SUNPOWER

AUSTRALIAN CLEAN ENERGY FINANCE CORPORATION
EXPERT REVIEW -REQUEST FOR SUBMISSIONS

SunPower Corporation welcomes the opportunity to provide comments to the CEFC Review Panel regarding the form, intent and implementation plan for the Clean Energy Finance Corporation. SunPower Corporation is a manufacturer of products and a provider of services for solar electricity with a global footprint. SunPower has had a presence in Australia since 2008 with major offices in Perth and Melbourne as well as representatives in Brisbane and Sydney. SunPower supplies products to dealers of solar electric equipment in all states and territories within Australia. SunPower has designed, supplied and installed some of the largest solar facilities in Australia, including the 1MW Uterne plant, 505kW solar/diesel hybrid systems at Marble Bar and Nullagine, and the 305kW system at the Crowne Plaza Hotel Alice Springs.

SunPower is a public company (NASDAQ SWPR) with manufacturing facilities on three continents with over 5,500 employees. In addition to manufacturing solar cells and modules, SunPower has designed, installed and is operating over 500 MWs of solar power plants in Europe, Asia, the United States. SunPower has recently started construction of one of the largest solar plants in the world, California Valley Solar Ranch, in San Luis Obispo County. When completed next year, the plant will generate over 250 MW (AC) of power for sale under long term contract to PG&E, the largest utility in the United States. In addition, SunPower has constructed many of the largest solar power plants in Europe, including an 80 MW plant in Montalto Italy. In answering the questions set forth in the document, we will provide comments that reflect real life experience with solar power plant development and especially financing. Our comments will be focused on large scale solar development although we recognize the scope of the CEFC extends to other technologies as well. We have addressed a subset of the questions where we have some particular expertise based on our experience in financing large projects.

1. **How do you expect the CEFC to facilitate investment?**

   A. <u>Support of Off Take Contracts</u>

   One of the primary opportunities for the CEFC to facilitate private investment in Australian solar projects is to develop mechanisms to support long term Power Purchase Agreements (PPAs) or other off take agreements that will produce predictable revenue streams.

   In order to attract private capital for large scale solar project development, we first attempt to secure an off take agreement of 20-25 years to match the minimum life of the solar asset. In the case of European projects, this has taken the form of a Feed in Tariff contract that guarantees a fixed payment for 20-25 years, (depending on the tariff and country). In the United States, the off take agreements are normally in the form of PPA's (Power Purchase Agreements). In California and other Western U.S. states, the counter party signatory of the PPAs is the local electric utility. The utilities are motivated to sign these long term solar PPAs because the states each have a requirement in place that a certain percentage of the utility's supply come from renewable sources (a Renewable Portfolio Standard, RPS). Furthermore, the

utilities will normally seek and receive advance permission from the state regulatory body that will allow them to include the costs of this power, if prudently procured, into their rate base. Normally the utilities will then negotiate PPA agreements with solar developers that include price, term, credit requirements, project location, interconnection points, technology, delivery dates, etc. The contracts are then presented to the regulatory commissions, and if approved, are signed by both parties and serve as the basis for a known long term revenue stream for the project. Without a PPA or FIT contract, it is very difficult if not impossible to procure private financial backing for the project. The focus for our set of initial recommendations to the CEFC will revolve around ways to enable PPA finance structures within the Australian market and regulatory framework, which differs significantly from Europe or western U.S. states such as California.

The revenue stream for a renewable project will be made up of at least two components, the energy (MWh) delivered and the proxy for the renewable attributes (RECs). The combination of the two must meet the minimum hurdle rates of the prospective project owner and the provider of the debt portion of the financing package. The energy component can be valued by equating the solar MWh with a non renewable MWh (be it coal, gas, etc) with the additional factor of time of day and seasonal delivery factors added in. In other words, a MWh delivered to the grid at 2 pm on a summer day has a higher value than one delivered at 2 am on a winter day in a summer peaking area. In California for example, the Public Utility Commission has studied the price of peaking power versus non peaking power over the entire 8,760 hours of the year and has determined that solar generation has a 110% value relative to a proxy natural gas plant while wind has a lower than 100% value due to its generation profile (a high percentage of off peak generation). This value differential is also evident in the Australian PPA market. The Commission has modeled the 20 year forward price for a natural gas combined cycle plant and has used this forward curve for conventional generation as its proxy for the Marginal Price Referent, MPR. If a utility in California comes to the Commission with a request to approve a renewable contract whose price is set at or below the MPR, there is a presumption that the Commission will approve the contract. If a contract is above the MPR, there is a longer more thorough review process required.

The same economic reasoning, albeit with several adaptations for the Australian market, could be utilized as the basis for CEFC financing support for large solar projects. A conventional fossil fueled generating station is constructed when the information from AEMO and the internal analysis of the generation developer indicate that a particular area will need additional power by a certain date. The prospective developer will commence with the land acquisition, interconnection agreements, financing, etc., all based on their calculation of the forward electricity prices for the plant in question given its operating profile and marginal costs. The revenue stream from the electricity sales serves as the basis for a pro forma calculation of operating income.

In the Australian electricity market, there is no predictable level of sales or most importantly, price. Thus, renewable developers incur significant costs and risk for a period of months and years until financial close, increasing project costs. Developers proceed with projects only if the level of expected profit exceeds their risk adjusted rate of return. If the CEFC were to support PPA's, project risk would be lowered, and the necessary rate of return would be reduced as well. These lower risks would encourage more developers to propose projects, thereby increasing the market supply of bankable projects.

In the case of a technology such as solar that will rely partially on the additional revenues associated with carbon credits and/or RECs, it is necessary to monetize the "green" elements of the solar generation and find a way for the revenue associated with those elements to be securitized. Although RECs have been used as a component of wind project financing in Australia, there is limited experience with long term financing of solar projects relying on large scale RECs. Furthermore, the effects of the carbon tax on the base price of "brown" energy are unknown. The cost of carbon credits after July 2015 is unknown and there is a perception of political risk associated with both the Renewable Energy Target and especially with the carbon tax. This combination of regulatory and price risk has impeded the involvement of private capital in the financing of Australian solar projects.

The role of the CEFC (or some other governmental entity) could be to provide some initial assurances to the financial community that the REC and carbon portion of the total renewable revenue stream are solid and bankable. We are suggesting a structure similar to a "contract for differences". In this approach, the CEFC would sign (or provide a guarantee for) a long term PPA with a project developer (after the developer meets certain project milestones) that would ensure a fixed price revenue stream. The developer would be responsible for selling the energy generated by the solar plant into the grid. If the PPA price exceeded the energy revenues, the CEFC would pay the difference to the developer. If the energy revenues exceeded the PPA price, the developer would pay the difference to the CEFC. The CEFC would have rights to all carbon credits and RECs generated by the system for the life of the PPA. The developer would be required to provide performance guarantees although CEFC payments are only required for MWh delivered.

B. <u>Financial Education role</u>

Once the PPA is signed, there are additional barriers that must be overcome in order to bring private capital into the solar project finance sector. There is a lack of familiarity in Australian banks with large scale solar technology and project operation that causes financial institutions to assign very high risk profiles and investment hurdles to these projects. Overseas banks have more mature business risk models with regard to renewable projects, but need a local partner to navigate Australian regulation and business practices. The CEFC could serve a useful function as a matchmaker and educator of the banks and investment community regarding the financial and technical aspects of these technologies.

Another useful function that could be undertaken by the CEFC is to help develop the set of project documents that will be required on each transaction. As indicated below, our recommendation is to target the CEFC efforts at projects approximately 10-20 MW in size. 10-20 MW projects in the $50-60 million range will be large enough to capture scale economies on the technology side while absorbing typical non hardware costs of $3-6 million (including permitting, legal and environmental reviews).

Since there is limited experience with large scale solar project development in Australia, each potential financing entity must learn how to organize appropriate due diligence, including developing documents and procedures, or buy it in from consultants. If the CEFC can work to develop more or less standardized loan documents, due diligence procedures, credit standards, etc., each financial institution will have a starting point from which to customize documents depending on their internal requirements. This will help reduce the hurdle of large transaction costs, especially for the first few projects for any lender or investor, and mitigate barriers to entry from a risk and corporate learning perspective.

C. Project financial support

A third role for the CEFC could be to co-invest with private investors for the initial development, through COD and commissioning, probably continuing until some level of operational history has been established (e.g. one or two years of operations).

Using a pre arranged agreement, the CEFC could then sell their share of the project to the developer, a new owner, or a pension/super fund. Since the construction and operation risk has been substantially wrung from the project, the sale price to the pension fund will be higher than the initial CEFC investment. The initial capital and the profit could then be recycled by the CEFC into future projects, thereby creating a self sustaining fund. The CEFC would seek to sell the project to the super fund at a higher price than its cost since much of the development risk will have been removed from the project once it is operating. The CEFC would then recycle the sale proceeds into additional projects. This approach would bring forward near-viable projects and provide a secure, low risk outlet for super fund investment managers.

2. Are there principles beyond financial viability that could be used to prioritise investments, such as emissions impact or demonstration affect?

- We believe the primary role of the CEFC should be to serve as a financing facilitator of commercial type projects rather than as a direct investor into pre commercial companies. Such R&D investment should be left to ARENA and other bodies.
- Although the purpose of the CEFC is to facilitate the construction of numerous renewable technologies not currently being deployed in Australia (excluding large scale wind), we suggest that there be a timing prioritization over the five year term of the

program. Those technologies that are most mature within the above group should be deployed first so the Australian financial community can become familiar with the CEFC program without assuming undue technology risk in addition to the other risk factors enumerated above. This suggests an emphasis on large scale solar PV in the early years of the program. Once the solar plants are operating and the financial community sees the promised financial pro formas are in fact realized, less mature technologies can be added to the project portfolio.

- In order to use the program to build Australian industry, we believe that the target project size should be in the area of 10-20 MW+/-. As described above, this will allow the fund to support numerous projects at various stages of the development cycle, and will promote a development, engineering, procurement, installation and operational infrastructure that will seed a sustainable Australian industry. The 10-20 MW size is large enough to capture economies of scale and can more easily be incorporated into the Australian transmission system than projects in the hundreds of MWs.

- Some additional factors that drive efficient project size are listed below:
    - >$50M to meet worthwhile transaction size from banks
    - >$50M so legal, environmental & stakeholder engagement costs do not become too significant
    - <30MW to be below the NEM "dispatchable" status threshold
    - <20MW should allow connection at 33kV or under
        - avoids significant cost of higher voltage connection and time needed for complicated network integration studies
        - project interconnection can be made directly into 33 Kv lines rather than cabling to a nearby substation
        - will reduce costs of any required network augmentation
    - A 20 MW project will require 50-70 hectares, an appropriate scale for most regional centres. For comparison, most rural properties in good solar areas are several thousand hectares in size.

3. What are the opportunities for the CEFC to partner with other organisations to deliver its objectives?

- ASI, AEMO, ARENA, local permitting bodies and large energy retailers are all potential partners and collaborators for the CEFC. Federal agencies in Great Britain and the United States have experience in administering programs to facilitate financing of large solar projects.

4. **What experiences have firms in the clean energy sector had with trying to obtain finance; have term, cost or availability of funds been the inhibitor?**
    - Uncertainty (i.e. higher ascribed risk) surrounding future cash flows are the most significant inhibiting factor. As a result, debt finance terms have reduced significantly to as low as five (5) years and PPA's to 7 years, as the value of cash flows after this time is so severely discounted.
    - SunPower has used the USDOE Loan Guarantee Program to finance the 250 MW California Valley Solar Ranch project. The following link provides a summary of the program as prepared by the Milbank law firm. http://www.milbank.com/images/content/6/7/679/022509_Concise_Summary_of_USDOE_LGP.pdf
    - A second example of a financing structure used by SunPower is a solar bond that was floated to finance SunPower's 80 MW Montalto project in Italy, which was named "Solar Deal of the Year" at Project Finance International's 2009 Europe awards. An article describing the bond is included as an Appendix to these comments.

5. **What non-financial factors inhibit clean energy projects**?
    - Grid interconnection costs and timing, permitting, political risk, electricity market fluctuations and forward price uncertainty are all barriers to be overcome
    - The limited number of large energy retailers limits competition and provides those entities with competitive advantages in developing projects for their own portfolios. Project developers must increasingly choose between accepting whatever is offered from the big three, or develop their own direct channel to market.

Yours Faithfully,

Chris O'Brien
Managing Director
SunPower Corporation Australia Pty Ltd
Level 4, 973 Nepean Hwy,
Bentleigh, VIC, 3204
Ph: 1800 SUNPOWER (1800 786 769)
Fax: +61 (0)3 8399 9464
Mobile: +61 (0)408 883 469
cobrien@sunpowercorp.com

APPENDIX

DESCRIPTION OF SOLAR BOND FINANCING

In a historic first for the renewable energy industry, solar PV manufacturer SunPower (SPWRA) completed a EUR 195 million bond sale to finance the final 44 MW phases of construction of the 72 MW Montalto di Castro solar park in Italy.

The bonds, due in 2028, are the world's first publicly rated issue for a solar project and offer a new, innnovative way to finance large scale renewable energy projects.

"This is the world's first publicly rated bond issue for a solar project, as well as Italy's first rated project bond. It opens up a new global-scale pool of capital to fund solar projects beyond traditional project financing from banks," says Dennis Arriola, SunPower CFO. "Achieving investment grade ratings is a milestone for the solar sector and further demonstrates the bankability of SunPower's turnkey solar energy systems. Our success is a culmination of an exhaustive due diligence process which resulted in various independent parties recognizing the technical, financial and operating expertise that SunPower delivers."

The solar bonds were issued in two classes:

- Class A1 bonds of euro 97.6m in fixed rate notes paying 5.715%, due in 2028
- Class A2 bonds of euro 97.6m in fixed rate notes paying 4.839%, due in 2028

The Class A1 benefit from a loan guarantee by SACE (an insurance and financial group controlled by Italy's Ministry of Economy and Finance) and its Aa2 credit rating from Moody's. The class A2 bonds are rated Baa3 from Moody's and were purchased by the European Investment Bank.

SunPower completed the 72 MW Montalto di Castro solar park this month (December 2010). It's one of the world's largest solar parks in terms of energy generation, with about 140 gigawatt hours of electricity a year.

Source: Sustainable Business