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

Members

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Witnesses

Professor Michael Brear, Director, Melbourne Energy Institute, and
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The CHAIR — Good morning and welcome to the public hearing for the Economic, Education, Jobs and Skills Committee's 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 an approved version of the Hansard transcript so you can correct any typographical errors. Please, before you start, can you mention your name for the Hansard record, and then when you finish Committee members will have some questions for you. Welcome.

Prof. BREAR — I will introduce myself first but then hand over to Sara. My name is Professor Michael Brear. I am the Director of the Melbourne Energy Institute at the University of Melbourne. My colleague here is Dr Sara Bice who is an academic in our School of Government and also a collaborator at the Energy Institute. I would like to hand over to Sara to open our discussion today.

Dr BICE — Great. Thanks, Michael. We would really like to thank the panel for having us today.

The CHAIR — You are welcome.

Dr BICE — Thanks, Nazih and Dee, for chairing. We are going to talk today about a submission that was compiled in consultation with the Melbourne Energy Institute, which Michael directs; the Melbourne School of Government, where I work; and the Melbourne Sustainable Society Institute at the University of Melbourne. Some of the advice that we will be providing today will provide quite a comprehensive suite of insights from across the university from technical science through to social and policy science through to economics and sustainability.

We wanted to start today by talking about how we think community energy might be defined, because we think one of the most important steps for the development of community energy policy and programs is to get a clear, shared, agreed definition of what community energy is. So from the university's perspective this would include projects that involve a community working together to develop, invest in and share in an asset under some legal structure. They can be on the supply side, so that might be renewable energy installations like a lot of the solar that we see around our communities, or on the demand side, and that can be everything from understanding energy efficiency to demand management, even to providing education programs. Community energy projects can include community-based approaches also to selling or distributing energy, and we think that provides a nice comprehensive definition to start with.

We can think of those projects as having four key characteristics, and today we will talk you through some of those. Those four things would be: legal—that the project is governed by the local community and is managed to meet their needs as they define them; that it is physical, as in the project has physical assets and has been established; it is social—the local community is heavily involved in setting up and running the project; and there are economic interests in which the local community invests in the project or the project has a local economic impact. We think that there are already some really good existing models, and I will hand over to Michael to talk about those.

Prof. BREAR — Thanks, Sara. The National Electricity Rules are extremely complicated even for people whose full-time job it is to observe them, write them or regulate them, let alone for some small community that is trying to get a community energy project up. It seems a fundamental thing that if we wish to have many more community energy projects, a role for government might be to establish a suite of models which are workable and make sense in terms of the rules but also make sense in terms of financial investment, often by some people who may not have an MBA, and other aspects.

There are a few I will talk about in a moment, but there probably does not need to be that many different examples of workable models that could substantially scale. I will talk about a specific project later on, but what kind of options we have, how you might get involved, and what your motivations might be—to not confuse, for example, care for the environment with potentially making a poor investment on your own part. These are important things that people need to be supported with, making sure of course that we observe these rules, which are very complicated, helping people understand the technical aspects of a community energy project and understanding that if you do invest in this or join this, what are the opportunity costs in doing so? What trade-offs are you making?

So, for example, if I were a potential member of a local community-owned project through a sporting club, is that a better use of my money than buying shares in a renewable energy company that might actually have a

higher rate of return and in the long run generate more renewable energy? It is those kinds of questions which I think an established suite of models and an established process for thinking through could greatly help communities.

Dr BICE — So following on from that, one of the things that we think is quite important — and when we look across the suite of information that we have available to us through different types of research, we know that there is already a lot out there about community energy from a variety of different disciplines. Community energy has a real opportunity to open up more equitable, democratic processes in relation to communities having control of their energy but also signalling their concerns about renewable energy or climate change. It is quite important in that way.

So we think that there is definitely something important here as well, thinking about the regulatory mix that would support community energy in Victoria. And by that I mean that we are seeing a growth of voluntary guidelines around community energy and best practice that may come from not-for-profits or from overseas commissions. It is then looking at how the regulation within the state formally matches up against those voluntary measures in determining what that good regulatory mix might be. But certainly we see it as contributing to a more equitable democratic process.

Prof. BREAR — As an example of that, the specific project that I think, or MEI thinks and the university thinks, is worth looking at in more detail is the recent program run through Darebin City Council, the Darebin Solar Savers program. That was a program, and I would defer to those who are running it, who I am guessing will also be appearing before you, which essentially offsets or avoids the up-front cost to low-income households of putting solar on their roofs by them paying for that investment via their rates.

That strikes us as a project which has several features that are very attractive. One is that you avoid the big one, that up-front capex, which for low-income households is often the barrier that says, 'I can't put solar on my roof. I haven't got $3000, thank you'. The second one is that by providing that kind of support through a council you get economies of scale in purchasing and also potential debt provision through it being part of a much larger activity. You can imagine that a bank or some other entity would lend to 50, 100 or 1000 homes at a different rate to an individual home.

Finally, by there being some stewardship of that project, the individual household in this case does not end up putting, for example, too much solar in in terms of it not being the best investment. So there is an optimum amount of solar for a given house, for example. If you put too much in, your rate of return drops. If you do not put enough in, your rate of return drops relative to displacing what you are currently paying as a retailer for that same kilowatt hour of electricity.

So that is one project, and in our view I would say: why could we not do that for many more low-income households, and why would you restrict that kind of thinking to low-income households?

The CHAIR — Thank you, Professor and Doctor. Your submission defines a 'community energy project' as an asset developed, invested in and shared by a community under a legal structure. How do community projects without an asset, such as energy efficiency programs, fit within this definition?

Prof. BREAR — I will take that one. An energy efficiency program may indeed have an asset, for example, if it were putting a better air conditioner in a house or putting more ICT—information and communications technology—devices in a house to turn off your air conditioner, to turn off your washing machine or your dishwasher. There are indeed assets in those kinds of programs.

If it were an education program, as Sara mentioned, then there are not assets, but we would expect in general that most of these projects would involve some kind of asset. Of course it may also be some legal entity which of course has some assets, which might be the material it has developed for the delivery of an educational program as well.

The CHAIR — What are the most effective ways for renewable energy developers to establish a social licence to develop and operate a project?

Dr BICE — Sure. Thank you for asking about social licences. It is one of the areas that I have spent many years studying. I might just give a bit of a definition of 'social licence' to start, because I think it is often a term

that we use and it is nice and vague and it sounds great. What we know from years of measuring social licence to operate is that it is based in the development of social capital, and social capital develops through the creation of strong relationships based around listening and promise keeping, which are components of trust. Where a social licence exists is where communities agree that they have experienced procedural fairness, so processes have been open, they have had good access to information and even if they have a disagreement about, say, a regulation or a policy, they have had enough information available to them to understand why that agreement was reached.

So how do we reach a social licence around renewables around community energy? It is absolutely about the relationships and the sharing of information and communities having a sense that through that process they have experienced procedural fairness. That is why we think in particular that it is quite important to look to some of the successful models of community energy that exist and make sure the communities have good access to understand what those models are but also have an opportunity to receive information to test the types of trade-offs that they might be making.

So as Michael noted in his opening remarks, should someone choose to invest in community energy or should they choose to make another investment to support a personal concern in climate change mitigation or energy efficiency? For a social licence to operate, to be secure and to be lasting it is really important that communities have that information available in the first instance to base decision-making on.

Ms RYALL — One of the big challenges that we have identified, just through talking to people who have come before the Committee and in submissions as well, is that we have got technology going at a rate of knots, and you have obviously got a lot of people worldwide investing in that innovation and entrepreneurial space, putting money into technology. We have also established that it can take years to get a community project off the ground. Is it a concern that we may lock communities, or that communities may lock themselves, into older technology when newer technology comes on board, creates economies of scale and is much cheaper, and then you end up with people paying more than what they could otherwise pay? How do you see that?

Prof. BREAR — I agree that is a legitimate concern. For example, I am guessing that the kinds of submissions you are hearing are around, for example, the rate of change of the cost of batteries versus other things. That is indeed a concern, and that is the concern of any investor. It is true for one of the big three gentailers. It is true for a little community as well. The communities make those kinds of judgements not just on energy-related investments that they may make—buying a car, putting in a new television set or whatever else. We make these kinds of trade-offs all the time, so I am not sure whether the rate of change in the energy sector is any more massive than it is in other parts of our lives.

Ms RYALL — It is a bit like being locked into a phone plan that was exorbitant when there are suddenly phone plans that are really cheap. That is the analogy I am using.

Prof. BREAR — Absolutely. It may be that some of that concern, though, is not as great in reality as it may be perceived to be, because as I said, the whole world is very uncertain and all technology is changing rapidly. But of course that risk is there, and it comes down to the suite of models we are talking about. Who said you are locked in for 20 years? Maybe a good way to design these sensible models is to have the ability to jump in and jump out. That will affect, on average, your rate of return if you are part of a program, but that might be the equitable way to do it.

Dr BICE — And we would say that would link to, again, social licence. It is about communities having this type of information available really openly up-front. There is a lot of information that we can provide about technology to say, 'This is the expected length of time, these are the things on the horizon, this is how you might make the shift should technology develop'. So from our perspective and thinking about the social aspects and communities' feelings of both buy-in to community energy but also comfort with it in the longer term, it is really about having that information as much as possible up-front so that they are fully aware of the suite of decisions that they are taking prior to leaping in.

Ms RYALL — I hear you, and as I said, it is more concerning if they spend a fortune on batteries now that they are still paying off later and suddenly there is something more efficient and a lot cheaper that comes on and they are stuck. It is not a case of locking in; they lock themselves in by nature of the decisions that they make.

Prof. BREAR — Certainly. Could I just add: I daresay regulatory risk is a greater source of risk for that lock-in than the rate of change of technology. It might be around, for example, the future of the renewable energy target. It might be around how tariffs are levied—whether we go to a heavier fraction being demand charges or time-of-use tariffs and other things. Those things can really dramatically impact the rate of return of, for example, solar and battery or whatever.

Mr CRISP — I would like to explore a little more on that social licence and making a good economic decision, because we have heard a lot of evidence where people are in an ideological state. To tell the whole world to bugger off—sorry, to go away—we can do better.

Mr MELHEM — That is parliamentary. It is okay!

Mr CRISP — Thank you. Yet we have also seen a couple of examples, like ClearSky, who work in this space as a business, and the Sydney Power Company, who again offer up models. But I am just concerned that a lot of this community energy space is ideologically driven and we are not breaking through that barrier and that there will be a lot of disappointment around this over time if we cannot break through. I know you have talked about that, but talk some more, because these people are not going to look at a logical business decision when they are in an ideological state.

Dr BICE — It is absolutely true, and the thing is there may not be a lot that government can do to shift those who are motivated to become involved in community energy around a purely ideologically space.

Mr CRISP — Should we finance them to fail? That is my…

Dr BICE — Should you finance them to fail? No-one should ever be financed to fail, should they? But at the same time I think it is really important that there are fulsome conversations and opportunities for conversations to be had about where the motivations come from and why these ideologies exist. In some instances it is quite important for communities to have the opportunity to signal concerns about broader issues, and in this case many communities who are adopting community energy are motivated less by a financial return on investment for the future and more by what they see as the clear opportunity to signal to government and to others that climate change is an issue that needs to be addressed, that they wish to take these issues seriously and that they want to see some action.

How government weighs up the decision-making around whether or not to invest in those types of projects is not a question that I can answer for you, but I would argue on behalf of communities that it is quite important to them to have the option to take steps to support what might be primarily ideologically motivated positions for these things, because for them it is a rare and really important opportunity to signal where their priorities lie.

Prof. BREAR — Could I add: if you do come with a very strong personal view, you may or may not have actually done some more involved calculations of the business case on what you want to do. In my own experience, in the large majority of cases those numbers have not been done, and when you do those numbers or if you support people to do those numbers, it can be pretty sobering. For example, if you want to go off grid to be independent, you are probably looking at at least a tripling of your cost of electricity delivered, and to actually work that out is a really tricky calculation. But it could be, for example, web-based services saying, 'What have you got?'—this and that and the other—and then saying, 'This is roughly how much it is going to cost if your batteries cost this and your solar costs you that. This is what you are going to be paying equivalently per kilowatt hour for that electricity'.

Mr MELHEM — Just following on from that, if we are putting a report out and the Government is looking at this—because to me you have got the individual, you have got the community and then you have got the overall responsibility in relation to a statewide thing in a national grid—we have got all these competing interests. We started off with being worried about the environment, and then we started talking about saving and too much grid power and the options. How can we balance all these things? Should a government put out some sort of guidelines about it, or does a community project need to take into account all these factors—the individual, the community, the statewide grid, the national grid and the stability of the grid? Should we put out guidelines about how we factor in all of this? Because some people are coming from different directions. Some are coming from an economic investment, which we talked about, and some are from social and some are from environmental. It is all these competing interests. So do you think we should start looking at some sort of…

Prof. BREAR — Certainly, but provided a group, regardless of their motivation, put together a project that makes technical, financial and legal sense, that should be something that should not be blocked. For a small community group, let us say a football and netball club in a country town, they have not got that depth of experience as might a retailer, so there seems to be a need for some set of guidelines that does help a group get their cooperative up, or whatever you want to call it, to support that. But it does of course have to play by the rules and make sense for the communities. It has to make sense technically and provide services that make sense across all of these things.

Mr MELHEM — Let me play the devil's advocate. In town A there are 30 residents. Twenty-five residents say, 'Okay, we want to go off the grid. We've got the infrastructure, we've got a turbine, solar farm', or whatever, but then the other five do not want to go off the grid. Obviously the 25 people would not want to pay for the infrastructure for the grid; as we know, there is a charge there. What do we do in that situation? Do we say, 'Bad luck, you've got to continue paying your share of the grid because the other five people still want to rely on the grid'? I do not think we have faced that situation yet, but that is another thing we might have to face.

Prof. BREAR — I am guessing you will say 'Bad luck' until you have got everybody in the town agreeing with them, at the very least. That is similarly for the roads and for the sewers and for everything else that that community wants.

Mrs FYFFE — So, you are saying the majority, yes.

Dr BICE — Yes, there is definitely a consensus building.

Mr MELHEM — But even if everyone in the town agrees, do we say then that that particular town is no longer required to pay anything toward the grid or the infrastructure? That is another problem, isn't it?

Prof. BREAR — Anecdotally, I have heard cases of communities saying, 'We do not want to pay for all that network', and then a hailstorm comes in and knocks over their thing, and all of a sudden they say, 'We want that network'.

Mrs FYFFE — Yes, exactly, and they cannot do feedback if they go off it.

Mr MELHEM — That is right.

Prof. BREAR — So the question you put to the community is, 'If you are going it alone, do you realise you are going it alone, which means the network will not be there necessarily if you do need it?'. When you fully cost these things, including the security—the secure and reliable delivery of electricity—it is very difficult to make anything fly commercially without being part of the National Electricity Market.

Mrs FYFFE — We are talking about community power, and we have a case in Mooroolbark where a very, very few people have got together and have got this community power going, or experimental alternative energy. What about greenfield estates? Say you have got a housing estate coming and the recommendations are and governments start saying, 'Well, you'll all have solar power and you'll have battery storage'. How are we going to manage, say, a housing estate of 150 houses, or 250 or whatever number you want, which would have battery storage, which would be essentially a power station to service them, but the people are not a community because they do not know each other? What will happen in the future? Who is going to be managing that? Who is going to be responsible for its operation?

Prof. BREAR — That is a very good question, and my very brief answer to it is that that sort of model is getting ahead of the National Electricity Rules as they currently stand. There is no framework for addressing those questions. They are very good questions, and the answers are not straightforward.

Mrs FYFFE — We were talking in the break about a community having their own power, going off the grid, and what happens when the people who have been driving it move on, pass away or whatever. Who is going to be left being responsible? To me there is a minefield of problems as time evolves with these community energy projects.

Dr BICE — I think that is a really important and fair point, and I think it links as well to the questions around advancement of technology, so who takes the decision, and when, as to what technological advancements the community then switches to?

Mrs FYFFE — Yes, to put more money in.

Dr BICE — Exactly. So there is a lot of work to be done here around thinking about how consensus building is supported, who is responsible in the future, whether we need some kind of formal registration for that responsibility should communities choose to withdraw from the central grid and what kinds of protections are in place for community members who may not be as bought in.

I think we can probably look quite a bit to existing regulation around other common-pool resources—for example, how we take decisions about water usage, how we take decisions about what resources we extract from the ground and who has influence over those. That can be something that is helpful in this space to consider because community energy becomes common pool.

Mrs FYFFE — But with water and sewerage you have got state bodies and regional bodies.

Dr BICE — Yes, and this is where we need to think about—again I go back to that point in the opening—the correct regulatory or the best regulatory mix. I agree with Michael that right now community energy is lagging and the national energy regulation is so complex that even people like us who work on it struggle to fully understand it, so I think we have got to get this mix right.

Ms RYALL — I think Christine raised a good point—that is, that community is not always what we expect it to be or want it to be. It is various individuals with different motives, different incomes and different capabilities to do certain things, so in the context of what Christine said, are we putting the cart before the horse in terms of allowing community projects to flourish or even assisting to fund them…

Mrs FYFFE — And encouraging them.

Ms RYALL — and encouraging them, yes—when someone may move out or someone may say, 'I do not want to opt in', 'I want to opt out' or 'If you move in you've got to be a part of this because the rates have been paid as part of this'? There seems to be so much risk around things that could change and variables that could occur, and invariably you do end up with people getting angry. Just look at a sporting club: if you bring people with different attitudes and different views together, it can become quite difficult. So what do you do?

Prof. BREAR — It comes down, as we were suggesting before, to this design of what things are workable and that lock-in, and those kinds of concerns, and what an equitable community energy project actually looks like with those flexibilities and with those risks.

Ms RYALL — And should we get that right in the first place, before we go off encouraging all of these people to do these things?

Prof. BREAR — I think so, yes, we should. I am a member of sporting clubs—I may not look like I am, but I am—and my local sporting club has made investments in things where I do not know why we have spent money on that already. So it is not just energy that community groups make good or poor investments on, and we cannot solve that in this room today, I do not think. But the risks are there. The design of that and respect particularly for people who have not got a lot of money have to be at the forefront when we look at these kinds of things.

But there are some substantial organisations that have very healthy balance sheets who are tasked with looking after people without much money and who can think of sensible ways for doing it. For example, if you are a large church-supported NGO, then maybe you have got assets that can be used to help avoid that lock-in for the low-income household. There are ways to do it.

Ms RYALL — It is not so much the lock-in, but I think—and you highlighted it—poor decisions, good decisions. And I think on the issue of putting the cart before the horse, you were saying we cannot solve that now. We as a Committee need to make recommendations to Government, and therefore a lot hinges on what we recommend, so if we were to recommend, say—and I am not pre-empting—that this should not go ahead until all of this is sorted out, because of the risks involved, that is a decision we need to make as a Committee. I value your saying we cannot make that decision now, but these are things we need to consider in the recommendations we make, and if the cart is before the horse, then we need to consider that in that context.

Prof. BREAR — Certainly.

Dr BICE — One of the things that may assist, and this flows on from what Michael was saying, Dee, is community energy can very much be thought of in terms of something that achieves a collective impact. There has been quite a lot of work on the notion of collective impact, particularly from the Stanford Center for Social Innovation. There are five components to it, which we could send you information on later, but a key component is a backbone organisation. So this organisation can be responsible for provision of information or ensuring that decision-making is fair and equitable and for overseeing the process, whenever it is, around whichever issue where you are trying to achieve collective impact.

I think for community energy right now there is a ripe and open space for a backbone organisation, whether that is an existing organisation that chooses more formally to take up that role or whether it is something that the committee considers recommending be established. I think that could be quite helpful.

Ms RYALL — Sorry to cut you off. That backbone organisation does not set up the relevant protections and manage the associated risks of poor decisions—opting in, opting out, moving, marital or relationship breakdown and everything like that. That is the crux of what I am referring to.

Prof. BREAR — That is a very, very important point, but perhaps at the same time it is important to be mindful of the other risks these same communities are facing, and the obvious one right now is the fact that electricity and gas cost a bomb already and are going to cost more. That is a pretty immediate risk that they are now facing.

Ms RYALL — So do we get the structure right first?

Prof. BREAR — So there are not just downsides with some of these alternatives; there are some downsides to what we currently have. What are we doing about that?

Ms RYALL — I agree.

The CHAIR — Your submission recommends that the Victorian Government develops a set of models for community energy groups to use when developing projects. What should these models cover?

Prof. BREAR — In short, everything that we have discussed today, from what community energy is through to why you might want to be involved. You might be quite cognisant: 'Hang the cost, I just want to be involved'. I daresay very few people, when they really understand the costs of these things, take that view. But what are your motivations? What is the real financial performance of what you expect for different levels of commitment, if you like? Do you have an appreciation of when your project actually does obey the National Electricity Rules or not? When you are investing in this, should that hard-earned money be better spent on this activity or should it be better spent elsewhere?

Dr BICE — There is a very helpful acronym that we use, which is STEEP—social, technological, economic, environmental and policy. We think there are about three to five good models that exist, and providing STEEP information about each of those would be what we would suggest would be really good practice.

Mr CRISP — I would like to go to the grid now. What measures are required to ensure grid stability is distributing any generation increases, and who pays for those measures?

Prof. BREAR — Golly. You are saying particularly in regard to a community energy project?

Mr CRISP — Energy projects are part of it, but I think it is also a broader question about grid stability because community energy is going to be a subset and a contributor to that—but in all, grid stability and who pays for those measures to stabilise it.

Prof. BREAR — Well, currently we do through what is called the ancillary services market in the National Electricity Market. But I would prefer not to talk in too much detail about grid stability in this inquiry unless it is really an essential part of our submission today. It is a tricky problem, and it is an ongoing problem. It is not going to be solved for a while yet. It is really involved.

Mrs FYFFE — Unless you got a spare few billion.

Prof. BREAR — At least.

Mr CRISP — Thank you.

Ms RYALL — Government designing a market has its own inherent concerns. Markets usually, in terms of set prices, work out things and get those efficiencies and value for money and so forth. What do you see as the problems or the opportunities in a government designing a market?

Prof. BREAR — Well, government has designed a market already. It is called the National Electricity Market, and each state and the Commonwealth have signed up to it.

Ms RYALL — Yes, but before we had people in here who said they were designing the market—Victorian Government people who said they were designing this market.

Prof. BREAR — Which market?

Ms RYALL — This Victorian renewable market.

Prof. BREAR — That is associated with the Victorian Renewable Energy Target, I am guessing, is it?

Mr CRISP — Yes.

Prof. BREAR — Okay. That is a market mechanism for stimulating uptake of renewable energy in Victoria. It is a state-based analogue to the renewable energy target, which is federal. It is a different market mechanism, I understand.

Ms RYALL — They were also talking about designing the market for community projects. There is a whole market in terms of renewables.

Prof. BREAR — Okay. I cannot comment on their submissions; we were not here to…

Ms RYALL — No, but I am just asking: what do you think the challenges are if government were to get involved in designing a market at a state level?

Prof. BREAR — I will take that one on notice. It is itself a substantial thing, but as I said before, government has designed a market—it is called the NEM—in consultation with the people who generate, distribute and consume electricity. It has been done before.

Ms RYALL — So a state market could end up in conflict with a national energy market?

Prof. BREAR — The national energy market is looking at electricity and gas. VRET is a subsidy for renewable energy projects. Those two things are in some ways independent and in some ways deeply connected, but then the RET itself, which is a federal program, is also a separate market which does impact on NEM as well. So coming up with, if you like, a grand scheme for the design of our energy system as it decarbonises, for example, is a major challenge, and it is not going to be solved quickly. It is extremely complicated.

Ms RYALL — I think that in itself is a significant concern if as a state we are designing a market, both around VRET and around renewables across the board, including community energy projects. That is price signalling and all sorts of things, even though we may not set the price specifically. Then we have got the national market and a whole lot going on. Do you think we can end up in a situation where we are either reinventing the wheel or interfering in a market that could regulate itself quite well but obviously within the context of risks being managed? We listened to people who have talked about significant financial and operational risk in the renewable market and in the renewable area.

Prof. BREAR — I think that is a very big, very general question that I cannot provide a definitive answer to today. I just want to return to the point I made before, which is that many small consumers are struggling with their energy bills. What are we going to do about it? Batting it from communities up to local government to state government to federal government, at the end of the day it is the poor consumer who is getting it.

Ms RYALL — As long as they benefit is the point.

Prof. BREAR — Absolutely, but discussion about 'We shouldn't do it; we should leave it to the Commonwealth' does not necessarily help the consumer who is struggling to pay their bills at the end of the day. We should never forget that that is the ultimate objective of all of this.

Mr CRISP — I understand you are working on energy transition modelling in the School of Government. What is that saying about energy costs, because we have heard about the social impact of those costs? You have modelled the future.

Dr BICE — We have started to model the future. It is only a beginning, but what we see in terms of energy costs is that, going back to your earlier question about ideology, for those individuals who may have limited interest in climate change mitigation or ideology, the costs are a very critical social driver. So we can read the paper today and we can see that issues in the past that may have been set back in people's minds or not been on the 'kind of stuff I should worry about' shopping list are now coming to front of mind, so what we are seeing in terms of energy transitions is a broader interest in energy full stop and very much an interest in terms of 'How does it affect me, and what can I as an individual or as a local community do about it?'. I think that is where you see the increasing interest in community energy.

The CHAIR — Thank you. If there are no further questions, on behalf of the Committee, Professor and Doctor, I would like to thank you for your time and contribution.

Dr BICE — Thank you very much.

Prof. BREAR — Thank you.

Witnesses withdrew.