



**Submission to the
Draft NSW Renewable Energy Action Plan**

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Renewable Energy Action Plan
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Beyond Zero Emissions submission to the Draft NSW Renewable Energy Action Plan

Beyond Zero Emissions (BZE) develops blueprints for the implementation of climate change solutions that will rapidly reduce emissions and give our society and global ecosystems a chance of avoiding dangerous climate change. In partnership with the University of Melbourne Energy Institute we are undertaking the award-winning Zero Carbon Australia 2020 Project, which is putting together fully costed transition plans for getting Australia to zero emissions in ten years using commercially available technology.

We welcome the opportunity to provide comments in response to the *NSW Draft Renewable Energy Action Plan* (the Draft Plan).

The following submission provides the context for the Beyond Zero Emissions submission to the RET reviews, and then follows addressing some of the key aspects of the Draft Plan.

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Beyond Zero Emissions

Context

The Climate Challenge

A “safe” climate is about to slip out of reach. Present atmospheric levels of CO₂ are at 390ppm¹, and the evidence demonstrates that the supposed 2°C “guardrail” (450 ppm) poses serious risks, and represents an extreme upper safety limit for CO₂-e concentrations². Current international emissions targets fall well short of meeting even this risky 2°C guardrail, and the world is presently on track to use up its carbon budget by 2025 and raise global average temperature by 6°C³. The 2011 all-time high energy emissions even led International Energy Agency Chief Economist Fatih Birol to announce that “the door to a 2°C trajectory is about to close”.

Beyond Zero Emissions advocates a return to below 350ppm as the necessary long-term outcome. This will require a rapid decline in global fossil fuel emissions starting now, and emissions draw-down in following years to reverse our overshoot. Australia must rapidly decarbonise its economy and play a constructive role in global efforts to address the climate change challenge.

Zero Carbon Australia

Decarbonisation of Australia’s economy can be achieved principally through the large-scale rollout of commercially available renewable energy technologies, supplemented by work in other areas such as ambitious retrofit programs that improve buildings’ energy efficiency. The *Zero Carbon Australia Stationary Energy* plan, a research partnership between Beyond Zero Emissions and the University of Melbourne’s Energy Institute, demonstrates that shifting the stationary energy sector to a 100 per cent renewable energy system in ten years is technically feasible and economically viable⁴. This transition is achievable if policies are implemented that are commensurate to the challenges of decarbonising the Australian economy.

¹ P Tans and R Keeling, “Trends in Carbon Dioxide,” *NOAA/ESRL*, 2011, <http://www.esrl.noaa.gov/gmd/ccgg/trends/>.

² Fergus Green and Reuben Finighan, “Laggard to Leader: How Australia Can Lead the World to Zero Carbon Prosperity” (Beyond Zero Emissions, July 2012), http://media.beyondzeroemissions.org/Laggard_Leaderv1.pdf.

³ *Ibid*.

⁴ Wright, M. Hearps, P. et al “Zero Carbon Australia Stationary Energy Plan” (Melbourne Energy Institute, Beyond Zero Emissions, July 2010), http://media.beyondzeroemissions.org/ZCA2020_Stationary_Energy_Report_v1.pdf.

Response to the Draft Plan

Beyond Zero Emissions welcomes this Plan's recognition that investment in renewable energy and energy efficiency has the potential to provide significant benefits to the NSW economy and to households. However NSW's plan for renewable energy should be part of a broader energy plan given the context described above. Rapid decarbonisation of our energy system as a whole is needed for the best chance of achieving a safe climate.

Focus on deployment

The majority of new measures in the Draft Plan are focused on research and innovation, rather than deployment. The *Zero Carbon Stationary Energy* plan demonstrated that there are no longer technological barriers to the large scale deployment of renewable energy. Mature technologies are already available that can meet Australia's energy demand using 100 per cent renewable energy sources.

Below we have provided information about some of the key ways that NSW could contribute to the deployment of mature renewable technologies. Beyond Zero Emissions would be pleased to meet with the NSW Government and discuss our research and the range of policy mechanisms that can be used to facilitate the implementation of a 100 per cent renewable, 21st century energy system.

Solar thermal

As indicated in the Draft Plan (p11), energy storage increases the value of renewable energy to network operators and investors. It is also a crucial issue to address in order to ensure a stable and reliable network. Concentrating Solar Thermal (CST) is a zero emissions technology that can incorporate storage relatively cheaply. CST plants with storage that allow them to run through the night and on cloudy days are currently operational in several countries, such as the 19.9MW power station Gemasolar and the 11MW station PS10 in Spain. Larger plants are now under construction, including the 110MW Crescent Dunes Solar Energy Project near Tonopah in the USA.

BZE's modelling shows that a much lower Levelised Cost of Energy (LCOE) for solar thermal than that modelled by Bureau of Resources and Energy Economics (BREE) and used in the Draft Plan (p3) is possible. The LCOE is calculated using a given expected rate of technology deployment,

which for CST is dependent on whether government policies both domestically and internationally facilitate its construction. Government policies that mandate or facilitate the rollout of renewable energy technologies with storage, like CST, have the potential to increase the "learning rate", leading to faster and deeper decreases in the LCOE.⁵

Beyond Zero Emissions recommends that the NSW Government prioritise support for the deployment of large scale renewable energy sources that incorporate storage, such as concentrated solar thermal. This commitment should be additional to the existing commitment to the Federal Government's Solar Flagships program.

Wind

The current draft NSW wind energy planning guidelines do not represent the supportive regulatory environment sought by this Draft Plan. They apply the most stringent acoustic requirements in the world to proposed wind developments⁶, and are significantly more restrictive than regulations that apply to other types of energy such as coal mines or coal seam gas extraction⁷.

NSW's wind energy planning guidelines are a technology specific barrier. **As part of Action 3 and Action 9 in the Draft Plan, Beyond Zero Emissions recommends these guidelines should be abolished or brought in line with those that apply to other types of energy.**

Small scale solar photovoltaic

A feed-in tariff is a superior mechanism to compensate small generators for the amount of energy they produce. Feed-in tariffs played a crucial and more influential role in the deployment of rooftop solar in Australia, and delivered the vast majority of wind energy, and essentially all solar PV energy in the European Union (Figure 1). In order to further develop this industry, a mandated feed-in tariff is needed, rather than the existing system of a benchmark range. A well designed feed-

⁵ Beyond Zero Emissions, "Clouding a bright solar thermal future", Climate Spectator, 24 August 2012. Available at <http://www.climatespectator.com.au/commentary/clouding-bright-solar-thermal-future>

⁶ Adcock, Justin et al, "A Review of the Draft NSW Planning Guidelines: Wind Farms", Acoustics Australia, 2012, vol 40, issue 1, p77.

⁷ Environmental Defender's Office, Submission to Draft NSW Planning Guidelines: Wind Farms, 14 March 2012, available at <http://www.planning.nsw.gov.au/tabid/205/ctl/View/mid/1081/ID/66/language/en-AU/Default.aspx>

in tariff can include features such as a tapering of the tariff to ensure that as PV costs reduce – the result of increased deployment due to the tariff – the costs to government or consumers are also reduced.

BZE recommends the reintroduction of a well designed, mandated feed-in-tariff for rooftop solar.

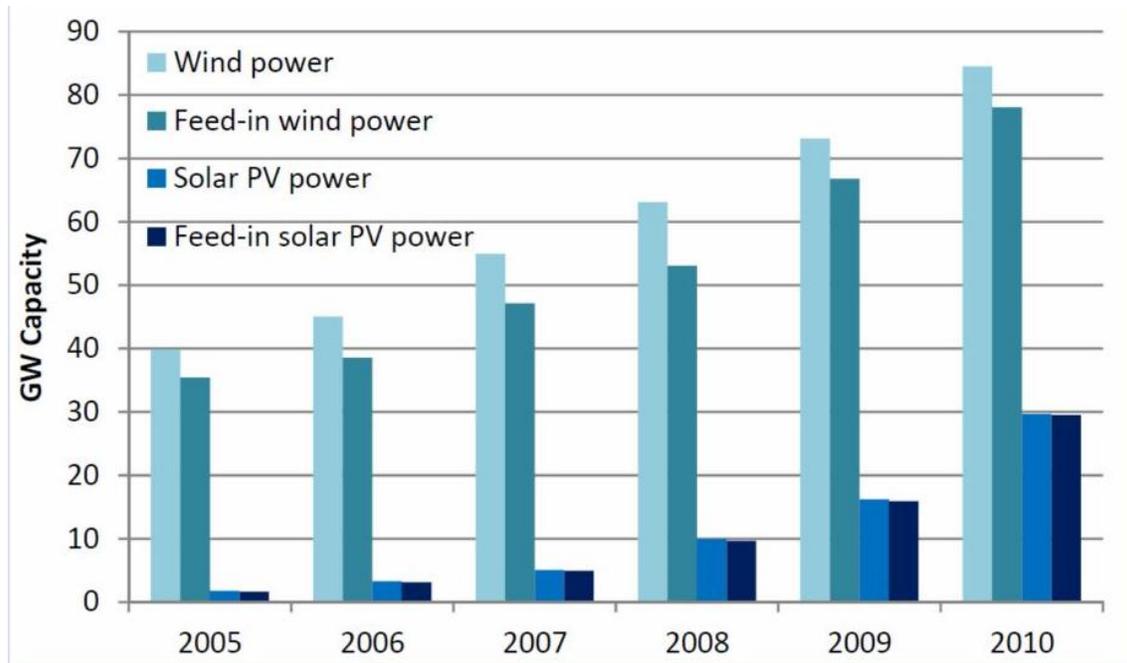


Figure 1: Installed renewable energy capacity supported by feed-in instruments in the EU-27 countries⁸

⁸ Data from Ragwitz, M., Winkler, J., Klessmann, C., Gephart, M. and Resch, G., “Renewable energy deployment supported primarily by feed-in instruments, EU-27 countries”, (2012) http://www.feed-in-cooperation.org/wDefault_7/download-files/9th-workshop/presentations/Ragwitz.pdf.



Summary of key recommendations

1. That NSW plans for renewable energy be placed in the context of the urgent need to decarbonise Australia's economy.
2. That the NSW Government prioritise support for the deployment of large scale renewable energy sources that incorporate storage, such as concentrated solar thermal.
3. That the *Draft NSW Planning Guidelines: Wind Farms* be abolished or brought in line with those that apply to other types of energy, in order to satisfy Action 3 and Action 9 in the Draft Plan.
4. That a mandated feed-in-tariff for rooftop solar be reintroduced, including features that allow for the tapering of the tariff as the cost of installations falls.