

## **ENERGY EFFICIENCY IMPROVEMENTS INQUIRY**

### **Terms of Reference**

That the Environment and Resources Committee investigate the economic and environmental potential provided by energy efficiency improvements for households; communities; industry; and government.

In undertaking this inquiry, consideration should be given to:

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

### **Industry Context for this Submission**

In line with the role of the Environment and Resources Committee of the Queensland Parliament to investigate the economic and environmental potential provided by energy efficiency improvements for households; communities; industry; and government, this submission is made by the Energy Working Group of the Environmental Industries Sunshine Coast Group.

The Energy Working Group concentrates on energy efficiency, renewable generation (PV solar being the most cost effective in South East Queensland) and education of households and businesses on energy mitigation and co generation options, particularly in the Sunshine Coast region of the state..

Predicated by the concept that energy replacement from renewable sources requires significant capital investment either by the client, government (in the form of rebates) or the energy generation and distribution industry (in the form of Renewable Energy Certificates (RECs) and Feed in Tariffs (FiT)), it is essential that energy wasted by inefficient loads and practices is eliminated to maximise the benefits and minimise outlay and hence payback periods for all those who invest in installation of solar – Government, households, business and industry. Consequently energy efficiency and renewable co – generation are interdependent.

While this submission is based on the experience of industry in the Sunshine Coast region, the principles and protocols outlined in this submission may be extended to other regions in Queensland, particularly those that seek comparative advantage or an economic base through Environmental Industries development.

Considered a new and emerging industry for Queensland, Environmental Industries is included in the Smart State Strategy 2005-2015 list of 15 key priority industries.

Commanding high community interest and awareness Environmental Industries, in particular solar PV, has had a presence in Queensland for more than two decades and is transitioning into a mature industry.

In the [Queensland Government, Environment Industries Profile and Trends Report 2006](#), the Sunshine Coast was noted as having the third highest concentration of Environmental businesses in the state, only marginally behind the Gold Coast and Brisbane. Post 2005, there has been substantial regional expansion of this industry driven by water and energy costs, infrastructure stress and the perceived threat of global climate change.

Environmental Industries is a key industry sector in which the region enjoys and has the potential to further develop a competitive advantage. The environmental attributes of the Sunshine Coast have attracted people with strong environmental values interested in preserving and enhancing the natural attributes of the region. The increasing numbers of like minded people within the community is accelerating a cultural shift towards energy awareness and conservation. Practical demonstrations of what is possible, such as low energy buildings for Queensland government departments, embedded PV generators on schools, public buildings and private residences has resulted in significant coverage in the print and electronic media, further raising community awareness and enthusiasm.

As a result, an increasing number of businesses in the region that make products or provide services based on renewable energies (solar) and complementary energy efficiency products and services. The region also has a higher propensity for residents to adopt environmentally friendly practices. An example of this is the uptake of solar power in the region. The Noosa News (May 22, 2009) reported that a recent study by Energex found that Sunshine Coast residents are more likely to use sources of solar energy (power and/or hot water) and less likely to have air conditioning than the rest of south east Queensland. The data shows that almost 650 Sunshine Coast homes have solar PV (photo voltaic) systems installed, twice as many as the Gold Coast despite having fewer homes.

The Sunshine Coast Council is the first local government authority in Australia to embrace new efficiencies in renewable energy through the installation of Silver Cell solar panels on community buildings, including the Lake Kawana Community Centre, Caloundra Library and the Glasshouse Mountains Visitor Information Centre. [SCRC e news 06/07/09](#).

The SCRC embraces in its policies energy efficiency, renewable generation and preservation of the natural environment creating a constructive framework within which Environmental Industries can flourish with in the region.

Greater awareness by the Australian population of the need to make water and energy efficiencies, and the identification of the Sunshine Coast as a region of employment high vulnerability, the Environmental Industry, including the renewable energies (solar) sub-sector is well placed to play a pivotal role in securing the future economic development and energy efficiency of the region.

### **Industry definition**

The definition of the environmental industry used in this submission is the definition used in the [Department of State Development Queensland Environment Industry: Profile and Trends Report 2006](#) (now DEEDI) as it applies to the Sunshine Coast region. The definition is:

*Sunshine Coast Businesses that promote and provide products and services to:*

*- prevent, mitigate or reverse impacts on the natural environment*

- *reduce ecological or human health risks*
- *And improve business efficiency through sustainability measures*

## **Vision and Goals for the Environmental Industries Sunshine Coast**

### **Vision**

Environmental Industries Sunshine Coast - Recognised as an industry representative group that promotes and provides environmentally focused, sustainable products and services, regionally, nationally and internationally.

### **Goals**

1. To build the capacity and capability of the environmental industry in the Sunshine Coast region
2. To promote the Sunshine Coast as a region that produces environmentally focused products and services
3. To raise awareness of how to achieve environmental sustainability for business, industry and consumers.

## **Environmental Industries Sunshine Coast (EISC) Background and Structure**

Environmental Industries Sunshine Coast (EISC) is a group of professional and business leaders from industry, with support from government and educational institutions, with a focus on developing environmentally sustainable industries and activities.

The Group represents over 120 Sunshine Coast based businesses, engaged in providing environmentally focused, sustainable products and services and includes “adopters” and “advocates”.

The group was initially convened by the Department of Tourism, Regional Development and Industry in 2008.

The EISC structure comprises one overarching reference group, with three main working groups that focus on the water, building and design, and energy (renewable - solar) sub-sectors of environmental industries. These working groups provide networking, information sharing, and action planning roles that work with and inform the reference group.

### **Group Scope**

The Sunshine Coast Environmental Industry has a diverse range of businesses for the end user (residential, commercial, industrial) including businesses focussing on:

- **Water management**
  - integrated water cycle management (water harvesting, treatment and re-use),
  - environmental consulting and
  - water sensitive systems design (for the end user to reduce water consumption and impact on water resources)
- **Environmentally sustainable/friendly building construction/design and building supplies:**

Businesses recognising, promoting, supporting and using:

  - the principles of passive solar design and natural ventilation, principals including

natural heating and cooling, efficient water use and responsiveness to place and/or

Businesses making:

- building materials that reduce the carbon footprint over the lifecycle of the building

- **Renewable energies (emerging)**

Businesses focussing on energy efficiency through:

- renewable energy generation and

Businesses committed to:

- educating households and businesses how to reduce their power demand and use renewables to supply their needs.

### **Scope of this Submission**

This submission, in addressing Terms of Reference 1 and 2, will hopefully assist in addressing some of the ways the Queensland Government can assist in maximising energy efficiency and the economic benefits of the industry by:

- raising the recognition of the industry,
- the uptake of renewable energy (solar) by Queensland consumers (residential, industrial and commercial),
- addressing some of the potential barriers and impediments for the industry, (particularly regarding incentive schemes) and
- maximising Queensland's natural resource (solar) advantage

which will assist in the state meeting it's objectives in reducing greenhouse gases.

### **Comments on Terms of Reference**

Terms of Reference numbers one and two have been addressed together in this submission as they are intrinsically linked for the renewable energies (solar) sub-sector of the environmental industries in the Sunshine Coast region. Terms of Reference number 3 is not addressed by this submission and Terms of Reference number 4 is addressed separately.

#### **1. The economic and environmental costs and benefits arising from energy efficiency improvements and**

#### **2. Potential barriers and impediments to improved energy efficiency**

- a. While government incentives that increase the uptake of environmental industries products and services are welcomed by the industry, working in close consultation with industry in the development of economic policies that relate to the industry, for example climate change and green house gas policies and the subsequent incentive schemes, would result in policies that benefit the industry in

both the short and the long term and increased opportunities for improved energy efficiency. It is recognised that short term policies have in some respects been detrimental to the long term interests of micro and small businesses in the renewable energies (solar) sub-sectors of the environmental industries e.g. solar hot water rebate systems.

Implementation of and changes to government incentive schemes with short lead times are difficult for the industry and affects it's capacity and it's ability as an employment generator because:

- i) it is difficult to upsize and find sufficient quality trained staff in the short term e.g. solar installers, with consequent lost opportunities for improved energy efficiency and economic growth
- ii) it is difficult to down size businesses at short notice if Government incentive schemes cease. For example businesses geared up in response to solar hot water rebates to cope with the rapid increase in demand. Sudden downsizing reduces dramatically the opportunities for improved energy efficiency and economic growth.
- iii) Industry reputation and standards can be affected by inferior product used by new market entrants that have entered the market only to take advantage of Government incentives. New entrants may undercut existing business by using inferior product. Longer term industry players are then left to repair the damage done by for example the installation of inferior quality solar power systems after the incentive schemes have ceased. Not only does this affect the reputation of the industry as a whole, it then makes it difficult for them to recruit quality staff in the longer term due to a poor industry image, reducing opportunities for improved energy efficiency and economic growth.
- iv) Introduction of government incentives with very short lead times, for example the solar hot water service incentive scheme, which affects customer perception of the industry. With the increase in order volume, there is often a backlog of paperwork for the businesses involved resulting in long lead times before customers take delivery of their product. This creates customer wariness about the use of these products into the future, resulting in a negative industry perception and lost opportunities for improved energy efficiency and economic growth.
- v) There needs to be a review of accreditation of products that make energy efficient claims, for example water heat pumps. Products that do not live up to claims made, adversely affect the industry's reputation into the future, reducing the uptake of these products and reducing opportunities for improved energy efficiency and economic growth.
- vi) Micro and small businesses like those in the Environmental Industry in the Sunshine Coast region lack the capacity to tender under the arrangements previously in place for incentive schemes for example solar hot water systems. As a result, potential work goes outside of the region as consumers access systems provided by the large scale operators with the capacity to tender for the schemes. Businesses in the region would

welcome the opportunity to be part of the tender process to maintain and grow their businesses and establish an on-going relationship with their customers. This not only increases the opportunities for improved energy efficiency in the region, but also increased economic growth in environmental industries – a priority industry sector for Queensland.

Working in close consultation with the industry, prior to the introduction of Government incentive schemes, will hopefully result in assisting micro and small business in emerging industry sectors like the environmental industries to grow and strengthen their businesses for the longer term, enabling business to create more certain employment opportunities as well as contribute to increased energy efficiency in Queensland..

- b. Queensland has a major competitive advantage in its abundance of natural resources including energy (particularly solar) with some of the highest solar energy yields of any continent world wide.

By working with these competitive advantages and the environmental industry, particularly renewable energy (solar) in the following ways, there is the possibility of generating substantial employment opportunities, while improving energy efficiency, energy security and positive environmental outcomes:

- i. By supporting the take up of products and services in the Environment Industry through raising public and Government departmental awareness of the economic and environmental benefits of business/commercial and household uptake of:
  - Renewable energy use, particularly solar grid connect and off grid solar power and
  - Sustainable building design and construction methods and materials, incorporating passive solar design, natural ventilation, natural heating and cooling and efficient water use
- ii. Government policies that actively promote the uptake of these environmental industries products and services.
- iii. The adoption of mid to long term strategies that offer a stable business environment encouraging legitimate enterprises to invest capital in equipment, infrastructure and the labour force.
- iv. Policy settings such as a Gross Feed in Tariff for on grid co-generation and incentive packages for off grid installations which can demonstrate a saving to the energy distribution network by eliminating high cost services to remote consumers.

#### **4. The role of the Carbon Pollution Reduction Scheme (CPRS) and other Commonwealth and State Government initiatives in encouraging energy efficiency.**

The recent passage of the Federal ETS package and the imminent CPRS legislation will fuel the public appetite for renewable co generation and energy efficiencies as the

consequential effects of these acts compound the existing cost impacts of infrastructure stress being felt across Queensland.

Renewable co-generation and energy efficiencies can mitigate some of these cost drivers by reducing or eliminating the requirements for network upgrades.

Energy consumers can benefit from Renewable Energy Certificates (RECs) and the associated phantom RECs created under the Solar Credits component of the ETS legislation by installing PV co-generators. Details of this scheme are yet to be finalised, however for all intents and purposes the legislation is now active and operating with claims back dated to installations on or after June 9<sup>th</sup> 2009.

Solar hot water systems also attract RECs and significantly reduce power consumption and relieve the distribution network of load, improving energy efficiency.

State based Feed in Tariffs (FiTs), preferably harmonised across the Commonwealth, reward consumers who reduce or eliminate their grid load by generating power where it is used. While raised at recent COAG meetings, no real progress has been mooted but increasing demand for harmonised Gross Feed in Tariffs is anticipated and should lead to a positive outcome.

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Working in close consultation with industry in the development of policies that benefit the industry in both the short and the long term, as outlined above will improve energy efficiency in Queensland, boost economic growth, particularly in regional areas like the Sunshine Coast where there is a growing concentration of small businesses in the renewable energy (solar) industry, resulting in favourable environmental outcomes.

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