



Enhar Pty Ltd
Suite G-03
60 Leicester Street
Carlton VIC 3053
www.enhar.com.au
T: +61 3 9429 9463

Hon Lily D'Ambrosio
Minister for Energy and Resources
Parliament of Victoria
Level 36, 121 Exhibition Street,
Melbourne, VIC 3000

Submitted to : renewable.energy@ecodev.vic.gov.au

Date: 30th Sept 2015

Victorian Renewable Energy Roadmap - Enhar consultation response

Enhar Pty Ltd is a Melbourne-based [renewable energy consultancy](#) providing feasibility and design services for government and commercial clients in Victoria, New South Wales, Queensland and Western Australia. We provide [renewable energy consultancy](#) expertise and [energy efficiency services](#).

We congratulate the Victorian Government on the publication of Victoria's Renewable Energy Roadmap, and welcome the opportunity to provide a response to this important consultation.

We are extremely pleased to see the strong understanding demonstrated by the Victorian Government in the Roadmap, and welcome the proposed set of actions to bring forward greater levels of renewable energy generation in Victoria.

If we were to single out one concern, it would be that the pace of progress needs to significantly accelerate if Victoria is to make significant progress during the term of the current government. The State of Victoria needs to establish leadership promptly rather than waiting until Federal leadership is re-established.

The Queensland Government has demonstrated rapid progress by putting a 50% renewable energy target in place within three months of coming into office, for example. The Roadmap's aspiration to re-establish the state of Victoria as a global leader in renewable energy development is to be applauded, yet a commensurate set of major actions will need to be undertaken in quick succession in order to realise this aspiration.

We would like to see a timetable published by the Victorian Government giving dates by when specific actions in the Renewable Energy Action Plan will be completed, when renewable energy target legislation will be put before Parliament and come into effect etc. Industry will certainly do some tooling-up in anticipation of potential supportive policies being implemented in Victoria, however the real benefits will flow only once new projects start to be installed and this will require legislation and regulation to be rolled out first.

Enhar held a workshop on 25th September for our clients and networks, to discuss the Renewable Energy Roadmap. 30 participants attended from a wide range of sectors and we include below some notes from discussions written up by the participants at our event.

Table of Contents

Renewable Generation Targets for 2020, 2025 and beyond	3
Integration with Climate Act and Energy Efficiency Strategies	4
Using Government Purchasing to support Renewables.....	4
Grant Programs	5
Sector-Specific Priorities	5
Local Government :	5
Manufacturing and industrial businesses:.....	6
Developers of Medium and Large Scale generation.....	6
Wind Farm planning reform.....	7
Coherent Planning rules for on-site renewables including wind	8
A supportive Government who can readily provide information	9
Battery Storage.....	9
Conclusion	9

Renewable Generation Targets for 2020, 2025 and beyond

We have estimated that Victoria is on track for 20% renewable generation by 2020 even if the Victorian Government provides no additional incentives and makes no regulatory changes.

This 20% renewable generation by 2020 will be achieved through the impact of:

- The closure of the Anglesea 150MW coal power station which occurred in 2015
- Contribution from ~420MW of wind farms under construction in 2014-2015
- additional RET-funded wind farms which will commence in Victoria during 2016-2020
- new rooftop solar in Victoria which is being added at a rate of ~200MW/year (AEMO)
- the impact of the Victorian Energy Efficiency Target decreasing both demand and generation.

The 20% 'business as usual' figure does not include the impact of potential closure of coal generation, which would further boost the percentage of renewable generation overnight. It also conservatively doesn't include any new ARENA-funded large scale solar PV plants in Victoria.

Our view is that the Victorian Government target for 2020 should be significantly more ambitious than the 'business as usual' scenario.

There is a further 930MW of wind farms in Victoria which are ready to construct but still on hold due to insufficient incentive from the RET. Some of these are likely to be built by 2020 even if the Victorian Government does nothing, driven by increased LGC prices. These would deliver a further 5% of Victoria's electricity generation.

If the Victorian Government were to provide additional measures such as mechanisms to accelerate the uptake of rooftop solar in the commercial sector and reverse auctions for large scale wind and solar, Victoria could achieve substantially more than 25% by 2020. And by 2030, 50% would be achievable through continuing such incentives plus closing a major coal plant.

Legislation on the Victorian renewable energy target must be expressed in GWh rather than percentage. This is because industry and investors need a fixed target, a moving target. The VRET legislation (2006) used GWh targets for example, with a peak target of 3,274GWh/yr.

To illustrate why fixed GWh targets are important, the closure of coal generation is to be encouraged, but we must avoid the prospect of a coal closure stalling a set of renewable developments because it changes the renewable percentage overnight. Investor certainty is essential when developing major renewable projects.

The Victorian Government could schedule annual reverse auctions between 2016 and 2020 to achieve say 5,000 GWh/yr of additional renewable generation, bringing total renewable generation to at least 30% of Victorian generation. These auctions could be open to behind the meter renewables as well as large scale wind and solar to maximise the opportunities.

Our view is that suitable targets for the Victorian Government to set and deliver, are:

25-30% by 2020, 35-40% by 2025 and 50% by 2030

The government should commission modelling to forecast Victoria's generation mix and convert the % target figures into GWh target figures by 2020, 2025 and 2030.

These GWh targets should then be translated into reverse auctions, with the first auction to be completed by say June 2016 and held annually thereafter. The MW volume for each auction should be calibrated to achieve the GWh production targets, allowing for realistic project lead times. Each auction could have segments for large scale wind, large scale solar, and behind the meter generation, encouraging the private sector to innovate to deliver low cost renewable generation.

As an alternative to reverse auctions for fixed MW quotas, fixed feed in tariffs could be offered using a model similar to the recent UK feed in tariff mechanism. These do not have upper limits on the MW of projects which are eligible. Bands of rates for technologies and sectors could be published, and rates for projects installed in future years diminishing over time.

Integration with Climate Act and Energy Efficiency Strategies

The emissions reduction goals emerging from the review of the Climate Change Act and subsequent legislation, should be complimentary to the Renewable Energy targets.

Achievement of the Renewable Energy target, and achievement of the emissions reduction targets, should be viewed as separate but complimentary goals. It may be possible to meet one and exceed the other, and such an outcome should be welcomed.

Using Government Purchasing to support Renewables

The Roadmap discussing using the State Government's electricity purchasing to stimulate new renewable generation in Victoria. If the Government brings in-house the management of Large Generation Certificate (LGC) linked to government electricity procurement, the LGCs must be retired rather than sold in order to ensure that new additional generation has been created rather than renewables which would have been built under the RET anyway.

The Road map indicates that \$200M of new renewable generation projects could be funded this way, probably assuming 100MW of wind farms at a capital cost of \$2M/MW. While we strongly support the powering of public buildings and infrastructure by renewables, we note that 100MW of wind capacity is not a substantial contribution in the context of 1,400MW of wind capacity already existing by the end of 2014 plus ~400MW under construction. Strong state-wide renewable generation targets and mechanisms will make a much larger contribution to Victoria's renewable percentage, potentially stimulating 1000's of MW of new capacity, and should receive a higher priority than a 100MW initiative.

The Renewable Energy Action Plan should make clear the mechanism that will link government electricity purchasing to new renewable generation, and how this will deliver additional renewable generation which would otherwise not have been built. The City of Melbourne initiative to use electricity procurement to drive construction of new renewable generation in Victoria may provide a suitable template.

Grant Programs

The New Energy Jobs Fund will be an important vehicle to support projects and employment. Of crucial importance for effective and popular grant schemes is good timekeeping from the grant administrators. This includes prompt turnaround times for assessment and approval of grants, as well as prompt grant payments. The Ausindustry Clean Technology Investment Program (CTIP) is a model example of a scheme which successfully supported the manufacturing and food sectors to lower energy costs and increase sustainability. The Victorian SRSB capital grants were also a good example of supporting local businesses to improve energy efficiency. Supporting medium sized Victorian businesses via grant programs with grants of the order of \$100,000 and above would be an effective way to stimulate increases in renewables and improvements in efficiency in Victoria.

The Victorian Community Sustainability Infrastructure Fund was also a helpful scheme in 2014 and something similar could be re-introduced to stimulate uptake of solar and other renewables in the community sector.

Sector-Specific Priorities

We have grouped our suggestions into our clients sectors, considering where our client groups could unlock the most benefit.

Local Government :

Local governments are leading the public sector in terms of climate and energy targets, and on-site renewable generation on public buildings. Barriers to greater uptake could be addressed by introducing the following state-wide measures:

- Introducing a fair feed in tariff for solar PV, ideally 1:1
- Improving grid connection services from network businesses
 - Regulate and reward distributors to enhance their customer service to distributed generators
 - Introduce a mandatory scheme which ensures network businesses connect minimum quotas of distributed renewable generators on an annual basis
- Introduce Virtual Net Metering (VNM) regulation to mandate distributors to charge lower network fees where customers have loads and renewable generators connected to the same substation, i.e. net metering at a substation level with benefits passed on to end consumers
- A barrier to some projects is the perceived red tape around installing private wires across property boundaries, a perception which is reinforced by network companies. To make private solar connections between property titles much more common, the State government should mobilise Energy Save Victoria to promote its exemption process and provide awareness-raising that the exemption process is available and straightforward.
- A renewable heating and cooling target with certificates and a certificate market would stimulate a large number of projects
- As noted above, a substantial renewable energy target for Victoria with certificate income for >100kW projects, above and beyond the Federal RET scheme peaking in 2020 and expiring in 2030.
- Rebates towards the cost of energy storage would help the uptake of energy storage
- A stronger battery storage market offering integrated turnkey energy storage solutions is required to boost uptake. The Victorian government could allocate sector development staff

within its Trade support function and provide targeted support to bring the energy storage supply chain to maturity in Victoria

- To leverage the substantial capability and support at a local level, the state Government could implement a program to use Local government as an ‘agent’ to reach renewable energy targets. The State government could provide resources and funds for local government to manage programs and targets on a local level.

Manufacturing and industrial businesses:

- A significant increase in uptake of renewable generation could be achieved by introducing a fair feed in tariff for solar PV, wind and biogas generation, at least 1:1
 - This would transform the economics of solar PV for example, enabling larger solar projects to proceed than the present case where solar installation sizes are capped to minimise export due to the negligible feed in tariff income received for export
- Many commercial businesses could benefit from Environmental Upgrade Agreements (EUAs), however many Councils lack resources to establish EUA programs. State government could provide funding and resources for Local Councils to roll out EUAs across the State
- As noted above, the timescale for grid connection and ease of application process is a significant barrier in many cases
 - The Clean Energy Council ARENA funded ‘Future Proofing the Distribution Grid’ project provides many recommendations on ways to improve the treatment of distributed generation
- Virtual Net Metering (VNM) regulation to mandate distributors to charge lower network fees where customers have loads and renewable generators connected to the same substation, similar to net metering at a substation level
- Readily available ESV exemptions to make private solar connection between property titles much easier
- A renewable heating and cooling target with certificates and a certificate market
- A substantial renewable energy target for Victoria with certificate income for >100kW projects, above and beyond the Federal RET scheme peaking in 2020 and expiring in 2030.
- VEET scheme expansion to commercial scale projects and products
- Businesses would benefit from a panel of energy efficiency and renewable energy advisors, with subsidised services covering efficiency and renewable generation, equivalent to NSW Energy Efficiency Professional Services panel.

Developers of Medium and Large Scale generation

The points above regarding targets and mechanisms for Victoria are key ways forward for large scale renewable generation.

The aggregate of rooftop solar is now a ‘large scale’ renewable generator and with the acceleration of commercial rooftop solar uptake (as distinct from residential solar), this contribution will increase.

Large scale renewable generators connected to the distribution grid will continue to have a major role, and are likely contribute the largest portion of additional renewable generation in the next 10 years.

Large scale solar PV generation has reduced in costs, with ARENA now targeting >5MW solar PV projects with a levelised cost of energy (LCOE) of as low as \$135/MWh. Wind farms can be built with LCOE of less than \$100/MWh and wind energy costs are decreasing, albeit more slowly than solar PV.

Wind Farm planning reform

The Roadmap refers to the reform already made to wind planning rules and queries ‘whether there are other anomalies in relevant regulations or guidelines’.

There are numerous anomalies remaining within the Victorian planning system which should be corrected to enable appropriate wind development to thrive in Victoria.

- Veto rights for residential neighbours are inappropriate and are not imposed on any other industry. Ideally, 1km veto rights should be removed and noise regulations should be reinstated as the appropriate mechanism to ensure sufficient offsets. In many cases, noise limits of 35-40dB will ensure that residents have 1km offsets or more, and in the case of modern large turbines, 1km may not be a sufficient minimum distance to maintain noise standards. Adherence to noise limits will ensure appropriate offsets to protect amenity in all cases.
 - If the Victorian community wishes for a greater number of local residents to financially benefit from wind farms, Local Councils could be enabled to provide reduced rates for residents based on proximity to wind farms, recouped through a modest levy on wind farm operators.
- The arbitrary Baillieu ‘no-go’ zones for wind farms should be removed.

Currently, wind farms cannot be built in the coloured areas shown below under the Baillieu-introduced rules.

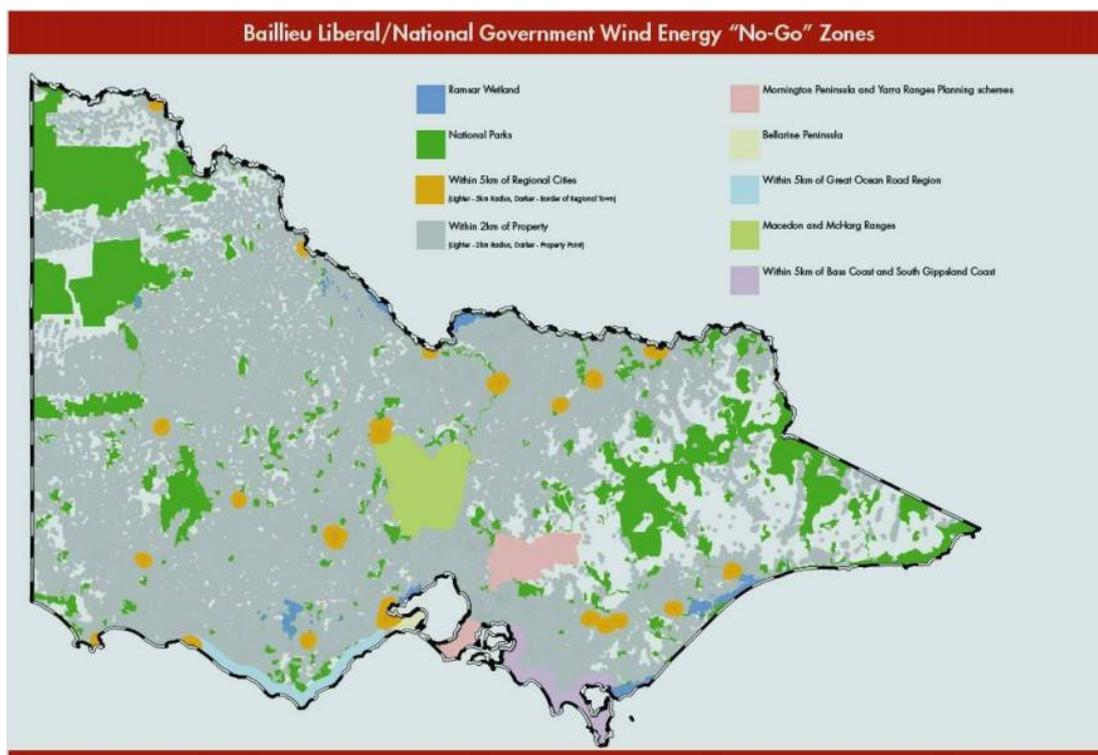


Figure 1: Map from the office of ALP MP Brian Tee, via Yes2Renewables

The reduction of veto rights from 2km to 1km has decreased the grey area, however the five no-go zones remain and prevent any wind farm progress within their boundaries.

The Macedon ranges zone in particular is so large as to divert significant investment in that region. The Victorian Planning Provisions should be amended to remove these restrictions.

The unlocking of the existing permitted wind farms, around 2,500MW in Victoria comes as a first urgent priority, however the further reform of Victoria's planning rules for wind farms will ensure Victoria continues to attract investment in wind farms and rural communities continue to benefit from wind farms jobs and income.

Coherent Planning rules for on-site renewables including wind

There is a need for clear and helpful planning rules in relation to wind generation for on-site usage in non-residential sites. The Victorian Government should use this opportunity to create good planning provisions for wind generation for on-site use in commercial, industrial and agricultural sites.

There are no clear provisions for on-site wind generation other than vague provisions for on-site residential wind turbines. There are no provisions which provide a clear and sensible framework for 'behind the meter' wind turbines in Victoria at commercial, industrial or agricultural sites.

The planning rules as they stand define a 'renewable energy facility' as a generation facility for the purpose of selling power to the grid. A wind energy facility is a nested definition within renewable energy facility, i.e. applies to a wind turbine for sale of power to the grid, such as a commercial wind farm. If a wind turbine is deemed to be a 'wind energy facility' then it falls under the restrictions of the 1km setbacks and restrictive 'no-go' zones and requires a planning permit with in depth environmental assessments.

An agricultural business or a water treatment plant for example would install a wind turbine for on-site use, with a minority of the power exported to the grid, therefore should not be defined a 'renewable energy facility' or a 'wind energy facility'. A new definition should be created for on-site 'behind the meter' generation from large wind turbines, which could also encompass other on-site renewable generation including biogas and solar. Favourable exemptions should be provided to these behind the meter generators.

The planning provisions should enable behind the meter wind turbines to be installed within reasonable distance from residences (noise based distance calculations), within any part of Victoria apart from National Parks, and not require onerous environmental assessment and planning permit procedures.

Numerous farms, wineries, Abalone farms, and manufacturing businesses in regional areas could benefit from 500kW- 1MW wind turbines and a user-friendly planning permit system would make it much easier.

Residential scale wind turbines in Victoria do not fare much better. Proponents and Councils generally do not know what rules to apply to small wind turbine proposals since there are no clear rules. Although the Victorian provisions state that small wind turbines for residential use

are not a ‘wind energy facility’ they do not give any guidance as to how they should be assessed.

We urge the Renewable Energy Action Plan to take this opportunity to improve the planning rules to promote the uptake of behind the meter wind turbines for Victoria businesses.

A supportive Government who can readily provide information

The Road Map discusses the government’s goal to be supportive of the renewables sector. A renewable energy help desk should be provided by the State Government to field all inquiries from the public and industry. The Roadmap speaks about providing information to support renewable energy uptake, and considers appointing a Renewable Energy Advocate.

To bring Victoria to a leadership position and provide information and assistance for the industry and community, a dedicated Renewable Energy help desk could be provided.

Battery Storage

It would be helpful to clarify that residential and business customers are allowed to use batteries to charge at off peak and discharge during peak.

The perception that this is disallowed is likely to be inhibiting uptake of energy storage. It would also be helpful to clarify whether customers with solar PV on premium feed in tariffs can install batteries to increase the solar export to the grid. The latter group will also benefit from battery storage when premium feed in tariffs finish and it becomes more attractive to store surplus solar for later use.

Conclusion

We thank the government for the opportunity to submit feedback and suggestions and look forward to the launch of the Renewable Energy Action Plan and related legislation, regulations and programs.

Yours sincerely,



Demian Natakhan
Director
Enhar Pty Ltd
www.enhar.com.au

List of Attendees at Enhar Workshop on Renewable Energy Roadmap

<u>Organisation (alphabetic)</u>	<u>Position Description</u>
Active Research	Project Manager
AIGroup	Business Adviser
Australian Conservation Foundation	Data and Online technologies manager
Australian Solar Council	Director
Bendigo Sustainability Group	Energy Coordinator
City of Greater Geelong	Future Proofing Geelong
Climate Friendly	Energy Productivity Manager
CommunityElco	Director
CommunityElco	Director
Dairy Innovation	Sustainability Leader
Ecology & Heritage Partners	Director
EcoMaster	Energy Efficiency Consultant
Ellen Sandell MP	Senior Adviser
Endless Solar	Renewable Energy Engineer
Endless Solar	Manager of IT and Operations
Enervest	Managing Director
Enhar Pty Ltd	Director
Enhar Pty Ltd	Director
Envirogroup	Marketing Manager
Melbourne University	Sustainability Implementation
NIEIR	Director
NuGreen	Manager
Pacific Hydro	Environmental Compliance Officer
Pacific Hydro	Executive Manager, Operations & Development
Pacific Hydro	Environment & Development Manager
Sealed Performance Batteries	Director
Sports Environment Alliance	Executive Director
Spring Street Advisory	Managing Director
SunEdison	GM Commercial
Sustainability Victoria	Program Advisor - Climate Change, Engagement Division at Sustainability Victoria
Sustainable Resource Use	Director
Wannon Water	Project Manager – Energy Efficiency