy, water, waste and greenhouse gas savings which are evaluated using internal monitoring processes.

The Government also undertakes significant internal evaluation of its programs which are regularly monitored by senior management. Program outcomes and outputs are reported each year in publicly-available annual reports and service delivery statements.

The Department of Public Works' (DPW) Energy Smart Buildings Program aims to support the implementation of the Strategic Energy Efficiency Policy for Queensland Government Buildings and the Carbon Reduction Strategy for Government-owned office buildings by Government departments. These policies clearly articulate the roles of individual departments and the DPW, including reporting responsibilities.

The Queensland Government will continue to evaluate major energy efficiency programs as appropriate, in order to use the findings to inform future policy and program development.

The Queensland Government has also established an internal working party on renewable and energy efficiency safety that will examine and report on safety issues as it relates to new technologies and government programs.

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**Recommendation 6 - That the Government reports to Parliament the findings from independent reviews of its major energy efficiency programs.**

**Response:**

The Queensland Government supports the recommendation that, where appropriate, any independent reviews of major energy efficiency programs should be made publicly available.

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**Recommendation 7 - That the Government reviews its funding for renewable energy programs to determine whether investing in energy efficiency improvements would achieve better value for the Queensland economy.**

**Response:**

The Queensland Government considers energy efficiency to be an important component of its climate change strategy but energy efficiency programs are not considered the only tool available to achieve these aims. It is expected that energy efficiency measures will complement, rather than replace, the Government's other activities including its investment in renewable energy programs. As such, the Government may only provide in-principle support for this recommendation. The funding for these programs, like all other Queensland Government initiatives, is subject to rigorous Government budgetary processes which assess proposals against a range of criteria, including, but not limited to, value for money.

Promotion of, and subsequent funding for, renewable energy projects in Queensland is often more complex than simply considering the result of a cost-benefit analysis. Investment decisions for renewable energy projects also include assessment of the broader policy direction and qualitative assessment of the future opportunities and learnings from the project. Therefore assessments of renewable energy projects cannot necessarily be tied to a strict assessment of return on investment.

Renewable energy generation is still at a development stage and requires significant additional support for renewable generation technologies to become commercially viable. The Queensland Government will continue to support worthy renewable energy projects, subject to appropriate funding approval processes. It is also the case that many renewable energy programs also deliver energy efficiency benefits. For example, the Queensland Government Solar Hot Water Rebate which provides assistance to households to invest in solar water heaters—a renewable energy technology which enables an 80 per cent reduction in electricity use for water heating compared to traditional electric storage systems.

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**Recommendation 8 - That the Government investigates in consultation with the Australian Building Codes Board, potential bias issues involving the use of computer software packages to rate building energy efficiency to ensure that the software adequately reflects the energy efficiency benefits of designs that capitalise on passive heating and cooling.**

**Response:**

The Queensland Government is supportive of this recommendation to address issues of bias in building rating software. The Government is actively involved in processes to ensure that computer software packages used to determine energy efficiency ratings for residential buildings are meeting Queensland's needs. Queensland is an active participant in all relevant national forums developing new policy and measures to improve the energy performance of Queensland's building

stock. For example, Queensland is a member of the Australian Building Codes Board, and is represented in interjurisdictional negotiations by Building Codes Queensland within DIP. Further, the Minister for Infrastructure and Planning represents Queensland in the Building Ministers Forum, a national Ministerial committee which features responsible Ministers from each Australian jurisdiction.

The Queensland Government has previously recognised constraints and limitations with national building codes and software tools that may have potential detrimental impacts on the cost and energy efficiency standards for housing design and construction in Queensland. To overcome such issues, the Queensland Government did not adopt the 5-star energy equivalence rating for houses in 2006 under the Building Code of Australia (BCA) given issues associated with first generation software. Queensland moved to the 5-star requirement on 1 March 2009 following improvements made in second generation software.

At present, Building Codes Queensland is working with the Administrator of the Nationwide House Energy Rating Scheme (NatHERS) to address the issue of software tools requiring a minimum window to floor ratio to better promote natural ventilation suitable for passive housing design in Queensland. It is proposed that the NatHERS software tools adopt similar percentages based on the deemed-to-satisfy (DTS) provisions in the BCA 2010 for houses in Queensland, as shown in Table 1 (refer to Appendix 1). If these changes are agreed, the NatHERS Administrator could incorporate minimum window to floor ratios as part of a future software upgrade and capitalise on passive housing design for Queensland.

In addition, the Queensland Government has taken the following actions to increase the energy-efficiency of building design:

- outdoor living areas were recognised for the first time in a building code for their potential lifestyle and energy efficiency benefits in the Queensland Development Code (QDC) with up to 1-star optional credit towards a 5-star energy equivalence rating. The Australian Building Codes Board subsequently agreed to adopt Queensland's initiative for outdoor living areas nationally for new houses in the 2010 version of the BCA;
- on 1 March 2010, Queensland moved to a minimum 5-star requirement for new multi-unit residential buildings, which can also use optional credits of up to 1-star with the inclusion of outdoor living areas;
- as part of the move to the 6-star housing standard from 1 May 2010, a concession applies in the QDC for suspended flooring and minimum insulation requirements; and
- in another national first, the QDC includes a 1-star optional credit for solar photovoltaic energy systems as part of Queensland adopting the national 6-star housing requirement.

Queensland is also an active participant in the Building Implementation Committee (BIC), one of the ten implementation committees working under the National Framework for Energy Efficiency (NFEE). The BIC is responsible for three major program areas: NatHERS; mandatory disclosure for commercial buildings; and mandatory disclosure for residential buildings. Programs under the NFEE report up to the Ministerial Council on Energy. Queensland is represented on the BIC by the Building Codes Queensland within DIP.

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**Recommendation 9 - That the Government, through the Queensland Energy Management Plan, acknowledges that energy efficiency is Queensland's first energy resource, and that the Government will consider investing in programs to realise energy efficiency gains before investing in new generating or transmission capacity to meeting Queensland's energy needs.**

## **Response:**

The Government's energy efficiency measures, including the Queensland Energy Management Plan (QEMP), are intended to complement, rather than replace, the Government's other activities. At this time, as the QEMP is yet to be considered by Cabinet, the Government can only provide in-principle support for this recommendation and commit to consider these issues in the development of the QEMP.

However, the Queensland Government considers energy efficiency to be an important component of its strategy to minimise the need for additional investment in network infrastructure and to reduce greenhouse gas emissions. Energy efficiency programs are a critical component of this strategy, but are not considered the only tool available to achieve these aims.

Growing need for additional investment in generation and transmission infrastructure is driven by both total energy use and peak demand. Energy efficiency is one of the most effective methods for reducing overall energy use (and associated greenhouse gas emissions) and the Queensland Government is already actively pursuing energy efficiency through a wide range of existing programs, as outlined in its initial response to this inquiry. Key initiatives include the ClimateSmart Home Service and the ecoBiz industry partnership program.

However, the most effective way to reduce peak demand growth, which is responsible for the majority of network expansion costs, is through targeted demand management initiatives. As a result, the Queensland Government has invested in this area. An example is the \$44.7 million *Energy Conservation and Demand Management Program*; in the short term, this program is expected to save the state around \$120 million in avoided infrastructure costs, or the equivalent of a 40MW power station. In addition, The Australian Energy Regulator has recently determined that ENERGEX and Ergon Energy can invest \$221 million for network investment on demand management initiatives over the 2010-2015 regulatory period.

Given Queensland's economic growth, rapidly expanding population and uptake of energy-intensive appliances such as domestic air-conditioning, energy efficiency and demand management will not completely eliminate the need for new generation and transmission capacity in the medium term. The Government is therefore giving consideration to the use of more environmentally appropriate generation technologies, such as renewables and gas, and reducing the need for additional transmission capacity through the deployment of distributed generation.

It is also important to note that investment decisions for new electricity infrastructure are largely driven by the requirement to maintain reliability of energy supply, are tightly regulated, and managed by the independent, Government-owned corporations, and national energy bodies such as the Australian Energy Market Operator and the Australian Energy Regulator.

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### **Recommendation 10 - That the Queensland Energy Management Plan:**

- **sets measurable targets and timeframes for energy efficiency gains;**
- **quantifies, for each policy or initiative, the anticipated energy efficiency gains to be achieved;**
- **describes how the plan links to the National Framework for Energy Efficiency and the National Strategy on Energy Efficiency;**
- **encompasses supply-side energy efficiency improvements and demand-side improvements across all portfolio areas including land development, building and transport;**
- **includes the contribution of local government to energy efficiency improvements;**
- **addresses the need for equitable access to energy efficiency gains;**

- specifies the roles and accountabilities of agencies and coordinating mechanisms;
- addresses data collection and dissemination issues, and sets a timetable for outcome evaluations of all major energy efficiency programs and initiatives;
- explains the linkages between energy efficiency and other strategies promoting clean energy, renewable energy, and climate change mitigation;
- identifies opportunities for stakeholders to contribute to the plan; and
- outlines funding mechanisms for energy efficiency improvements.

**Response:**

The development of the Queensland Energy Management Plan (QEMP) is an important initiative for the Queensland Government, one which is intended to set out a policy pathway for the responsible use of energy in Queensland. The Government can provide in-principle support for this recommendation, subject Cabinet consideration of the QEMP in late 2010.

It is intended that the QEMP will:

- provide timelines for, and projected quantities of, potential gains from energy efficiency and demand management;
- put in place an appropriate framework for the evaluation of government programs;
- outline the Queensland Government's existing energy efficiency programs and its active participation in the national energy efficiency agenda (National Framework for Energy Efficiency and National Strategy on Energy Efficiency);
- streamline and coordinate government activities at both State and local levels, and clarify agency roles and accountabilities; and
- consider potential impacts on low income earners when developing potential new programs.

Where appropriate, the Government will consider the recommendations of the Inquiry in the development of the QEMP.

The Plan's focus is on stationary energy generation and energy end-use; it was never the intent that it would directly address issues around transport. It will, however, consider the potential network impacts of the introduction of electric vehicles.

Key stakeholders for the QEMP have been identified and consulted as part of the development process. The development of the Plan has been guided by a reference group consisting of representatives from ENERGEX, Ergon Energy and Powerlink.

**Recommendation 11 - That the immediate priority actions to be addressed in the Queensland Energy Management Plan and the first annual action plan under it, should include:**

- expansion of existing public education designed to achieve attitudinal change about energy use and efficiency;
- a plan for the evaluation of major energy efficiency policies and initiatives; and
- specific mention of assistance for low-income households that are most vulnerable to the effects of rising energy costs.

**Response:**

As explained above in the response to Recommendation 10, the Queensland Government is not in a position to commit to the details of the proposed Queensland Energy Management Plan (QEMP), as this has not yet been presented to Cabinet for consideration. However, the Government



provides in-principle support for the recommendation, undertaking that where appropriate, the Government will consider the recommendations of the Inquiry in the development of the QEMP.

The Government is supporting ENERGEX and Ergon Energy in developing a Centre of Excellence to provide authoritative information to the public for energy efficiency, energy conservation, and demand management. Education will be a key activity of the Centre of Excellence which is expected to commence during 2010-11. The Queensland Government will be working closely with ENERGEX and Ergon Energy on the development of the Centre, which will be funded through funds allocated in the 2010-15 network pricing determination of the Australian Energy Regulator.

In relation to evaluation of energy efficiency initiatives, the Government supports the evaluation of Government energy efficiency policies and initiatives as a high priority. However, at this stage the Government cannot commit to the inclusion of this recommendation in the QEMP as noted earlier in the response to Recommendation 10.

The Government also recognises the importance of targeted assistance for energy efficiency advice to low-income households. This issue is addressed in the response to Recommendation 3. However, if appropriate, assistance for low income households will be considered for inclusion in the QEMP.

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**Recommendation 12 - That the Government establishes a 'one-stop' shop to provide energy efficiency information centrally for residents, businesses, communities and Governments; and explores the feasibility of using existing community extension work networks, industry associations, trades and professional people and energy companies to deliver energy efficiency information and assistance to customers.**

**Response:**

The Government can provide in-principle support for the development of a 'one-stop shop' for energy efficiency. Such an initiative is already proposed in the form of the ENERGEX and Ergon Energy Centre of Excellence which is outlined in the response to Recommendation 11.

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**Recommendation 13 - That the Government ensures that low-income households have access to adequate information and other support, so that they may implement energy efficiency improvements should cost-reflective pricing be introduced (refer to page 46).**

**Response:**

The Queensland Government recognises the importance of providing the community with information and advice to assist households implement their own energy efficiency improvements. The Government acknowledges the special needs of low-income households and supports efforts to provide targeted assistance to this group.

As discussed in the responses to Recommendations 1, 2 and 3, the ClimateSmart Home Service already provides Queensland households with an energy audit of their house and offers advice on how to monitor and reduce their electricity consumption. The ClimateSmart Home Service provides customers with free energy saving light bulbs and shower heads to assist households reduce energy usage. Most importantly, the ClimateSmart Home Service has implemented initiatives to particularly target low income households. These initiatives are detailed in the response to Recommendation 3.

The Government also provides the community with energy efficiency information and advice through a number of Government initiatives. These include:

- *ClimateSmart Living* – a website which contains information and advice to assist Queensland households reduce their energy use;
- *EnergyWise* – a website which contains an on-line calculator which allows users to estimate the costs of household electricity use and lists a number of tips for making homes more energy efficient;
- *ClimateSmart Retail* – focuses on delivering information to consumers at point of sale by educating appliance retail sales staff to provide relevant advice to consumers before they make any decision to purchase an appliance; and
- factsheets – the Government has also developed a number of factsheets which contain information and advice on how to be more energy efficient.

The Government operates the Energy Ombudsman Queensland (EOQ), a free, independent dispute resolution service which assists domestic and small business energy consumers who have a dispute with their energy provider. EOQ also regularly distributes factsheets and press releases on how households can be more energy efficient and reduce their consumption and thereby reduce their electricity bill.

The Queensland Government is also an active participant in a national initiative to require energy retailers to provide localised comparative energy information on all household energy bills. Energy Bill Benchmarking addresses an information gap for consumers with regard to how their energy consumption compares with other like households similar to the comparative information that currently appears on Brisbane water bills. This initiative is expected to motivate energy consumers to implement energy efficiency improvements to reduce their energy usage in a similar way. This information will be complemented by tips for reducing energy use in the house and a link to a Commonwealth Government website that will contain detailed information on the development of the benchmark and further information on energy efficiency actions that can be taken by householders to reduce their energy bills. Subject to finalisation of the policy by the Ministerial Council on Energy, this requirement will be included in the National Energy Customer Framework which will commence across Australia between 2011 and 2013.

Ergon Energy is currently leading the way in Australia by already including localised comparative information on their customers' energy bills together with useful information as to how they can reduce their consumption. This was introduced in August 2009 as a trial to 40,000 customers in the Mackay region. Since February 2010, the benchmarking information has appeared on all Ergon Energy customer bills (approximately 600,000 customers). Ergon Energy has received mostly positive responses to the benchmarking information on bills. In recent consumer research undertaken by Ergon Energy over a third of customers stated that they have actively tried to reduce their energy usage as a result of realising that their energy consumption was above the average in their local area.

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**Recommendation 14 - That the Government continues to support the No Interest Loan Scheme (NILS) program and explore the feasibility of offering targeted rebates of \$100, modelled on the Victorian scheme, to NILS clients who purchase energy efficient whitegoods such as refrigerators, freezers and washing machines. The committee also recommends that the Government explores the feasibility of establishing a program in the community sector, modelled on the Phoenix Fridge Project to assist low-income households to access energy efficient second-hand appliances.**

**Response:**

The Queensland Government recognises the important service that the No Interest Loan Scheme (NILS) program offers in assisting low-income households to access low-cost credit to purchase new household appliances which are both affordable and energy efficient. Since June 2008, the Government has supported the NILS program by providing \$1.2 million funding to the Good Shepherd Youth and Family Service for program administration. However, federal reforms to credit legislation which will come into effect on 1 July 2010 will impact on how the Government delivers its assistance. The Government is currently investigating other mechanisms for the delivery of this assistance; however, at this time future funding for the NILS program is yet to be allocated. It is expected that the NILS program will be included in the QEMP which is currently under development by the Department of Employment, Economic Development and Innovation. As the QEMP is yet to be considered by Cabinet, the Government can only indicate in-principle support to this recommendation, subject to further consideration.

The Queensland Government has investigated the feasibility of implementing a \$100 rebate for NILS recipients who purchase an energy efficient washing machine or refrigerator. This investigation found no evidence that the Victorian targeted rebate of \$100 has changed the purchasing behaviour of NILS participants and, based on the rate of take up of the rebate in Victoria, it is estimated that the costs of running such a scheme in Queensland would be more than the amount of the rebate provided to NILS participants.

The Government has also explored the feasibility of introducing into Queensland a project similar to the Victorian Phoenix Fridge Project which provides low-income households with access to inexpensive reconditioned domestic appliances. However, this initiative primarily delivers social benefits such as training and employment for the disadvantaged and the unemployed—the energy efficiency benefits are largely secondary and marginal. As such, it is difficult to recommend that this initiative be considered as a cost effective energy efficiency initiative for Queensland.

However, Ergon Energy is currently trialling an energy efficiency program for households which features a number of rebates and incentives for undertaking a range of energy efficiency measures. Energy Savers is currently available to customers located in Mount Isa and selected areas outside Mackay and is due to finish on 31 August 2010. The incentives available under Energy Savers are additional to existing Government programs, further reducing the high upfront costs of implementing energy efficiency measures in the home.

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**Recommendation 15 - That the Government, through the Ministerial Council on Energy, seeks the establishment of strict guidelines which allow Government-owned corporations in the energy generating sector to invest in appropriate and/or speculative investments for the purposes of energy efficiency research and development.**

**Response:**

The potential for an increased research and development role for Government-owned corporations is currently under investigation as part of the development of the Queensland Energy Management Plan. A final decision on this matter will not be available until consideration of the final Plan by Cabinet in late 2010. At this time the Government may only provide in-principle support for the recommendation subject to consideration by Cabinet.

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**Recommendation 16 - That the Government examines the potential benefits of utilising distributed generation in Queensland.**

**Response:**

The Queensland Government supports the use of distributed generation as a tool for reducing the need for additional transmission infrastructure and is currently undertaking work in this area.

As part of *ClimateQ*, the Queensland Government introduced a number of key initiatives for the promotion of distributed generation. These include: the *Facilitating Low Emission Energy Generation in Commercial Buildings* project, a \$200,000 project developing guidelines and case studies for the promotion of on-site generation in commercial buildings; and *Clean Energy for Remote Communities*, a \$5 million partnership with Ergon Energy to trial energy efficiency and energy conservation initiatives, and explore renewable energy options in selected remote communities.

The Government also promotes domestic scale distributed generation through the *Solar Bonus Scheme*, which obliges electricity retailers to pay participating households 44c per kilowatt hour of excess electricity exported to the grid from solar photovoltaic systems. In April 2010, the Queensland Government conducted a review of the *Solar Bonus Scheme* and determined that the scheme would continue in its current form with the rate unchanged at 44c per kilowatt hour of generation exported to the grid. At present, the *Solar Bonus Scheme* only allows for payment to small scale solar generators, however, the Office of Clean Energy has undertaken to investigate broadening the eligibility criteria to allow for other small scale renewable generators, such as small wind and micro-hydro.

At the community level, the Queensland Government is working with a number of parties including local councils, government agencies, property developers and others on the *Clean Energy Communities* initiative. This will increase opportunities for distributed generation in master planned communities in Queensland's growth hot spots through inclusion in the design phases of development projects.

The Government is also contributing \$1.5 million towards the building of Australia's largest rooftop installation of solar power panels at the University of Queensland. In addition to providing clean energy to the university, the facility will facilitate research to accelerate the uptake of commercial scale distributed solar generation.

Through its *Do the Bright Thing* initiative, the Government is promoting the development of a Virtual Solar Power Station with a target of 500 MW of distributed solar power capacity. This initiative aggregates electricity generated by solar photovoltaic systems and displaced by solar hot water systems and major solar installations across Queensland. The uptake of solar hot installations will be monitored to show progress towards meeting the target.

**Recommendation 17 - That the Government explores the feasibility of a Queensland white certificate scheme consistent with schemes operating in New South Wales, Victoria and South Australia, and which includes energy efficiency improvements that are appropriate to Queensland's tropical climate.**

**Response:**

The Queensland Government acknowledges the merits of a market mechanism to stimulate improvements in energy efficiency. However, at present the issue of a white certificate scheme is under investigation at the national level through two separate processes.

The first of these is the National Strategy for Energy Efficiency (NSEE) which was endorsed by the Council of Australian Governments on 2 July 2009. Measure 2.1.1 of the NSEE has assigned the task of investigating demand-side energy efficiency measures (such as a white certificate scheme) to the Ministerial Council on Energy (MCE). The MCE has subsequently requested that this issue be included in Stage 3 of the Australian Energy Market Commission's Review of Demand Side Participation which is due to commence later in 2010.

The second process is the Prime Minister's Task Group on Energy Efficiency, an initiative established by former Prime Minister, Kevin Rudd MP, to provide advice on options to on the energy efficiency mechanisms that can deliver a step-change improvement in energy efficiency. The Task Group is currently canvassing the feasibility of a 'national obligation scheme' which would integrate the three existing state energy efficiency schemes to be adopted nation-wide. The Task Group is expected to hand down its report in the second half of 2010.

The Queensland Government has a preference for a coordinated national approach to the investigation, and possible development and implementation, of energy efficiency schemes currently under way. The Queensland Government may however, pending the outcomes of national processes, consider examining options for a suitable energy efficient scheme for the State in the future.

The Queensland Government will continue to work diligently, as it has in other national negotiations such as building codes (refer to response to Recommendation 8), to ensure that the range of energy efficiency improvements eligible for support under any such scheme will be appropriate for Queensland's varied climate.

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**Recommendation 18 - That the Government canvases the feasibility of a national white certificate scheme through the Ministerial Council on Energy.**

**Response:**

As discussed in the response to Recommendation 17, the Queensland Government supports the investigation of a white certificate scheme in a national context. As the national policy and governance body for the Australian Energy Market, the Ministerial Council on Energy is well-positioned to oversee such a project.

**Summary of Queensland Government Response:**

<b><u>Recommendation</u></b>	<b><u>Queensland Government Response</u></b>
1	In-principle Support - Subject to further consideration
2	Support
3	Support
4	Not Support
5	In-principle Support - Subject to further consideration
6	Support
7	In-principle Support - Subject to further consideration
8	Support
9	In-principle Support – subject to further consideration
10	In-principle Support – subject to further consideration
11	In-principle Support – subject to further consideration
12	In-principle Support – subject to further consideration
13	Support
14	In-principle Support - Subject to further consideration
15	In-principle Support - Subject to further consideration
16	Support
17	In principle support for national action.
18	Support

## **Appendix 1 – Background information on Building Rating Tools**

House energy rating software tools that determine the star rating of residential buildings are increasingly being used as a compliance method under the Building Code of Australia (BCA) (the other major assessment method being the prescriptive deemed-to-satisfy (DTS) provisions). The software tools can be used for houses and townhouses (class 1 buildings) and unit buildings (class 2).

The software tools are used to determine the energy efficiency of residential building design (building envelope only i.e. roof, walls, windows and floors) by calculating the predicted cooling and heating loads to produce a star rating. The star rating is based on the building's location and its annual energy load per square metre of floor area. The rating is between 0 to 10 stars, and dwellings with higher star ratings are comparatively more thermally comfortable than those with lower star ratings. Dwellings rated at 10 stars would generally be considered as being thermally comfortable without the need for artificial heating and cooling.

Using software tools to assess the energy efficiency of a dwelling can allow more flexibility in design options than the prescriptive DTS provisions under the BCA. The software allows trade-offs between different design elements so the entire house design can comply with the required star rating.

Specifically in Queensland, the Queensland Development Code (QDC) is the key legislative mechanism used to implement energy efficiency requirements for residential buildings.

To account for regional climatic differences, designs are evaluated against a proximate climate file that is linked to postcodes. The climate files use climatic averages that are based on at least 25 years of Bureau of Meteorology weather data. There are currently 11 climate files in Queensland (and 69 nationwide), with another three climate files to be added for Queensland in the near future as part of a software upgrade (refer to Appendix 1 for locations). Comparatively, for building assessments using the DTS method, there are four broad climate zones in Queensland under the BCA.

Three software tools are available, these being BERS Pro, AccuRate and FirstRate5, and they can be used nationwide. While they all use a base engine called Chenath, which is maintained and developed by the CSIRO, each software tool has a different user interface (or 'front end'). All three packages are commercial products, with BERS Pro the most commonly used in Queensland (operated by a Queensland-based company called Solar Logic).

### **Software administration**

The software tools are permitted for use under the Nationwide House Energy Rating Scheme (NatHERS), which is administered by the Department of Climate Change and Energy Efficiency (DCCEE). Specifically, it is the responsibility of the Building Energy Regulation, Standards and Tools Branch in the Renewables and Energy Efficiency Division.

The NatHERS Administrator is responsible for maintaining and developing the software engine (Chenath) that underpins all NatHERS accredited software tools. This is undertaken by DCCEE in conjunction with the CSIRO. The NatHERS Administrator is also responsible for issuing software upgrades to the software proprietors.

### **Software accreditation and authorised use of tools**

All software tools are required to be accredited under NatHERS through the *Software Accreditation Protocol (April 2007)*, which is administered by DCCEE.

Subsequently, the software tools are permitted for use to assess the energy efficiency of residential building designs and their star rating under the BCA through the *Protocol for House Energy Rating Software for Residential Buildings (Version 2006.1)*, as approved by the Australian Building Codes Board.

### **Second generation software**

Following industry feedback on the use of the initial versions of the software tools, improvements were incorporated to better reflect energy efficiency design requirements across Australia. In 2007, all software tools were improved and are commonly referred to as 'second generation' software. The older and more limited first generation software tools have been phased out and are no longer permitted for use.

The second generation software contains a larger range of design features including a more realistic modelling of natural ventilation; the cooling effects of ceiling fans; heat flows in underfloor and roof spaces; and attached dwellings (units). Also, the number of climate files was expanded from 28 nationally with first generation to 69 with second generation.

Ongoing software upgrades are periodically provided by the NatHERS Administrator to improve the performance and accuracy of the tools.

### **Concerns with software tools**

As identified in the Inquiry, despite recent improvements to the software tools, concerns remain with their accuracy and appropriateness to improve energy efficient building design for Queensland's climatic conditions. These concerns are primarily related to their ability to promote natural ventilation through suitable window sizes as part of a dwelling's passive design response.

### **Star ratings and energy assessor capabilities**

A recent report by the Association of Building Sustainability Assessors (ABSA) compared the results of a standard house design using the software tools to identify if they generated significant differences in star ratings. This work was undertaken following reported industry findings that presented a greater than 2 star difference between the software tools for the same house design in the same location. The ABSA report found that there was less than a half star difference and that there was a very strong consistency in predicted energy loads between the three software tools. The reason for the greater than 2 star difference reported by industry was attributed to user input errors given the energy assessor's lack of understanding of the procedures required in using the software.

The ABSA report noted that quality control standards of house energy ratings would be improved if assessors were required to become accredited and operate under the national *Protocol for Assessor Accrediting Organisations*, which is administered by DCCEE. Currently ABSA is the only available organisation for energy assessors to become accredited.



Table 1: Minimum window to floor area ratios in the BCA 2010 when using the DTS method

Climate zone	Minimum total ventilation opening area per habitable room (percentage of the area of the floor of the habitable room)		
	Without a ceiling fan or evaporative cooler	With a ceiling fan	With an evaporative cooler
1 (tropical)	10%	7.5%	10% (see Note)
2 (subtropical)	10%	7.5%	10% (see Note)
3 (hot arid)	10%	7.5%	7.5%
5 (warm temperate)	7.5%	5%	7.5% (see Note)

*Note:*  
Because evaporative coolers are less effective than ceiling fans in more humid locations, the requirement for ventilation openings in climate zones 1, 2 and 5 with an evaporative cooler is the same as without one.

### Current requirements for residential buildings in Queensland

#### Houses and townhouses

Since 1 May 2010, new houses and townhouses (class 1 buildings), and existing houses and townhouses with major renovations, are required to achieve a minimum 6-star energy equivalence rating.

The Queensland Government has also implemented an innovative credit-based approach to reflect Queensland-specific factors when determining a star rating. Optional credits can be used towards the 6-star requirement for houses and townhouses across Queensland that include an outdoor living area, such as a deck or verandah (½ or 1 star available depending on design), and/or a solar photovoltaic generation system (1 star available). One or both features can be combined and used as part of compliance with the 6-star requirement, as long as the dwelling's building shell achieves a minimum baseline star rating, depending on its location. These baselines are a minimum of 4½ - stars in climate zones 1, (tropical), 2 (subtropical) and 5 (warm temperate), and a minimum of 5-stars in climate zone 5 (hot arid).

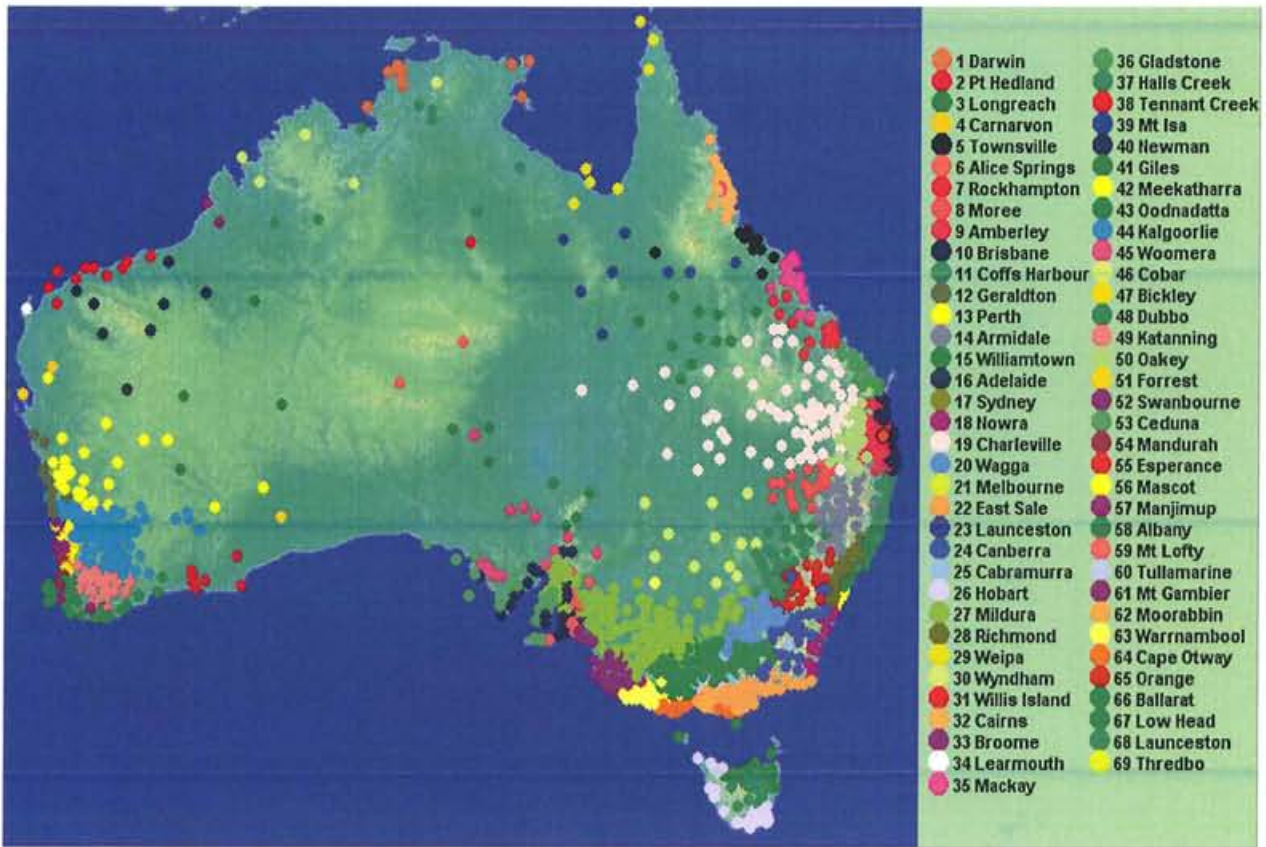
The QDC provides a concession from the BCA 2010 for house designs that include a suspended floor. For houses in climate zones 1 and 2, designs using the DTS assessment method need to comply with the insulation requirements in BCA 2009, not those in the BCA 2010.

Outdoor living areas and solar photovoltaic generation systems are not currently recognised in the software tools as part of the star rating for the building envelope. This is why the separate optional star credits approach in the QDC has been adopted by the Queensland Government.

#### Units

Since 1 March 2010, new units (class 2 buildings), and existing units with major renovations, are required to achieve a minimum 5-star energy rating. Units that include an outdoor living area, such as a deck or balcony, can gain credit of either ½ or 1 star (depending on design) towards the 5-star requirement in climate zones 1 (tropical) and 2 (subtropical).

Appendix 2 – Queensland’s software climate files



Queensland climate files	
Number	Location
3	Longreach
5	Townsville
7	Rockhampton
9	Amberley
10	Brisbane
19	Charleville
29	Weipa
32	Cairns
35	Mackay
36	Gladstone
39	Mount Isa
50	Oakey
	Atherton (proposed)
	Maleny (proposed)
	Toowoomba (proposed)