C O R R E C T E D V E R S I O N

ECONOMIC, EDUCATION, JOBS AND SKILLS COMMITTEE

Inquiry into community energy projects

Melbourne — 20 March 2017

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Ms Jennifer Lauber Patterson, Managing Director, Frontier Impact Group.

The CHAIR — Welcome to this public hearing of the Economic, Education, Jobs and Skills Committee Inquiry into community energy projects. All evidence taken at this hearing is protected by parliamentary privilege. Any comments you make outside the hearing are not afforded such privilege. Hansard is recording today's proceedings. We will provide a proof version of the Hansard transcript so you can correct any typographical errors. Please state your name, say whatever you would like to say and then allow us some time for questions.

Visual presentation.

Ms LAUBER PATTERSON — My name is Jennifer Lauber Patterson. I am Managing Director of Frontier Impact Group. We specialise in innovation, particularly around energy systems. A lot of my team actually come from the energy market, so there is a lot of detailed specialisation on the market risk, project development, policy and all aspects of energy markets. What we like to focus on is: how do we get new business models and new technologies to be in an investable phase? One thing I identified a couple of years ago was the huge opportunity in the community energy space in terms of their getting into developing their own projects and really being able to mobilise this into the market.

Another hat I wear is chair of Yarra Energy Foundation, and what I was seeing was a lot of community renewable energy projects having the proponents and having the passion to want to make a difference and to do things, but they did not have the toolbox and the experience to get it to an investable stage. So at that time I liaised with a number of people within the sector, including Nicky Ison, who I am sure that you have spoken to, and Embark and a number of different groups, and we came in and pitched an opportunity to ARENA on how we could actually mobilise these projects.

What I would like to share with you is some of the background of why we have developed this toolkit. It was really developing expertise in that sector in financial literacy, because it would take two years sometimes for a community energy group to actually develop a financial model that made any sense—and still they were not sure whether it achieved the right outcomes. Sometimes it is just as important to know that a project does not work, because why spend two years on a project and then find it is not actually economically viable?

The resources: in the toolkit that we have developed it has got references to a number of resources that can help you prepare a power purchase agreement and other tools that are necessary that also have challenged the community renewable energy proponents to develop projects. What we did was also highlight all the different renewable energy models—there is a lot of innovation happening in that area—of ways that projects can be developed in the community and case studies to show practical application. The feedback we have got so far is that this will significantly reduce the time line for delivery, as well as the costs in terms of developing projects.

I will not go into this in detail, but this was included in the submission because this was part of the work that we initially did with ARENA to look at what were the funding challenges. All these you would have been familiar with, probably considering along the way, and the toolkit in most cases was able to provide a solution or improve that particular challenge in terms of helping get an outcome and mobilise projects.

So just to explain to you the structure, what we developed was a structure that has, first of all, the *Funding Basics Guidebook*. So that is the literacy side—what is all the different terminology? What is debt, what is equity and what are all the different inputs that go into developing a project? What is 'in kind'? What are all these things, and how do they come together in a project? And then looking at all the projects that have been developed and saying, 'Well, this is how they got this up at an early stage, pre-feasibility stage'—and all the different stages of the cycle. So it gives all the information on the different financial models including different legal entities—you know, a 'cooperative'; when would you use a cooperative?—different company structure, and it goes through the pros and cons of all those as well. So it is actually quite comprehensive.

Then we have a Behind the Meter guidebook. The reason we did Behind the Meter is we found that over 90 per cent of the projects that were being developed in the community space were behind the meter, and we know that economically this is the best place to be if you want to get a return for investment. So this is why we actually focused on this, and included in it is a template. The template is a financial model which, in the guidebook, shows you what you should consider to actually complete that financial model. So it is a step by step, very detailed. This was not developed as a marketing brochure, because what I find is a lot of guidebooks say they are guidebooks but they really do not provide the step-to-step detail and knowledge, and you can tell by how

heavy this book is and if you do actually have a look at the detail, it is high-quality information that actually does assist the person to go through each step to develop a project.

The whole point of this was behind the meter is what is popular at the moment, but we see this progressing. So we see this as being a series of guidebooks. The next one we are considering is the solar storage; that is likely to be the next one. Just listening to some of the questions that you were raising then, you could imagine, if you were a community renewable energy developer or someone else and you were considering storage, what things should you be considering? It is not going to give you 100 per cent of the answers to everything, but what it does, it takes you a lot further to understanding some of the questions you should be asking, and I am also providing a financial model template that can assist you on that front.

A lot of people said to me, 'Gee, I wish you had this years ago, because we would not have put this particular technology up there because the inverters were not working three years after we established the project and we were not happy with our power purchase agreement, but we did not really understand how it operated'. So I think developing these sorts of toolkits now provides a lot more knowledge and insight into the questions and reduces the risks. So we are also looking at developing bioenergy as well, because that is another area that we see might gain some momentum, as well as potentially wind.

The project phases: the concept phase, pre-feasibility stage, feasibility stage and final funding. We go through each stage in the guidebook on how to go about developing a project. Overcoming funding challenges—I have already mentioned what the funding guidebook covers; I will not go into that with detail. This is the Behind the Meter guidebook and all of the different areas that are covered, and we call it the 15 project elements. So I would imagine you have covered each of these project elements in a lot of detail, but included in them is technology—what should you consider in terms of technology? Project scale—how big should it be from economic and other factors? Community engagement—that bit the community generally does very well, but we cover that off as well. Business structure—what is a legal structure, and what are the governance frameworks that should be covered? Project development and resourcing—what are the skills that you need to start with, and how can you get access to those skills? And also site selection and acquisition—what to consider in terms of site factors. Road upgrades—sometimes companies do not consider them, and that can make a project uneconomical. Resource assessment—how much solar is going to be generated, how to validate that and what are the different ways of doing that? Construction—what needs to be done on that aspect? Network connection—as we know, that is probably one of the most underestimated and underdeveloped areas early in a project where there should be more work put into that and understanding that. Permitting—what needs to be done? Operational resources that are needed once you have got it operating, and how do you cost them. Project funding—what are the alternatives? And power sales agreements.

And this is important to explore all of them. I think PPAs play a role, but I think they also sometimes hide very high interest costs that are embedded into the power purchase agreements. So I do tell people to do their due diligence around understanding and measuring it against different alternatives.

There is also the financial modelling side and then risk management. So in our toolkit we go through for each of these elements some of the checklists that you need to do. So you can imagine the value of this to a community renewable energy organisation that does not have all the skills that are needed, does not know the step-by-step process. So the feedback we have got has been very good. Pingala, which was one of the organisations we did our case study on, said it took them 2½ years to develop their project. They believe that it would have significantly reduced their time line to a fraction, had they actually had access to our toolkit.

So that is just a bit more about the solar toolkit, how it works and different aspects of it, so there is a lot of detail in there. That is the funding and financial modelling. That is kind of what the financial model looks like—cover worksheet, contents page, input assumptions, which we explain. It also shows the host site benefits as well as the investor benefits, so if you are working with a host site, you can talk to them about what the host site benefits are as well. Investment return summary, profit and loss, balance sheet, cash flow calculations—we explain in the guidebook what all these things actually mean, so it has been quite a big project, as you can imagine.

These are the two different case studies that we did. So we did case studies that were two different legal structures. Why did they decide to do that particular case study? And these, we have found, are great, because it is a lot easier for someone to look and see what someone has done as well as looking at the theory. So that is why we have put that in place, and for all of these case studies—you know the 15 steps—we have gone through

with each case study how they thought about those 15 steps, what were the lessons learned and how they overcame some of the barriers.

Obviously everyone has access to this. This is a free resource because it was funded by ARENA. What we are now looking to do is to capacity build. So our role is to make sure people in the community understand how to use this toolkit and to develop champions all across Victoria, New South Wales and other states. Since the launch we have been actually inundated with the interest in the toolkit and people that are already holding their hand up to say, 'We want to be toolkit champions, and we want to be able to take this out'.

Our role in doing this was more of a CSR aspect of our business; our business is more capital raising, corporate advisory, funds management and project development but bigger scale. So this was more of a CSR aspect. For us, we want to see people using this knowledge and actually being able to apply it within the communities. On our own we might be able to achieve a few solar PV systems, but what I would like to see is thousands of these and bigger projects being developed.

Where our company could get involved, and I see an opportunity, is on bigger projects. One of the things that we do is bioenergy; that is one of the areas we specialise in. What I am developing is the concept of a community-private partnership, because when you are starting to look at bigger projects it is harder to get as much participation perhaps as what you might need to get to do a larger capital raising. It is a concept whereby it is engaging the community, still achieving all the community benefits that you achieve from smaller projects, but perhaps getting the community and the private sector working together to be up and mobilise projects in a greater way. I think that will be a good way of actually engaging local people to assist with offtake agreements in the form of PPAs or other structures as well as being able to invest in projects knowing that they are investing in renewable energy in their own local areas. So that is just a bit of an overview.

Mr CRISP — It has gone live only recently, because I see it is as at December.

Ms LAUBER PATTERSON — Yes. We actually only launched it at the Community Energy Summit recently. That was only two weeks ago. It has been terrific. ARENA are really happy with the work that we have delivered and are very supportive of the capacity building. It is important to produce something so people can use it, number one, but secondly the capacity building is really important. How do we get people knowledgeable, communities knowledgeable? You can imagine incrementally if you are doing initially Behind the Meter, initially there is probably a bit of a learning curve for some people. We have already got some really smart people out there that do know how to do it, so this just gives them a bit more resourcing and aids. But then it is not as big a jump for you to go to solar battery storage, is it? That is a complicated area, and I do not underestimate it, but at least if you understand how solar works, it is then building that knowledge and that capability.

I am very optimistic on what the community energy sector can do. I think it is a really good engagement, engaging the community, because, particularly with the timing of what is going on in the energy market at the moment, I think the community energy sector can play an important role in helping manage that gap.

The CHAIR — Jennifer, thank you very much for that. We understand that the Frontier Impact Group has recently finished a project the explored funding options for community renewable energy projects. What were the project's findings?

Ms LAUBER PATTERSON — Who was that, sorry?

The CHAIR — The group finding. What was the project's finding?

Ms LAUBER PATTERSON — The project finding in terms of the outcomes of the project?

Mr CRISP — Yes. The uptake of this particular book. I know it has not been out very long, but have you had many communities now using this to speed up their processes?

Ms LAUBER PATTERSON — Yes. We only launched it two weeks ago, but what we did do was pilots on six different groups. That tested it, and it did show really positive outcomes, so we got very good feedback from all the proponents that tested our toolkit.

Since that time we have not worked with anyone—because we have just taken it out and launched it—but all the people that have been involved and were involved in the pilot have welcomed it. The solar community alliance that has formed in Victoria—they have already approached me and said, 'We got funding from the state government to do a whole lot of stuff around what you have already done. We'd like to integrate what you have done as part of our process'. I think that shows that what we have developed is seen as very positive, because people want to integrate it rather than create their own. As you know, there is sometimes a tendency for people to do that, but I think what is great is, because we have engaged the community, listened to what they have needed, produced what they have needed, this can be all integrated into what is already happening. But there is no doubt the benefits are there.

What we are proposing to do in the training workshops is to do actual projects—providing what information do you need to be able to put into the financial model, and get them prepared before they actually do the workshop—then we go in there and we fill in the numbers that need to be filled in with the information they have got. This would take 12 months for organisations to do in the past. You can imagine. They are there, we can work through how to use those numbers, what they need before they even need to go into that meeting, and they can do their prefeasibility as part of that. That is really fast-tracking the potential for this.

The CHAIR — Your submission mentions linking community energy projects with social impact funds. How would this work, and are there examples of this operating interstate or overseas?

Ms LAUBER PATTERSON — Social impact funds is an area that we work very closely with in terms of our business. Community energy is pretty new, so for social impact funds to have gotten involved in that sector it is a pretty early stage, but it is a way of getting a new form of funding. We were talking about before developing bigger projects. The community at the moment with the small projects that have been developed, there is enough interest in the community—significant interest in the community—to self-fund a lot of these projects, so you do not need social impact funds. But I do think as the projects develop and become larger, you might need some additional funding that can help assist.

There are two different areas. There is early seed funding on some of these projects, but with toolkits like this, I think it de-risks a project a lot. If I had a fund, one thing I would require to make it easier is to use a financial template, because you know how the financial template works, there is consistency and it is very easy to review one project to another. If they meet certain criteria, then funding could be provided as part of that.

I think this has been prepared, and I have spoken to some social impact groups who have already demonstrated interest in that kind of concept. But before, a lot of these groups are involved in Indigenous projects, all sorts of low-income projects and may not be specialists in solar energy. What this guidebook enables them to do is even from the investor side develop that expertise more quickly in order to understand the risks and in order to have comfort about providing investment.

It was interesting, because once this was developed for the community sector, it is to-do guide, whether you are a new investor that wants to understand solar, you are in the community space or even if you are a new renewable energy developer in Australia and you want to understand how the Australian regime works. It actually meets a lot of different purposes and outcomes.

Mr CRISP — In your toolkit you suggest that communities or groups should not rely on grants and instead go for a sustainable commercial model.

Ms LAUBER PATTERSON — Yes.

Mr CRISP — Why did you come to that conclusion, and how did you come to that conclusion?

Ms LAUBER PATTERSON — Grants can come in and out of fashion, as we know. If you want a viable longer term commercial model, grants cannot be relied upon, but also there is a limited pool. If we are talking about mobilising a community's energy and being able to develop a lot of these systems, we have got to find ways where we do not have to rely on grant funding. Where grant funding is useful is demonstrating new models that have not been developed before and providing case studies and guidance. Once these tools are developed, then it should be able to then mobilise projects without needing that funding.

Even with my role in Yarra Energy Foundation, they self-fund now a lot of solar installations for commercial building owners, and they have commercialised that as a not-for-profit organisation. I think the key now is to look at ways we do not need to rely on grants, because grants are limited.

Mrs FYFFE — In your submission you mentioned bioenergy and that it is a viable option for community energy in Victoria. What conditions do you think are required to make it viable for Victoria?

Ms LAUBER PATTERSON — It needs to be economic. We have got the perfect storm in terms of new renewable technologies I think, high energy prices, using healthful technologies and financing solutions. I believe the numbers do stack up for bioenergy and even biofuels.

A lot of my partners have got access to a lot of different technologies internationally. I think it is another terrific opportunity, and it also helps resolve the waste stream issue. We do not utilise our waste stream in a valued-added way. A lot of it is wasted and gone to landfill, so this is a way of actually also utilising a valuable resource and having other positive environmental outcomes that I think would be positive for the community organisations as well.

Mr MELHEM — Just to follow up on that last bit about waste energy, can you cite some examples we can use? I am interested particularly in not having stuff go to landfill. Are you able to elaborate a bit more about some successful examples around the world or even in Australia?

Ms LAUBER PATTERSON — What we are seeing is that pyrolysis technology has really advanced, but we are not seeing a lot of it in Australia as yet.

Mr MELHEM — Can you explain a bit more on that, explain it in plain terms?

Ms LAUBER PATTERSON — Yes. It is a gasification process. I am not the technology person; I work with a lot of engineers, which is wonderful. It is not an area that has had a good track record in Australia, but in the review I have done and from the experts I have spoken to, we have not had the right people that have implemented it with the knowledge. Sometimes one of the challenges is it seems easy, but if you do not get people with the right knowledge and experience, of course when it is new technology sometimes that is one of the challenges. But we have got access to technology in South Africa that is viable in South Africa that we think is worthwhile to review, the US, China. We are now in a process of reviewing this with some of our project proponents in Queensland, New South Wales and also looking at projects here in Victoria as well.

There are also a lot of locally developed pyrolysis experts as well. We have not done a review on their technology, but I have heard some very positive things. They are based in Victoria, so it would be great if we could develop some leading technology here in Australia and then be able to export it. I think that is an opportunity for us as well.

The CHAIR — Jennifer, on behalf of the Committee, I would like to thank you for your time and your contribution. Thank you very much.

Ms LAUBER PATTERSON — Thank you. Thank you for your time. It has been a pleasure to present to you.

Mrs FYFFE — And thanks for the night-time reading.

Committee adjourned.