Submission

Expert Review

Clean Energy Finance Corporation.

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Market gap in financing low emission technologies.

The opportunity to actively participate in emission reductions for small/medium energy generators, between 10-200 kw output, is currently **non existent**. Yet small energy operators have enormous potential to contribute to the new energy mix. Creating employment and business opportunities and collectively making a real world impact on CO2 reductions.

Green energy is threatened to be monopolised by corporate giants claiming they have the wisdom of being able to establish the most efficient green power generating units. That notion should be challenged. Of all the energy sources, geothermal would have enormous upfront capital costs required before production, and maybe that type of power would suit corporate bodies. However opportunity should be promoted in wind (in areas such as the New England tablelands in NSW and the Wet Tropics coast of north Queensland). These areas are recognised by CSIRO as having the highest windspeed potential in all of Australia. Community or small business owned windfarms can easily be located onfarm in strategic locations if the environmental economics permit. Likely the turbines would be readily accepted by local communities as they would see the business and flow on dollars bought into their town. Corporate bodies currently want a monopoly on these sites.

Geographically small towns often have high solar or wind potential, yet are currently hindered by lack of opportunities in the renewable energy industry. They are often positioned at the end of very long power line , many are 1000 kms away from a non renewable power source. These power lines are extremely inefficient with system losses of power reported to be at 50% along the way. Yet, despite these huge losses, corporations like Ergon currently will **not pay grid feedin** for systems above 10kw even if you are located at the end of a 1000 kilometre line.

I have four real examples of **small business who are currently unable to implement medium sized solar and wind power projects**. These businesses each plan to install medium sized 50-100kw units. Each of these businesses currently average a power usage of over 500kw per day, each one is willing to implement green energy if they are given the opportunity. Each is willing and able to invest $160,000 on a plant.- These businesses are typical of a multitude of small businesses-

1. Irrigation farming, Gunnedah. -solar PV
2. Sunflower factory, Gunnedah. - solar PV
3. Caravan park, Longreach. - solar PV
4. Banana farm and packing shed . Tully. - wind turbine.

Each of these businesses are in a position to cut-out their onsite daily usage by each installing a 50-100 kw unit. The impediment is off season power generation. When fed onto the grid it is likely to attract little or zero feedin tariff . There is no chance of progressing plans under these economic conditions.

Lets look at just one of the above examples , say the sunflower mill. This mill uses 180 electric motors and consumes about 450kw/day (or equivalent about half a tonne of coal per day). To allow for daily rises and falls in consumption it would need to periodically export 20% of the power generated out of a 100kw solar system. To make the project financially possible the bank would need about 23c/kw for the power fed onto the grid (which is equivalent to what the business currently pays for power). Instead of 23cents they have been offered nothing! If this one business could install a 100kw solar system the reduction in CO_2 would be about 450kgs of coal per day excluding line system losses, adding up to approximately 165 tonnes coal per year. That's over 7 semi-trailer loads of coal not burnt. Because of the poor current environmental economics they cannot afford to implement this new technology, so more coal gets burnt.

Even if a business could afford to give the corporations free export energy they will no doubt be hit up for **headwork contributions** in the form of transformers and infrastructure. Not to mention feeding power past substations to get back onto main lines. It is likely these contributions would be significant and cost prohibitive. This is now a problem with smaller solar PV units saturating a streets supply with power , more solar units are disallowed by energy companies.

Power corporates have been responsible for making conditions unfavourable , non-viable and financially impossible for individuals wanting to implement green energy. The monopoly of corporate power stations sees renewable energy as a threat to their easy way of life, digging away coal, and leaving a legacy for our descendants in the process. Their staff are sharply opposed and resist any suggestion of alternative energy. There are little or no personnel with biological science qualifications in these organisations amongst thousands of staff. These companies need some form of training in ecologically sustainable development.

Power corporations have cleverly set about halting as much grid feedin as possible. A good example of this is Ergon energy whom **offer nill feedin** tariff for electricity export on systems

above 10kw capacity. Furthermore, for applications at 200-500kw they are only willing to consider a power purchase agreement. Only above 500kw will they enter into a power purchase agreement, and even then conditions are on their terms only.

Electricity corporations with their monopolistic attitudes stand in the path of ecologically sustainable development . As far as these giants are concerned clean energy is just something that stands in their way to gaining a substantial instant profit.

How this gap in financing could be overcome.

** Subsidies for infrastructure upgrades for export power onto grid.*

Power export onto the grid will eventually result in costs in infrastructure upgrades. These costs are likely to be significant and prohibitive for small energy generators. These costs will need to be paid for by the carbon tax, and not active participants in renewable energy. As a minimum a reasonable subsidy should be granted from the carbon tax. Power corporations rightfully state they dont want to be seen as a 'bank'. Therefore upfront capital costs ,necessary for infrastructure upgrades, moneys will need to drawn from the carbon tax.

** Reasonable payback period.*

Even though active participants may want to join the renewable power revolution , they will always be limited by finances. The government has been most effective with the role out of the solar scheme. Here the payback period is generally 6-7 years, evidently this is effective.

However, solar PV generation currently contributes relatively nothing compared to the overall power consumption . Much more encouragement is needed and permission to increase output at each site is necessary. Just right now solar pannels have dropped substantially in price , making 50-100kw projects potentially worthwhile provided reasonable grid feedin is granted. Overall a reasonable payback period needs to be encouraged similar to current solar schemes.

** Opportunity for small business.*

Corporations should not dominate the renewable energy mix, to the exclusion of community groups and small businesses. A pathway for small business should be made. Although large corporate renewable energy bodies are essential, opportunities for small business should be created. This will allow community groups and individuals to actively participate in the renewable energy revolution. Jobs will be created. Communities in rural and regional areas whom suffer population decline will be able to tap into these new job opportunities thereby reducing dependence on welfare.

Non metropolitan areas in Australia with proven high wind-speed and high solar output should be utilised and people living in these areas should be given opportunity to participate in reasonable sized systems.

The installation of small household solar PV systems over the last few years has created

substantial opportunities, in rural and regional areas across Australia. This successful programme should be built on and expanded to accommodate larger systems. There needs to be opportunities created for participants wanting to install wind and solar PV generators between 10-200kw size.

** Removal of scale limitation.*

Active participants should not be limited to only tiny systems. There are few households across Australia who can physically attach significantly sized solar or wind power to their urban homes. This poses a serious limitation to the current solar scheme. The limitations of the solar scheme need to be expanded to include industrial buildings, commercial properties , factories, farms, and ships. Perhaps the rules need to be altered to suit each identity, however at the current role out speed of the current solar scheme , the rate of change is too slow to make any difference.
* Combining all state schemes into one federal body. This will create an efficient and unilateral scheme Australia wide. It is currently disjointed and inefficient.

** New Environmental Economics.*

Channelling funding to all areas with potential in such a way that power companies don't see themselves as a bank. This will set up a new form of environmental economics.

** Deregulation of power corporations.*

The stranglehold of power corporations whom dictate to individuals and community groups should be stopped. There should be opportunity for all Australians to actively participate in the renewable energy industry. This opportunity should not be hampered or stopped by power corporations who are currently able to put their own interests first.

** Environmental auditing of power corporations.*

Power corporations need to undertake an environmental audit. This will identify the extensive areas where grid , infrastructure and environmental improvements can be made. They need to be forced to establish an overall strategy on how they will assist small power generators enter their export power onto the grid. Reports of this nature should be made readily available to the public.

* *Educating power corporations in science.*

Power corporations have little or no knowledge of science and the merit of ecological sustainable development. There is consequently widespread resistance and poor attitude towards renewable energy. Training for these corporations should be provided so that employees and executives fully understand what is happening, and why it is happening.

** Research and Development.*

This needs to be seen as an investment and not a cost. The industry needs to promote continuous improvement.

**Streamlining paperwork.*

Removal of departmental excessive paperworks. Excessive meetings, unnecessary paperwork, bulk emailing etc will only congest progress in this industry.

**Conclusion.*

I am a qualified biologist , my house is located in downtown Cairns, it is a two story building . One day, past my lifetime, when the Greenland ice shelf does melt, the house will sit underwater to the apex of the roof top. In our lives we can easily take all the water , forest resources, soils , and populate the planet all we like. It wont affect us, our lifetimes are too short. However, if we don't act now then we will leave a legacy behind for the ones whom follow in our carbon footprint. The choice is ours.