hepburnwind

Submission to the Clean Energy Finance Corporation Expert Review

Hepburn Wind's submission to the CEFC Review Panel is based on our community's experience of building Australia's first community-owned wind farm. In our submission we both respond to the questions asked by the review and also provide additional comments and recommendations.

Overview

Hepburn Wind has built Australia's first community owned wind farm. More than 1900 people have pooled $9.7m to build a two turbine, 4.1 MW wind farm at Leonards Hill, in Central Victoria.

At the project's core is the shared desire to constructively engage in the low carbon transformation and in the process directly capture and deliver benefits for a broad cross-section of our community.

Origins

In early 2005 a small group of Daylesford residents attended a community consultation meeting for the proposed Clarkes Hill wind farm. The proponent was given a clear message by an aggressive crowd that the wind farm was not welcome. The proposal was later dropped and a vocal minority in the community claimed a victory.

This strongly negative initial reaction has become an unfortunately common occurrence in many Australian communities upon encountering wind farm proposals. However, in our community, the story progressed towards a positive outcome.

The Daylesford residents drove home from the meeting, upset by the community's first response to the prospect of a wind farm in the region. One of those residents, Danish born Per Bernard, was very familiar with the model of community ownership of wind farms. Denmark, with less than one-quarter of our population, boasts over 2100 community wind farms, comprising more than 5500 turbines. Denmark produces more than 20% of its electricity with wind energy, and a majority of this comes from community wind farms. More than 200,000 Danes are direct beneficiaries of wind energy via a personal stake in a local wind farm. (This is set to grow as recent Danish legislation requires that wind farm developers offer 20% of a project's equity for sale to the host community.)

Led by Per Bernard, a dedicated group of Daylesford locals embarked on an ambitious plan — they committed themselves to building a small and local wind farm that would benefit the entire community. In doing so they would be taking responsibility for a significant portion of the local community's energy needs as well as sending a signal that our community wanted to see a rapid and meaningful response to the threat of climate change.

With the assistance of a small wind farm developer, the group obtained, and defended at Victorian Civil and Administrative Tribunal (VCAT), a planning permit for the Hepburn Community Wind Farm in 2007. The project also secured critical funding support from the Victorian Government.

The wind farm is located at Leonards Hill, on the outskirts of Daylesford, in Central Victoria. With only two turbines, the community-scale wind farm is one of the country's smallest. The project has been deliberately sized to match the domestic electricity consumption of the local area.

Hepburn Wind has raised more than $9.7m in capital from more than 1900 members, most of whom are local to the area. Many investors have never before owned shares directly. The project is a community co-operative with members receiving equal voting rights (ensuring democratic control) and proportionate returns from the farm.

Major construction was completed in March 2011 with generation commencing in June 2011.

In the past year Hepburn Wind has received national acclaim with a Victorian Premier's Sustainability Award, a Banksia Environment Award, an Australian Sustainability Award and the Climate Alliance Innovator of the Year Award. The project was also featured in the Federal Government's Clean Energy Future advertising campaign.

Wider social benefit

The project continually strives to educate the community about wind energy and to provide meaningful benefits across our community.

Over the life of our project we have run more than 140 street information stalls and run seven bus tours allowing more than 250 people to visit wind turbines at nearby wind farms. We have hosted more than 20 site tours at our own wind farm enabling hundreds to experience a working installation.

We have engaged with local residents through more than 100 home visits and more than 15 project update newsletters for the local area.

We have been featured widely in local, state and national print, television, magazine and radio media. We regularly update our wider community having placed more than 70 advertisements in local papers and published more than 40 newsletters to an email list of more than 6000 stakeholders. We make extensive use of internet and social media using our website, Twitter and Facebook.

We have participated in more than 50 conferences and public meetings relevant to renewable energy and community development.

This level of engagement is unprecedented for any wind farm in Australia. However, clearly we have an advantage — it is much easier to have this much contact with the community if you are of the community and can also draw on a large number of volunteers over a sustained period.

We cannot claim to have won over everyone in our community. When our planning permit went before council, 18 letters of objection were received, along with 325 letters of support. From polling and anecdotal evidence from our street stalls, we believe that this ratio is indicative across our community.

We continue to respectfully attempt engagement with the few remaining objectors to our project and strive to deliver more than simple compliance.

Questions asked by Review

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

The CEFC should be designed to dramatically accelerate the development of the Australian renewable energy sector.

A distinction needs to be made between commercial and pre-commercial technologies.

Support for commercial technologies should focus on unlocking funds from traditional funding sources. By changing the risk profile and generating examples and experience for traditional funders, the CEFC is well positioned to unlock vast sums of private capital.

Support for pre-commercial technologies needs to acknowledge the gap between project cost and energy value. For example, if a project based on a pre-commercial technology generates energy at $300 / MWh with long term market prices under $100 / MWh, a $200 / MWh gap must be closed. While favourable financing arrangements may close some of this gap, most of it must be closed by grants for the project to proceed. To avoid the hazards of 'picking winners' these funds should be provided on a matching basis. By addressing the cost/value gap, the CEFC is again well positioned to unlock vast sums of private capital.

The community energy sector has specific needs and provides unique opportunities and value. The sector has the unique ability to unlock funds from 'community investors' however its scale and investor profile present challenges that the CEFC can help overcome.

Over the past decade, the community banking sector has proven that, under the right conditions, community members are prepared to invest en-masse in local enterprises that provide local social benefits. Hepburn Wind has shown that community capital is similarly available for community-scale renewable energy infrastructure.

Community energy is a new sector. The best way for the CEFC to facilitate investment is to deliver a programme of detailed consultation across the country. This process will generate the financial models and data necessary for the CEFC to then design the most cost effective investment approaches. Specific ideas for support are elaborated in answer to Question 4.

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

Renewable energy is by its nature decentralised. While existing fossil fuel energy infrastructure is confined to a small number of communities, the coming energy transformation will require potentially thousands of communities to embrace local change.

Without social licence to operate in these communities, individual projects will face significant barriers (financial and otherwise) that will threaten project delivery, and in turn the effectiveness of the driving policies will be compromised.

Hepburn Wind has proven that the community ownership and engagement model is a highly effective mechanism for generating social licence required for renewable energy at all scales.

For example, a proliferation of small, community wind farms will create new businesses in regional areas thereby delivering a wide range of social and economic benefits. Once the benefits are felt and any fears and misinformation are genuinely addressed, social licence for larger scale development can develop, potentially unlocking billions of dollars of politically stranded wind assets. This will bolster the effectiveness of the CEFC's direct investments and also other elements of the CEFC package.

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

Hepburn Wind would welcome the opportunity to co-operate with the CEFC to develop financial models and participation processes. The lead organisation on this work should be our sister-organisation, Embark, which has exactly the right mandate.

Community energy projects deliver significant local benefits, which means that the CEFC should be able to amplify its impact by working with appropriate regional and local development organisations. Local Governments are key but community climate action groups are a likely source of 'start-up' human resource required to 'kick start' new projects.

The Federal Departments of Communities, Infrastructure, Regional Development and Industry and the CSIRO, ASI and ACRE should all be engaged specifically to develop the community energy sector. There will be funding and other synergies gained by working with Federal institutions.

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

In relation to community energy projects, we envisage three forms of support by the CEFC.

Early stage investment

While communities have demonstrated a willingness to invest in local projects, we believe the investor profile is highly risk-adverse. Projects will struggle to access funding for the riskier development stages. While modest funding may be sourced from local angel investors, 'sweat equity', local governments and regional development authorities, in most cases projects will struggle to find sufficient start-up capital for the risky project development stage.

By co-investing at the early stage of community energy development, the CEFC has the potential to unlock significant community capital.

Debt financing

It is notoriously difficult to strike Power Purchase Agreements in the Australian market and the relatively small scale of community energy projects makes this harder still. Retailers are often simply not interested in the relatively small volumes of energy produced relative to their needs.

Without PPAs, banks are generally unwilling to extend significant credit to renewable energy projects, and when they do, the tenor of their loans is generally short (7 – 10 years vs the asset life of 20 – 25 years).

By providing a modest portion of project financing (e.g. 20% of project capital) on favourable terms (e.g. no requirement for a PPA, 15 year term), the CEFC will unlock finance from more traditional funding sources.

Loan guarantees

Early offers of finance to Hepburn Wind were for a term of seven years and required a Power Purchase Agreement. By securing an external loan guarantee of $1m from Embark, we were able to restructure the loan to 10 years, no principal payments for 3 years and no requirement for a PPA. A modest and low risk loan guarantee from Embark helped unlock $3.1m of debt finance from the Bendigo Bank on terms acceptable to both the bank and Hepburn Wind.

By providing carefully constructed and modest loan guarantees, the CEFC will unlock finance from more traditional funding sources.

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?

Potential debt providers will only fund projects with well understood risk profiles, however renewable energy projects present several risks that must be managed:

- volume risk — quantity of energy produced is variable
- market risk — Australian energy prices are highly variable
- operational risk — projects can incur downtime due to internal (equipment) or external (grid) issues
- technical risk — projects based on newer technologies are likely to encounter unexpected hurdles

Operational risk can be managed to a degree by good operations contracts while technical risk is managed by avoiding risky technologies (at the expense of the development of those technologies, counter to the public interest).

From our own experience, community energy projects face a number of specific challenges.

Power Purchase Agreements

Market risk is typically managed by securing a Power Purchase Agreement, whereby the output is contracted to a third party at a fixed price. The transference of market risk comes at a cost to the project.

Typically banks will only lend to a project that has secured a PPA with a counter-party with very low credit risk. Acceptable counter-parties are generally limited to the energy retailers and very large energy consumers.

While PPAs are notoriously difficult to obtain in the Australian market, smaller scale projects will find it even more difficult due to their scale. In the case of Hepburn Wind at 4.1 MW, the energy produced is not of a meaningful magnitude to the class of counter-parties acceptable to banks. (One energy retailer informed Hepburn Wind that our annual output represented just three hours of their customers' demand.)

Where a PPA can be struck, the counter-party will hold the upper hand in the negotiations and will tend to drive the price down to sub-commercial prices. At this stage of the industry's development, community projects will generally not be able to access PPAs acceptable to the requirements of both project developers and banks.

Minimum levels of equity

Where lenders are unfamiliar with an asset class, project proponents or a business model (all of which will be common for community energy projects) lenders will require higher than normal equity levels to protect against risk of default.

Scale

Hepburn Wind was unable to secure investment from institutional investors for a range of reasons. While the project's novelty and the unproven track-record of the proponents and the business model presented significant barriers, the first insurmountable barrier was that of project scale.

While Hepburn Wind was seeking $2m – $4m in institutional investment, the project was consistently advised that projects under $25m – $50m were too small to justify investment due to the relatively high fixed costs of the required due-diligence processes.

Until they are commonplace and well understood, community scale projects will generally be of too small a scale to access institutional funding.

Track record

Due to their nature, the proponents of individual community energy projects will generally have limited track records in the sector. While these risks can be managed by the engagement of sector experts, potential financiers will see this as a significant risk. Potential lenders will be cautious, resulting in higher costs and more stringent lending criteria, if funding is available at all.

Small balance sheets

Community energy projects are generally standalone — unlike most industry participants, community energy proponents are unable to fall back on a balance sheet of other projects. Without a significant balance sheet, factors such as the 'lumpiness' of capital payments and GST obligations can put projects under significant working capital stress.

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

Renewable energy projects face significant non-financial inhibitors.

Social licence to operate

Our experience over the past six years has taught us that misinformation and a lack of awareness about renewable energy are key barriers. The vast majority of Australians (80 - 90%) are strong supporters of renewable energy, yet local support can be fragile when projects are proposed in communities unfamiliar with the technologies.

The CEFC should consider its role in leveraging the broad support for renewable energy to support the transition to a low carbon future.

Hepburn Wind has discovered that local support is hard won by bringing the community along for the journey and sharing the benefits broadly.

Learnings

Hepburn Wind is connected into the local 22 kV distribution network, literally between residential customer connections. While there are great benefits to opening up distribution networks for megawatt-scale renewable generators, connections of this nature present special technical and structural challenges.

In our case the local network operator undertook significant research and development (at our expense). In addition, the project required grid integration equipment at the wind farm. International conglomerate ABB was selected to provide the equipment, using the opportunity to showcase their first-of-a-kind solution which the company plans to commercialise and manufacture in Australia.

Large developers with more rigid risk management approaches would not be as open to providing a technical testing opportunity.

The community energy sector will be a test-bed of innovation and a source of learnings that will be applicable to larger projects.

Additional comments

Sector representation

Already more that 60 communities across the country are planning to build their own community energy projects. We recommend the appointment of a community energy sector representative to the CEFC board to ensure that this sector receives adequate consideration.

Engagement strategies

To ensure its success, the CEFC should engage early and vigorously with the broader community at the same time as it is building relationships with finance sector stakeholders.

By enabling the showcasing of technologies proven in other countries, the CEFC can help develop a ‘sense of possibility’ throughout the population.

We recommend that the CEFC dedicate resources to ensuring that Australians (especially politicians, investors, scientists and workers' representatives) are aware of international developments.

To attract private investment it is also important that our domestic successes are widely publicised both domestically and internationally.

Conclusion

The success of Hepburn Wind has inspired many other communities to follow suit. We have already created several thousand new stakeholders in renewable energy and have shown that, under the right conditions, renewable energy infrastructure can enjoy overwhelming local support.

We have shown that renewable energy, and in particular wind energy, creates positive opportunities for Australian communities.

Together with other communities, and now aided by Embark (the peak body for community renewable energy in Australia) we are looking forward to creating opportunities for hundreds of thousands of Australians to become beneficiaries in Australia's clean energy future.

As a final point, we'd like to suggest that the review pays particular attention to the role of community energy projects in securing the necessary community support ('social licence') for renewable energy infrastructure and develop enabling policies to support this sector and the key role it plays in the broader context.

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