



Environment and Resources Committee

Report No.2: Energy Efficiency: Queensland's First Energy Resource

Conclusions and Recommendations

FEBRUARY 2010

Introduction

This paper outlines the Environment and Resources Committee's conclusions and recommendations from its inquiry into energy efficiency improvements in Queensland.

Inquiry terms of reference

The committee was required to investigate the economic and environmental potential provided by energy efficiency improvements for households; communities; industry; and government. In the course of the inquiry the committee was required to consider:

- the economic and environmental costs and benefits arising from energy efficiency improvements;
- potential barriers and impediments to improved energy efficiency;
- potential policy options for energy efficiency improvements, with an emphasis on initiatives that are cost effective for individual producers and consumers; and
- the role of the Carbon Pollution Reduction Scheme and other Commonwealth Government initiatives in encouraging energy efficiency.

Conclusions

Energy use and energy efficiency

Energy use in Australia and the rest of the world is projected to increase significantly over the next 20 years fuelled by rising population and living standards. Almost a quarter of all energy consumption in Australia now occurs in Queensland.

Queensland's energy usage is high by Australian and international standards, and is continuing to rise. Key drivers of this rising energy consumption are the state's growing and decentralised population, a strong minerals sector, the presence of other energy intensive industries and rising living standards. In Queensland, energy generation, transport and manufacturing accounted for over 85 per cent of all energy used in 2006-07. A large proportion of this energy was generated by the burning of fossil fuels.

Queensland, like the rest of Australia is committed to reducing greenhouse gas emissions by 60 per cent from 2000 levels by 2050 in line with international moves to mitigate global emissions and climate change risks. The committee notes research by McKinsey and Company that identifies energy efficiency improvements as offering the best carbon abatement returns for the Australian economy per dollar spent – it actually

achieves net savings. Of particular note, the study suggests that investing in energy efficiency improvements reduces carbon emissions more cost-effectively than investing in renewable energy. It is imperative that governments act quickly to capitalise on energy efficiency opportunities.

All Australian governments have committed to a partnership agreement and national strategy to achieve energy efficiency improvements throughout the economy. These initiatives, focused on improving the efficient supply and end-use of energy, form a second plank of the Federal Government's climate change strategy after the proposed Carbon Pollution Reduction Scheme. The Federal Government is also committed to funding a smart energy pilot project.

The Queensland Government has a broad range of policies and initiatives in place to promote energy efficiency in cooperation with other governments. They include information and behaviour change strategies such as the ClimateSmart Home Service, and business assistance programs such as ecoBiz and partnerships with business associations and retailers.

Local governments are also supporting energy efficiency improvements by improving their internal energy use practices and through education and partnerships with the Queensland Government and local communities. Energy is a significant cost for local governments.

While there are compelling arguments for investing in energy efficiency, little is published about the actual outcomes of energy efficiency programs. It is difficult to isolate the tangible gains they have achieved. According to the Queensland Government, none of its energy efficiency programs have been independently evaluated. The programs have, however, generally been subjected to internal reviews. The committee notes that the coverage of these programs remains limited. For the government's flagship ecoBiz program designed to assist business, fewer than one per cent of the state's business are participating. A significant boost to the level of investment in energy efficiency programs by the government is required if programs are to achieve true state-wide coverage. To fund an expansion of existing energy efficiency programs, the committee recommends that the government reviews its funding for renewable energy programs. Research cited by the committee suggests that investment in energy efficiency will deliver the government and the Queensland economy better value for money.

The committee believes that rigorous independent evaluations of the major energy efficiency programs and initiatives should be conducted as a matter of good policy.

The purpose of these evaluations should be to: quantify the inputs, returns and value for money achieved; determine whether the programs' objectives have been, and are being met; and to identify opportunities for improvement and enhancement in the future. The findings from these independent reviews should be reported to Parliament.

Barriers and impediments to energy efficiency improvements

Despite the often compelling arguments for implementing energy efficiency improvements, there remains a significant gap between potential efficiency improvements and actual improvements that individuals, businesses, industries, communities and governments implement. This is due to the existence of a range of barriers and impediments. They include: market failures; behavioural, cultural and organisational barriers; financial barriers; and skills and capacity barriers. It appears that the lack of coordination of policies and programs across governments presents a further impediment.

For many energy users, the costs of energy are a small part of their overall budget (small beer) and attract a similarly small level of interest. For industry as a whole, the committee was told energy accounts for 4-5 per cent of their costs. For households, energy costs are on average around 2.5 per cent of expenditure. It follows that implementing efficiency improvements to save a fraction of these energy costs, in the absence of other motivations, attracts an even lower level of interest and priority. The predicted rises in energy costs will stimulate greater interest in energy efficiency the future. For low-income households that spend on average around 6.8 per cent of their budgets on energy, the incentive to use energy more efficiently and save money is greater. However, these households are less able to meet the up-front costs.

Addressing the barriers to energy efficiency is a challenge for all governments and will involve work on a number of fronts – there is no single measure that will fix the problem. Making information about energy efficiency programs and initiatives more useful and readily accessible is crucial, as is raising awareness of, and changing attitudes to, energy use and wastage. We note in particular the importance of tailoring information to the needs of the target audiences.

Experienced architects, housing industry representatives and builders expressed concerns during the inquiry about the biases in computer software packages used to rate building energy efficiency. It appears that these packages may give a more favourable rating to buildings that are designed to use air-conditioning efficiently, rather than utilize the benefits of natural passive cooling and heating which is more

energy efficient. The committee is concerned that this has the potential to undermine good design principles for Queensland housing, and needs to be investigated in consultation with the Australian Building Codes Board.

Options to encourage energy efficiency improvements in Queensland

The committee welcomes the development by the government of a Queensland energy efficiency strategy to be called the Queensland Energy Management Plan. This plan will provide an opportunity for the government to set a clear direction, objectives and timeframes for its future initiatives to encourage energy efficiency improvements, to specify roles and responsibilities of agencies involved and to explain linkages with other policies and programs.

In the committee's view, energy efficiency should be viewed as Queensland's first energy resource, and attract funding ahead of other programs to meet the state's future energy needs. The committee also recommends annual reporting by the Office of Clean Energy, as lead agency responsible for energy efficiency, on energy usage trends, emerging issues and progress to implement the actions in the plan. As a starting point for the government's consultation with industry and community groups about the plan, the committee recommends that the priority actions should include: expanded public education designed to achieve attitudinal change about energy use and efficiency; a program for the independent evaluation of the government's major energy efficiency programs and initiatives; and assistance for low-income households to access energy efficiency improvements.

The committee welcomes the commitment by the government to investigate options for an overarching framework and/or a single point of contact for its energy efficiency programs. The committee encourages the government to utilise existing networks, and partnerships with industry peak bodies to distribute energy efficiency information. It is imperative that information is tailored to suit the needs of the target audiences.

The structure and form of electricity tariffs have an important influence on energy usage. The committee notes the findings from the Queensland Competition Authority's reviews of electricity pricing and tariff structures. The committee recommends 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 electricity tariffs be introduced.

The committee notes the difficulties faced by around 10.6 per cent of the Queensland population who live below the poverty line in low-income households. These households are more susceptible to the impacts of higher energy costs and struggle to afford to purchase new energy efficient appliances. That the government

continues to support the NILS program and explores the feasibility of offering targeted rebates of \$100, modelled on the Victorian scheme, to NILS loan clients who purchase energy efficient whitegoods such as refrigerators, freezers and washing machines, and explores the feasibility of establishing a program in the community sector modelled on the Phoenix Project from Victoria to make second-hand appliances more energy efficient.

The committee notes the potential benefits of distributed energy and co-generation to improve energy efficiency. Research by the CSIRO suggests the value of wide-scale deployment of distributed energy solutions to Australia could be as much as \$130 billion by 2050 in present value cost savings, and reduce water use for generating electricity by 75 per cent. The committee recommends that the government examines the potential benefits of distributed energy.

White certificate schemes as established in NSW, Vic and SA provide a market-based mechanism to overcome some of the barriers to investment by the private sector in energy efficiency improvements. The committee notes that the government has agreed to consider options for a market-based scheme during its work on the Queensland Energy Management Plan. The committee welcomes this initiative by the government. The committee recommends that the government consider the feasibility of a Queensland white certificate scheme consistent with schemes in NSW, Vic and SA and which includes energy efficiency improvements that are appropriate to Queensland's tropical climate. The committee further recommends that the government canvases the feasibility of a national white certificate scheme through the Ministerial Council on Energy

Impacts of the Carbon Pollution Reduction Scheme

The Federal Government's proposed Carbon Pollution Reduction Scheme (CPRS) is the centerpiece of the Federal Government's policy response to climate change. Energy efficiency will form the second plank of the government's policy response.

The CPRS, if passed by the Federal Parliament and implemented, would have a significant effect on the Queensland economy. Queensland is expected to experience the greatest impacts from the CPRS by 2030 due to its heavy reliance on coal-fired electricity, aluminium smelting and strong concentration of coal mining.

Prices are expected to rise across the board for a wide range of goods and services. Prices for domestic fuel and electricity in Queensland are expected to be around 24 per cent higher by 2025. The Federal Government proposal includes compensation for households and businesses, electricity generators and key industries to assist their transition to a low-carbon economy.

The effects of rising fuel prices are expected to result in: a 20 per cent fall in fuel use by a more fuel-efficient

vehicle fleet; a shift to hybrid and electric cars projected to account for 10 per cent of the road transport sector by 2050; a modal shift to public transport and rail freight; expansion of the bio-fuels industry. Overall, the proposed CPRS would serve to tax energy end users for the environmental costs of the carbon pollution associated with the energy used. This would in turn stimulate interest in reducing energy costs in part through energy efficiency improvements.

If implemented, the CPRS is expected to create business and employment opportunities in renewable energy, energy efficiency, sustainable water systems, biomaterials, green buildings; waste and recycling.

The scope and extent of impacts would depend on the passage of the bill through the Federal Parliament and, if passed, the final form of the CPRS that is implemented.

Recommendations

Recommendation 1 page 14

That the government provides funding to continue the 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.

Recommendation 2 page 15

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.

Recommendation 3 page 15

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.

Recommendation 4 page 16

That the government investigates new technologies to overcome the barriers to installing smart meters in multiple dwellings that are not individually metered.

Recommendation 5 page 25

That the government commits to a program of independent evaluations of all major energy efficiency programs.

Recommendation 6 page 25

That the government reports to Parliament the findings from independent reviews of its major energy efficiency programs.

Recommendation 7 page 25

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.

Recommendation 8 page 39

That the government investigates in consultation with the Australian Building Code 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.

Recommendation 9 page 42

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 meet Queensland’s energy needs.

Recommendation 10 page 43

That the Queensland Energy Management Plan:

- sets measureable 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 Energy Efficiency Strategy;
- 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.

Recommendation 11 page 43

That the immediate priority actions to be addressed in the Queensland Energy Management Plan and the first annual action plan prepared 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.

Recommendation 12 page 44

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 worker networks, industry associations, trades and professional people and energy companies to deliver energy efficiency information and assistance to consumers.

Recommendation 13 page 46

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 electricity tariffs be introduced.

Recommendation 14 page 48

That the government continues to support the No Interest Loan Scheme program and explores the feasibility of offering targeted rebates of \$100, modelled on the Victorian scheme, to No Interest Loan Scheme loan 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 project to assist low-income households access energy efficient second-hand appliances.

Recommendation 15 page 49

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.

Recommendation 16 page 50

That the government examines the potential benefits of utilising distributed generation in Queensland.

Recommendation 17 page 52

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.

Recommendation 18 page 52

That the government canvases the feasibility of a national white certificate scheme through the Ministerial Council on Energy.

Committee members

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