



PO Box 148 French's Forest NSW 1640

Phone: +61 2 9402 1638

Fax: +61 2 9402 1638

admin@auses.org.au

www.auses.org.au

Submission on Expert Review of the Clean Energy Finance Corporation

Summary

The Australian Solar Energy Society (AuSES) strongly supports the establishment of the \$10 billion Clean Energy Finance Corporation as an integral component of the Australian Government's Clean Energy Future package. The CEFC has the potential to supercharge solar by unlocking much-needed private sector investment in commercial, community and large-scale solar, as well as investment in energy efficiency and emerging renewable energy sources.

The CEFC should adopt a broad range of financing tools, including loans, loan guarantees and equity investments, to suit a wide variety of technologies at different stages of maturity. The CEFC should seek to facilitate power purchase agreements and work collaboratively with Infrastructure Australia and the Australian Energy Market Operator to facilitate private sector investment in smart grid and traditional electricity grid infrastructure.

In seeking an early return on investment, the CEFC should consider early-stage investment in commercial, community and large-scale PV and in building integrated PV, where these projects have been unable to access private sector capital due to the credit crisis, imperfect knowledge and perceptions of risk. All CEFC investments should be additional to the Renewable Energy Target.

The CEFC should be established as soon as possible, with financial incentives available immediately from 1 July 2013 at the very latest. Given the substantial amount of due diligence that is required in assessing large-scale projects, the Chair of the CEFC should now be encouraging companies to develop submissions in the understanding that the CEFC will be open for business from 1 July 2013 at the latest. The CEFC must remain independent of Government, and its Board should include members with expertise in financing, renewable energy and innovation.

The CEFC should work closely with the solar industry in developing its investment mandate. AUSES has been pleased with the industry consultations that have occurred to date, and request that this continues. AuSES, its member companies and solar researchers are available to provide expert advice to the CEFC.

About the Australian Solar Energy Society

The Australian Solar Energy Society is Australia's peak solar industry body and the largest renewable energy body by membership. Its 600 members include residential, commercial and large-scale solar companies, solar panel installers, academics, consultants and interested Australians. AuSES traces its history back to 1954 in Australia, and it was incorporated in its current form in 1987.

The Significance of Solar

A recent report by the International Energy Agency points to a very bright future for solar in Australia and globally. The IEA report *Solar Energy Perspectives*, released on 1 December 2011, suggests solar will provide at least 20% of the world's energy needs by 2050 and as much as half of the world's electricity generation under its most ambitious emissions reduction scenario. The IEA's 2010 *Technology Roadmap: Concentrating Solar Power* concluded concentrating solar power could provide 5% of Australia's electricity by 2020 and 40% by 2050. The IEA concluded that concentrating solar power could be a competitive form of peaking power by 2020 and of baseload power by 2025-2030.

The IEA noted that to achieve its solar potential, countries like Australia should ensure long-term funding for research, development and demonstration and support CSP development through long-term oriented, predictable solar-specific incentives...including any combination of feed-in tariffs or premiums, binding renewable energy portfolio standards with solar targets, capacity payments and fiscal incentives." Support for large-scale solar projects through the Clean Energy Finance Corporation would be consistent with this advice from the IEA.

There is no question Australia has some of the best solar resources in the world, although one of the challenges is that some of the best sites for direct normal irradiance (DNI) required by solar thermal are found in the less populated areas of the country, and often outside of the national electricity grid.

To date, Australia has been slow to harness the power of the sun. There are now about 1.2 gigawatts of photovoltaics (PV) installed in Australia, with the vast majority of that coming from household solar panels. The rate of solar installation grew nine fold in the last 12 months and 35 fold since 2008, stimulated by a massive reduction in the price of solar panels, as well as State and Territory feed-in tariffs and the Australian Government's Small Scale Renewable Energy Scheme. The largest PV installation in Australia is a 1.22 megawatt installation at the University of Queensland.

The largest solar thermal plant currently operating in Australia is a 9 megawatt thermal (3 megawatt electrical) plant connected to the Liddell coal fired power station in NSW's Hunter Valley.

The large-scale solar story is slowly changing, largely as a result of government support policies:

- Construction is underway on the 44 megawatt Kogan Creek solar boost project in Queensland (partly funded through the Australian Government's Renewable Energy Demonstration Program);

- Construction has begun on the 10 megawatt First Solar PV plant near Geraldton, Western Australia (partly funded through a WA Government grant);
- Planning is underway for the 150 megawatt Moree Solar Farm in NSW (partly funded through the Solar Flagships Program); and
- Planning is underway for the 250 megawatt Solar Dawn solar thermal project near Chinchilla, Queensland (partly funded through the Solar Flagships Program).

In addition, Government support has been provided to Solar Systems' proposed 100MW concentrated PV plant in Mildura and the proposed 40MW SolarOasis project in Whyalla, South Australia. Both of these projects are under development.

Government support is clearly critical to the large-scale solar industry at present, with large-scale solar facing a number of challenges:

- A lack of private financing due to recent uncertainty regarding carbon pricing and the structure of the Renewable Energy Target and perceptions of risk;
- The absence of power purchase agreements;
- The immaturity of some technology;
- The high upfront capital cost;
- The lack of incentives for peak or time of use generation; and
- The lack of grid connection.

The dramatic reduction in the price of PV has made this technology more competitive, but large-scale PV project developers are still finding it difficult to access capital, partly because of the perception of risk and the absence of any examples of large-scale solar in the Australian environment. The CEFC has the capacity to address this perception of risk and free up capital.

Solar thermal is a less mature technology than PV, although large-scale parabolic trough plants have been successfully operating in the US for more than 20 years. Solar thermal is currently more expensive than PV, although significant cost reductions are being achieved through learning by doing. Solar thermal plants, with and without storage, are now being developed across southern Europe and the United States, stimulated by feed-in tariffs and loan guarantees respectively.

The use of solar in commercial-scale settings is a small but growing component of Australia's solar industry. Commercial-scale solar includes PV installations on the roofs of factories, shopping centres and warehouses, smaller solar farms and building integrated PV. The latter is a rapidly growing and fast evolving sector in Europe and the US. Building integrated PV increasingly includes all manner of building materials, including tiles, glazing, shading, roofing, facades, as well as heating and cooling.

Whilst the price of PV is falling rapidly, there is still reluctance amongst Australia's property sector and institutional investors to embrace commercial

solar. This reflects a market failure, where the property sector has imperfect knowledge of the current price of solar, its applications and the extent of use in other jurisdictions. There is little systemic dialogue between the property sector and the solar industry, an issue AuSES is increasingly focusing on. The CEFC can play an important role in addressing this market failure.

Role of CEFC

Whilst AuSES does not believe the CEFC should be restricted to any specific technology, it does make sense for the CEFC to initially consider opportunities for investment in community, commercial and large-scale solar, as well as building integrated PV. Each of the components of the solar industry, and particularly PV, are moving rapidly down the cost curve, but are finding it difficult to access capital.

There are significant opportunities for investment in energy efficiency, and this includes PV and building integrated PV. This work should complement, and not contradict or overlap, the work of Low Carbon Australia. It should address areas where private sector investment is currently not flowing due to market failures relating to imperfect knowledge by the property sector and perceptions of risk. This investment would be relatively low risk and likely to generate substantial rates of return.

Similarly, there is a strong demand for investment in community-based solar projects (similar to the Hepburn wind farm), which could be facilitated by the CEFC. At present, the existing tax system, lack of private sector financing and State regulatory arrangements are acting as barriers to such investment. Community-based solar projects have the benefit of demonstrating technology at low cost and low risk and can test smart grid and grid integration applications.

In relation to big solar, the US loan guarantee program has successfully stimulated private sector investment in large-scale PV and solar thermal plants, and there is an opportunity to replicate this experience at a smaller scale in Australia.

Experience from the US and Europe has shown that for both large-scale PV and solar thermal, learning by doing can significantly reduce the cost of projects. The US Loan Guarantee Program has also helped companies secure debt at an affordable price. The CEFC should look to reduce the cost of financing first of a kind projects through loan guarantees, loans and equity investments. There may be a greater political and financial risk associated with larger infrastructure projects, but it is an appropriate role for government to provide solutions to problems that cannot be addressed by the private sector alone.

The CEFC should not avoid risk for fear of failure. Innovation cannot occur without risks being taken. The key is risk management, and there is merit in the approach proposed by the UK Green Investment Bank, which includes:

- * Extensive due diligence.
- * Strict criteria for projects.

- * Ongoing monitoring.
- * Co-investment with private sector.

(Update on the Design of the Green Investment Bank, 2011)

AuSES endorses the conclusions of the recent Clean Energy Council Large Scale Solar Policy Roadmap that key actions for government over the next five years include:

- Creating a stable policy environment to facilitate investment in large-scale solar projects
- Clearly planning a pipeline of large-scale solar projects required by 2020, 2030 and 2050 in order to achieve cost reductions and build local capacity
- Securing long-term sustainable funding for project deployment
- Providing sufficient support for off-take agreements
- Facilitating grid connection

The CEFC has an important role to play in the implementation of each of these recommendations.

Conclusion

The Australian Solar Energy Society has a unique membership base including solar researchers, and residential, commercial and large-scale solar companies. AuSES would welcome the opportunity to work with the CEFC as it develops its investment mandate, and is available to brief the CEFC on the state of Australia's solar market.

Yours sincerely

John Grimes
Chief Executive
Australian Solar Energy Society

8 December 2011

For further information, please contact John Grimes, Chief Executive of the Australian Solar Energy Society, on 0400 102 396 or ceo@auses.org.au