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**SUBMISSION TO THE GOVERNMENT OF WESTERN AUSTRALIA ON 'FOCUS ON THE
FUTURE: OPPORTUNITIES FOR SUSTAINABILITY IN WESTERN AUSTRALIA, A
CONSULTATION PAPER FOR THE STATE SUSTAINABILITY STRATEGY FOR WESTERN
AUSTRALIA'.**

Dear Professor Newman

Sustainability is a worthy aspiration for Western Australia and I would like to congratulate the Government for giving the public this opportunity to address the relevant issues.

The points I have raised below refer to initiatives that could be implemented on a local and State level, although in some cases Federal Government involvement would be beneficial.

A Sustainable Electricity Industry

The promotion of energy efficiency and renewable energy is essential to any sustainability strategy. In the absence of price signals that send a message to consumers about the value of the electricity being consumed energy efficiency and renewable energy need to be promoted through regulations and codes.

The use of renewable energy should be addressed through the electricity reform process that is currently being considered by the State Government. Appropriate codes and regulations are required to ensure that renewable energy generators can fairly compete in a market dominated by large fossil fuel generators. Furthermore, any proposal for new generating capacity should be assessed on its greenhouse gas emission impacts as well as financial, project management and economic criteria.

Energy efficiency and renewable energy are known to create growth and provide employment in regional areas and are especially important where there are high fuel costs.

It is recognised that the long-term take-or-pay contracts that Western Power has with coal and gas suppliers provide a perverse incentive to use more electricity. While this may be economically prudent at the present time it leads to greater consumption,

increased need for new generating capacity and further take-or-pay agreements. The State Government, as the owner of Western Power, should put a stop to this unacceptable situation and accept that there maybe some stranded costs associated with attaining a more sustainable electricity industry. A ban on Western Power advertising air conditioners would be a start.

Uniform tariff

Politically it seems that the uniform tariff is here to stay. However it is a major barrier to greater energy efficiency and the increased use of renewable energy in the electricity sector particularly in regional areas where they are most likely to be cost effective. A more socially just and sustainable system would retain the uniform tariff for all households for their first block of electricity used, and then the price would increase, as illustrated in Table 1. This would provide a safety net for low income customers, while also ensuring they are not subsidising high income customers with high electricity usage. It would provide an economic signal about actual value of electricity being used, and encourage the uptake of renewable energy systems and greater energy efficiency.

Usage	Charge
First 0-7 kWh per day	12.75 cents per kWh
Next 8-14 kWh per day	25.5 cents per kWh
Next 15-21 kWh per day	38.25 cents per kWh

Table 1 Charging for electricity

Water

Perth is positioned on the edge of a desert where it doesn't rain for six months of the year, making water is a precious resource. Since economic signals are the most effective method of changing consumption habits realistic prices need to be charged. Again the best way to achieve social equity and sustainability is to have a block pricing system such as illustrated in Table 2.

Usage	Charge
First X units per year	Y cents per unit
Next X units per year	2Y cents per unit
Next X units per year	3Y cents per unit

Table 2 Charging for water

The manner in which people (householders and businesses) use water is largely habit – cheap prices imply that water is plentiful and it will be used accordingly.

The relatively unrestricted use of bore water and the ability to install a bore in most parts of Perth without a permit must have a detrimental long-term affect on ground water supplies. The water that bores are bringing to the surface is a public (probably

non-renewable over our lifetime) resource, and yet people are able to utilise it at no cost to the detriment of the community as a whole. Bores should be metered and the water subject to the same charges and restrictions as water from the town supply.

Mandated codes for energy and water

Mandated water and energy features should be incorporated all new housing (and commercial) developments and substantial renovations. Such a policy is no different than the current underground power programme, which is mandatory for all new developments and being done retrospectively for existing neighbourhoods (over a number of years). Householders would benefit from these measures with reduced ongoing costs for electricity and water.

Partnerships could be formed with new house builders and developers to implement various options including the following.

- Photovoltaic panels and solar hot water systems on every roof (for example the Sacramento Municipal Utility District's (SMUD) programme, see web links at bottom of submission, also see Appendices 1 & 2).
- Mandatory levels of insulation.
- Mandatory minimum levels of energy efficiency (as determined through the National House Rating Scheme, or similar).
- Mandatory water tanks and grey water recycling systems.
- Encouragement of limited lawn area and use of native vegetation. This could be implemented in conjunction with planning bodies to promote medium density housing and greater use of community areas.

Transport

Sustainable transport use must revolve around less use of private vehicles and greater use of public transport, cycling and walking. Some ideas are below.

- Increase car park charges in the city centre
- Impose a 'toll' for private cars driving into a designated city zone at the same time as increasing frequency of bus transport within the perimeters of the zone.
- Apply some sort of environmental cost-benefit analysis when building new roads that considers investment in alternatives such as train lines, bus links and cycle ways.

Public health benefits will also accrue from increased exercise and reduced air pollution.

Government leadership

Sustainability can only be realised with leadership from all levels of government, businesses and the wider community. Within government the following should be common practise.

- Using less (of everything) especially paper.
- Recycling.
- Including an environmental assessment into all purchasing decisions.
- Ensuring that water is not spilt unnecessarily at construction sites, even in winter.
- Accepting lawns and public areas that are not sparkling green in the summer.

- Encouraging walking/cycling/public transport instead of driving (even at a ministerial level), through availability of showers, secure bike storage and a reliable and extensive public transport network.

The State Government needs to consider its revenue base. It seems apparent that dividends from the Water Corporation and Western Power are an important contribution to State revenue. Using a more innovative method of charging for the services provided by these corporations could net the State Government the same amount of revenue (or more) while at the same time decreasing the use of these resources.

Education, rather than short-term political rhetoric, is also an important factor. The public needs to be made aware that there are sacrifices that need to be made – one can not expect to continue to have a uniform tariff and no increases in greenhouse gas emissions. Or pay very little for water and have an unlimited supply.

Summary

In general, people are only going to respond to mandated codes or economic signals regarding resource use, of which there are few, particularly with respect to energy (including transport) and water.

None of this is rocket science. We have the technology and knowledge available to us right now to live in a more sustainable manner.

Please contact me if you require further information regarding this submission.

Yours sincerely

Chloe Weiter

Further Information

For energy efficiency schemes with utilities

<http://www.smud.org/home/eeip.html>

For SMUD's rooftop PV programme

<http://www.smud.org/pv/index.html>

For SMUD's new house PV programme

http://www.smud.org/solaradv_home/index.html

April 19, 2002

California Green Light, Inc. Announces New Program That Lets Homeowners "Get Off the Grid"

Earth Day is getting a mighty powerful gift for its 22nd birthday as a new California firm will make it possible for homeowners to "go solar" and save money doing it. Walnut Creek businessman Peter Miguel Camejo is launching California Green Light Inc. (CGL) just in time for Earth Day's April 20th celebrations.

"We have put together a solar financing program in which home owners will be immediately cash positive and save thousands of dollars by plugging into their own power and going solar," notes Camejo, adding that the program's key component is how it finances the system and negotiates the price for the materials and installation. "The price of solar photovoltaic has been falling rapidly thanks to a state subsidy program that pays up to 50% of the cost for homeowners. CGL is increasing the savings by buying the technology in 'bulk.'"

While new technologies are expected to drive the price down over the next five to ten years, CGL can bring a homeowner solar today and provide immediate financial savings by working on a thin margin and negotiating for hundreds of homes at a time. The program also will include the highest level of service with the longest warranties in the industry.

So how does CGL make such an attractive program work? First, CGL assesses how much the solar equipment might cost based on the home's geographic location. Depending on various local programs or the abundance of sunlight, the average system can cost about \$13,000 to \$14,000 all-inclusive. Second, CGL helps the homeowner secure a home equity loan at a low rate without the fees, points, appraisal, or other charges to access financing. Third, CGL sees California's 15% tax credit as sufficient to cover the first two or three years of payments for the homeowner.

"The best part of this program is that the sun, unlike PG&E or any other power company, will never raise its rates," says Keith Rutledge, executive director of the Renewable Energy Development Institute and CGL consultant. "A two-kilowatt system will lower an electric bill by an average of \$45-55 a month because the homeowner's electric meter runs backwards while the sun is shining."

No one knows how long the latest solar panels will last since none have been on homes for more than 10 years. However, solar panel producers will guarantee at least 80% performance for the first 20-25 years, estimating a loss of about 1% per year. Other estimates claim solar panels can still produce at 75% efficiency 50 years later, plus those decades of electricity are free once a homeowner finishes paying off their system.

Program participants could use part of the home equity loan to pay off high interest credit cards or automobile loans because CGL financing offers low rates through its strategic partner, the Home Loan Group-Solar Loan program, and a draw up to \$200,000 (if the equity in their home permits). Not all homes will qualify for the program, so if a home does not receive sufficient sun light, have appropriate roof space or possess sufficient equity, CGL will recommend against using solar.

CGL plans to revolutionize the marketing strategy in the solar industry. Currently, sales are made primarily through the yellow pages or word of mouth without any radio, newspaper or TV advertising.

“CGL plans to focus our initial marketing on the most interested customers -- the active environmentalists,” says Tim Farley, director of Marketing. “We then will target specific areas where homes receive the most sun light, grouping a large number of clients into small areas in order to keep installation costs down.”

Peter Miguel Camejo and CGL Los Angeles coordinator Woody Hastings will launch California Greenlight at the Whole Earth Festival at Earth Day in Los Angeles, April 20th. It will be followed immediately by a launch in the East Bay and San Francisco area. Eventually, sales teams from San Bernardino to Placerville will visit the homes of people interested in this revolutionary solar financing program and help decrease our dependence on traditional power sources and companies.

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April 19, 2002

AstroPower Solar Electric Home Power System To Be Standard Feature in New Premier Homes Community

AstroPower, Inc. announced an agreement with Premier Homes that will make solar electric power a standard feature in Premier Homes' newest community. Under the agreement, AstroPower will supply a minimum of 50 solar electric home power systems for Premier Homes' Premier Point II community in Lincoln, CA. The companies have established a goal of building a total of 250 homes powered by AstroPower solar electric power systems by 2003.

``As one of the nation's most innovative builders, Premier Homes is constantly working to increase the value of the homes it builds," said Bob Ruggio, Manager, Residential Sales, at AstroPower. ``Premier recognized that solar electric power would add value, and it would do so in more ways than one. Not only would new homeowners experience lower utility bills, they would gain control over their own electricity generation and increase their energy independence."

``Solar power was never a matter of `if' for us, but a matter of `when,'" said John Stewart, Principal, at Premier Homes. ``When we made the decision to adopt the technology, we made it standard. We did so because we are committed to sharing the benefits of the technology with our new homebuyers, and we realize that solar electric power is here to stay. Furthermore, we wanted to partner with a company who had experience in our market, and we did so by choosing AstroPower."

Premier Homes will offer AstroPower's 2.4-kilowatt SunLine(TM) packaged solar electric power system as a standard feature in Premier Point II, which is located just 10 miles north of Roseville, CA. However, homebuyers will have the option to upgrade their solar electric power systems to include battery backup via an AstroPower SunUPS® system and to increase either system to 3.2 kilowatts.

Both the SunLine and SunUPS systems feature all necessary components for ease of installation and operation, and are designed to integrate seamlessly into the construction process. The systems generate solar electric power and deliver it through a home's existing circuits. When a system produces more electricity than a home requires, excess electricity is sent back to the utility grid. Not only does this spin the utility meter backward, it generates a credit on the homeowner's utility bill. The SunUPS system provides homeowners uninterrupted power during utility outages via battery storage.

``The solar electric power market in California is growing more rapidly than our industry expected," said Howard Wenger, Vice President, Premium Power, at AstroPower. ``The state has implemented incentives, which provide a rebate of \$4.50 per watt or 50% of the installed cost of a system. Governor Gray Davis has established a goal of increasing renewable electricity generation from 12 percent to 17 percent over the next five years. In addition, a revenue bond was passed in San Francisco, which will lead to the installation of 10 to 12 megawatts of solar electric power on city-owned facilities.

``AstroPower's partnership with Premier Homes is a sign of the times. It proves that homebuilders are embracing solar electric power and are eager to pass the value of onsite electricity generation on to new homebuyers. Thanks to our agreement with

Premier Homes, more homeowners in California will begin to save money on their utility bills and decrease their dependence on the utility."

``By making the technology standard on new homes, Premier Homes has proven its commitment to the technology and its customers," said Dr. Allen Barnett, President and CEO at AstroPower. ``Such an agreement heightens the awareness of the benefits of solar electric power, and helps carry the technology mainstream even faster."

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