hepburn wind community energy

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RE: Feed in Tariff for Community Energy

Introduction

The Hepburn Community Wind Farm is Australia's first community-owned wind farm located at Leonards Hill, near Daylesford in Central Victoria. The 4.1 MW wind farm is scaled to the needs of the local community — the annual output exceeds the annual demand of the houses of nearby Daylesford and much of the surrounding area. Hepburn Wind is owned by over 2000 members, the majority of whom are local to the region. It was made possible with a massive volunteer effort and $10m of community capital.

Renewable energy generators including Hepburn Wind, derive a significant portion of their income from the generation and sale of Large Generation Certificates (LGCs) under the federal government's Renewable Energy Target (RET). Our community made personally significant investments relying on assurances that all major political parties were, at the time, united in their support for pricing carbon pollution and a stable and growing Renewable Energy Target (RET).

With the end of carbon pricing and the undermining of the RET in 2013/2014, Large Scale Renewable Energy Certificates (LCG's) fell to a seven-year low of $25/MWh. This price drop forced the cutting of staff hours and the delaying of a dividend payment to our members. During this time of sovereign risk for the co-operative we had 1450 supporters write submissions to the RET Review Committee.

The Clean Energy Regulator (CER) who administers the registration and accounting of LGCs recently revised its rules. Prior to last December, the authority would publicise any retailer not supplying their certificate quota in the allocated year. Until then there were very few missed deadlines. In December the authority changed its stance and now encourages retailers to utilise a three-year window of supplying certificates. Several retailers have recently opted to pay penalties under the 2020 renewable energy target rather than meet their full liability.
This has resulted in an immediate reduction in the demand for LGCs and hence the market price has halved since December 2018. In August 2018, LGCs were over $80/MWh allowing our co-operative to pay down our accumulated losses and essentially catch up for the 3 years of devastating market conditions. Now, these certificates are trading for $38/MWh and expected to drop to $14.50/MWh by 2021. As these prices fluctuate and decrease, our cooperative is exposed to untenable risk. This precarious financial position affects all mid-scale community energy projects and will make future developments in the sector rare to impossible. Subsequently, Hepburn Wind has been engaging with other community energy organisations and renewable energy bodies, to advocate for and develop a plan for a policy mechanism that would de-risk community energy projects and enable the mid-scale community energy sector to thrive.

Our shire has recently completed a world-class zero-net emissions masterplan - the Z-NET Community Transition Plan as a pilot program of Sustainability Victoria. We have the local ambition to take our achievement of being the first zero-net energy town and become the first zero-net energy, however, as we largely have 22kv and low voltage lines, that means building several mid-scale project across the shire. Our co-operative has a strong ambition to grow and we are in the development phase of a co-located solar farm between 3-5.5MW which would greatly enhance our economies of scale. But we cannot build without a guaranteed long term income source.

Background

Globally, the huge uptake of mid-scale community energy projects in countries such as in Denmark, Scotland, Germany have all been deployed through a Feed in Tariff.

The state government has implemented a raft of ambitious policy mechanisms that have facilitated growth in the Renewable Energy Sector. The Victorian Renewable Energy Target (VRET) Auctions have enabled deployment of large scale solar and wind facilities at increasingly lower costs, which significantly drops the market price for consumers, however places and incumbent generator such as Hepburn Wind in a high-risk scenario. The recent announcement of subsidised solar for 650,000 households and the continued rollout of the Victorian Renewable Energy Target (VRET) will successfully boost household and large scale renewables. The next step to ensure your government legacy as a

renewable energy leader would be to unlock mid-scale community energy, producing a pipeline of local jobs and delivering significant regional economic development across the state. There is great opportunity to enhance our nascent sector with the right policy instrument.

In 2014 Hepburn Wind put forward our submission to the Renewable Energy Target Review to introduce a community energy multiplier for LCG's that would ensure that community energy facilities received 1.5 x the market rate, recognising the sectors unique social and economic contributions to community[1]. Two years later, Hepburn Wind completed a submission for the Parliamentary Inquiry into Community Energy recommending the introduction of a 10% tranche for Community Energy within the VRET with targets for the number of projects developed[2]. While the State Government has implemented programs like the Community Energy Hubs, an incentive for community energy is still critical to ensure the growth and development of this sector.

In August 2018 Hepburn Wind coordinated with 16 community energy initiatives and 10 allied organisations to put forward a proposal that the State Government introduce a tailored policy to enable the sector to grow - A Community Energy Incentive. This document outlined both the definition of community energy that should be considered and listed key policy elements that the community energy sector would support.

The Department of Environment Land, Water and Planning (DELWP) considered these recommendations and have responded with an investigation into this request. Hepburn Wind would like to contribute our research to help inform DELWPs considerations with input from the community energy sector. We recommend that DELWP considered the implementation of Feed in Tariff (FIT) to facilitate the development of the mid-scale community energy sector in Victoria.

Definition of a FIT

"A Feed in Tariff (FIT) is a payment for electricity fed into the supply grid from renewable energy sources, such as wind or solar panels. This can be mandated by the government or offered voluntarily by an electricity retailer"[3].

Why mid-scale community energy is important

Community projects are unique:

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[1] Holmes à Court et al., "Submission for the Renewable Energy Target Review."
[2] Lane, "Parliamentary Inquiery into Community Energy Projects."
[3] Loynes, "Overview of Feed in Tariffs: A Quick Guide."

- provide proportionately large direct and indirect local benefits
- small, with some challenging diseconomies of scale to overcome
- offer a new model of engagement around renewable energy, benefitting the broader renewable energy sector.

CE models are motivated by more than commercial success. Whilst CE projects need to be financially sound and many (though not all) provide a return on investment, they are not purely commercial projects. That is, CE projects aim to provide outcomes and benefits beyond just financial returns. They are of particular need given the level of large scale renewable development we are seeing across the country as well as the plans for rapid new build of transmission infrastructure. Community energy projects can act as the 'gatekeepers' to broader social licence. Mid-scale projects are at a scale whereby they are able to be owned and operated by community groups, both in regards to fundraising as well as complexity of asset management. Further, mid-scale community energy projects can solve capacity constraint issues on the transmission lines by filling up the smaller distribution network as we await further transmission development, such as is proposed by AEMO's Integrated Service Plan.

Why communities need grants and price certainty

In countries where there has been a rapid build of mid-scale community energy projects, there has always been a combination of grants with FiT, particularly with the highly successful CARES program in Scotland. This creates long term security for community investors and is generally over a 20-year period.

In Australia, community energy projects have typically been supported by grants. Our investment model was tailored to strengthen our local economy, social connectivity and reduce pollution. Our original business model was supplemented by $1,650,000 in grants from Sustainability Victoria and Regional Development Victoria in order to cover the high-risk development costs and first of a kind grid connection cost. Rigorous modelling forecast reasonable dividends and a return of capital over the life of the project for our members. Grants like these are integral to the development of many community energy projects, but they do not ensure the long term financial security of these projects. As discussed in the introduction, political uncertainty can greatly influence the viability of community energy projects. Grants provided to projects, based on forecasting, may not adequately reflect the cost of policy, market and technology changes, as is certainly the case with Hepburn Wind.

Grants may also consolidate benefits within higher-income communities as organisations with greater in-kind support and financial backing may be better able to complete complex and time consuming grant application processes. Price certainty provided in conjunction with tailored

application processes may greatly assist low resourced organisations to develop their projects, fostering greater equity in the distribution of community energy assets. Creating a stable price for community energy would improve the business case for community-developer partnerships and enable the development of affordable mid-scale renewable energy development 'products', for which there is a dearth in the Australian market. These partnerships can benefit community groups by providing technical, financial and organisational resources, while growing developers capacity to produce community benefits.

History in Australia

The FIT has exclusively been applied to small-scale projects in Australia, except in 2018 with the first community energy FIT applied for a community solar farm in the ACT.

In 2008 COAG issued the National Principals for Feed-in Tariff Schemes which gave small-scale solar generators the right to export electricity to the grid and receive payment. In 2013 this was expanded to all renewable energy generators[4]. FIT schemes currently vary from state to state, typically incentivising small renewable energy systems, except for the ACT which also supports large scale renewables (for more information read the 2017-18 Annual Feed-in Tariff Report[5]). FIT rates for small-scale solar vary between roughly 6 cents per kWh to an upper time-variable rate in Victoria of 29 cents per kWh. These rates vary depending on state legislation as well as retailers willingness to provide a premium.

Small-scale FiT: Victoria

In Victoria, the Essential Services Commission is required under the Electricity Industry Act 2000 to determine the minimum FIT rates paid to owners of small solar, wind, hydro or biomass systems (less than 100kW). These tariffs were introduced in July 2018, following an inquiry into the value of distributed generation. The inquiry recommended that the FIT be increased to better reflect the wholesale cost of electricity at the time of selling[6]. Core to the Essential Services Commission (ESC) was a recognition of the unique value gained by decentralised and distributed energy generation. Community energy facilities also help to build grid capacity while creating unique social and economic outcomes that strengthen community wellbeing and financial independence. The pathway of ESC creation of a mid-scale community energy FIT will inherently be an easier pathway than other potential processes such as auction schemes.

[4] Ibid.
[5] ACT Government, "Annual Feed-in Tariff Report."
[6] Essential Services Commission, "Minimum Electricity Feed-in Tariffs to Apply from 1 July 2019: Final Decision."

Large-scale FiT: ACT

In 2011 the ACT legislated the Electricity Feed-in (Large-scale Renewable Energy Generation) Act which provides FIT entitlements to large scale renewables generating above 200kW when granted by the ACT Government. The Large-scale FIT uses a hybrid model, utilising auctions with Contracts of Difference (CoD) to allocate the FIT [7]. The Community Energy project, Solar Share was granted a FIT from the ACT Government. This tariff is locked in at a price of 19.56c/kWh over a 20-year period, providing the project the long term certainty needed for such project development. This is coupled with their ability to have a PPA with an electricity retailer for the power - at reasonable market price of 6c/KWh[8].

Global examples

Internationally FIT's have been used for decades to provide targeted incentives to boost renewable energy investment. These policies have typically worked in conjunction with other policies that respond to the unique benefits and hurdles for community energy projects, such as planning approvals, start-up capital and securing PPA's[9]. Below are two case studies that delve further into how FIT's have been used to boost renewables and community energy development.

Case study: Germany

Most notably, Germany's FIT became a best practice example of how countries could expand renewable energy capacity. The "Energiewende" involved a number of policies designed to increase the share of renewable energy generation as a response to climate change. The FIT was the central mechanism of Energiewende and came into effect in 2000. The FIT (known as the EEG) was adapted over time to effectively respond to changing technologies and their costs. The EEG initially provided generators a tariff for 20 years that decreased in value over the lifespan of the project. The tariff enabled a large amount of community and civic participation in the energy market, making many projects of different scales financially viable. The EEG is credited with tripling installations for wind generation in the 2000's as compared to the 1990's[10]. Germany has also developed high levels of community ownership, with 40% of renewable energy generators being owned by individuals and

[7] ACT Government, "Annual Feed-in Tariff Report."
[8] Solar Share Canberra, "Offer Information Statement."
[9] Wierling et al., "Statistical Evidence on the Role of Energy Cooperatives for the Energy Transition in European Countries."
[10] Nolden, "Governing Community Energy-Feed-in Tariffs and the Development of Community Wind Energy Schemes in the United Kingdom and Germany."

11% by farmers. Another 6.5% is owned by large market incumbents and 7% by other utilities[11]. In 2016-17 Germany wound down the EEG and moved to an Auction model to reduce costs. Since then, community energy projects have stagnated[12].

Successes:

- Increased decentralised generation
- Greater community ownership facilitated community ownership

Failures:

- Increasing market liberalisation caused policy to fall from favour
- Expensive tool when compared to auctions

Case study: United Kingdom

The United Kingdom also introduced a Feed In Tariff to aid the deployment of small-medium (max 5MW) scale renewable energy. The FIT reduced the risk associated with developing these projects and provided community investors with stable returns[13]. The FIT was eligible for generators for 20 years and covered a number of technologies, ranging from solar, biomass, wind, hydro and geothermal technologies. The FIT value was also dependent on the type of technology and the scale of the project. Newer technologies were incentivized with higher tariffs, recognising their greater cost. While larger projects using conventional technologies received smaller tariffs, due to the lower risk associated with these technologies and capital outlay needed[14]. Over the duration of the FIT, prices were dropped in response to reducing technology costs.

In 2016, after yearly reductions in FIT rates, the UK government announced that they were looking to end the policy. The amount provided has dropped significantly which has caused a reduction in new community energy projects[15]. According to a new report published by the Green Alliance, 66 community projects have subsequently stalled or failed since the decision to remove the feed-in tariff. The rate of new project

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[11] Ibid.
[12] Wierling et al., "Statistical Evidence on the Role of Energy Cooperatives for the Energy Transition in European Countries."
[13] Ibid.
[14] Ofgem, "Feed-In Tariff (FIT) Rates."
[15] Wierling et al., "Statistical Evidence on the Role of Energy Cooperatives for the Energy Transition in European Countries."

proposals has dropped dramatically from 33 new proposals in 2014 to one in 2017[16]. Community energy groups have been deeply affected by this loss of support and it has led to the closure of community energy groups and their associated activities.

Successes:

- Broad range of technologies covered
- Tailored pricing for technologies and scales
- Responding to reduced costs of technologies over time
- Provided certainty for a 20 year period

Failures:

- Political changes caused great fluctuation on FIT pricing
- Killing the policy suddenly caused rapid decrease in community energy project

Table on international FIT examples:

Country	Duration	Scale	Implementation	Amendments	Technologies	Pricing
Germany	Originally 20 years	Diverse - 100KW less receive FIT between 19 and 21 cents per kwh	2000	2004, 2009, 2012, 2014	Wind, solar, biogas, biomass, geothermal, hydro	*2017 Wind Onshore: 4.66 - 8.38 per kWh Wind Offshore: 3.9 - 1.4 per kWh Solar (site specific): 8.91 - 12.70 per kWh Geothermal: 25.2 per kWh Biogas waste/manure: 13.05 - 23.14 per kWh

[16] Kumar, "Community Energy 2.0: The Future Role of Local Energy Ownership in the UK."

						Landfill/sewage gas: 5.66 - 8.17 per kWh Hydro-power: 3.47 - 12.40 per kWh Biomass: 5.71 - 13.32 per kWh
France	20 years	100kW to 5MW	2017		Innovative solar technologies	Not available at this time – still to be implemented
Denmark		Diverse	1992 - 2003	1993, 2002	Wind	Received 85% of the retail price for generated electricity
UK	Ranges 20 - 25	Less than 5MW	2010 - 2019	2012 - yearly price changes	Wind, biogas, solar, hydro power, anaerobic digestion, combined heat and power	*2010 figures decrease w scale Solar under 4kW: 46 - 52 pence per kWh Wind: 44 pence per kWh Hydro: 24 pence per kWh *2018 figures between 0-5MW capacity Solar: .15 - 4.03 pence per kWh Anaerobic digestion: 1.54 - 4.500 pence per kWh Hydro: 8.03 - 4.73 pence kWh Wind: 8.24 - 0.47 pence per kWh

Feed in Tariffs and Auctions

In many countries, such as Malaysia and Germany, Auctions have been used to facilitate large-scale renewable energy projects, while feed-in tariffs have been used for smaller to medium scale developments[17]. These policies work well in conjunction as Auctions provide a substantial bulk of renewable energy development and drive down prices, while the mid-scale FiT can help foster community access and grow renewables social license. An 'either or' approach however has resulted in only one scale growing.

Recommendations, Principles and Criteria

The following section identifies the key recommendations, principles and criteria that will create a strong Feed-in Tariff for the Community Energy sector.

Recommendations:

- *We recommend that the government implements a FIT for mid-scale community energy projects to provide certainty in lieu of renewable energy certificates of approximately 6-7c per kWh for community energy projects between the size of 1-10MW, to put them on par with rooftop solar.*
- *The FIT would be complimented by targets for community energy projects i.e. 100 projects by 2025 or a percentage such as 10% carve out of the VRET.*
- *The FIT would consider the unique attributes and benefits of community energy when designing a tariff for these projects.*
- *The FIT would take account of the needs of diverse social groups and provide a price that would facilitate community energy projects from low to high income communities.*
- *The FIT would be part of a strong policy environment for CE, including low interest loans, start-up grants, battery storage grants, easy grid access and secured PPA's.*

Principals:

- *Setting an ambitious size*

[17] IRENA, IEA, and REN21, "Renewable Energy Policies in a Time of Transition."

- *Encourage collaboration*
- *An EOI process so projects can bid early, giving them the confidence to develop*
- *Be simple to administer, with clear objective success criteria*
- *Minimise political risk through not requiring ministerial or departmental sign-off*
- *Include projects over a broad range of technologies*
- *Be tailored to value and deliver the multiple benefits associated with CE*

Criteria:

- *Only include community-led projects or community/developer partnerships*
- *Have local shareholdings inclusive of community investment (minimum 20%), including local council, water authorities (50%)*
- *Have a project scale between 1MW -10MW per technology.*
- *Require local/community control and decision making power related to the project*
- *Ensure local distribution of the social and economic benefits generated through the project*
- *These projects would be scaled appropriately to the local environmental and/or community*
- *Put an emphasis on harnessing local skills and capital throughout the project lifespan*

We highly recommend the government implement a Feed in Tariff for Community Energy. This action would ensure that our state has a strong renewable energy legacy that creates long term community assets.

Thank you for your consideration.

Kind regards,

Taryn Lane
General Manager of Hepburn Wind

Resources

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