SUNTECH POWER AUSTRALIA

Submission to the Senate Standing Committee on Environment, Communications and the Arts Inquiry into the

Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008

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3 September 2008

The Secretary
Senate Standing Committee on Environment, Communications and the Arts
Parliament House
Canberra ACT 2600

via email: eca.sen@aph.gov.au

Dear Secretary

RE: Inquiry into *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008*

Suntech Power Australia (Suntech) would like to submit the following for consideration by the committee as it inquires into the *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008*. We appreciate the opportunity to provide input into this Bill.

Suntech appreciates the opportunity to comment on this Bill's proposal for a national Feed-in Tariff (FiT) regime to encourage clean energy sources. Suntech has a strong interest in the development and implementation of far-reaching policies and programs that will assist Australia to become a low-carbon economy and stimulate the development of, and increasing reliance on, zero-carbon, renewable energy technologies such as solar power.

Suntech is a manufacturer of solar cells, panels, and building-integrated solar solutions. Our products service the residential, commercial, and utility-scale markets. The creation and implementation of a feed-in tariff would have a direct, positive impact on Suntech's business operations.

We applaud the purpose of this Bill. A national FiT scheme will assist in establishing a wide-reaching, stable, transparent, and nationally-consistent approach to renewable energy in the long-term. It also complements Australia's renewable energy schemes.

In this submission, Suntech highlight the factors that we feel need to be considered in setting a FiT and a tariff rate regression plan. It is important that the right balance is struck to ensure the development of a scheme that functions efficiently, and is well-integrated with other Government initiatives for efficiency and low-income assistance.

Suntech Power Australia acknowledges the Government's interest in and commitment to a strong renewable energy sector and welcomes the opportunity to contribute to this debate.

Sincerely,

Jenny Lu
Regional Manager
Suntech Power Australia

Who is Suntech?

Suntech Power Australia (Suntech) designs, develops, manufactures and markets a variety of high quality, cost effective and environmentally friendly photovoltaic (PV) cells and modules for electric power applications in the residential, commercial, industrial and public utility sectors.

The company was delighted to open its first office in Australia in December 2007.

Suntech is keen to work with policymakers in Australia to craft a robust policy setting that will encourage the further development of a strong and viable renewable energy industry.

Suntech has a long-standing affinity with Australia. The company's founder and global CEO Dr. Shi Zhengrong is an Australian citizen and developed many of his world-leading solar power technologies during his time working at the University of New South Wales.

Suntech looks forward to further establishing its operations in Australia and helping to further develop Australia's fledgling solar power industry, which is critical in helping combat the effects of climate change.

Below is a brief outline of Suntech's history so far:

History

- ***January 2001***: Established Wuxi Suntech Power Co., Ltd. and commenced business operations in May 2002.
- ***August 2005***: Suntech Power Holdings Co., Ltd., or Suntech, was incorporated.
- ***December 2005***: Listed on New York Stock Exchange (NYSE), at $15 per share.
- ***July 2006***: Signed a 10-year material contract with MEMC worth $6 billion USD - ensures Suntech's material supply for the next 10 years.
- ***August 2006***: Announced agreement to acquire MSK Corporation, a leading PV module manufacturer and Building-Integrated PV (BIPV) company in Japan.
- ***August 2006***: Suntech America Inc. founded (US subsidiary); Suntech Shanghai Branch founded.
- ***January 2007***: Suntech Europe established to expand customer base in EMIA regions.
- ***May 2007***: Announces plans to construct a thin film R&D and manufacturing facility in Shanghai with target operation in late 2008.
- ***June 2007***: Signed a 10-year $678 million polysilicon supply contract with Hoku Materials (wholly owned subsidiary of Hoku Scientific, Inc. established to manufacture polysilicon for the solar market).
- ***October 2007***: Enters into 7-year, $1.5 billion polysilicon supply contract with Asia Silicon.
- ***November 2007***: Enters into 7-year polysilicon supply contract with Nitol Solar.

- ***February 2008***: Announces 364MW full year 2007 solar shipments, 540MW of installed PV cell capacity and achieves revenues of $1.3 billion for full year 2007. Suntech becomes largest producer of PV modules worldwide and third largest producer of PV cells.

- ***February 2008***: Opens sales offices in Germany, Spain and South Korea.

- ***February 2008***: Invests $20 million in Hoku Materials to strengthen partnership and support polysilicon plant development.

- ***February 2008***: Suntech completes $575 million convertible bond offering to finance procurement of upstream silicon supplies, production capacity expansion and new technology commercialization

- ***March 2008***: Suntech invests $100 million in Nitol Solar to strengthen partnership and support polysilicon plant development.

- ***April 2008***: Suntech Receives Frost & Sullivan 2008 Solar Energy Development Company of the Year Award

- ***June 2008***: Suntech and WACKER SCHOTT Sign 220MW Silicon Wafer Supply Agreement

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1 Introduction

Suntech welcomes the opportunity to make a formal contribution to this inquiry into the establishment of a national Feed in Tariff (FiT) scheme. Now is an opportune time for this debate to take place, as Australia moves into an era of emissions trading.

The Australian Government should be commended for its broad approach to climate change and considerable investment into renewable energy, such as its $150m commitment to solar and clean energy research, which includes the *Australian Solar Institute*, and the $500m *Renewable Energy Fund*.

Suntech recognises the ground-work laid by state and territory governments so far in pioneering FiTs in Australia. Whilst these schemes have been a good start, more needs to be done to develop a policy setting that creates certainty for producers and consumers, and will lead to greater growth in the solar power industry through a policy initiative that creates an incentive to the consumer.

In particular, an effective FiT policy requires the following characteristics:

- the tariff scheme should be uniform across Australia to create certainty;
- the tariff scheme should be non-discriminatory, and apply to all communities including the residential, business and community sectors;
- the tariff scheme should apply over a period of time that is long enough to create certainty and incentive to consumers; and
- the tariff scheme should apply to ***gross-metered*** generation, and apply to the total amount of solar electricity generated, rather than a ***net-metered*** system, which only applies to excess power that is fed into the power grid.

Based on experience around the world, there are two key risks to take into consideration when establishing a FiT policy. These risks are:

1. *not setting the value high enough; and*
2. *setting the FiT value too high, such that it overwhelms budgets and leads to an unsustainable policy program.*

Essentially, it is critical that the tariff rate is finely balanced to ensure that the scheme is both successful and sustainable.

With energy policy administered by state governments under Australia's federal system of government, the key to developing an effective FiT policy scheme is to develop a harmonised policy structure.

Suntech welcomes the current Commonwealth of Australian Governments (COAG) discussions on a national approach to FiTs, and believes that this process provides a real opportunity for Australia to move forward with an efficient and forward-thinking policy approach to assist in the development of a viable and effective renewable energy industry.

2 The need for change in Australia's energy market

2.1 An historical reliance on affordable energy

Energy is an essential element in the day-to-day lives of Australians. As in other wealthy and developed 'first world' countries, Australia's way of life is largely dependent on access to abundant and affordable power sources.

In the July 2008 Draft Report of his Climate Change Review, Professor Ross Garnaut stated:

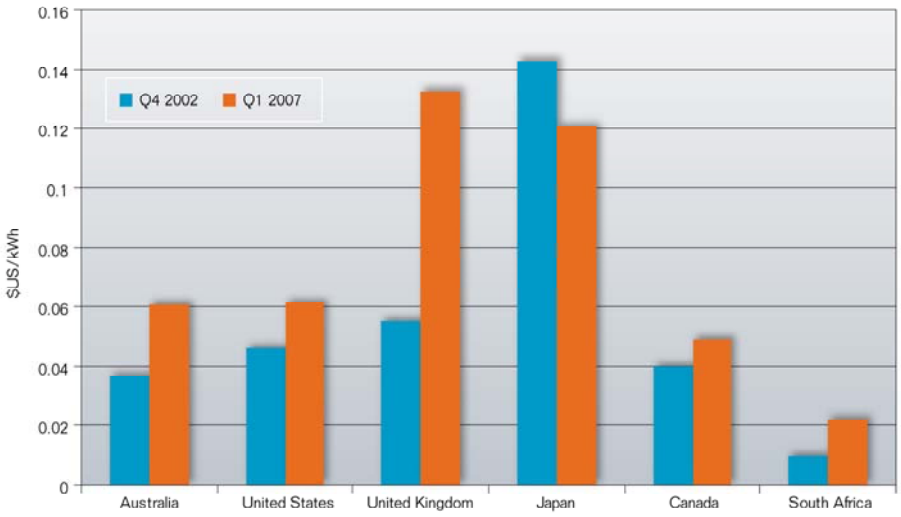
"Australia has been able to source its energy from an abundance of domestic primary fuels. This has resulted in a domestic energy price that has been very low on a global basis" [1]

Furthermore, Professor Garnaut made direct reference to how this readily accessible energy is an accepted aspect of Australia's economic climate at a community level:

"The current reliability and low price of energy have been largely taken for granted by the Australian community,"

The graphic below demonstrates that on a per-kilowatt hour basis, Australia's energy cost is low in comparison to other countries across the world.

Graphic 1: Comparison of industrial electricity prices (from Professor Garnaut's Draft Report) [2]



Note: Exchange rate movements have been significant sources of changes in relativities 2002–07.
Source: IEA (2003, 2008).

[1] Garnaut Climate Change Review, July 2008, p.482

[2] Garnaut Climate Change Review, July 2008, p.484

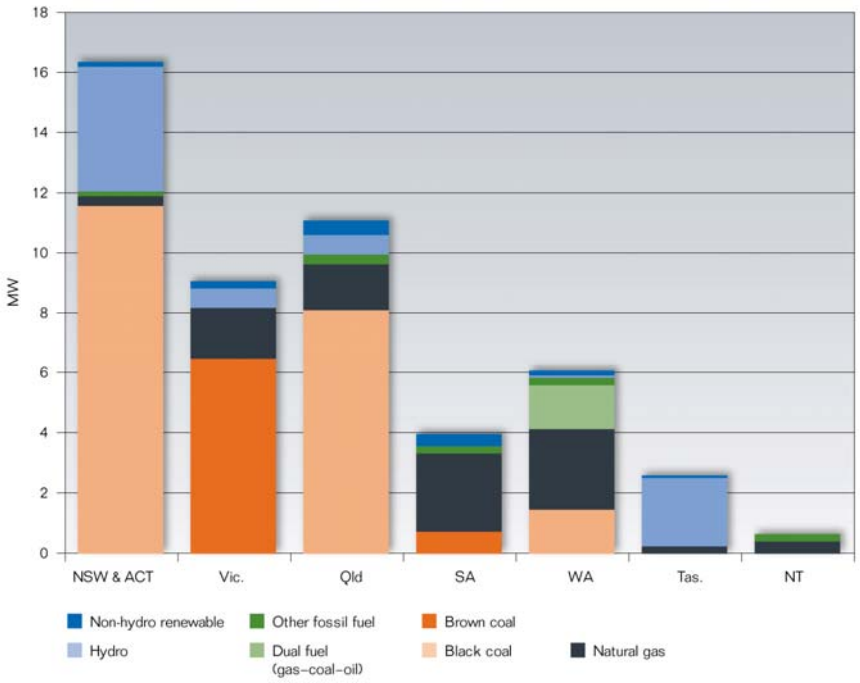
2.2 An historical reliance on cheap sources of fossil-fuels for energy

Australia's low overall electricity price is largely due to an abundance of domestic primary fossil fuels. As a result, successive governments across Australia have had the economic luxury of a market that produces low-cost base load power.

The historical reliance on high-polluting power stations has largely been reflective of the regional sources of various types of fossil fuels, such as black and brown coal.

The graphic below from Professor Garnaut's report demonstrates this setting:

Graphic 2: Power generation capacity across Australian states and territories (from Professor Garnaut's Draft Report) [3]



Source: Energy Supply Association of Australia (2007).

Professor Garnaut argues that the current mix of energy production in Australia is a significant contributor to climate change:

"The energy sector makes a larger contribution in Australia than in other developed countries to greenhouse gas emissions"[4]

Suntech supports the Australian Government's decision to introduce a 'cap and trade' scheme to assist Australia in shifting to a system that puts a suitable cost on the negative impact of carbon emissions. The Government's *Carbon Pollution Reduction Scheme* is a large step in the right

[3] Garnaut Climate Change Review, July 2008, p.483

[4] Garnaut Climate Change Review, July 2008, p.482

direction towards developing a low-emissions economy and Suntech congratulates the Government on its vision.

Suntech argues that the development of a strong and competitive domestic solar energy industry is a critical element towards lessening Australia's reliance on high-emissions energy.

The Government's approach towards lowering greenhouse gas emissions should included targeted financial assistance to assist consumers make the transition to clean, green power.

3 The current tariff policy setting for solar energy in Australia

Across Australia there are already several government solar initiatives that support solar power consumers. Below is a brief outline of current government initiatives to assist people and businesses make the transition to solar power:

3.1 The Australian Capital Territory (ACT)

In July 2008, the ACT Government passed legislation for Australia's first comprehensive gross FiT scheme, which will come into operation in mid 2009.

What it is: The ACT program is a feed-in-tariff program which was passed by the ACT Legislative Assembly in July 2008 and is scheduled to come into operation within the next 12 months.[5]

Price per unit of electricity for the tariff: Under s 9 of the Act, each financial year the Minister sets the premium rate or tariff which will be given to new customers who sign up for the scheme in that year. Section 9(4) says that until the Minister determines this premium rate, then the tariff will be 3.88 times the highest retail price for electricity for a domestic customer on the day this Act commences.[6] Recently the rate has been set at 52 cents per kW hour.[7]

Max capacity of PV system: Under sub-section 6(3) of the Act, the home owner cannot have a PV system with generating capacity of more than 10 kW hours to be eligible for the set premium rate. At higher capacities, the premium rate given to the home owner produced is progressively reduced.[8]

Time Frame: The ACT FiT scheme is currently in its implementation phase, there is a 20 year allowable contract period for this program for each household that signs up for the scheme when they connect their PV system to the ACT electricity grid.[9] This is detailed under s 10 of the Act which states that the tariff rate in effect during the financial year when the home owner first connects their PV-system to the grid, will remain the same for the 20 year period.

Gross or Net Tariff: Importantly, the ACT scheme will adopt a ***gross tariff***.

3.2 Queensland

Queensland has introduced a program called the *Queensland Solar Bonus Scheme.*

What it is: "The Solar Bonus Scheme is a feed-in tariff paid to residential, small business, and other customers (using less than 100 megawatt hours (MWh) of electricity per year), for the surplus electricity generated from roof-top solar photovoltaic (PV) systems that is exported back into the Queensland grid. The scheme will reward customers whenever they generate more electricity than they are using – not just the balance at the end of the quarter, but at every instant that generation exceeds consumption during the day."[10]

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[5] http://www.tams.act.gov.au/__data/assets/pdf_file/0016/115072/CC_Fact_sheets_2008.pdf#Fact%20Sheets

[6] See s 9 of the Electricity Feed in (Renewable Energy Premium) Bill 2008 (ACT)

[7] http://www.dpi.vic.gov.au/dpi/dpinenergy.nsf/LinkView/47D19C1C08345367CA25736A001FCDF7866B51F390263BA1CA2572B2001634F9#premium

[8] See s 6(3) of the Electricity Feed in (Renewable Energy Premium) Bill 2008 (ACT)

[9] http://www.enviro-friendly.com/feed-in-tariff-pv.shtml

[10] http://www.dme.qld.gov.au/zone_files/Sustainable/solar_bonus_questions.pdf

Time Frame: The scheme began operating on 1 July 2008. "The solar bonus of 44 cents per kilowatt hour will be offered until 2028 for customers signed up to the scheme prior to it being reviewed after 10 years or when eight megawatts of capacity have been installed, whichever comes first."[11]

Price per unit of electricity for the tariff: 44 cents per kilowatt hour of surplus electricity generated from the homeowner's PV system that is exported into the Queensland grid, and as a reference point, a 1 kW PV system would generate approximately 4.6 kW hours of electricity per day.[12]

Gross or Net Tariff: The Queensland scheme is a ***net tariff***, where homeowners with PV-systems must have their electricity meters wired in what is called a "net metering configuration".[13]

3.3 South Australia

South Australia has already implemented a FiT scheme which is now in operation, which is known as the *South Australia Electricity (Feed-In Scheme - Solar Systems) Amendment Act 2008.*

What it is: The South Australian scheme has a similar structure to other State tariff schemes, where any excess electricity produced by the owner of the PV system is fed back into the grid which it is connected to. Each PV-system owner has two separate contractual relationships- one with the retailer and one with the electricity grid distributor.[14] In effect, the retailer works as the agent of the grid distributor, billing the customer on behalf of the grid distributor.[15]

Price per unit of electricity for the tariff: A minimum tariff rate has been set by the government at 44 cents per kW hour but some electricity retailers may set a higher tariff to create more incentive in their contracts with PV-system owners.[16]

Max capacity of PV system: Eligibility requirements require customers to be consuming less than 160 megawatt hours of electricity yearly.[17] The PV system also needs to "fit the definition of a small PV generator meaning a PV system with capacity up to 10kVA for a single phase connection and up to 30kVA for a three phase connection. Most residential systems are sized between 0.75kVA and 2.5kVA and easily fit this definition."[18]

Time Frame: The scheme began operation on 1 July 2008 and, under s36AE of the Act, the scheme will expire on 30 June 2028.

Gross or Net Tariff: The South Australian scheme is a ***net tariff***.[19]

3.4 Victoria

Victoria has introduced a FiT known as *The Premium Feed in Tariff Scheme*, which is scheduled to begin in 2009.

What it is: Victoria has a dual FiT system. The *Standard Feed in Tariff Scheme* is already in place and is for small businesses and households using renewable energy systems up to 100 kW.

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[11] *ibid*

[12] *ibid*

[13] *ibid*

[14] Feed In Tariff Discussion Paper, December 2007, Appendix 1, ACT Government.

[15] *ibid*

[16] http://www.climatechange.sa.gov.au/news/news_5_2.htm#1 also see s 36AD of the SA FiT Act.

[17] http://www.climatechange.sa.gov.au/news/news_5_2.htm#4

[18] *ibid*

[19] http://www.enviro-friendly.com/feed-in-tariff-pv.shtml also see Feed In Tariff Discussion Paper, December 2007, Appendix 1, ACT Government.

The *Premium Feed in Tariff Scheme* is for PV system owners producing electricity from such systems up to 2 kW hours.[20]

Price per unit of electricity for the tariff: For the *Premium Feed in Tariff Scheme*, the rate is 60 cents per kW hour and this is four times the standard retail price of electricity.[21]

Max capacity of PV system: To qualify for the Scheme, the PV-systems need to be up to a maximum of 2 kW.[22]

Time Frame: The *Premium Feed in Tariff Scheme* is scheduled to commence operation in 2009 and run for 15 years, while the *Standard Feed in Tariff Scheme* running currently, is an ongoing initiative.[23]

Gross or Net Tariff*:** The Victorian scheme is a ***net tariff.[24]

3.5 Western Australia

At the time of this submission, the Western Australian Government was in caretaker mode in the lead-up to the 2008 State Election. The Carpenter Labor Government, if elected, has pledged to introduce a FiT known as the *Residential Photovoltaic (PV) Feed-in-Tariff*.[25]

What it is: The Western Australian model, if implemented, will be the second gross FiT scheme in Australia (following the ACT). The scheme will apply to residential PV systems between 1kW and 10kW, and will apply in full until the installation cost of the panel is paid back to the installer.

Price per unit of electricity for the tariff: The tariff will be paid at 60 cents per kW hour until the installation cost has been repaid. After the pay-back period, householders will receive a 'cost reflective tariff' for each unit of energy generated by the PV system.[26]

Max capacity of PV system: To qualify for the Scheme, the PV-systems need to be up to a capacity of 10kW

The Carpenter Government has also announced a feasibility study into a FiT for small scale commercial PV generators.

Time Frame: Whilst there are still only limited details on the Carpenter Government's election promise, the FiT was allocated funding through to 2012 during the policy launch.

Gross or Net Tariff*:** The proposed Western Australian scheme will be a ***gross tariff.

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[20] http://www.dpi.vic.gov.au/dpi/dpinenergy.nsf/LinkView/47D19C1C08345367CA25736A001FCDF7866B51F390263BA1CA2572B2001634F9#premium

[21] *ibid*

[22] *ibid*

[23] http://www.dpc.vic.gov.au/domino/Web_Notes/newmedia.nsf/798c8b072d117a01ca256c8c0019bb01/43fb9ccd3361fe7cca2574440007d1ff!OpenDocument

[24] http://www.enviro-friendly.com/feed-in-tariff-pv.shtml also see Feed In Tariff Discussion Paper, December 2007, Appendix 1, ACT Government.

[25] Australian Labor Party (WA Division), *'Labor's plan for green power generation at home'*, 2008 Election Promise, www.visionwa.org.au

[26] *ibid*

3.6 Other domestic Feed in Tariff developments

- The Tasmanian Government is currently in the consideration phase for a net FiT scheme.
- A FiT (45 cents/kW hour) exists in Alice Springs, Northern Territory under the Commonwealth's *Solar Cities* program.
- There is currently no FiT scheme in New South Wales.

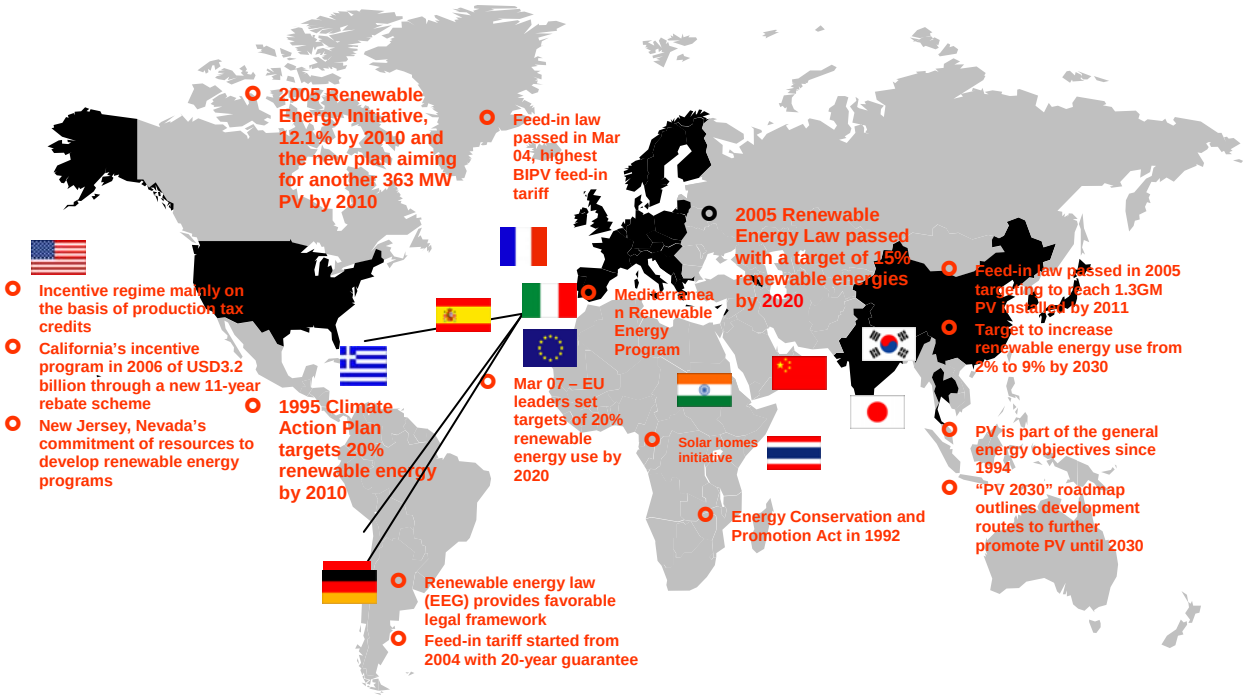
4 A snapshot of Feed in Tariff schemes around the world

Governments across the world have helped electricity consumers make the transition to clean, renewable solar power through targeted assistance programs.

FiTs have been particularly successful in helping to stimulate demand in this new and emerging industry.

The map below illustrates a range of FiT schemes and similar programs across the world – particularly in Europe, North America and Asia.

Graphic 3: Feed in Tariff (and similar assistance) schemes in operation across the world



4.1 Outline of key Feed in Tariff schemes

Outlined below are some of the key FiT arrangements internationally that Suntech would like to bring to the Committee's attention:

Germany

Background: Germany's national FiT program was introduced in 2004. As of August 2007, Germany is the largest PV market in the world.

Price method: Different tariff rates apply depending on the nature and capacity of installation.[27] The base level of compensation for ground-mounted systems can be up to 45.7 Euro cents/kWh. PV installations on buildings receive higher rates of up to 57.4 Euro cents/kWh.[28]
German FiT laws provide that rates for solar electricity will decrease by 5% per year for building-mounted systems and 6.5% for ground-mounted systems.[29]

[27] http://www.solarbuzz.com/fastfactsgermany.htm

[28] *ibid*

[29] http://www.solarbuzz.com/fastfactsgermany.htm

Time Frame: FiT laws provide that tariffs will be set for 20 year periods.

Gross or Net Tariff: The German Scheme is a ***gross tariff.***

Japan

Background: The Japanese Government established the *PV Roadmap 2030* program in June 2004 the goal of which is "*for (the) realisation of mass introduction of PV systems".*[30] As of March 2008, Japan has the second largest market for PV systems in the world. About 26% of the world solar cells are produced in Japan.

Price method: Tariff rates vary depending on whether the PV systems are for residential or industrial use. For residential use, average rate is 24 Yen per kW and for industrial use, it is 10-12 Yen per kW. Japan requires that electric utilities purchase excess electricity generated by residential systems at the same price they charge consumers (the average is about $0.22/kWh)."[31]

Gross or Net Tariff: The Japanese scheme is a ***net tariff*** [32]

United States (California)

Background: As authorised by the California Public Utilities Commission (CPUC) and Senate Bill 1,[33] the California Solar Initiative (CSI) Program has a total budget of $2.167 billion to be allocated over 10 years.[34] The CSI program began 1 January 2007.

Price method: US$2.50 per watt for PV systems with capacity up to 1 megawatt.

Time Frame: FiT laws provide that tariffs will be set for 20 year periods.[35]

Gross or Net Tariff: The Californian scheme is a ***net tariff***

Price method: US$2.50 per watt for PV systems with capacity up to 1 megawatt.

Time Frame: FiT laws provide that tariffs will be set for 20 year periods.

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[30] http://www.nedo.go.jp/english/archives/161027/pv2030roadmap.pdf

[31] http://www.solarbuzz.com/FastFactsJapan.htm

[32] Feed In Tariff Discussion Paper, December 2007, Appendix 1, ACT Government.

[33] Chapter 132, Statutes of 2006 (SB1, Murray)

[34] CPUC D. 06-08-028, August 24, 2006.

[35] http://www.gosolarcalifornia.org/csi/faqs.html (reference for whole paragraph)

Gross or Net Tariff: The Californian scheme is a ***net tariff***[36]

[36] http://www.gosolarcalifornia.org/csi/faqs.html

5 Feed in Tariffs in the wider renewable energy policy setting

5.1 Solar Power should be available to all Australians

The time is right for Australia to be investing in solar power. As the global demand for energy increases, the costs of our traditional sources of power: natural gas, oil, coal are steadily rising. In addition, the costs for transmission, distribution, maintenance and infrastructure development are all rising.

With its abundance of sunlight, Australia is a good geographical position to make a widespread investment in solar power. Clean solar energy benefits everyone, with positive impacts such as lower greenhouse gas and particulate pollution, decreased water use, improved energy reliability, and new jobs in exciting emerging technologies. However, the relative set-up costs for solar power remain high for consumers across the economy.

An effective FiT scheme should apply across all customer classes, including new residential, existing residential, commercial, industrial and government/non-profit. There are several reasons for this rationale, such as:

1. There are political, fairness, and market development value issues to take into account to ensure there is an on-site solar offering to all customers.
2. Each market segment has differing drivers and opportunities for new business creation, local job growth and increased tax revenues.
3. Incentives help build long-term, self-sustaining markets in each sector.
4. Widespread allocation helps customers across all sectors to view solar power as a viable alternative to fossil fuels, and their negative environmental impacts.

In contrast, programs that are solely targeted towards a narrow sector in the economy will not result in a significant increase to the general take up of solar power. Such a policy would create an environment where certain sections of the community believe that solar power is out of their reach.

Suntech believe that this would not represent good public policy for solar power.

Providing the means by which each customer segment can obtain cost-effective solar solutions is essential for the industry to eventually reach grid parity without incentives.

5.2 Solar Power creates benefits in many areas

Increased generation in renewable energy offers particular advantages to Australia. These advantages are not only in purely environment terms. There are also several practical electricity generation advantages including:

1. through the increased capacity of ‘distribution transformer’ generation and substation level during peak periods (which reduces line losses and increases transformer life);
2. by avoiding distribution system upgrades and capacity constraints wherever possible;
3. by avoiding transmission system upgrades, which are required to access large-scale renewable resources that are located far from the load;
4. by meeting local resource adequacy needs;
5. by reducing congestion costs; and
6. through reduced transmission line losses.

All of these benefits translate into larger, long-term cost savings for all electricity ratepayers.

Recommendation 1: *The Government's approach towards lowering greenhouse gas emissions should include targeted financial assistance to assist consumers make the transition to clean, green power*

5.3 Feed in Tariffs will complement the Federal Government's commitment to mandatory renewable energy

Combating climate change through increased use of renewable energy requires a holistic approach. Suntech applauds the Australian Government's efforts so far in highlighting the need for a short, medium and long-term policy approach.

In a joint media statement in October 2007 to announce the ALP's commitment to a 20% Mandatory Renewable Energy Target (MRET) by 2020, then Opposition Leader (and now Prime Minister) Kevin Rudd and his Environment Spokesman (now Environment Minister) Peter Garrett highlighted this strategy:

"While the introduction of emissions trading will help bring renewable technologies into the market over time, an interim renewable energy target will accelerate their use, driving cost reductions with economies of scale – and achieving overall emission reductions at lower cost.

As emissions trading matures, however, a renewable energy target will no longer be required"[37]

To enable an efficient start in the transition to green energy, the government should put in place a blend of measures to assist consumers by off-setting start-up costs A national FiT scheme would play an integral role in ensuring that the government's wider plan to reduce greenhouse gas emissions is achievable.

This plan should include a raft of measures, including a national MRET of 20%, strict carbon emission reduction commitments, robust renewable R&D funding, energy efficiency initiatives, net metering technology, tariff designs that reflect the real cost of power and other incentives tailored to the very different needs of each market segment.

Adopting only portions of the overall mix will impede the market transformation that is needed to bring down the cost of innovative technologies such as solar power.

Significantly, unlike the MRET or the *Carbon Pollution Reduction Scheme* (CPRS), a FiT rewards consumers and provides incentive to mitigate the demand for fossil-fuel-based energy.

5.4 The comparable costs and benefits of Feed in Tariffs in the wider carbon-reduction policy setting

Suntech recognises that there are various arguments in the community regarding the cost-effectiveness of FiTs as a way of reducing carbon emissions. In light of the current political climate following the release of the Government's Green Paper into the *Carbon Pollution Reduction Scheme*, it is important that government assistance measures meet their objective of delivering an efficient method of reducing emissions on a price per unit of carbon basis.

FiTs play a particularly important role in renewable energy policy, in that they create a clear incentive for energy consumers to make a conscious decision to shift their energy consumption

[37] Media Release: The Hon Kevin Rudd MP & Peter Garrett MP, *Federal Labor's 20 per cent by 2020 Renewable Energy Target*, 30/10/07

habits. Further to this, there are also other economic benefits that lead from directly supporting the transition towards solar power, which are not so easy to quantify in dollar terms.

A FiT will help create investment in non-centralised power generation, which has strong potential to create greater efficiency for investment into the electricity sector. In his July 2008 draft report, Professor Ross Garnaut argued that inefficiencies in electricity investment may be due to *"overinvestment in network infrastructure and centralised generation, and underinvestment in embedded generation like solar photovoltaic and cogeneration"*.[38] Furthermore, Professor Garnaut also highlights that these inefficiencies exist due to the current regulatory framework, which *"encourages and rewards investment in infrastructure because revenue is directly related to the value of the asset base"*.[39] As a result, high-emitting power stations are currently in an advantageous position from an investment perspective due to their large infrastructure critical mass.

Professor Garnaut argues that a gross FiT can assist in levelling the investment playing field between base load (centralised) power generation and embedded (i.e. solar panel) generation sources. This will reduce the future need for costly investment into base load power generation, and provide a genuine incentive for the investment of private sector capital.

Enhanced solar power generation in the community will provide many flow-on economic benefits through reduced utilisation of the central power network by households. Professor Garnaut sums this up in his draft report:

"The benefits of embedded generation (lower transmission losses, deferred costs for network augmentation, and displacement of high-cost generation during peak periods) are present for every unit of electricity produced, not just the amount exported. A Feed in Tariff based on gross metering is thus a more accurate means of pricing these benefits." [40]

Suntech argues that governments should not dismiss FiTs purely based on an economic assessment of the cost of the scheme per unit of carbon reduction. It is important that more research and econometric modelling is conducted to further assess the associated benefits, as outlined above, when determining the overall impact of a national FiT scheme within the government's wider renewable energy policy setting.

***Recommendation 2**: That the government does not dismiss Feed in Tariffs as an efficient policy tool, and that a detailed economic study is required to determine how to fully determine and improve the price complementarity between renewable energy and high-emission energy sources.*

5.5 The preference for gross Feed in Tariffs

Suntech supports a transition from 'rebate' systems to a gross FiT arrangement under certain conditions. A FiT should be of a high enough value to provide a true incentive for consumers to pursue solar. If it is too low, and the rebate scheme is removed, Australia will potentially fail to achieve the 20% goal under MRET. Given that a number of states have already shown leadership in setting FiTs, a national FiT program should not be weaker than those already in place.

If a FiT is introduced, the rebate scheme should remain until the FiT is in place, to avoid creating a disruptive gap that would confuse consumers and would likely hurt solar power providers.

The Bill appropriately extends to the full range of renewable energy technologies in order to compete with the currently-available (and also subsidised) fossil-fuel-based power generators. Other

[38] Garnaut Climate Change Review, July 2008, p.435

[39] *ibid*, p. 436

[40] *ibid*, p. 437

renewable energy technologies may also develop cost and innovation breakthroughs – similar to the development of technology in the solar power sector. Suntech believes that innovation in all renewable energy fields should be supported. A FiT that encourages a range of technologies will further help Australia reach its Mandatory Renewable Energy Target goals.

Renewable generators can be disadvantaged in utility solicitations under the MRET, as they tend to lack the resources and expertise in negotiations. Due to their size, distributed generation sources are challenged to negotiate an appropriate price for their generation in comparison to larger fossil-based generation due to their size.

In order to meet the MRET objective, utilities primarily need (and generally want) to devote their limited time and resources to bid processing and supporting analysis for larger rather than smaller projects.

FiTs can remedy this problem by ensuring that small renewable generators have a simplified and streamlined mechanism to sell electricity to a utility without complex negotiations or delay. In addition, by setting different payment amounts, a properly designed FiT can recognise the different underlying cost structures of various technologies (including different solar technologies) and accommodate their differing benefits to the grid and to energy load management.

This will help appropriately remunerate renewable energy providers for pollution abatement.

A FiT for gross production, will help drive down installation costs by avoiding complicated sizing estimates.[41] FiTs make it simpler for installers to build to roof and finance parameters.

Recommendation 3: *A national Feed in Tariff scheme should be available to all Australians*

Recommendation 4: *Feed in Tariffs should be paid for 'gross' power, not 'net' power generated.*

5.6 The need for a long-term Feed in Tariff initiative to create certainty

Manufacturers and installers of solar power need consistent, national rules to build the economies of scale in order to drive down prices. A national FiT scheme will help "commodify" solar system panels and components to achieve that scale.

A long-term (20 year), national FiT initiative would provide a stable and reliable credit scheme that encourages large manufacturers like Suntech to engage concertedly in a market. By reducing uncertainty in a project's income stream, FiTs help developers obtain lower cost financing and investment. Without the certainty of a FiT, project financing is contingent on a developer's ability to successfully negotiate" contract terms that will allow project costs to be financed. Standard contracts offered on a gross tariff basis lift this cloud of uncertainty and ensure that small renewable projects can get off the ground.

FiTs encourage significant investment into the renewable energy industry, by producers and consumers alike. Approximately 35% of Suntech's world-wide sales are in Germany, where their FiT scheme has encouraged a wide-scale up-take of solar power. Countries across the European Union (EU) that employ FiTs account for over 70% of Suntech's sales. In fact, Suntech now has several offices across Europe.[42]

Long-term guarantees build success, and planning that only focuses on the short-term damages everyone. The German FiT for solar PV is long-term (20 years), generous, and has been in place for

[41] Especially for high "peak" use owners who for some reason cannot reduce their daytime load (such as seniors/retirees, small-office/home-office, etc).

[42] Suntech offices in Europe – London, Madrid, Milan, Munich, Athens, Paris and Zurich.

years. As a result, this geographically small nation, with a small proportion of global sunlight, has more than half of the world's PV systems. In contrast, the solar power market in Spain has been hampered by uncertainly, with wildly fluctuating proposals for FiTs put forward. In addition, the Spanish Government has recently made a surprise decision to cap the size of solar power projects in 2009 at one-third of MW installations in 2008. This has had a significant impact on the industry, with some solar power company shares having declined by an average of 30% since June. A strong FiT strategy should have a measured tariff rate, which declines over an agreed-upon, long-term process.

Recommendation 5: *That the government recognise that a Feed in Tariff is a complementary pillar of broad solar power, clean energy, and climate protection strategies. FiTs fill gaps in some market segments that a Mandatory Renewable Energy Target (MRET) and Carbon Pollution Reduction Scheme (CPRS) are expected to miss.*

5.7 Setting an effective FiT rate that takes into account technology and cost reduction factors

To ensure the optimal success of a national FiT scheme, the tariff rate needs to effectively take into account the various factors that affect price.

FiT rates should be set per technology, to accommodate the various different learning curves for renewable energy technologies. European-style FiTs recognise the different underlying costs of various technologies in setting the rates that the utilities should pay for various service deliveries. A multi-technology market transformation strategy is more effective to encourage the take-up of solar power than any other competitive energy procurement strategy.

Suntech is keen to help policymakers determine the right FiT level. Setting the value should be a transparent, regular process underpinned by an agreed-upon return on investment (ROI) target. It should include a time-of-use (ToU) differential and a "locational benefit adder". The level needs to be carefully crafted in conjunction with tariff reforms, and net metering to protect the customer's investment when the FiT sunsets.

Based on California's experience in the United States, utilities should offer multiple, voluntary ToU tariff options. Australia has some similar characteristics to California; particularly in relation to air conditioner loads. California's recent attempt to require ToU rates only among solar incentive recipients inadvertently resulted in some higher monthly bills than non-ToU neighbours. This applied in a small subset of cases, where a solar power customer could not reduce their high daytime loads and could not meet most of their electricity needs through solar power due to roofing or financial constraints. Optional multiple ToU tariffs should be made available, especially until ToU meters and infrastructure are ready.

5.8 Getting the right balance for a FiT rate

Feed-in-tariff markets face two key policy concerns. The first is getting the level set high enough so that it encourages market development while avoiding a tariff that is so popular that it overwhelms available budgets. Germany, Spain and Ontario, Canada fall in the latter category and have modified or even temporarily halted their programs. Policy mechanisms that link market penetration to a long-term, transparent tariff depreciation rate may be able to address this issue. A 'depreciating' tariff is a tariff rate that reduces over time as new consumers enter the market.

The second key policy concern is setting the tariff level high enough to stimulate interest. Any policy that does not allow for the sustained, orderly growth of the market, but instead sets up "boom and bust" cycles, will cost more in the aggregate to grow a market. Boom and bust cycles cause market development funds to pay twice for the same end – i.e. once before the bust and again after the bust to rebuild momentum lost as a result of the bust.

The Government should consult widely to carefully design the value of the tariff and then undertake regular, publicly-reviewed modifications. Australia should consider pricing reductions via either an annual downward adjustment or an annual review based on review of current market prices, market impacts of new climate policy regulations, electric tariff reform, incentive program modifications, or other factors. Reducing the value over time should help build a self-sufficient industry.

One area of the bill to carefully consider is the modification of the tariff once the FiT capacity goals are met. Germany first set a target of 12.5% renewables when it established its FiT in 2004; within three years, renewable energy composed roughly 14% due to the popularity of the FiT. The solar industry is evolving very quickly. Both the five-year re-evaluation proposal and the extent of tariff reduction need to be carefully reviewed.

Recommendation 6: *That policymakers support long-term guarantees to avoid boom-and-bust cycles*

5.9 Ensuring performance and energy efficiency

Suntech fully supports the implementation of stringent and robust measures to regulate a national FiT scheme. It is envisaged that the regulatory framework, including ratepayers, policymakers, and industry, will help provide an effective playing field to minimise public spending and ensure adequate administrative checks. Suntech supports recommendations for simple performance guarantees; in fact, the 20-year FiT proposal is shorter than our 25-year product warranty.

Australia may want to review California's incentive application process, which requires information on product aspects such as the proposed tilt, orientation, shading and system warranty to guarantee performance for the customer and ratepayer's solar investment. Many of today's solar production meters contain robust data transfer capabilities that allow electronic communication to the receiving utility. Therefore, the utility can remotely, cost-effectively, and accurately verify the actual generation of the solar power system.

Suntech also encourages co-marketing and policy integration strategies with energy efficiency. We know from experience that solar is an effective "lead generator" for energy efficiency incentive programs to attract customers who might not directly approach those programs. However, it requires careful coordination as efficiency conditions tied to solar incentives is an area that provides some logistical challenges in delivery. It is entirely reasonable that ratepayers should see efficiency intertwined with solar power. The challenge is to do it without losing the sale of either.

Suntech suggests that the government should focus on upstream policy areas, market segments, and outreach methods that offer the greatest energy and carbon returns per policy expenditure. Such examples could include integrating solar power and efficiency into building energy standards and the

energy analysis tools that underpin them, funding building operator training in large commercial and industrial facilities, and requiring robust energy efficiency audits and education on efficiency improvements specific to the audited site.

Suntech believes that this approach would have a greater impact than simply focussing on efficiency and solar in existing homes – which is the most challenging market segment.

Recommendation 7: *A depreciating FiT rate should be set carefully per technology in coordination with factors such as time of use pricing, net metering and industry cost reduction achievements*

5.10 Ensuring fair assistance for low-income solar power consumers

Suntech understands that energy is an essential commodity for consumers right across the economy. As a result, rising electricity prices are naturally felt the most by people in the low-income bracket, who spend a greater proportion of their income on electricity bills.

Australia may also want to consider introducing a dedicated solar program for low-income consumers. As a national FiT would apply to all solar power consumers, some stakeholders may highlight that the levy appears to unfairly remunerate middle to higher income earners.

Therefore, the government may want to consider creating a specific program to assist low-income solar power users in addition to a national FiT scheme. Suntech made a similar suggestion in its response to the Committee's Inquiry into the *Save Our Solar (Solar Protection Rebate) Bill 2008.*

6 Recommendations & Conclusion

Recommendations

1 The Government's approach towards lowering greenhouse gas emissions should include targeted financial assistance to assist consumers make the transition to clean, green power.

2 That the government does not dismiss Feed in Tariffs as an efficient policy tool, and that a detailed economic study is required to determine how to fully determine and improve the price complementarity between renewable energy and high-emission energy sources.

3 A national Feed in Tariff scheme should be available to all Australians.

4 Feed in Tariffs should be paid for 'gross' power, not 'net' power generated.

5 That the government recognised that a Feed in Tariff is a complementary pillar of broad solar power, clean energy, and climate protection strategies. FiTs fill gaps in some market segments that a Mandatory Renewable Energy Target (MRET) and Carbon Pollution Reduction Scheme (CPRS) are expected to miss.

6 That policymakers support long-term guarantees to avoid 'boom-and-bust cycles'.

7 A depreciating FiT rate should be set carefully per technology in coordination with factors such as time of use pricing, net metering and industry cost reduction achievements.

Conclusion

In conclusion, we seek your in-principle support for the *Renewable Energy (Electricity) Amendment (Feed-in-Tariff) Bill 2008* in order to adopt a long-term, national FiT program for renewable energy – especially solar power.

Suntech believes that Australia's current climate change reform process creates an opportune time for governments across Australia to move to a national harmonised FiT scheme. Whilst the current state and territory FiT schemes have been steps in the right direction, more needs to be done to develop an effective policy setting that creates certainty for producers and consumers.

The Federal Government is in a good position to take a leadership role through the current COAG negotiations for a national approach to FiTs. This process provides a genuine opportunity for Australia to move towards a more forward-thinking approach to FiTs.

Suntech supports a gross tariff arrangement, which is a more accurate method of pricing a tariff regime. Gross tariffs also ensure that small-scale PV systems will also receive an incentive payment, as they are unlikely to produce excess power to export into the general power grid.

Suntech strongly argues that further economic modelling is required to fully determine the real costs and benefits of a gross FiT scheme. These benefits are short-term, such as reduced demand on the central power grid, and long-term, such as a reduced need for costly investment into base load electricity infrastructure. It is critically important that short, medium and long-term elements are taken into consideration when assessing the viability and impact of a national FiT scheme.

Thank you for consideration of Suntech Power Australia's comments.


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