

14 August 2009

Mr Rob Hansen
Research Director
Environment and Resources Committee
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Dear Mr Hansen

I am grateful of the opportunity to provide input to your committee's Inquiry into Energy Efficiency. You don't have to go very far in the literature to find that energy efficiency measures (and energy conservation) probably provide the most important path towards combatting climate change and delivering environmental benefits. I hope the following comments may be of some use, albeit pulled together in a rush. There is an urgent need to ramp up energy efficiency measures.

My perspective is drawn from my intensive voluntary work during the past two years as Convenor of a community group Sustainable Jamboree, mainly working with householders. However, I also draw on my earlier experiences while studying a Masters degree in 2001 and while working on projects funded by the Australian Greenhouse Office in 2004 – 2005.

I note that energy conservation is not within the scope of the Inquiry. Nevertheless, I would urge the Committee to consider drawing on submissions prepared in 2004 as part of a Senate Inquiry in Energy Efficiency. There have been other submissions dealing with energy efficiency provided earlier this year as part of the consultations leading up to the development of the CPRS. It would be a shame to see these submissions ignored as many of them are directly relevant and written by experts in their field.

I would also urge the committee to consider a new report released by the University of Technology in Sydney entitled, *Meeting NSW Electricity Needs in a Carbon Constrained World: Lowering Costs and Emissions with Distributed Energy*. It includes a UTS study that looked at five scenarios for meeting New South Wales electricity needs to the year 2020. Two involved building more large, centralised coal-fired and gas-fired power stations, while three used a range of local distributed energy options such as increased energy efficiency, reducing demand for peak power through "demand side response" and cogeneration (which generates power closer to where it is used and makes use of the waste heat). It notes that reducing greenhouse gas emissions through energy efficiency and by generating power close to where it is used could cut total power bills in New South Wales by about \$600 million per year by 2020 - equivalent to about \$60 per household per year.

For your convenience, I have structured my comments under each of the questions contained in your discussion paper.

With thanks

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Question 1 - What have been the economic and environmental costs and benefits of energy efficiency initiatives affecting households, industries/businesses, governments and communities in Queensland?

Although I will not attempt a thorough analysis or ranking of the costs and benefits, I perceive that in general, government energy efficiency initiatives are vital and to date have offered best buys or 'low hanging fruit' responses. These appear to be delivering often unproven but seemingly obvious benefits in terms of both economic (cost savings) and environmental (emission reductions) factors.

Although I may not be in possession of information about the upfront costs of the various initiatives offered to date I do think most households and organisations would agree that, so far, the benefits outweigh the costs of these.

I attended an EcoBiz conference several years ago and discovered many businesses certainly regard the benefits of participation to be very high despite some upfront costs. Unfortunately for some reason, the programs may not be accessed by enough businesses to make a measurable impact on carbon emissions in our environment. I can only imagine that the scale of these programs are limited by issues like resourcing, government capacity, availability of the necessary workforce and lack of immediate requirements/motivations.

Question 2 - In economic and environmental terms, what energy efficiency initiatives have been effective in Queensland?

I agree that current Queensland Government energy efficiency initiatives have been or will be very effective particularly:

- Four-star energy efficient commercial buildings by 2010 and improved standards for energy efficiency in residential homes;
- Phase out of electric storage hot water systems with greenhouse-friendly alternatives from 2010;
- ClimateSmart Homes rebates and ClimateSmart Living education campaign; and
- Energy Choices Program – complementary incentives that includes residential gas installation rebates, energy audit service, school energy efficiency action plans and an Energywise off-peak campaign.

I and many others I meet are grateful of the above, in particular, the new and increasingly energy efficient requirements under Building Codes. Without the changes, I am certain the building sector would be unlikely to voluntarily address energy efficiency in their work. This was proved to me when I moved into a one year old home which was completed just months prior to the introduction of the changes to the Building Code - no solar hot water system was installed despite widespread publicity about the perils and urgency of climate change.

Households who benefit from existing initiatives and possible limitations of their reach and cost-effectiveness

I am fairly familiar with the various energy efficiency initiatives offered to households in Queensland. I have widely observed that the community welcome these and recognise the intrinsic economic and environmental benefits.

I observe this through my role in implementing community programs funded by both the Brisbane City Council and the Queensland Government's Low Carbon Diet. I have also been directly involved in the helping people to use/access the Home EnergyWise tools (probably now superseded by the Low Carbon Diet) and the ClimateSmart Home Service.

While presenting workshops around the above energy efficiency programs, I am amazed at the degree of variation in the levels of knowledge possessed in the community. This makes it difficult to plan and

target educational interventions – we really need some programs for beginners and some for the early adopters seeking to take things 'to the next level'.

The wide ranging number of topics covered in the Low Carbon Diet has also a challenge. Many program participants can only handle a certain amount of information at a time and many don't yet consider there are powerful motivational levers - higher energy prices will help this.

Nevertheless, I have directly observed the enthusiasm of all those exposed to these initiatives and tools on offer.

I have had nothing but positive and eager feedback about energy efficiency measures once people become aware of them (a difficult task).

Again and again I am amazed that although households and businesses may like the idea of participating, they find ways of procrastinating whenever it is not compulsory to implement measures or take up programs.

I have actively promoted the ClimateSmart Home Service and am amazed at just how little people know about it although its advertising budget appears to be substantial. So far I think the word on the street for those who have undertaken the service is that it was worthwhile (especially since Brisbane City Council pick up the out of pocket expense of \$50).

However, I have heard that recipients of the service also perceive some shortcomings that aren't being conveyed to the service provider at the time they were asked to indicate their satisfaction. For this reason, I would encourage the government to conduct some focus groups with recipients before deciding whether to persist with the program, particularly in light of the emergence of the federal government's Home Sustainability Assessment service.

It has been very challenging to attract anyone other than 'the usual faces' when promoting any public education of various kinds on the topic of energy efficiency. This appears to be the case even when our advertising focuses on things like 'how to access government rebates and services' or 'how to save money.' When comparing notes with other community organisations this seems to be a widespread issue regardless of how clever people are at marketing and communications or attracting experts as draw cards to events or programs.

Having said that, Sustainable Jamboree attracted 50 attendees to its first Low Carbon Diet workshop in May 2009 (including 6 facilitators and about 10 young people/children). We attracted almost 50 people to our Energy Efficiency Shows in late 2008. Feedback forms indicated a high level of satisfaction with the information provided (mainly linked to government led initiatives).

I have widely observed the expected phase out of incandescents has generated concern in the community about the environmental cost related to the disposal of compact fluorescent lamps (CFLs). I have struggled to reassure the community that the benefits of CFLs outweigh the negatives and urge citizens to call for better waste services.

I'm not yet sure if the Qld Solar Homes or Solar Hot Water program have been successful. Certainly consumers benefit but the industry has been unhappy about it.

Question 3 - What role do Commonwealth Government initiatives, including the proposed Carbon Pollution Reduction Scheme, play in encouraging energy efficiency?

I believe strongly that a CPRS is necessary and a high price for carbon. However, I believe that big polluters should not receive compensation. I also think a suite of initiatives are necessary to assist

with issues like developing new technology and delivering education and assistance to any organisation or household seeking to improve energy efficiency.

For example, it is vital to continue programs such as the new federal government green loans program, the home sustainability assessments and other incentives to retrofit buildings with insulation and solar hot water. The schools who were ineligible for solar schools should now be allowed to access incentives. Rather than Fuelwatch, we should have something called Efficiencywatch. MEPs / energy rating programs should be substantially tougher. The phase out of incandescents should be rapidly followed by a phase out of low voltage halogens. Australia should follow Wal-Mart's lead - they say they plan to develop a worldwide sustainable product index. Benchmarking for hospitals and shopping centres etc should be in place. A national gross-feed-in tariff should be established to achieve success on the scale of Germany for the uptake of photovoltaic panels (theoretically providing maintenance cost savings and less costs for long distance electricity transmission).

I look forward to more stringent national standards and requirements in relation to infrastructure, building codes, urban planning, aviation, transport (cycling, public transport, the freight task) and so on to ensure systems are in place to discontinue wasteful energy use.

Perverse tax incentives such as those which encourage people to drive cars further (the FBT arrangements) should be removed. Congestion charging should be introduced in Sydney, Melbourne and Brisbane.

I'm not sure if this is in scope for the Inquiry, but Greenpower should be compulsory for households who earn over a certain threshold. It should be compulsory for all businesses over a certain number of employees/turn over/usage level. The nation's renewable energy target needs to be at least 25 per cent of all power generated.

Media policies could be introduced to require the mainstream media to cover the environment – similar to the requirements around Australian content. I am constantly horrified at how poorly some media cover important milestones and stymie debate on the critical topic of climate change.

Question 4 - What additional policies should the Queensland Government implement to encourage energy efficiency improvements?

- Both demand and supply-side measures for electricity provision;
- More powerful sticks and carrots (similar but different to market failures);
- Campaigns to ascert the end of the energy waste era/culture;
- Widespread enforceable workplace programs (dealing with electricity and transport energy efficiency – interventions ranging from benchmarking usage, to teleworking, greater stair use, refrigeration restrictions and movement sensorised lighting);
- Greater harnessing of telecommunications and other technologies to support energy efficiency (videoconferencing).

I would like to see ever increasing requirements on new and existing buildings. I'm frequently amazed at the new homes in our area which went up without taking advantage of their aspect. Many have dark coloured roofs. In addition, the covenant for the development disallowed the positioning of solar panels towards the road (a disaster). Although I'm not intimately familiar, my sense is that the new Codes may fail to address these issues or take advantage of the features of passive solar design.

'Positive development' features could be eventually incorporated into the Building Code. An interesting author/architect on this topic is Prof Janis Birkeland of QUT.

Question 5 - What barriers and impediments to energy efficiency enhancements exist in Queensland?

I agree with your list of barriers / impediments to energy efficiency improvements and hope that the Queensland Government can expand its role in overcoming barriers such as:

- A lack of awareness and understanding of costs and savings;
- Resistance to change;
- The lack of energy efficient alternatives;
- Expectations of low returns and high risks;
- The initial cost of the enhancement;
- The likely payback period to realise a financial return from the enhancement;
- The long lifespan of pre-existing vehicles, equipment and appliances;
- The relatively low cost of energy versus the high cost of change;
- The lack of expertise and advice; and
- Market failures due to insufficient information and the corporate risks associated with research and development.

To the above list I would add the barriers of:

- time constraints on busy people;
 - tyranny of distance;
 - car culture;
 - factors associated with community and organisational values/culture; and
 - lack of powerful sticks and carrots (similar but different to market failures).
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Question 6 - What policies should be considered to overcome these barriers and impediments?

Policies could imitate those used in achieving water usage reductions.

- For example, high usage households could be contacted to show cause and then supported in terms of introducing systems and products which help them to achieve a benchmark of energy use per person.
- Non compliance could result in loss of supply in the worst cases.
- There needs to be clear messages that energy efficiency is equally important to water saving.

Pricing

- I think price signals for energy use are very important although we also need to support people to introduce efficient systems.
- I collected a news clipping recently (The Satellite community newspaper) interviewing people about rising energy pricing. I was encouraged to see that at least one person interviewed 'on the street' recognised that rising prices is a necessary path towards reducing emissions and saving the environment.

Sticks vs carrots

- I also believe strongly in the need to ramp up the 'sticks' approach and rely less so on 'carrots' as my observation is that people will defer effort for as long as they can and values take a very long time to change – time which the planet cannot afford.
- I believe that any forms of compensation to business should be structured in a way so as not to reward polluters for polluting, but rather assist them to make the transition.

Low income earners

- I believe that low income households should be assisted but again, this should be structured in a way that does not send mixed messages about the effort they need to make in relation to energy efficiency efforts in their lives.

Urban planning

- Not enough is being done for urban planning to ensure less car dependency – mixed land use, higher density around transit nodes, limiting road space for cars and ensuring priority to sustainable modes, more grid-like streets rather than cul de sacs, and so on.
- This is an important area of energy efficiency in which there is a mountain of academic literature and support from planners themselves.
- This knowledge is not being translated into policy.

Retrofitting and consumer hotline

- I often observe people in the community are keen to retrofit their homes or businesses for energy efficiency but still encounter some of the above substantial barriers.
 - Beginners often find themselves in analysis paralysis as they struggle to raise the capital or make technical decisions, particularly in the area of solar hot water and photovoltaic technologies.
 - I'm always amazed at how few people know what a heat pump is or evacuated tube technology.
 - In response to this, a consumer hotline could be established – I'm often contacted by people trying to make purchasing decisions and presented with false or questionable information by some suppliers.
 - I myself had to report my own solar hot water provider to the Electrical Safety Office.
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Question 7 - How can governments make information on energy efficiency improvements more accessible?

Sticks vs carrots

- I think it would be difficult to make them any more accessible without moving towards greater requirements and accountability by those driving up energy demand (we need a stronger 'sticks' approach).

Local community groups

- As mentioned previously, I have actively promoted the ClimateSmart Home Service and am amazed at just how little people know about it although its advertising budget appears to be substantial and its marketing strategy impressive.
- I can only suggest that it may be useful to establish recurrent funding to community groups like Sustainable Jamboree who are committed to providing practical support within communities.
- These organisations are well positioned to establish local networks, provide face to face contact and establish more successful relationships with local newspapers.

Political will and a values shift

- 'Accessibility' will not be possible without considerable political will and leadership because resistance to change is high whenever it requires a shift in values, expectation and effort.

- We cannot expect people to change their behaviours without the necessary structural changes such as legislation, organised support structures and so on.
- We also desperately need a departure from the language used in a range of Queensland Government publications which convey mixed messages about what consumers and business people can expect.

A TASTE OF OTHER SUBMISSIONS WHICH MAY ASSIST THIS INQUIRY

CHOICE - Productivity Commission Inquiry into energy efficiency 11/04 - Submission to Productivity Commission Inquiry into Energy Efficiency November 2004

Australian consumers enjoy relatively low energy prices, generally reliable energy supplies and the considerable benefits that accrue from access to labour saving, comfort giving and lifestyle enhancing domestic equipment. Energy policy confronts numerous issues, particularly greenhouse gas emission control and capital requirements to meet rising demand. While these must be addressed in the long-term interests of consumers, the solutions should not detract from this current envelope of affordability, safety, reliability and comfort.

Extract from Energetics submission to CPRS green paper, 2009

- Many opportunities exist for energy efficiency. Australian businesses currently spend about \$40 billion a year on their energy costs. A 20% reduction in Australia's energy consumption by 2020 would save Australian business more than \$8 billion a year.
- While these are big numbers, Australia has relatively low energy prices and this combined with a lack of focus on energy management – has meant that energy use in Australia is growing at 2% per annum.
- Over the last 2 decades Energetics has assessed over 2,000 companies and found that over 85% of them have very limited energy management systems – this means there are no formal processes and few people at decision making levels tasked with trying to reduce energy consumption and costs.
- A low carbon price will not drive major changes in energy consumption.
- Price is just one factor affecting a decision to implement energy efficiency – there are other factors. This is why we believe that the use of the CPRS auction revenue needs to be funnelled back into business engagement programs that ensure business does act to improve energy efficiency and emissions management.
- We also recognise that additional policy measures on energy efficiency will be needed in combination with the CPRS.
- The strategic use of the CPRS auction revenue may be as important in driving emission reductions as the carbon price signal itself.
- The use of the CPRS permit auction revenue will be an extremely important tool to help Australia in its transition to becoming a low emission, energy efficient economy. If used wisely the Climate Change Action Fund may be as important for reducing energy consumption and emissions as the carbon price itself.
- The business sector consumes approximately 75% of Australian energy and therefore it is business that will initially feel the carbon price and pass it on to consumers.