THE ECONOMICS AND INDUSTRY STANDING COMMITTEE

PARLIAMENTARY ENQUIRY

INTO

RENEWABLE ENERGY AND ENERGY EFFICIENCY IN WESTERN AUSTRALIA

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1.0 About the Western Australian Sustainable Energy Association (WA SEA) Inc

1.1 Background

The Western Australian Sustainable Energy Association (WA SEA) Inc. was officially incorporated in July, 2002 and is the peak body of the Western Australian sustainable energy industry. The Association promotes the development and adoption of sustainable energy technologies and practices that minimise and/or displace fossil fuel use. The Association has over 60 individual and company members representing the broad spectrum of the sustainable energy industry.

The Association was established in response to an identified need for sustainable representation at a local level. The aim of the Association is to give voice to those with an interest in sustainable energy.

WA SEA's mission is: 'On behalf of the people of Western Australia, the Association will vigorously promote the development and adoption of sustainable energy so that by the end of this decade, 30% of the states fossil fuel use is displaced by sustainable energy practices.'

1.2 Objectives

WA SEA Inc. defines sustainable energy as energy which is replenishable within a human lifetime and which causes no long-term damage to the environment.

WA SEA's main objectives are:

1. Promoting the adoption of sustainable energy solutions that encourage the protection of the environment which traditional energy sources are damaging
2. Forming productive relationships with stakeholders
3. Facilitating the adoption of sustainable energy technologies and practices as a method of reducing WA's greenhouse gas emissions
4. Lobbying WA Parliamentarians and Government agencies and providing representation on relevant committees
5. Providing relevant and timely information to members and stakeholders
6. Increasing employment opportunities within the WA sustainable energy industry by championing:
   i) Policies and programs that foster the expansion of WA's sustainable energy industry
   ii) The adoption of sustainable energy technologies and practices by energy consumers

1.3 Information on renewable energy and energy efficiency to facilitate community discussion

The Economics and Industry Standing Committee's call for submissions, while most welcome would benefit from the provision of an information document. This could have been made available, on request to those seeking to make a submission. This document could detail "the state of play" of renewable energy and energy efficiency in WA and addressed the critical issues of, federally mandated renewable energy targets (MRET), network access for renewables and provided some examples on how energy efficiency and/or demand side management can be encouraged.

WA SEA recommends that an information document be prepared, that addresses baseline information aimed at informing the community about the current state of play of renewable energy and energy efficiency in Western Australia and contains:

- ***Basic analysis of current renewable activity, in the context of potential market size, barriers elucidated and addressed. For example:***
  - ***Currently renewable energy in WA contributes less than 0.05% of the total electricity generated on the SWIS.***
  - ***A complete list of current renewable generation in the State could be provided, along with MW size, capacity factor, KWh generated and fuel type. Project owners and point of access (ie SWIS, NWIS should also be identified.)***
  - ***Explanation of WA's obligations under the Federal Government 2% renewable legislation could be included and the following points addressed:***
    1) ***WA's liability in terms of MWh of renewable required to satisfy the State's 2% obligation;***
    2) ***MW of renewable generation required to meet the State's 2% obligation; and***
    3) ***Comparison of the impacts on WA (jobs, development, new industry development, economic multipliers) between the case where the State's 2% obligations are met locally by local industry as compared to the State's 2% obligation being met via purchase of Renewable Energy Certificates (RECs) from non-WA based projects.***
- ***WA SEA recommends that the discussion document:***
  - ***Elucidate the difficulty in establishing RE projects in WA for the private sector and the number of projects that are waiting for an opportunity to become established. The barriers to entry should be clearly identified and some methods to overcome them proposed.***
  - ***Mention Western Power's green power scheme, present statistics on uptake and comment on a voluntary consumer scheme's suitability as a method for underwriting the State's renewable energy requirements.***
  - ***Address the issue of financial risk that renewable energy and greenhouse issues present to the State. For example, failure to purchase the RECs to satisfy obligations amount to approximately $30 million per annum by 2010 and stretches out until 2020.***

- ***Provide a complete list of current energy efficiency management measures along with an analysis of their effectiveness in reducing the need for further capacity (potential against actual).***

2.0 Recommendations on measures available to WA which encourage efficiencies in electricity production and consumption

2.1 Energy efficiency - demand management

WA SEA Inc believes that there is the potential in the State's power procurement process to recognise energy efficiency measures that displace the need for further installation of capacity. The current structure frustrates such initiatives due the vertically integrated nature of Western Power and the competing interests of its different business units. For example, Western Power promotes such energy efficiency schemes as the Albany Greenhouse Allies, which have a small target audience, while also advertising reverse cycle air-conditioning (RCA) on customer's electricity bills. RCA's increase electricity loads and hence greenhouse impacts.

Another example is Western Power's active campaign to convert customers with gas water heating and evaporative airconditioning to using reverse-cycle refrigerative airconditioning. This campaign has the detrimental effect of exacerbating the summer and winter peaks in the SWIS's system load profile, decreasing the efficiency of existing generation capacity utilisation and accelerating the need for new peaking capacity. These effects in turn cause network capacity congestion at times. These effects would not have eventuated had Western Power been vertically disaggregated, with Western Power Network not being captive to Generation and Retail's commercial requirements.

WA SEA believes that it is the vertically integrated nature of Western Power, with its various business units delivering mixed signals, that result in uncoordinated and ineffective energy efficiency measures. WA SEA recommends that Western Power should be both vertically and horizontally disaggregated.

2.2 Power Procurement and energy efficiency/demand management

The current power procurement process does not facilitate the implementation of innovative capacity saving measures. If new capacity is required by the system and it can be clearly demonstrated that energy efficiency measures can defer some of this capacity then there needs to be a methodology for achieving this outcome.

WA SEA recommends that the power procurement process should recognise the potential to defer capacity through energy efficiency and demand management measures.

2.3 Uniform tariff policy and encouraging energy efficiency and renewable energy generation

Under the current structure there is little incentive for the subsidised customer to implement strategies that reduce their cost to the system. It should also be noted that the subsidised customer's impact, in terms of the environment, is also disproportionately large because of line losses, inefficient generation, low infrastructure utilisation, etc. This situation offers the ideal opportunity to implement, in particular, energy efficiency and renewable energy generation strategies that can reduce the cost to the system of these consumers.

While WA SEA is not advocating that the consumer pays the full price of electricity we do believe that the subsidy that goes to each consumer be known and available to implement strategies that reduce the cost of that consumer to the system through sustainable energy practices.

WA SEA believes the new electricity market should include the following concept. For the subsidised customer group (all subsidised customers on the system) – about how many customers are subsidised? :

- the total level of subsidy be clearly identified and audited;
- each be identified and quantified in clear terms such as real price of electricity delivered;
- the greenhouse gas impact of the customers be identified;
- the private sector have the opportunity to bid in *innovative* solutions that target particular customers;
- the subsidy be available as additional payment to the service provider.

Such a system would reduce the cost of this customer group to this system (monetary and greenhouse) and stimulate innovative solutions that would facilitate the growth of the local sustainable energy industry.

WA SEA recommends that for subsidised customers, the total level of subsidy be clearly identified and audited; each subsidised customer be identified and quantified in clear terms such as real price of electricity delivered; the greenhouse gas impact of the subsidised customers; that the private sector have the opportunity to bid in innovative solutions that target particular customers; and the subsidy be available as additional payment to provide the service.

2.4 Solar Water Heating

In Perth solar water heating makes good economic sense with the potential to reduce heating bills by some 75% and reduces the total energy consumption of an average household by one third.

Western Australia is presently and has for some time been the world's leading exporter of solar hot water systems, with solar hot water heaters being exported to over 50 countries. Approximately 36,000 solar water heaters are sold each year in Australia, with approximately 80% of these solar water heaters manufactured in WA.

2.4.1 State Solar Water Heater Subsidy

The WA industry has been assisted by the State Government's $2 million subsidy for purchase of solar hot water systems in Western Australia. This subsidy was implemented in November, 2001. In July 2002 after a review with industry, the criteria of the subsidy was altered to enable more householders to take advantage of this subsidy. The Program was introduced by the Gallop Labor Government as a mechanism to increase the solar hot water market share in the new home buyer market segment. Previously the market penetration of this market segment was only 5%. The subsidy has now increased this to over 10% (this is a conservative figure). In addition, the subsidy was to assist in product development within this sector. As hot water heating is the largest energy related expense in the household and hence contributes the greatest number of GHG emissions, selecting the solar option leads to significant environmental and financial savings in the longer term.

The State subsidy runs out in June 2005. However, due to its success in reducing greenhouse gas emissions and stimulating industry development, the Government needs to extend this program for another term.

WA SEA recommends that the State's Solar Water Heater subsidy program be expanded and continued for another 4 years.

2.4.2 Draft State Greenhouse Strategy

As outlined in the Draft State Greenhouse strategy, there is a proposed commitment for the Government to examine options to install solar hot water heaters on all new government houses and buildings from 1 July 2004.

WA SEA Inc. supported the intent of this recommendation however, believed that the recommendation should be more action orientated. There is no need to further 'examine options to install solar…' as the Sustainable Energy Development Office (SEDO) has conclusively proven in the past that the installation of solar water heaters is a long term cost effective and environmentally sound water heating option.

WA SEA recommends that the Government should require the installation of solar hot water heaters on all new government houses and buildings - there should be a clear definition of what 'government houses and buildings' are inclusive of. For example, all Government departments, low income housing, education department housing.

With 80% of solar water heater manufacturer's located in Western Australia, this recommendation would provide a significant boost to the industry sector. This will provide an incentive for manufacturers to remain in Western Australia as the push for solar is more predominant over East due to progressive legislation. The State Solar Water Heater subsidy, coupled with the Renewable Energy Certificates generated from the MRET, solar water heating is becoming a more cost effective option for thousands of Western Australian families.

2.5 Electricity Retailer Licence Obligations

Retail licence conditions can be an effective method of achieving desired outcomes with regards to energy efficiency and renewable energy generation. However, it is important to note that compulsory schemes with effective penalties are required if outcomes are to be achieved.

2.5.1 Need for Effective Penalties - NSW Benchmarking Example

The NSW Government has proposed a number of significant changes to the NSW Electricity Retailers Benchmark Scheme. Electricity retailers that fail to meet greenhouse performance benchmarks will be required to pay a penalty. Voluntary targets had previously been in place but had proved ineffective with only two retailers complying. Under the scheme electricity retailers are to reduce their per capita greenhouse emissions to 5 per cent below 1989/90 levels by 2006/07. However, capita emissions are currently running at 10 per cent above 1989/90 levels.

Retailers can reduce emissions through renewable generation, new low emission generators such as gas and coal waste methane, improving performance of existing generators, planting trees as carbon sinks, energy efficiency and demand side management. NSW retailers are able source emission reduction from anywhere in the National Electricity Market (NEM). The level of the penalty is yet to be determined but is likely to be at the marginal cost of abatement, estimated at $13 per tonne of CO2e.

NSW Treasury has undertaken an extensive modelling exercise on the impacts of the scheme both within NSW and if the measure was extended across all NEM states. The results of the economic modelling exercise indicate that implementing the scheme will have a minimal effect on the cost of electricity production. The estimated cost increases are not expected to adversely affect the global competitiveness of the NSW economy. The cost of electricity production will still compare extremely favourably with that of other nations.

It should be noted however that the NSW modelling did NOT take into account the offset impact on electricity prices of reduced demand and that the total energy bill would be reduced.

WA SEA also notes that the ESAA supports the national application of this scheme over a NSW only based scheme preferring consistent national legislation. It would be appropriate to implement such measures in WA to maintain consistency across the nation and to facilitate competition (consistent regulations will facilitate a competitive market).

2.5.2 The Case of Large Customers

If licence conditions are to be an effective mechanism then the case of large electricity customers needs to be carefully considered. For example, it is desirable to avoid a situation where large customers shifting to a direct purchase arrangement with WA's new electricity market or bilateral contracting with a generator facilitates a retailer in meeting licence obligations.

WA SEA recommends that retail licence conditions are used as a method of achieving desired outcomes with regards to energy efficiency and renewable energy generation and that effective penalties are used to ensure that the desired outcomes are achieved. It is also recommended that consistency with the Federal Government's 2% renewables legislation is maintained and that large customers who are not classed as retailers do not escape their obligations and are captured within the intent of retail licensing obligations.

2.6 Built Environment

The Australian Building Codes Board (ABCB) mandate was to normalise national construction codes and in doing so remove construction worst practice. This mandate was expanded to set minimum energy performance standards for buildings but again to only remove worst practice. The ABCB has no legislative power and it is up to the State and Local Governments to enact the ABCB codes and then to motivate builders, developers and architects etc, to exceed the required minimum standards in all domestic and commercial buildings.

Another import driver for this process is the end user of the building and the state government needs to improve awareness and improve commercial incentives to motivate consumers to demand more efficient buildings from these builders, developers and architects.

Local Councils have a vital role to play pursuing energy efficiency in all households. The East Metropolitan Regional Council has recently implemented an insulation rebate program. Householders are given a $100 rebate on insulation installed. In addition, the Council has implemented an energy audit service, free of charge to all householders living in that region. Both these services have proved popular and are encouraging the reduction of energy use in the household.

The State Government should also follow energy standard examples set by other States of Australia. For example, the Victorian Government has mandated that all new domestic homes will have either a rain water tank or solar water heater installed. Governments in New South Wales and South Australia are implementing similar policy. In the Australian Capital Territory, all new domestic homes are required to have a star rating.

Homes built in WA should also reflect their climate. Western Australia has 5 different climate zones. Building design should reflect the climate zone which they are in. This will go a long way towards reducing the demand for purchased energy. The emphasis needs to be design for climate, not for aesthetic pleasure.

There needs to be a holistic approach to energy reduction. Changing the way a consumer uses fossil fuel generated power will have a major impact but there are many other smaller changes that when added together will lead to significant energy savings. More importantly making people realise that this is a process that needs to be continuously evolving and doesn't stop with the purchase of an energy efficient refrigerator.

2.7 A framework for energy efficiency

A National Framework for Energy Efficiency (NFEE) is a Federal initiative which aims to define future directions for energy efficiency policy and programs in Australia.

The Energy Efficiency and Greenhouse Working Group (E2G2), which has been established under the Ministerial Council of Energy is responsible for the development of the NFEE. Currently SEDO has a representative on the E2G2 working group. Recently a discussion paper which outlined the issues and barriers relating to the implementation of energy efficiency within the industrial, commercial, residential, conversion and intermediary sectors was circulated for comment.

WA SEA sees the major barriers preventing individuals and organisations from accelerating the uptake of energy efficient practices and technologies to include:

- Limited reliable, relevant, and timely energy efficiency information available to individuals and organisations
- Limited expertise or tools available to identify energy saving areas
- Limited priority within organisations to dedicate human and financial resources towards energy efficiency
- Limited education of energy efficiency within the current university and tafe curriculum
- Lack of evidence of achievements resulting from the adoption of energy efficiency practices. This information should be communicated to encourage others to also adopt such practices.
- Limited information on how government is leading by example

- Conflicting Government policies associated with taxation (Energy costs can be claimed as a taxable annual expense, whereas costs of implementing energy efficiency are considered capital expenses and are slowly depreciated. There is a strong case for considering accelerated depreciation of investments in energy efficiency.)

WA SEA believes that WA should continue to be part of the development of the NFEE. In particular, key stakeholders within the energy efficiency sector need to be consulted in the development of the National Framework.

2.8 Community – attitudes and behaviours

Community attitudes towards energy efficiency and renewable energy relates directly to community awareness about:

- the need to act from an environmental perspective regarding climate change and greenhouse gas emissions
- the relationship between energy use and greenhouse gas emissions
- the capacity of energy efficient technologies and demand management behaviours to deliver reduced energy consumption
- the associated benefits of improved demand management and energy efficiency including
  - improved comfort levels in homes and buildings
  - reduced energy costs
  - value added buildings

Community behavioural change with regards to energy consumption, and energy demand management has been shown to be influenced by:

- Awareness and access to information, credibility of information
- Personalities
- Attitudes
- Previous actions
- Income and financial capacity or incentives
- Attitudes and actions of friends and associates
- Community and cultural setting

There are a number of barriers which deter consumers from implementing sustainable energy practices. Such barriers include:

- High cost of purchasing sustainable energy products and practices. Consumers are not aware of the long term savings that result from the cost of sustainable energy products and practices. In particular, consumers are not convinced that purchasing energy efficient products will result in significant enough cost savings to compensate the high initial outlay.
- Consumers are unaware of where they can purchase sustainable energy products or how to access services
- Consumer confusion over the number of choices available and determining which is the right product for them

- Apathy in the belief that small behavioural changes on their behalf does not make a real difference to energy savings.

WA SEA recommends that a comprehensive communication strategy be developed to educate and inform consumers of the benefits of adopting sustainable energy practices. In addition, any approach towards energy efficiency should contain a number of different strategies that target different community sectors. Strategies should range from low cost low effort, low cost high effort, high cost low effort to high cost high effort initiatives.

2.9 Natural Power and Earth Friendly Power

Western Power currently has two alternative Power products available to consumers 0 *Natural Power* and *Earth Friendly Power*.

Natural Power allows residential and commercial customers to source all or part of their electricity from 'green' power generators, including hydro and solar. Both residential and commercial customers can choose to purchase 100, 75, 50, 25 or 10 per cent of their electricity usage as Green Power. Other percentages are negotiated for large contract customers; typically, local government opts for 10%.

Earth Friendly Power is an electricity-based product certified under the national Greenhouse Friendly programme, co-ordinated by the Australian Greenhouse Office (AGO). All emissions created in the mining, generation, transmission and use of the electricity sold under Earth Friendly will be offset or abated by certified abatement projects. Earth Friendly will be greenhouse gas emission neutral.

Natural Power uses renewable energy sources that have minimal or no greenhouse gas emissions. *Earth Friendly* uses fossil fuels to produce electricity and offsets any emissions created. Under the guidelines of this programme Western Power must offset any emissions generated via *Earth Friendly* through purchasing emission reduction certificates from certified Greenhouse Friendly Abatement Projects.

The renewable energy sector will benefit in no way from the Earth Friendly program as no additional funding is put towards the delivery of renewable energy projects.

The uptake of *Natural Power* in WA has been relatively slow. In Financial Year 00-01 there were 566 customers registered. At the same time one year later there were 711, including 76 commercial customers. This is in contrast with a recent Greenpeace survey that showed 83% of Australians (and even more in WA) would be prepared to pay more for renewable electricity.

There are a number of reasons why the adoption of Natural Power has been minimal. These include:

- Limited promotion of the *Natural Power* product
- Consumer uncertainty as how to connect to *Natural Power*
- Additional costs related to connecting to *Natural Power*

- Uncertainty that the electricity the consumer is receiving is from renewable sources. In addition, uncertainty as to which renewable sources are used to generate electricity.

WA SEA recommends that a comprehensive marketing communications strategy be developed and implemented to promote Natural Power.

3.0 Recommendations on measures available to WA which encourage the use of renewable energy

3.1 State's Power Procurement Process

The State's current base load power procurement process:

- explicitly excludes renewable energy from the process only allowing coal or gas powered generation;
- does not address the implications of the Federal Government's Mandated Renewable Energy Target (MRET);
- looks set to deliver a power station that makes it technically more difficult to construct variable generation renewable energy projects. For example, coal fired power stations can't be run at low load levels or shut down efficiently during periods when variable generation renewable energy sources (eg wind farms) are running at high levels;
- does not recognise energy efficiency measure that displace the need for further installation of capacity;
- does not support the State's developing greenhouse strategy; and
- is not congruent with the State's sustainability strategy.

This is of particular concern as a competitive power procurement process has the potential to be an effective method of facilitating the development of low cost renewable energy and/or rewarding energy efficiency measures.

Power Procurement and the 2% Renewable Legislation

WA is required, under Federal Government legislation, to develop some 250MW of renewable energy by the year 2010 - if WA does not construct this capacity it will be built on the eastern seaboard and WA tax payers will foot the bill (to the tune of some $600 million in lost construction, investment, jobs and economic flow-on to the State).

Notwithstanding the Federal obligation hanging like Damocles' sword over the State and the WA renewable industry looking for opportunities to enter the market, the power procurement strategy for the next 200+MW of capacity only relates to making sure that coal can effectively compete with gas. There is no mention of a procurement process that facilitates renewable generation and seemingly no serious commitment to levelling the playing field so that renewable energy can access the market via long-term government backed contracts.

WA SEA recommends that WA's power procurement process include provisions:

- ***for renewable energy generation in line with both Federal and State Government targets;***
- ***that ensure all new fossil fuel generating capacity works harmoniously with current and future renewable generation and in a manner that facilitates***

the maximisation of the amount of renewable energy generation plant that can be integrated into the grid;

- ***to recognise energy efficiency measure that displace the need for further installation of capacity; and***
- ***that include 30% of capacity allocated over the next decade to renewable energy generators.***

3.2 Competitive Tendering For Renewable Capacity

The current vertically integrated structure hinders the potential for low cost renewable energy procurement with Western Power having its own renewable energy business development group, including established joint ventures with private companies. Two critical issues emerge from here:

a) there seems to be a clear conflict of interest issue, where it can be interpreted that Western Power has been obstructing independent renewable projects because these compete directly with Western Power's own business ventures (fossil and renewable); and
b) by preventing competition in the renewable market Western Power is causing an artificially high cost structure for renewable energy, hence dampening public support for renewable. (Under the current system it is easy to understand Western Power's behaviour as it is acting in a manner that protects its own interests as required under its Act.)

An example of the problems with this process is demonstrated by the recent development of the Albany wind farm. The capacity associated with this project was not competitively tendered and it appears that the Albany wind farm project on $ per MW basis is some 30% higher than the cost of wind farms being currently built by the private sector with similar quality parameters.

A competitive tender process had been proven in the UK to be an effective method of delivering low cost renewable energy to the system. Under the UK's non-fossil fuel obligation (NFFO) Scheme competitive tendering is the basis for sourcing renewable capacity with the cost of renewable energy being reduced 50% over the scheme's life.

A competitive tendering process will also make it necessary that all bidders, Western Power or Independent Power Producers (IPPs), will face the same network access treatment. Currently, there is discrimination between the two, with IPPs having to energy balance while Westem Power (the Albany Wind Farm) does not. While there is work currently underway to redress this issue, historically, Western Power has refused to supply top-up at tariffs to contestable customers taking renewable as part of their consumption, forcing the customers to remain with black power. Western Power knows that energy balancing and capacity/energy matching, together with the absence of top-up supply at tariffs, will continue to bar entry of independent renewable energy projects in the SWIS. Competitive tendering will turn this discrimination transparent and compel the Government to impose workable and fair solutions.

WA SEA recommends that Western Power should be both vertically and horizontally disaggregated and that a competitive bidding process be used to source all additional renewable energy generating capacity.

3.3 Electricity market arrangements in WA

WA SEA is acutely aware of the need for the reform of the electricity market to facilitate the development of private sector renewable energy and energy efficiency projects.

The current system that requires bilateral contracts and the associated energy balancing requirements have not delivered private sector renewable energy projects to the grid. This is despite the access level having fallen to the 300MWh for renewables as of January 2000. The only project that has been established since the changes to the access levels has been Western Power's Albany Wind Farm and that project does not operate under the same rules that apply for private renewable energy projects. The current scheme makes no allowance for the peculiarities of renewable energy generation which is predominantly:

- small scale and expensive - can't take advantage of the economies of scale; and
- variable - diurnally, seasonally and hourly.

The load-following requirements which require generators to match loads are an insurmountable barrier and make the lowering of thresholds an empty process. To exacerbate the energy balancing problem Western Power has refused to supply top up energy to customers who take renewable energy as part of their total demand as discussed above. Other problems are associated with the case of over generation by renewables: if renewables spill energy into the grid, then that energy is confiscated and no payment is made.

Western Power provides its own Albany Wind Farm (AWF) with complete system support, with Transmission Control Centre using automatic frequency control to help bring AWF on line. This is simply using the entire black generation portfolio – including IPP generators – to instantaneously provide top-up to and absorb spills from AWF. Further, Western Power has provided AWF with a set customer base that instantaneously matches AWF's output. AWF did not have to sign bilateral contracts with any customer. The entire franchise customer base is at its disposal.

This unfair use of system diversity (diversity of generators as well as of loads) to support Western Power's own renewable projects while denying it to IPPs, is unacceptable. This is discrimination at its worst.

WA SEA recommends that the new electricity market be developed in such a manner that it accommodates the small scale and variable nature of renewable energy generation by using system diversity such as in a mandatory or voluntary Pool approach. Only through an effective wholesale market arrangement will the energy balancing and standby power issues, currently used to bar entry, be clearly

addressed. Bilateral contracting by itself is an inefficient regime for developing independent renewable power projects.

3.4 A workable renewable energy access regime

We acknowledge that a renewable energy access regime, aimed at delivering access for renewable energy projects, has been under development for four years and has yet to deliver a workable model. Indeed in February 2002 Western Power and the Office of Energy handed down an unworkable model that has never delivered a renewable energy project to the market.

Difficulty with this process of developing the access regime is understandable as the process requires Western Power to make concessions that would be against its own commercial interest. Western Power would be required to transfer the regime to a more efficient one, which would eliminate the energy balancing and matching requirements, to enable fair access by third party renewable projects. This would clearly impact on Western Power's own renewable project development.

Independent renewable energy generators directly compete against Western Power's retail and generation businesses and its own renewable energy development companies and interests. Given this framework, there is no possibility of a workable regime being able to be delivered by Network. An effective renewable energy access regime will require substantial joint effort between an independent network operator, an independent system operator, a regulator and the renewable energy industry.

WA SEA recommends that an effective renewable energy access regime be developed with the active participation of an independent network operator, an independent system operator, an independent regulator and the renewable energy industry. If this is not forthcoming then we recommend that the current unworkable renewable energy access regime be modified as detailed in the two tables following.

PART SUPPLY MODEL RENEWABLE ENERGY ACCESS REGIME		
	CURRENT UNWORKABLE RENEWABLE ENERGY ACCESS REGIME	**A WORKABLE RENEWABLE ENERGY ACCESS REGIME**
TOP-UP	Under the part supply option, top-up is at R1 rates – at a minimum 2c/kWh more expensive than the time-based rates. RE generators must be able to purchase top-up at the existing tariff. A return to this fundamental principle is essential to facilitate the development of independent RE projects. IPPs are required to enter into Electricity Supply Agreements with Western Power for top-up. This is an unnecessary complexity.	Part Supply Option be amended to enable top-up to be purchased at the customer's existing tariff. Any other basis would require IPPs to take uncommercial risks as to top-up prices, as customers will not take top-up price risk. WP Retail should bill the customer for all usage, and pay the IPP for the power it supplies, out of this payment.
SPILL	Spill is not purchased under the part supply option. All renewable electricity that spills into the system is confiscated with no payment.	Spill needs to be purchased at a fair and reasonable price – confiscation of renewable electricity is not fair or reasonable, unfairly favours Western Power and sends the wrong signal to the finance sector. Spill should be purchased at no less than 80% of the top-up price.
ENERGY BALANCING	Under both models energy is balanced between peak and off peak periods. However, renewables are not schedulable in the same way that fossil fuel generating plant is and are intensely disadvantaged (to the point of being unviable) by this requirement.	On/Off-Peak time stamp is contrary to the characteristics of RE and needs to be removed in its entirety. A single balancing period (24 hours a day for the complete billing period) for renewables would ensure that renewable energy projects are viable. This will maximise green power output, by encouraging the plant to run whenever fuel is available, providing maximum environmental benefit.
NETWORK ACCESS AGREEMENTS	Network access agreements currently take on average five months to process. This holdup results in the continuance of the status quo, while Western Power increases its own green power portfolio.	A workable regime requires sensible time frames for processing applications and agreements. A fair and reasonable regime would be limited to a one month maximum with the ability to process multiple sites with a single application.
ENERGY MATCHING	The current guidelines provide potentially draconian penalties if IPPs fail to generate the targeted portion of electricity their part supply customers use in a year	Given the unpredictability of renewable energy generation, this potential penalty regime should be removed. "Part Supply" IPP's should simply be required to undergo a triennial review of their generation capacity to ensure continued access to the SWIS. If generation capacity has fallen, the only "penalty" should be requirement to shed a customer load (or part thereof) on the next expiry date of a suitable customer contract.
MINIMUM PART SUPPLY AMOUNT	The current guidelines requires the renewable generator to supply at least 50% of its total customer load on an annual basis. This makes it difficult for renewable generators to supply large customers who may be interested in purchasing a small percentage of renewable energy.	There should be no minimum supply amount to allow renewable generators to target the total available deregulated customer base

FULL SUPPLY MODEL RENEWABLE ENERGY ACCESS REGIME		
	CURRENT UNWORKABLE RENEWABLE ENERGY ACCESS REGIME	**A WORKABLE RENEWABLE ENERGY ACCESS REGIME**
TOP-UP	The current arrangement provides top-up energy at a price that is calculated monthly by a formula that is determined and calculated by Western Power. Banks will not support RE projects due to price uncertainty in particular there is no way of guaranteeing that the methodology (used to calculate top-up) won't change and that the prices track the methodology.	To ensure that renewable energy projects can be financed the finance community needs cost certainty with regards to the price of top-up. This can be simply done by ensuring that the indicative top-up prices presented by Western Power change in relation to the domestic electricity tariff and not on a monthly basis as proposed. A collar and cap process would also provide a simple method of providing certainty over the top-up prices required by the finance community.
SPILL	Spill is purchased at a price 40% below the purchase price of top-up. This is unfair and discriminates against independent RE projects (WP does not place this constraint on their own RE projects).	Spill needs to be purchased at a price that is equivalent (or closely matched) to the top-up price. This will encourage the maximum utilization of renewable energy generating plant.
ENERGY BALANCING	Under both models energy is balanced between peak and off peak periods. However, renewables are not schedulable in the same way that fossil fuel generating plant is and are intensely disadvantaged (to the point of being unviable) by this requirement.	On/Off-Peak time stamp is contrary to the characteristics of RE and needs to be removed in its entirety. A single balancing period (24 hours a day for the complete billing period) for renewables would ensure that renewable energy projects are viable. This will maximise green power output, by encouraging the plant to run whenever fuel is available, providing maximum environmental benefit.
NETWORK ACCESS AGREEMENTS	Network access agreements currently take on average five months to process. This holdup results in the continuance of the status quo, while Western Power increases its own green power portfolio.	A workable regime requires sensible time frames for processing applications and agreements. A fair and reasonable regime would be limited to a one month maximum with the ability to process multiple sites with a single application.
ENERGY MATCHING	The current guidelines provide potentially draconian penalties if IPPs fail to generate the quantity of electricity their customers use in a year	Given the unpredictability of renewable energy generation, this potential penalty regime should be removed. "Full Supply" IPP's should simply be required to undergo a triennial review of their generation capacity to ensure continued access to the SWIS. If generation capacity has fallen, the only "penalty" should be requirement to shed a customer load (or part thereof) on the next expiry date of a suitable customer contract.

3.5 Need for Competitive Retailing

Under the current vertically integrated system the entire WA franchise market sits with a single retail business unit who can use the franchise market to:

a. Regulate the quantity of renewables that is available within the State and available to consumers by tightly controlling when new renewable capacity is built. Selectively bring on line renewable projects and schemes that benefit itself while freezing out competing projects no matter what their merits or benefit to the State.
b. Protect its related business units by acting independently of market based renewable targets that are aimed at increasing the quantity of renewable energy in the market. For example, the 2% renewable energy liability can be satisfied by sourcing renewable energy certificates on the eastern seaboard and not by increasing the level of renewable energy generation in the State or purchasing from the private sector. Local renewable energy developers currently observe that Western Power is involved in developing renewable energy projects on the eastern seaboard.

It is financially and economically desirable for WA to build its own renewable capacity and attract eastern seaboard capital into our economy, not vice versa. In a competitive retail market, the effect of Western Power's strategy would be modified. The current market arrangements enhance the negative impact.

We believe a vertically and horizontally disaggregated Western Power retail and generation units, with competing retailers, each sharing in the franchise market, will facilitate take up of renewable energy projects within the State by:

- Spreading the 2% Renewable Energy obligation (and any new measures either State or Federal) amongst a number of competing retailers will facilitate competing renewable energy and energy efficiency strategies. This will stimulate a broad range of innovative renewable energy projects and energy efficiency programs.
- Providing each retailer, Western Power and independent alike, with access to a franchise base required to enter bankable contracts with renewable energy generators.
- Removing the need of private sector renewable energy projects to source bilateral contracts with individual consumers thus making it far easier to finance renewable energy projects.

To facilitate take up of renewable energy projects within the State WA SEA recommends the vertical and horizontal disaggregation of Western Power retail and generation units, with competing retailers each sharing in the franchise market.

3.5.1 30% sustainable energy target and retail licence conditions

A key goal of WA SEA is:

> *'On behalf of the people of Western Australia, the Association will vigorously promote the development and adoption of sustainable energy so that by the end of this decade, 30% of the State's fossil fuel use is displaced by sustainable energy practices.'*

This goal delivers an equal place at the energy table for sustainable energy practices, diversifies WA's fuel mix and increases security of supply, and assists the newly developing electricity market as sustainable energy practices are disconnected from the traditional fossil fuel markets (many sustainable energy practices have no fuel component and so the price of energy is known from day one). This offers particular benefits to WA's electricity market, bringing long term price stability and reduces the need for retailers and large electricity users to hedge against unknown future fuel costs.

As already discussed in section 2.5 retail licence conditions can be an effective method of achieving desired outcomes with regards to energy efficiency and renewable energy generation. However, it is important to note that compulsory schemes with effective penalties are required if outcomes are to be achieved.

The Electricity Reform Task Force's final report on Electricity Reform in Western Australia, had Recommendation 69 identify retail licence condition as an effective method of delivering specific State based sustainable energy targets. Sustainable energy targets have been adopted at a National and International level with great effect. In Australia, at a Federal level, we have the Mandatory Renewable Energy Target and many other countries also have renewable energy targets (UK, Japan, Denmark, numerous States in the US, Germany to name but a few).

WA SEA recommends that retail licence conditions are used as method of achieving 30% of all renewable energy generation and that effective penalties are used to ensure that the desired outcomes are achieved. It is also recommended that consistency with the Federal government's 2% renewables legislation is maintained and that large customers who are not classed as retailers do not escape their obligations and are captured within the intent of retail licensing obligations.

3.6 Network Access

We believe the current system is defective in that it requires the monopoly player to develop and operate the network access regime, transmission and distribution, and historically without any independent regulator to control the process. While it is recognised that legislation (Electricity Industry Bill 2003) has passed Parliament (April 2004) that puts in place an independent regulator networks still remains within the monopoly and it is widely anticipated that the power of the monopoly will impede the effectiveness of the regulator. This is because it appears that it is in the commercial interest of the monopoly player to protect its own business units by:

a. delaying the development and introduction of access regulation;
b. developing overly restrictive and complex regimes;
c. adopting one requirement for WP and another more onerous for competitors; and
d. developing unfair pricing.

Two recent and relevant examples of this are:

- Western Power requires all renewable energy proponents to undertake detailed and comprehensive system studies to determine the impact of their proposed projects on the networks before issuing access agreements. This is a costly and onerous process. However, when Western Power established their own Albany wind farm they waived this requirement.
- The inability to develop a workable renewable energy access code for Western Australia. The current working model being promoted by Western Power is not finished, complex, restrictive and will not send the pricing signals that will encourage renewable energy generators to become established.

WA SEA recommends that the networks business be separated from other Western Power business units so that the independent regulator can more effectively operate.

3.7 Western Australia's Greenhouse and Sustainability Strategy

The Western Australia's Greenhouse and State Sustainability Strategy's are currently being developed and that the work of the Economics and Industry Standing Committee will have consequences for both these strategies. Moreover, electricity generation is the single largest contributor to greenhouse in this State and there should be coordination.

WA SEA recommends that the members of the Greenhouse and Sustainability Strategy Groups have formal and resourced input into the work of the work of the Economics and Industry Standing Committee so that there is coordination between the groups at the design stage.

3.8 Federal Context

To maximise sustainable development in WA, local industry needs to be able to adequately leverage Federal Government policy initiatives aimed at stimulating sustainable energy development in Australia. At present this is not possible because WA's electricity market is totally misaligned with the Australian norm, for which the policy initiatives are designed.

WA SEA recommends that the Economics and Industry Standing Committee takes into account the implications of any new market structure proposed with regard to its suitability to deliver the intended outcomes of the Federal Government's Australian Greenhouse Office programs and National energy policy programs.

4.0 A Model for Sustainable Energy in WA

The model overleaf outlines the requisites for achieving a dynamic, innovative and sustainable renewable energy market in Western Australia and address the question, "How should demand management, energy conservation, end-use efficiency and the establishment of renewable energy generation and distributed generation be encouraged?"

OUTLINE OF A SUSTAINABLE ENERGY MODEL FOR WA			
	ELEMENT	**STATUS**	**COMMENT**
MODEL ASSUMPTIONS	*Federal 2% Renewable Energy Legislation*	*Legislation in place but currently has not delivered private sector sustainable energy developments in WA*	*Provides incentive for retailers to support renewable energy generators and additional revenue for renewable energy projects.*
	Remote Renewable Power Generation Program (RRPGP)	*Program in place and providing funds to develop RE projects in remote areas (55% of capital value)*	*Funding available can be used to offset the cost of RE generation in remote areas.*
	WA Greenhouse Strategy and State Sustainability Strategy	*Under development*	*Needs to be integrated into any State RE strategy must be coordinated with current inquiry.*
	Disaggregation of Western Power	*Stalled in Parliament*	*The WA market will need to better reflect the Australian norm if Federal schemes are to be adequately leveraged by WA's sustainable energy industry. This will remove the need for WA's consumers to pay higher tariffs for renewable electricity*
	Retention of Uniform Tariff *Independent Regulator, network operator, system operator*	*Under review – Government commitment* *Recent enabling legislation passed April 2004*	*Facilitate the development of the sustainable energy industry. However requires the disaggregation of the monopoly to be effective.*
	REQUIREMENT	***COMMENT***	***OUTCOME***
MODEL REQUIREMENTS	*Vertically disaggregated Western Power retail with proportional franchise market allocation to Western Power's disaggregated units as well as to independent retailers.*	*Stalled in Parliament*	*Each retailer will have incentive to source renewable energy under State or Federal Government requirements and each will have the ability to enter bankable contracts. Lower cost to consumer.*
	Competitive power procurement process to include 30% of capacity allocated over the next decade to renewable energy generators and a provision that recognises displaced capacity. Use retail licence conditions with effective penalties to ensure 30% target is delivered.	*Will support WA's Greenhouse Strategy and the objectives of SEDO. Helps WA meets its obligations under the 2% requirement within the State.*	*Will facilitate the development of low cost renewable energy through an open tender process, stimulate innovative energy efficiency measures and demand management programs thus decreasing both cost and demand, delivers an equal place at the energy table for sustainable energy practices, diversifies WA's fuel mix and increasers security of supply, and assists the newly developing electricity market as sustainable energy practices are disconnected from the traditional fossil fuel markets, bringing long term price stability and reduces the need for retailers and large electricity users to hedge against unknown future fuel costs.*
	All government departments and agencies to report to parliament on greenhouse gas intensity and purchase renewable energy provided it is at a cost equivalent to or below the cost of black power.	*Will support WA's Greenhouse Strategy and the objectives of SEDO. Strengthen Governments current Energy Smart Program.*	*Will help facilitate the implementation of energy efficiency measures stimulate the market for renewable electricity, lower cost of electricity to the public sector and reduce public sectors greenhouse gas intensity.*
	Effective energy balancing regime for renewable energy generators that recognise the small size and variable nature of RE generators. Also requires that customers can take part loads from RE.	*A renewable energy access regime has been under development for the past 4 years however, the scheme is in contradiction to WP's Act and the process has stalled. Elements of this regime are already being used by Western Power.*	*Will deliver renewable energy supply to the system as well as stimulating local industry and reducing the State's greenhouse gas emissions. Increase the proportion of renewable in the system*
	Make subsidisation of tariffs transparent. Identify subsidized customers and ensure audibility of the subsidy; segregate customers in terms of real cost of electricity delivered; open the subsidy to competitive bidding to enable innovative solutions to be delivered to target particular customers.	*Currently very limited use is being made of the opportunity to leverage current subsidies and high cost electricity users to develop WA's sustainable energy industry and reduce electricity costs in the State.*	*Benefits to all players: vibrant local sustainable energy industry, reduced price of electricity to customers due to competitive effects and focus on innovations targeted to particular needs; cheaper electricity costs to the State as the subsidy is wound back through competitive bidding.*