Ms Jillian Broadbent AO
Chair, Clean Energy Finance Corporation Expert Review Panel
Department of Treasury
Email: cefc@treasury.gov.au

8 December 2011

**Re: Submission on the Clean Energy Finance Corporation**

Dear Ms Broadbent

The Department of Treasury has sought input on the design of the Clean Energy Finance Corporation (CEFC). This submission sets out the initial views of the Energy Efficiency Council on the purpose and design of the CEFC.

The Energy Efficiency Council (EEC) is the peak body for energy efficiency, cogeneration and demand-management[1] in business and government, and brings together Australia's top expertise in these fields to support the development of policy and programs. Energy efficiency is a major and rapidly growing industry, and the Council's members have a global turnover exceeding $200 billion per annum.

Raising the level of energy efficiency in Australia will boost the competitiveness of businesses and improve the welfare of households, irrespective of the imperative to reduce greenhouse gas emissions. Global oil, gas and coal prices are rising, in part due to rapid economic growth in Asia. Although short-term global economic conditions could depress fossil fuel prices, the trend towards higher fossil fuel prices is inexorable. High fossil fuel prices will benefit Australian companies that are involved in the extraction and sale of fossil fuels, but could affect the growth of the rest of the Australian economy and impact on household welfare.

Climate Works Australia estimates that reaching technically and commercially achievable levels of energy efficiency could save Australia $5 billion a year. This estimate does not include the substantial economic benefits using distributed generation and efficiency to peak demand.

Electricity transmission and distribution businesses are planning to spend over $39 billion over five year on the electricity network, which will raise the cost of electricity. This expenditure, and future expenditure on the grid, could be substantially reduced by reducing peak demand. Peak energy demand in Australia is growing rapidly, while average and total energy use are actually declining. As the cost of the network is determined by the peak, an estimated $3.5 billion of assets in the National Electricity Market network are used for less than 40 hours per year. The Prime Minister's Task Group on Energy Efficiency estimated that a national energy savings scheme could cut peak demand and reduce expenditure on electricity infrastructure by $12 billion to 2040.

In addition to economic benefits, the International Energy Agency has estimated that energy efficiency is the largest short-term source of potential global greenhouse gas abatement, accounting for 65 per cent of the energy sector's abatement potential to 2020. ClimateWorks estimates that unlocking the potential for energy efficiency and cogeneration in Australia could cut greenhouse gas emissions by over 50 Megatonnes a year by 2020. While unlocking the potential for energy efficiency will not deliver more abatement (unless the greenhouse cap is tightened), it will substantially reduce the cost of abatement.

[1] Demand management includes reducing a site's demand during periods of peak network demand, when electricity prices are substantially higher.

**Barriers to energy efficiency, cogeneration and demand-management**

Households, businesses and other organizations should respond to rising energy prices by becoming more efficient in the generation and use of energy, but there are a number of barriers that impede them from optimally investing in energy efficiency, cogeneration and demand-management. These barriers have been well articulated in the Report of the Prime Minister's Task Group on Energy Efficiency, and include:

- A need to ensure that private price signals and regulations reflect the environmental costs of energy use (e.g. greenhouse gas emissions).
- A failure to ensure that private price signals reflect the wider economic and social benefits of demand-side activities. For example, for each kW of air conditioning load that a household installs in Queensland, over $3,000 needs to be spent on augmenting the electricity network. Currently, households that install air conditioning only pay a fraction of this augmentation cost, and are heavily subsidized by other electricity users. This distorts the incentives that households face for install more efficient air-conditioning or passive cooling.
- Regulatory problems that impede or distort the costs for energy efficiency, cogeneration and demand management. For example, connecting cogeneration to the grid under the current regulations is cumbersome and slow, creating significant costs for proponents.
- Barriers that prevent individuals and companies from investing in privately cost-effective energy efficiency. These include:
    - Information gaps and bounded rationality, including gaps in skills from both producers and consumers of energy efficiency products and services.
    - Information asymmetry
    - Misaligned incentives

These barriers interact to impede the development of the market for energy efficiency and cogeneration goods and services. For example, distortions in the energy market lower the value of energy efficiency investments, reducing the incentives for companies to examine ways to improve their energy efficiency, lowering their knowledge of energy management, reducing demand for energy efficiency services and impeding investment in skills and technology by energy efficiency suppliers.

These barriers also affect financing, with imperfect information and information asymmetry often leading to inflated risk assessments of investments in energy efficiency and cogeneration, higher transaction costs and more expensive finance.

The EEC strongly supports the use of a carbon price to ensure that private price signals incorporate reflect the costs of greenhouse gas emissions. However, this will only address the carbon externality, and will not address other barriers to energy efficiency. As a result, a carbon price needs to be accompanied by other policies and reforms that address the other barriers to energy efficiency and cogeneration to enable more economically efficient reduction in greenhouse gas emissions.

For example, a carbon price will not address the regulatory barriers that increase the cost of connecting cogeneration systems to the grid. If these regulatory barriers are not addressed they will distort investment in greenhouse reduction away from low-cost options like cogeneration towards more expensive forms of abatement.

## Using finance to effectively tackle barriers

Financing can play a key role in tackling the barriers to energy efficiency, cogeneration and demand-management. However, financing will be far more effective if it is used in a sophisticated way as a lever to address multiple information gaps and structural barriers. Effective financing processes should involve:

- Developing innovative financing tools that address financing barriers (e.g. reducing the perceived risk in energy efficient investments) or simplify investment in energy efficiency and cogeneration. For example, the Environmental Upgrade Agreement (EUA) financing tool being rolled out by Low Carbon Australia, the City of Melbourne, the City of Sydney and various local governments in New South Wales is structured in a way that overcomes misaligned incentive issues between commercial landlords and tenants.
- Directly investing in projects that might otherwise be unable to secure affordable and easily accessed finance, such as loans with long payback periods.
- Structuring and promoting financing tools in ways that not only draw attention to financing, but raise the market's awareness of the attractiveness of investing in energy efficiency, cogeneration and demand-management. This would help address information barriers.
- Actively seeking and facilitating opportunities to invest in energy efficiency, cogeneration and demand-management, in order to further break down the information barriers that impede investment in energy efficiency. In effect, individuals that are experts in financing energy efficiency and cogeneration can play and advisory role and 'hand-hold' inexperienced investors in energy efficiency (e.g. commercial building owners) so that they can find experienced providers of energy efficiency services, establish robust contracts and develop solid and reliable projects.

This means that the CEFC and its deliver arms must be able to direct some of the $10 billion in funding set aside for the CEFC to operations and projects that facilitate financing.

In summary, a passive financing mechanism that makes funds available to households and businesses but does not actively seek opportunities will deliver much less abatement at a much higher costs per t/CO2e- abated than a sophisticated financing operation that involves actively engaging in potential projects to catalyse a market for energy efficiency and cogeneration services and products.

## Areas for investment

The CEFC has a clear mandate to make $5 billion in financing available to energy efficiency and low emissions technologies. The EEC recommends that the CEFC should fund the following distinct areas, which may need different financing approaches:

1. Energy efficiency upgrades and cogeneration in commercial buildings, including:
    - Additional financing to support *'Environmental Upgrade Programs'* run by local governments, where building owners pay back loans through council rates.
    - Financing for building owners that cannot access Environmental Upgrade Programs because they do not pay rates, such as Universities and schools.
2. Energy efficiency upgrades and cogeneration in manufacturing and other businesses
3. District and precinct systems such as cogeneration, heat networks and other forms of distributed generation which face a wide array of separate challenges
4. Projects that improve the economic efficiency of the electricity network or market, such as peak demand reduction programs and the roll-out of smart-grid technologies

5. Development and manufacturing of products that support energy efficiency improvement, cogeneration or demand-management, including products that are not currently commercial.
6. Financing households to upgrade the efficiency of their homes and appliances, potentially using a similar system to the UK's 'Green Deal'. The EEC will not comment further on household financing, and will restrict its recommendations to the other five areas of activities.

**Low Carbon Australia**

The EEC strongly recommends that the CEFC invest in these five areas through Low Carbon Australia (LCA) for two reasons:

- LCA is in the best position to deliver effective financing for energy efficiency, cogeneration and demand-management
- If the CEFC uses LCA as its investment arm it could immediately start to deliver financing in energy efficiency, cogeneration and demand-management. If the CEFC does not use LCA it will take several years before the CEFC could finance any project in these fields.

LCA has pulled together high-quality staff and invested substantial sums in developing intellectual property around how to finance energy efficiency. While LCA's products and services are still evolving, the directions that it is moving in are sophisticated and LCA is likely to be in the best position of any organization in Australia to facilitate effective financing.

The process to establish a financing organisation, develop suitable financing products and services, raise market awareness and build trust will take at least two years. LCA has spent the last two years undergoing the process of developing products and building relationships and trust.

If the Government decides that the CEFC should operate alongside the LCA, or even worse disbands LCA, the CEFC won't be able to roll out projects in energy efficiency for at least two years. Furthermore, this course of action would damage existing relationships and trust in government financing. However, if the CEFC uses LCA to deliver its energy efficiency, cogeneration and demand-management projects it will be able to start rolling out projects almost immediately.

The EEC notes that there are number of options available to the Government that would enable it to use the existing products, personnel, organizational structure and branding developed by LCA, including incorporating LCA wholesale within the CEFC. The EEC's strongly urges that, whichever option is chosen, the Government selects the option that creates the least disruption to existing products, personnel, relationships and branding.

The EEC notes that the investment challenges in emerging renewable technologies (e.g. large-scale solar thermal generation) are very different to the challenges for energy efficiency, cogeneration and demand-management. The EEC notes that LCA may not have expertise in these areas, and the CEFC should consider investing in large-scale renewable technologies through a different organization and set of personnel.

**Criteria for investment**

The CEFC / LCA should be given the role of proactively seeking financing opportunities and given maximum flexibility to find opportunities, with minimal restrictions on the types of project that should be financed. As noted, there are a range of barriers to energy efficiency projects, and setting up rigid criteria about what types of project should be funded would create unnecessary transaction costs that would impede effective financing.

Rather than rigid criteria, the EEC recommends that CEFC / LCA be given a small number of binding principles and a larger number of non-binding principles to guide their selection of projects for investment. The only binding principles to guide investment should be:

- The project is feasible, robust and likely to deliver a return on investment to CEFC/LCA
- The project involves the development or application of energy efficiency, cogeneration or demand-management in a way that either reduces energy consumption or peak demand.
- The CEFC/LCA should invest in a way that promotes diversity and competition in investments and technology, and should be mindful of adverse impacts on existing investments and the potential to crowd out other investors

The non-binding principles to guide investment could involve:

- The project is capable of delivering substantial improvements in the energy intensity or greenhouse intensity of an activity, either directly, through replication or by catalyzing market transformation.
- The project would reduce peak demand in the electricity network
- The project would substantially improve the financial viability of an Australian company that is under pressure from rising energy costs, as measured by impact that the project would have on the company's total current and expected operating costs (proportion of expenditure)
- The project has a significant demonstration value.

However, it is expected that CEFC and LCA would not only invest in specific projects, but also in programs with partners in the finance sector, energy and cogeneration services sector (e.g. Energy Service Companies), industry bodies and NGOs. The CEFC / LCA should specifically work with the EEC to:

- Develop tools like case studies, best-practice guides and standard contracts to facilitate the uptake of energy efficiency financing.
- Create alliances with energy efficiency, cogeneration and demand-response providers

**Summary**

The Energy Efficiency Council (EEC) supports the establishment of the CEFC to support investment in energy efficiency, cogeneration and demand-management. The EEC recommends that the CEFC use sophisticated financing programs and partnerships, involving the development of financing products that address market barriers, promotion of those products and active work to seek and facilitate investment opportunities.

The EEC recommends that the CEFC invest in energy efficiency, cogeneration and demand-management using the existing and evolving staff and resources of Low Carbon Australia.

Please contact me on 03 8327 8422 should you require further information on any of the issues raised in this submission.

Yours sincerely

Rob Murray-Leach,
Chief Executive Officer

**Question1. How do you expect the CEFC to facilitate investment?**

Financing can play a key role in tackling the barriers to energy efficiency, cogeneration and demand-management. However, financing will be far more effective if it is used in a sophisticated way as a lever to address multiple information gaps and structural barriers. Effective financing processes should involve:

- Developing innovative financing tools that address financing barriers (e.g. reducing the perceived risk in energy efficient investments) or simplify investment in energy efficiency and cogeneration. For example, the Environmental Upgrade Agreement (EUA) financing tool being rolled out by Low Carbon Australia, the City of Melbourne, the City of Sydney and various local governments in New South Wales is structured in a way that overcomes misaligned incentive issues between commercial landlords and tenants.
- Directly investing in projects that might otherwise be unable to secure affordable and easily accessed finance, such as loans with long payback periods.
- Structuring and promoting financing tools in ways that not only draw attention to financing, but raise the market's awareness of the attractiveness of investing in energy efficiency, cogeneration and demand-management. This would help address information barriers.
- Actively seeking and facilitating opportunities to invest in energy efficiency, cogeneration and demand-management, in order to further break down the information barriers that impede investment in energy efficiency. In effect, individuals that are experts in financing energy efficiency and cogeneration can play and advisory role and 'hand-hold' inexperienced investors in energy efficiency (e.g. commercial building owners) so that they can find experienced providers of energy efficiency services, establish robust contracts and develop solid and reliable projects.

This means that the CEFC and its deliver arms must be able to direct some of the $10 billion in funding set aside for the CEFC to operations and projects that facilitate financing.

In summary, a passive financing mechanism that makes funds available to households and businesses but does not actively seek opportunities will deliver much less abatement at a much higher costs per t/CO2e- abated than a sophisticated financing operation that involves actively engaging in potential projects to catalyse a market for energy efficiency and cogeneration services and products.

**Question 2: Are there principles beyond financial viability that could be used to prioritise investments, such as emissions impact or demonstration effect?**

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Rather than rigid criteria, the EEC recommends that CEFC / LCA be given a small number of binding principles and a larger number of non-binding principles to guide their selection of projects for investment. The only binding principles to guide investment should be:

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The non-binding principles to guide investment could involve:

- The project is capable of delivering substantial improvements in the energy intensity or greenhouse intensity of an activity, either directly, through replication or by catalyzing market transformation.
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- The project would substantially improve the financial viability of an Australian company that is under pressure from rising energy costs, as measured by impact that the project would have on the company's total current and expected operating costs (proportion of expenditure)
- The project has a significant demonstration value.

However, it is expected that CEFC and LCA would not only invest in specific projects, but also in programs with partners in the finance sector, energy and cogeneration services sector (e.g. Energy Service Companies), industry bodies and NGOs.

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

The EEC strongly recommends that the CEFC invest in these five areas through Low Carbon Australia (LCA) for two reasons:

- LCA is in the best position to deliver effective financing for energy efficiency, cogeneration and demand-management
- If the CEFC uses LCA as its investment arm it could immediately start to deliver financing in energy efficiency, cogeneration and demand-management. If the CEFC does not use LCA it will take several years before the CEFC could finance any project in these fields.

LCA has pulled together high-quality staff and invested substantial sums in developing intellectual property around how to finance energy efficiency. While LCA's products and services are still evolving, the directions that it is moving in are sophisticated and LCA is likely to be in the best position of any organization in Australia to facilitate effective financing.

The process to establish a financing organisation, develop suitable financing products and services, raise market awareness and build trust will take at least two years. LCA has spent the last two years undergoing the process of developing products and building relationships and trust.

If the Government decides that the CEFC should operate alongside the LCA, or even worse disbands LCA, the CEFC won't be able to roll out projects in energy efficiency for at least two years. Furthermore, this course of action would damage existing relationships and trust in government financing. However, if the CEFC uses LCA to deliver its energy efficiency, cogeneration and demand-management projects it will be able to start rolling out projects almost immediately.

The EEC notes that there are number of options available to the Government that would enable it to use the existing products, personnel, organizational structure and branding developed by LCA, including incorporating LCA wholesale within the CEFC. The EEC's strongly urges that, whichever option is chosen, the Government selects the option that creates the least disruption to existing products, personnel, relationships and branding.

The EEC notes that the investment challenges in emerging renewable technologies (e.g. large-scale solar thermal generation) are very different to the challenges for energy efficiency, cogeneration and demand-management. The EEC notes that LCA may not have expertise in these areas, and the CEFC should consider investing in large-scale renewable technologies through a different organization and set of personnel.

It is expected that CEFC and LCA would not only invest in specific projects, but also partner with a range of other organizations, including:

- Existing financial institutions, to leverage their funds and develop their capacity to invest in energy efficiency, cogeneration and demand-management.
- Local governments to support retrofitting of buildings (e.g. Environmental Upgrade Agreements) and roll out of district-scale generation, heating and cooling projects
- Companies that provide energy efficiency and cogeneration services (e.g. Energy Service Companies) to assist them to provide finance and services to their customers
- Energy retailers and other parties in the energy supply chain
- Industry bodies and NGOs. The CEFC / LCA should specifically work with the EEC to:
    - Develop tools like case studies, best-practice guides and standard contracts to facilitate the uptake of energy efficiency financing.
    - Create alliances with energy efficiency, cogeneration and demand-response providers

**Question 4. How could the CEFC catalyse the flow of funds from financial institutions?**

The EEC notes that Low Carbon Australia (LCA) is already exploring sophisticated models to catalyse the flow of funds from financial institutions. The EEC recommends that the CEFC utilize and build on these existing models.

The Council will carry out more work before recommending specific financing tools to the CEFC. However, the Council notes that the UK's GreenBank is considering a number of tools to leverage funding that may be worth exploring, including:

- Innovative financing tools that address barriers to energy efficiency
- Investing in projects that would otherwise not be able to secure sufficient investment at attractive rates (e.g. viable projects with long payback periods)
- Reducing the risk of investment by offering first loss debt in the construction phase of projects.

The CEFC should consider not just catalyzing the flow of funds from financial institutions, but also catalyzing internal financing (e.g. capital investment in efficiency in the mining sector) and financing by third parties like Energy Service Companies (ESCOs).

**Question 5. 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?**

There are numerous, well documented issues with finance for energy efficiency, cogeneration and demand-management, including:

- A lack of experience means that financiers over-estimate the risk-profile of solid investments, increasing the cost of finance
- Terms for loans are often too short for deep energy efficiency retrofits, which can have more than a 5 year payback period

**Question 6. What non-financial factors inhibit clean energy projects?**

See response to Question 7.

**Question 7. Are there special factors that inhibit energy efficiency projects?**

There are a number of barriers to energy efficiency that impede them from optimally investing in energy efficiency, cogeneration and demand-management. These barriers have been well articulated in the Report of the Prime Minister's Task Group on Energy Efficiency, and include:

- A need to ensure that private price signals and regulations reflect the environmental costs of energy use (e.g. greenhouse gas emissions).
- A failure to ensure that private price signals reflect the wider economic and social benefits of demand-side activities. For example, for each kW of air conditioning load that a household installs in Queensland, over $3,000 needs to be spent on augmenting the electricity network. Currently, households that install air conditioning only pay a fraction of this augmentation cost, and they are heavily subsidized by other electricity users. This distorts the incentives that households face for install more efficient air-conditioning or passive cooling.
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    - Information gaps and bounded rationality, including gaps in skills from both producers and consumers of energy efficiency products and services.
    - Information asymmetry
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These barriers interact to impede the development of the market for energy efficiency and cogeneration goods and services. For example, distortions in the energy market lower the value of energy efficiency investments, reducing the incentives for companies to examine ways to improve their efficiency, lowering their knowledge of efficiency, reducing demand for efficiency services and impeding investment in skills and technology by efficiency suppliers.

The EEC strongly supports the use of a carbon price to ensure that private price signals incorporate reflect the costs of greenhouse gas emissions. However, this will only address the carbon externality, and will not address other barriers to energy efficiency. As a result, a carbon price needs to be accompanied by other policies and reforms that address the other barriers to energy efficiency and cogeneration to enable more economically efficient reduction in greenhouse gas emissions.

For example, a carbon price will not address the regulatory barriers that increase the cost of connecting cogeneration systems to the grid. If these regulatory barriers are not addressed they will distort investment in greenhouse reduction away from low-cost options like cogeneration towards more expensive forms of abatement.

If financing is used through sophisticated programs and partnerships it can address a number of these barriers, through

- The development of financing products that address market barriers (e.g. misaligned incentives)
- Promotion of those products
- Actively seeking and facilitating investment opportunities

**Question 8. How do you see the CEFC fitting with other government initiatives on clean energy?**

The CEFC fits alongside many other programs at the Federal, State and Local level. To be effective, the CEFC should invest though Low Carbon Australia (LCA) and be a project facilitator, which could involve linking potential investors to other programs that address other barriers to energy efficiency (e.g. white certificate that address price distortions in the National Electricity Market (NEM)).