

Resolving Complexity:

Points of focus to get to 82 percent renewable and beyond¹



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ZENENERGY

To get to 82 percent renewable energy generation by 2030, our industry needs to deliver 90TWh of new grid-connected wind and solar projects. This excludes the 10TWh already under construction.²

We have until mid 2028 to commence construction on these 90TWh of projects. Any projects commenced after that are unlikely to be commissioned by 2030, given that it takes between 18 and 30 months for a large-scale renewable plant to be built. This translates as 18TWh per year for the next five years, or 1.5TWh of renewable generation every month for the next 60 months. And all this construction activity just gets the sector on a pathway to two degrees; to be Paris-aligned, or to build the Superpower, the run rate needed is greater again.

We're not currently achieving anything like the run rate required for two degrees. Over the past five years, Australia has started works on 5TWh of new renewable projects per year. In the first three months of this calendar year, the number of new large-scale projects that commence construction was zero. This is despite the genuine and clearly expressed intent across state and federal governments, capital markets, corporate Australia and households that it is critical for Australia to do its fair share to address climate change.

What can be done to ramp up the run rate?

We know the energy transition is confronted by complex challenges, demonstrated by the busy activity across the 5 priorities and 14 working groups sponsored by the Energy and Climate Change Ministerial Council (the successor of the COAG Energy Council). But our industry cannot hide behind the complexity. Our path to be a global energy Superpower starts with resolving clarity out of this sea of complexity, before we can receive and share the benefits of the Superpower.

ZEN Energy is committed to pushing through the complexity, and working with governments, the renewable sector, corporate Australia and communities to reduce greenhouse gas emissions by at least 43 percent and increase the renewable percentage to at least 82 percent by 2030.

¹ This is the first of a series of discussion papers that I will share within the industry from time to time, drawing on recent discussions with my colleagues at ZEN Energy and elsewhere in the industry, and sharing what I believe should be points of focus for regulatory agencies to encourage our industry to achieve the renewable objective of being at least 82 percent renewable by 2030. Whereas public policy discussion in the industry tends to focus on the more difficult areas of reform that may have an impact beyond 2030 (changes in rules, new frameworks to support large scale transmission and pumped hydro), this series of discussion papers will focus on reform initiatives that are relatively straight forward and that could impact the pace of the energy transition on a twelve-month timeframe (changes in procedures, new frameworks to support solar and battery storage and customer initiatives).

² That is, VRE in AEMO's terminology, which excludes projected rooftop solar and existing large-scale renewables both above and below baseline. The volume of new VRE required assumes that demand will increase according to the 2022 ISP step change scenario.

Resolving Complexity

The energy transition entails a program of transformation that will fundamentally disrupt how we generate energy (supply chains), how we buy and use energy (customer behaviour), as well as the operation of the various markets that mediate between generators and users of energy.

If Australia achieves the 82 percent renewable objective, between now and 2030 more than 100TWh of new renewable generation will enter the grid, along with the complement of storage, transmission, distribution and distributed generation assets. A similar volume of coal and gas generation will back out of the grid. The new generation will flow in new channels through the wholesale and retail contestable markets, to connect new physical supply with new and existing customer demand. It's not clear how the new generation will be connected with customers. We may see retailers or corporates taking on 100TWh of new market risk by writing 100TWh of new PPAs, or we may see asset owners operating as merchant generators with customers buying their energy directly from the wholesale market, or we may see government making a market through schemes such as the Renewable Energy Target.

To push through the complexity that comes with this 100TWh of disruptive change, ZEN has identified three areas of focus with associated recommendations on Commonwealth policy settings. We believe these are implementable, consistent with the current and proposed legislative framework, and that they will have an immediate, substantial and sustained impact on the level of renewable construction activity. That is, they will have a direct and rapid impact on the run rate to get to 82 percent by 2030.

The recommendations are:

1. In relation to supply chains:

- a. Review foreign investment settings to not exclude renewable energy construction firms from setting up in Australia without good cause;

2. In relation to markets:

- a. Extend the RET to 2040, so investors can include post 2030 green revenues in their investment case, and to avoid the scenario where utilities are allowed to shortfall their way to the RET (15 million shortfall certificates are now carried by the CER);
- b. Require the CER to calculate and report the renewable percentage of the grid on a quarterly basis (including below baseline and rooftop renewables), against the straight-line path to achieve 82 percent by 2030; and,
- c. Legislate a pollution trigger along the lines of the amended Safeguard Mechanism, requiring the Minister to review, consult and if necessary raise the RET in order to keep the industry on track to 82 percent, or lower the RET if progress towards the renewable objective is ahead of schedule.

3. In relation to customer behaviour:

- a. Introduce mandatory climate disclosure requirements for all large organisations in the next 12 months;
- b. Require the CER to publish information based on the best sources available on the actual progress of large corporations in managing their allocated emissions budget; and,
- c. Maintain an appropriate sense of urgency in implementing a greenhouse gases emissions reporting framework that is mandatory, enforceable and aligned with the Paris Agreement.

The basis for these recommendations is elaborated below.

Advancing Australia's renewable position through supply chains, markets and customers

1. Supply Chains: Increase competition in the renewable energy EPC contractor market

All measures to scale and streamline the renewable energy supply chain should be considered. One obvious place to start is to review measures that may lead to an increase in competition in the renewable construction industry.

Since RCR Tomlinson's [demise](#), there has been limited desire from renewable EPC construction companies to deliver projects on a fixed schedule at a fixed cost (i.e. take the conventional risk position of a project financed, turn key construction project).

All renewable generation technologies currently face construction challenges. Local construction businesses have struggled to manage stretched international supply chains. Labour markets are tight. It is difficult to connect to the grid. The situation in the wind industry is most dire, where for much of the last three years there has only been one wind turbine manufacturer available to the general market under a fixed price EPC contract with a bankable risk allocation. Five years ago, there were five.

Without strong EPC head contractors, it is hard to see how sustained progress can be made in addressing the various supply chain problems that are subcontracted out to diverse parties in a large renewable construction project (skilled and unskilled labour, equipment procurement, civil engineering, electrical connection and commissioning). Federal and state governments might incentivise and encourage capable domestic and international construction firms to enter the Australian renewable construction sector. This is a sector that will deliver over \$100b of contracts over the next five years if we reach 82 percent by 2030, and much more if we unlock our Superpower.

We recommend:

- 1.1 A review of foreign investment settings to encourage more international construction firms to enter the domestic market while still upholding national security.**

2. Markets: Extend the Renewable Energy Target scheme to 2040 as an investment incentive, with the option to modify the RET target up or down should an additional incentive be required, or should private demand for renewable energy increase to the point that the RET is no longer needed.

Any initiative that increases the likelihood of Australia achieving its 82 percent renewables target by 2030 will take time to implement. In relation to the supply chain and customer recommendations in this document, there will be a lag of around two years between new policy settings being established and a sustained uplift in activity being visible on the ground. In the meantime, many shovel-ready projects sit idle because the proponents are unable to make the investment case stack up (i.e. there are no retailers, corporations or governments willing or able to write a PPA at a price sufficient to underwrite debt and equity finance for the project). As one example, one of the best solar development projects in Victoria has had development approval for three years without progressing towards final investment decision, as it has been unable to secure a PPA.

The lack of appetite for PPAs is understandable. There is no market framework for environmental certificates after the RET reaches the end of its legislated life in 2030, and the ratio of the spot price achieved for solar relative to the average spot price has reached a new record low point in each of the last five years. In addition, curtailment of supply from established and connected renewable generators, which is already substantial and is growing with the increase in negative prices at times when solar and wind output is strong, will increase further if the value of renewable energy certificates falls.

An adjustment to the RET framework will immediately square the investment case for many well designed, shovel ready projects.

The RET remains the only realistic market mechanism in the current political environment that could drive an efficient path to achieve the 82 percent renewable energy objective. Modelling has consistently shown that renewable energy targets are a low-cost way to support new renewable generation. A renewable energy target is familiar and has been shown to work in Australia. While there is a direct cost to customers imposed on bills, there are indirect benefits through lower wholesale prices, including more negative prices. Last summer in South Australia and Victoria, for example, the indirect benefit to consumers of negative wholesale prices caused by the price of LGCs outweighed the direct costs charged to consumers. For all these reasons, now is the appropriate time to extend and potentially increase RET.

We recommend:

- 2.1 Extend the RET to 2040, so investors in new renewable assets can count post 2030 green revenues in their investment case, and to avoid the scenario where utilities are allowed to shortfall their way to the RET (15m shortfall certificates are now carried by the CER);**
- 2.2 Require the CER to calculate and report the renewable percentage of the grid (including below baseline and rooftop renewables) on a quarterly basis, against the straight-line path to achieve 82 percent by 2030;**
- 2.3 Legislate a pollution trigger along the lines of the amended Safeguard Mechanism, requiring the Minister to review, consult and if necessary raise the RET in order to keep the industry on track to 82 percent, or lower the RET if progress towards the renewable objective is ahead of schedule.**

3. Customers: Create and enforce a world-leading sustainability reporting framework

Roughly 70 percent of NEM demand is from the business sector, and 60 percent from large businesses subject to National Greenhouse and Energy Reporting (NGER). Currently, large businesses have a lot of leeway to pick and choose their climate reporting framework and to select the actions required to comply.

For example, BHP has committed to reduce its operational and value chain emissions by 30 percent by 2030, and to net zero by 2050. While these commitments are now enforced by the Safeguard Mechanism (4.9 percent annual reduction = 30 percent reduction by 2030), BHP's commitments are not Paris-aligned. BHP openly declare their strategic planning is based on a 3 degrees climate scenario ([see AFR article here](#)).

If Australia's biggest company is not Paris-aligned (it can't be if it builds its commercial strategy around a three degrees scenario), it will be hard for governments to meet their climate commitments to the electorate, and hard for superannuation funds to meet their climate commitments to investors. A world-leading mandatory climate disclosure framework will make it clear for all to see the level of climate ambition in every large company, and how they are living up to that ambition.

At a simple level, being Paris-aligned requires a minimal 82 percent reduction in Scope 2 emissions by 2030, but more properly it means being aligned across all scopes with the appropriate sector transition pathway determined for Australia. Fortunately, the key elements for an effective climate reporting framework are being put in place, through the move by ASIC towards mandating climate reporting standards, and the definition of transition pathways for each Australian industry. In the electricity industry, while most of the major retailers have made substantial progress towards aligning their climate commitments with Paris, three of the major players (Energy Australia, Alinta and Sev.ven) have made no serious climate commitments³. In the absence of a stronger mandatory RET or transparent reporting of what all players in the industry are doing, the climate laggards will increase market share by free-riding on firms that are contributing their fair share to the national emissions reduction effort.

We recommend:

- 3.1 Introduce mandatory climate disclosure requirements for all large organisations in the next 12 months.**
- 3.2 Require the CER to publish information based on the best sources available on the actual progress of large corporations in managing their allocated emissions budget.**
- 3.3 Maintain appropriate sense of urgency in implementing a greenhouse gases emissions reporting framework that is mandatory, enforceable and Paris-aligned.**

³ These three coal generation owners have not yet made commitments that are consistent with a global effort to limit human-induced warming to within two degrees. Two degrees means at least 82% by 2030.

About ZEN Energy

ZEN Energy is Australia's first electricity retailer to commit to a 1.5° C business ambition as defined by the Science Based Targets initiative (SBTi). Our business model is to pair customers with renewable generation and storage assets, solving the complex challenges of the energy transition one customer at a time. We have applied this model with five large customer groups, with whom we have entered into long-term, fixed price retail electricity and LGC supply contracts linked to renewable assets. This is a new type of contract structure designed for the energy transition, which we refer to as a sustainability partnership. The customer groups are: the South Australian Government, Bunnings Group Limited, the CSIRO, the South Australian Chamber of Mines and Energy (SACOME) and the Southern Sydney Regional Organisation of Councils (SSROC) comprising twenty-five councils in New South Wales. ZEN has hedged this customer load by contracting renewable energy and environmental certificates from 20 solar and wind farms. We are actively growing our portfolio of renewable energy and storage offtake agreements, to enable the continued growth of our customer book.

Our customers express strong satisfaction with the performance of their sustainability partnership with us. They are enjoying a cost of energy that is roughly half of what they would pay if they were to enter into a standard short-term electricity contract today, and a higher level of service than they had experienced previously. Our business is a commercial success, one indicator of which is that our underlying profit in H1 FY23 was higher than that of Origin's electricity business. The fundamental reason for our commercial success is that we have focused on the elements of the market that will be around at the end of the energy transition (sustainability-driven customers, renewables and storage, excellence in data and analytics).

Our business model is now scaling, such that we expect to grow from a little over 1TWh of customer load and generation currently contracted, to 5TWh by 2025. This will come both through the growth of existing customers, such as the South Australian Government and SSROC Buying Group who are exploring further electrification of their energy requirements while also delivering new assets which require new renewable energy sources such as community storage assets and hydrogen facilities. Our growth is buoyed by the rising tide of large organisations that have made strong sustainability announcements and are now converting their intentions into procurement programs.

We endorse the Commonwealth government's intention to reduce greenhouse gas emissions by at least 43 percent and increase the renewable percentage to at least 82 percent by 2030. We also note that the energy industry is not yet on a track to achieve these targets, and that our potential lies well beyond 82 percent.

We acknowledge the Traditional Custodians of the land, waters and knowledge for the places where we gather to collaborate and strengthen communities. In our work, we recognise the importance of Country – not just as a place, but how it also maintains community, family, kin, lore and language. We pay our respects to Elders past, present and future.

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