

## **Victorian Renewable Energy Auction Scheme**

### **Response to the Consultation Paper**

The Victorian Government (“Government”) proposes to introduce the Victorian Renewable Energy Auction Scheme (“VREAS”) which aim to create jobs, stimulate economic development and reduce greenhouse gas emissions. The VREAS will meet these aims by enabling renewable energy projects. The Government wishes to minimise the cost of the VREAS.

The goal of this submission is to:

1. help identify the key drivers and themes of a successful financial support program for renewable energy projects to be included in the Victorian Renewable Energy Auction Scheme; and
2. provide an overview and analysis of the potential gaps in the current auction framework that could potentially hinder the process to ensure the greatest success rate for large-scale solar projects in Victoria.

To meet these objectives, the Government should learn from the historic policy experience (both in Australia and overseas) and ensure the auction scheme is developed to maximise the opportunity to meet the goals of the VREAS. Key reference policies are ACT 100 % Renewable Energy Target and ARENA Large Scale Solar Competitive Round funding.

#### **General**

Renewable energy projects globally have been supported by a wide spectrum of financial incentive mechanisms. While many of these mechanisms have contributed to the successful adoption of a more diverse renewable energy mix; it is important that incentive mechanisms provide a clear market signal for industry investment, engage the whole of the supply chain and where possible, do not displace commercial participants (financiers, developers, construction companies) and stimulate additionality.

The Government has requested comment on the proposed VREAS Structure, Payment Structure, Scheme administration and cost recovery, and Auction evaluation principles. This paper will provide commentary on both the VREAS Consultation Paper ([http://www.energyandresources.vic.gov.au/\\_data/assets/word\\_doc/0008/1348181/Consultation-paper-Victorian-renewable-energy-auction-scheme.docx](http://www.energyandresources.vic.gov.au/_data/assets/word_doc/0008/1348181/Consultation-paper-Victorian-renewable-energy-auction-scheme.docx)) and the Government industry consultation sessions facilitated on 23-24 August 2016 and will address the specific questions asked by the Government.

#### **Scheme Structure and Payment Structure**

The Government has proposed number of VREAS structures and payment mechanisms. In selecting the final design, the government should consider the following:

- The cost of financing a project is related to the risk profile of that project. A project is assigned risk based on the uncertainty of the project attributes. The Victorian Program is seeking to reduce the uncertainty and thus risk of the project’s revenue. The non-price Evaluation Criteria should be used to minimise the risk of non-revenue project attributes. This will ensure that projects with the lowest risk profile are selected, reducing the cost of the Program and ensuring selected projects will proceed and contribute to the Government’s target.

- Revenue risk provide is driven by **tenor** (length of revenue contract), **volume** (amount of electricity that can be sold under the contract), **uncertainty around the price** that is received for the eligible electricity and the **credit-rating** of the buyer.
- The VREAS should not distort the Federal RET pricing.
- The Government has not engaged electricity retailers and therefore risks not incentivising projects that are not appropriate for the Victorian electricity load. The Government should consider whether non-price Evaluation Principle e.g. assessment of a diurnal generation profile compared with the Victorian market diurnal load profile.

#### 2020 Target Complimentary to Federal RET

By making the Victorian Program complimentary to the Federal RET, by definition, the LGCs generated under the Program need to be sold and surrendered by Federal RET Liable Entities (“Liable Entities”), e.g. retailers and large buyers of electricity. Under the current Federal Government Structure, these LGCs are only required until 2030. This raises a number of scenarios:

- Government provides a CfD for both electricity and LGCs, with all LGCs assigned to the Government – The most cost effective means of enabling a project is for the Government to provide a CfD for both electricity and LGCs. However, this would result in the Government procuring LGCs that must be sold on to Liable Entities.
- Government provides a CfD for electricity only – This will increase the cost of the scheme due to the higher level of risk in the project due to split revenue streams. Without visibility over the LGC contract terms, the Government may subsidise a Federal RET Liable Entity in meeting its existing obligations without stimulating new build in Victoria.
- Government requires a generator to have a PPA for both electricity and LGCs – This negates the requirement for the Government to provide a CfD or results in the Government subsidising the cost of electricity and LGCs for the PPA counterparty at below market prices.

Note that any offtake from a Liable Entity would only extend to 2030 resulting in tenor of between 10-12 years. This will result in higher CfD pricing than can otherwise be achieved by a longer tenor from the Government resulting in higher VREAS \$/MWh tariffs.

To ensure that the Government is able to achieve the lowest project costs under the VREAS scheme, the Government should provide a CfD for both electricity and LGCs, hedged against the Victorian NEM half hour electricity price. Surplus LGCs should be sold to Liable Entities at market rates, with safeguards in place to ensure that the treatment of these LGCs does not distort the LGC market.

#### 2025 Target additional to Federal RET

The 2025 target is much simpler to administer although some areas are problematic. Government requires only LGCs from the generation plant so could feasibly provide a LGC only contract to the generator. However, this does not provide revenue certainty to the generator that will enable the cost of the scheme to be minimised and provide appropriate incentives to ensure the 2025 target is met. To prevent this

market distortion, the Government should provide a CfD for both electricity and LGCs, all LGCs should be assigned to the Government and extinguished through the Clean Energy Regulator process.

*How can the Department ensure that a pipeline of projects will be ready to meet the Government's targets for 2020 and 2025 while maintaining appropriate flexibility for Government to adjust the scheme where required?*

Project development is a risky and expensive exercise. In order to attract investment from project developers to ensure a pipeline for your program, it is imperative that the Government creates a clear signal to the market that there is a path to project realisation. The best way to do this is to set procurement targets with clear timeframes that do not change. The program is currently structured as a capacity (MW) auction. First Solar notes that the Government wishes to meet an energy target (MWh). Setting a MWh target that is fixed and not subject to adjustment, as has been done in the Federal Renewable Energy Target, would give the Government the flexibility to adjust the MW capacity tranches as they are released rather than change the MWh capacity amount and thus build in uncertainty to the program that will inhibit development investment.

First Solar notes that Victoria has a strong pipeline of wind projects to achieve the 2025 target. However, by virtue of the long development cycle of a wind farm, and the timing of the original approval for these projects, it will not be easy to deploy these projects in time for the 2020 target. Large Scale solar is a much simpler technology with strong support from the community and a straightforward approval process. While there are a number of large scale solar development projects in Victoria, there is currently a strong market signal for solar development investment in NSW, QLD and WA. With the right market signal, solar developers will be able to quickly deliver existing solar pipeline by the 2020 target and further invest to prepare for delivery of the 2025 target.

*How much notice should be provided to industry of upcoming auctions?*

Three to six months should be provided to industry ahead of an auction. A large scale solar project with development approval and advanced grid connection would require three months' notice for upcoming auctions.

*Should capacity be auctioned in consistent capacity tranches (e.g. 200MW etc)?*

Government should consider the additional cost of running small capacity tranches with the benefit of scaling up tranche size as experience is developed by the entity running the auction.

*At what frequency should auctions be held?*

One auction per year would give industry certainty to invest in development understanding that opportunities for project realisation are upcoming. As solar projects have a much timeline from project conception to delivery, shorter, more frequent auctions would be possible for this technology if required to deliver the target.

*What proportion of scheme generation should be dedicated to solar projects?*

Large Scale Solar should make up at least 20 % of the energy target of the program. Solar generation has a number of qualitative benefits:

- Highly certain generation profile which is strongly correlated with customer load profile – electricity generated by solar is available at the time it is needed. This is complementary to other renewable sources available in Victoria which generate more strongly during off-peak demand periods.

- Solar resource is well understood with decades of credible data available to support energy predictions with very low variance from year to year and between locations. As a result, solar projects have a much shorter development timeline compared with other technologies that need highly accurate onsite weather data monitoring in order for an investment decision to be made.
- Energy prediction techniques well understood and quantified allowing highly accurate prediction of expected generation giving certainty to the government that solar projects will contribute consistently to the target.
- Very low impact on community and environment as solar panels are installed close to the ground, require very little earth works, create very little noise during operation (noise is largely as a result of workers entering and leaving site) and are not visually obtrusive.
- Solar projects have the potential to provide network support services if appropriate value is allocated to these services in any scheme design.
- Community is familiar with solar technology, as many residential and commercial electricity users have solar panels installed on their houses and businesses.
- Large potential for strong industry development and jobs to be created around areas of solar resource during and post construction with strong potential to make use of manufacturing capability.

*Should the proportion of solar be different pre and post 2020 to allow a solar pipeline to develop and technology costs to come down?*

In order to achieve extremely competitive solar electricity prices in Victoria that are emerging globally, it is imperative that Victoria creates a policy environment that supports steady and repeated project deployment. This is the single strongest driver of solar electricity price cost reductions. It gives, developers, construction companies and financiers the confidence to invest in Victorian projects and provides crucial exposure to the solar value chain participants necessary to optimise solar project costs, including the construction labour force e.g. local civil, mechanical and electrical subcontractors, electricity regulators and network service providers, planning authorities, and heavy industries to solar projects. Without this experience, Victoria will not be able to achieve strong increasingly attractive solar tariffs.

*Are there any other matters the State should consider when setting the scheme's technology split?*

Any technology supported by the VREAS must demonstrate a credible path to sustainable deployment without ongoing financial support. Solar PV has achieved sustainable cost parity in many global markets and has a credible path to achieving this in Victoria. Other renewable energy technologies should be assessed on this basis prior becoming eligible to participate in the VREAS.

*What is the best way to treat LGCs under the scheme to enable successful proponents to secure project finance, ensure scheme costs are minimised and ensure adequate market interest from industry to participate in the auctions is attracted?*

Revenue certainty through a credit-worthy counterparty is the single most important input for a proponent to secure project finance at attractive rates. This will flow through to other aspects of the scheme, including minimisation of scheme costs and interest from industry in participating. Each time uncertainty is added to a project, this introduces a risk that must be assessed and priced by the project financiers and will result in a higher price for electricity.



Victorian Renewable Energy Target can be achieved in the most cost effective way through a CfD for both electricity and LGCs between the proponent and the Victorian Government (Treasury-backed guarantee) with the longest possible tenor. This is outlined in the examples below:



Scenario	Contracting mechanism	Offtake counterparty	Tenor (years)	Price ranking*	Comment
1 - 2020 target	CfD for both LGC and electricity	Victorian Government	10-12~	5	Contracting all revenues out to the end of RET leaves a significant proportion of revenues exposed to recontracting or merchant revenue exposure.
2 - 2020 target	CfD for electricity	Victorian Government	20	4	Although 20 year CfD for electricity gives good revenue certainty on half of project outputs, financing rate is higher as a result of the complexity of having multiple revenue interfaces and shorter LGC contracting period. The CfD strike price will be increases as a result of this.
	Sale agreement for LGCs	Credit-worthy offtaker	10-12		
3 - 2020 target	CfD for electricity	Victorian Government	20	7	Although 20 year CfD for electricity gives good revenue certainty on half of project outputs, financing rate is higher as a result of uncertainty of LGC spot market profile. Not as attractive as Scenario 7 as LGC market does not exist beyond 2030.
	Sale agreement for LGCs	LGC Spot Market	NA		
4 – 2025 target	CfD for both LGC and electricity	Victorian Government	20	2	Contracting out all revenues for 20 years of 30 years provides revenue certainty for a significant proportion of the project Design Life.
5 – 2025 target	CfD for both LGC and electricity	Victorian Government	30 <sup>1</sup>	1	A generation project with fully contracted revenue from a credit-worthy offtaker will attract the most competitive financing. This will result in the lowest cost per MWh for the project.
6 – 2025 target	CfD for electricity	Victorian Government	20	3	These scenario is comparable to scenario 4 – slightly more expensive due to complexity of project.
	Sale agreement for LGCs	Credit-worthy offtaker	20		
7 – 2025 target	CfD for electricity	Merchant	NA	6	Likely that price of Victorian Government LGC sale contract will need to be high to compensate for the highly uncertain uncontracted electricity revenues. Financiers will expect high returns for this type of investment.
	Sale agreement for LGCs	Victorian Government	20		

\*For otherwise identical projects, 1 = lowest, 7 = highest ~ Project completion to 2030, <sup>1</sup>Design Life of a solar project,

First Solar notes that under the 2020 target, LGC tenor is only incentivised to 2030 (10-12 years by the time the VREAS is implemented). If the Government is able to provide a longer tenor, the cost of the scheme will be reduced.

*What are stakeholders' thoughts about complementarity/additionality if the Federal RET were extended/expanded?*

To ensure that the Victorian target is achieved, it is important that the Government sends a clear signal for investment. Any perceived or real changes to the target will reduce the certainty of this investment signal and may make the target more difficult to achieve.

### **Payment Structure**

*Do stakeholders agree with the proposed CfD payment structure approach?*

The proposed CfD payment is the most appropriate payment structure for achieving the target in the most cost effective way.

The CfD for both electricity and LGCs should be marked against the NEM reference price, i.e. the strike price should reflect the price of delivering both electricity and LGCs. While the NEM reference price is reflective of only the price of procuring electricity from the NEM. However, hedging against the NEM reference price allows the government to benefit when the NEM reference price is higher than the electricity portion of the strike price and is not subject to the less transparent LGC spot price.

*If a CfD payment structure is used, on what basis should a NEM reference price be set? (e.g. monthly average, half hourly NEM price)?*

Linking the CfD payment to the NEM reference price to the half hourly NEM price on the NEM region in which the generator sells to will result in the lowest cost \$/MWh tariff, as demonstrated by the very low tariffs achieved in the ACT process. Linking the CfD payment to the monthly average price would result in uncertainty on the price received by the generator for the electricity and LGCs generated resulting in increased revenue risk to the generator. The risk will be priced by the project financiers, resulting in a higher price required to offset this risk.

*What would be the impact of adding a floor price to cap the total payment applicable in any one period?*

Adding a floor price would result in revenue uncertainty on the volume of electricity and LGCs that the generator will be able to sell. This will result in increased revenue risk to the generator. The risk will be priced by the project financiers, resulting in a higher price required to offset this risk.

If a floor price is implemented, the Government should consider other ways for the generator to make itself whole when price exceeds strike price. The Government should note that by implementing a floor price, the government is taking all the upside benefit when the spot price exceeds the strike price but requires the generator to take on full market exposure in downside pricing scenarios. This was not a requirement of the ACT scheme which achieved extremely low \$/MWh tariffs. It is also in contrast to the CfD design of the Queensland Solar 120 scheme which provides downside price coverage but allows the generator to take the upside when spot price is above the strike price.

*Do stakeholders agree that payments should be made under the scheme based on energy delivered as defined above? Are there other ways that stakeholders consider are possible to provide locational signals to projects to ensure they are appropriately sited on the network?*

A generator is best placed to optimise the performance of its plant to maximise electricity generation and minimise cost of generation. Traditionally, a generator sells electricity into a retail portfolio and the retailer is able to manage the risk of generation and load across its portfolio. Under the VREAS, the Government is displacing the retailer without the ability to manage the generation and load risk. However, both of these cases, the project developer is incentivised to find locations with strong grid connection and other positive attributes that make its generation profile attractive and low risk. To achieve the lowest cost of the scheme, the Government should use the other Evaluation Criteria to screen for inappropriately located projects through due diligence of grid impact and projects with a diurnal profile that aligns with time of day electricity use.

*Do stakeholders consider that any alternative payment structures could be employed for the scheme, such as a fixed payment approach? If so, what are the relative advantages and disadvantages of these options?*

The fixed payment scheme proposed by the Government reflects the design of the ARENA Large Scale Solar Competitive Round paid over multiple years. This is an extremely effective method of bringing retailers into the process and incentivising generation technologies that are not yet fully commercial. Where technologies are already commercial, this approach is susceptible to distorting the existing market or subsidising large profits to one or multiple value chain participants.

*Do stakeholders agree that a fixed payment approach would be less likely to address the barriers faced by project proponents in relation to attaining project finance, resulting in lower value for money bids?*

The fixed payment scheme will reduce the strike price required by the generator to enable the project. It will not provide revenue certainty which is imperative to attracting competitive financing and bringing down the cost of the VREAS.

## **Contracting Elements**

*Are the above contract elements broadly appropriate?*

Terms – as yet, not terms have been provided. The Government’s proposed approach of providing these to auction participants ahead of bid submission is appropriate.

Contract Counterparty – For the success of the scheme, it is imperative that the counterparty is the Victorian Government (Treasury-backed Guarantee). It is not important to the generator which entity is administering the scheme.

Contract Length – the longest possible contract will enable the lowest price \$/MWh. 20 years is appropriate.

Payment terms and frequency – NEM payments are reconciled weekly. Payment frequency that lags this will add a small amount of cost to the price \$/MWh.

Termination clauses – termination due to delay is reasonable to ensure that the VREAS is achieved. Failure to achieve COD six months post scheduled COD is an appropriate trigger for termination.

Generation requirements – Generation requirements are an effective way of ensuring that the VREAS is met and provide a mechanism for recouping scheme costs when a project underperforms.

*Within the contract range of 10 to 20 years, is there an ideal duration, particularly with the aim of minimising project financing costs?*

The ideal contract length within the proposed range of 10 to 20 years is 20 years. This reduces the revenue uncertainty for the project and will attract the most competitive project financing thus reducing the cost of the VREAS.

*What would be an appropriate project delay threshold for contract termination clauses?*

Failure to achieve COD six months post scheduled COD is an appropriate trigger for termination.

*Would quarterly payments have a significant impact on financing costs compared to monthly payments?*

Quarterly payments would result in a small increase in financing costs compared with monthly payments.

*What are the implications of a two-way CfD?*

A two-way CfD will expose the Government to fluctuations in electricity market price changes over the length of the VREAS operation. This will provide the generator with revenue certainty which will enable the project to attract competitive pricing which will reduce the cost of the scheme.

*What do stakeholders think about the generation requirements being considered? Where maximum and minimum generation volumes are contained in scheme contracts how should these be set?*

The maximum generation volume should represent P50 + 10 % energy prediction to account for year to year weather variations. Minimum generation volume should be linked to 75% of P50 energy prediction to provide a disincentive for generators to over predict when bidding to the Government.

*Are there any other contract elements that should be considered?*

*Are any of the elements likely to lead to perverse outcomes?*

As noted above, the current discussions about requiring or favouring a PPA outside of the Government's CfD will result in perverse outcomes for the industry. As noted at the industry consultation, the Government's CfD removes revenue uncertainty, displacing the requirement for a PPA. Under the 2020 Target, a PPA for LGCs could be beneficial to the VREAS, however, the Government should take steps to ensure that it is not subsidising LGCs that would otherwise be procured or hedging the risk of electricity and LGCs sold under a PPA a retailer or Liable Entity. To ensure that no perverse incentives occur, the Government should provide a CfD for both electricity and LGCs. Surplus LGCs should be sold to Liable Entities at market rates, with safeguards in place to ensure that the treatment of these LGCs does not distort the LGC market. If the Government provides a CfD for only a portion of the revenue stream e.g. electricity only, the Government should favour lower risk contracting mechanisms (credit rating, tenor and price) to ensure that the Government is still enabling competitive project financing, its stated aim for the VREAS.

## **Scheme Administration and Cost Recovery**

*What are the relative advantages and disadvantages of the different scheme administration and cost recovery options listed above?*

As long as the counterparty is a Victorian Government entity (that can offer a Treasury-backed Guarantee), the exact counterparty will not affect the financibility of the generator. The ACT scheme used is administered by the relevant distribution network service provider and would be an appropriate administrative body in this case.

*Is there another mechanism for recovering scheme costs the Government should consider that would result in better outcomes?*

*The Department's proposed position is currently to exempt emission intensive trade exposed companies (as defined under the Federal Government's RET scheme) from paying scheme costs. Do stakeholders agree with this approach? Are there any other parties Government should consider exempting from scheme costs? If so, how should this occur?*

## **Auction Evaluation Principles**

*What do stakeholders think of the proposed evaluation criteria set out above?*

It is imperative that Auction Evaluation Principles are clear, objective and transparent.

It is noted that some of the Evaluation Principles are binary and should be used a pre-qualification criteria. These include:

- Value for Money – the proponent should commit to reaching a \$/MWh benchmark, demonstrated in an initial financial model. If this benchmark is not achieved, it should not progress to full evaluation. This was effective when used by ARENA in its Expression of Interest phase of the ARENA Large Scale Solar Competitive Round.
- Timely Construction and operation – each auction round should set out a timeline in which construction and operation must be achieved. The proponent should commit to complying with this timeline.
- Community Engagement – to ensure that the VREAS does not result in poor community outcomes, the proponent should demonstrate its commitment to a best-practice community engagement plan prior to proceeding to full assessment. This is to ensure that developers do not commence development activities in the community without an understanding of best-practice community engagement.
- Wholesale market participation – the aim of the project is to incentivise large scale projects that can contribute to the Government's targets.

*Do stakeholders have views on how evaluation criteria might be weighted?*

The Government should apply a weighting to each Evaluation Principle reflecting the relative importance of each. These should be published at the beginning of each auction and should not change once published.

*Are there other evaluation criteria/principles that the Government should consider to ensure the scheme meets its objectives?*

In addition to the Evaluation Principles proposed, the Government should increase the priority of the following criteria to ensure the credibility of the project:

- Capability of project participants (developer, construction company, financing partners) to deliver the project – assessable through demonstrating past experience in Australia in delivering a project financed renewable energy generator.
- Development status of the project and plan for delivery in the required timeframe – assessable by documenting status and path to delivery of all pre-financial close activities.

These are currently covered in part under Timely construction and operation. The biggest risk to the delivery of the VREAS is projects failing to deliver on the bid commitments. Clear assessment of these items mitigate this risk.

The Government should also consider the introduction of a bid bond to dissuade less credible projects and project participants bidding into the program.

*Are the costs associated with developing a proposal to bid into the scheme based on addressing the above criteria effectively likely to be prohibitive?*

The decision to spend money on the development a proposal will not be prohibitive if there are clear, objective and transparent evaluation principles used and if there is a fair chance of success. The first issue can be dealt with as described above. The second issue can be dealt with by breaking the selection process into a pre-qualification phase and full bid phase below.

*What would be appropriate minimum project sizes (both in general and for large-scale solar)?*

A large number of projects will need to proceed to achieve the VREAS. To balance the administrative burden of assessing proposals and the ability to meet the VREAS, it is recommended that the program be restricted to projects with an AEMO registered capacity of 30 MW ac or higher. Projects of this scale are required to be registered as a semi-scheduled generator so support the Government's desire to ensure grid stability.

*Would there be benefit in asking proponents to submit expressions of interest to participate in the auctions to ensure only more advanced projects proceed to the full evaluation round and that costs are minimised for project proponents where possible?*

As the proposed VREAS will enable up to 5,400 MW of generation resulting in a large number of generators bidding into the scheme, it is recommended that the Government structure program evaluation into a Pre-Qualification and Full Bid phases.

Pre-Qualification should consist of

- Demonstration that project meets \$/MWh price target using prescribed financing and foreign exchange inputs.
- Demonstration that the project is sufficiently advanced to meet the bid timeframe (selection of status against pre-defined criteria with word-limited explanation of path to achievement).
- Summary of project participations
- Submission of Community Engagement Plan

- Check box declaration that project is NEM-Connected.
- Declaration that should project proceed to Full Bid phase, a Bid Bond will be posted within 10 business days to be returned if the project is unsuccessful in the Bid phase or upon achievement of Financial Close.

Full Bid phase should consist of

- Full form project plan addressing all Evaluation Principles
- Full financial model
- Any supporting documentation e.g. contracts, term sheets etc.

### **Final**

The proposed has potential to enable a large volume of renewable energy projects in Victoria which will create jobs, stimulate economic development and reduce greenhouse gas emissions. In order to attract investment from project developers to that the program aims, it is imperative that the Government, through this policy, creates a clear signal to the market that there is a path to project realisation. On this platform, Government has the ability to enable extremely attractive financing costs using its credit-rating and ability to provide long tenor CfDs.