3 March 2025

Electricity Authority

By email to: taskforce@ea.govt.nz

Tēnā koe

Response to 'Entrant generators – context, headwinds and options for power purchase agreements"

Thank you for the opportunity to respond to the Task Force working paper on entrant generators.

We agree that independent generators form an important part of electricity market supply, and we support the Task Force considering if there are any actions that can be taken to improve the role they can play.

While we broadly agree with the analysis and conclusions reached by the Task Force, a wider look at the barriers to investment may provide deeper insights. By focussing on the role of PPAs, insufficient attention has been applied to factors like foreign investment rules, RMA challenges, policy and regulatory uncertainty, financing challenges, and the difficultly in attracting new developers in a global market dominated by renewable development subsidies. It is likely that these challenges are playing an equal, if not greater role than access to PPAs.

PPAs are an emerging part of the market in New Zealand. However, it is important to recognise that they are increasingly being used in deregulated and competitive markets without requiring firming arrangements e.g in the US, Australia, Europe and the U.K.

We provide responses to the consultation questions below, but would like to particularly highlight that not all incumbent generators have the same capability to provide firming services. The physical limitations of different portfolios must be recognised, to avoid unrealistic expectations.

Please contact me at brett.woods@contactenergy.co.nz if you wish to discuss further.

Ngā Mihi

Brett Woods

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Contact Energy.

Response to Consultation Questions

Question	Contact Energy Response
Q1. Is there any other related work that you think is relevant to our consideration of PPA issues?	The framing of the Task Force's work to focus PPAs, has led to insufficient attention being placed on the wider policy and regulatory environment for supporting new entrant generators. Other matters that the Task Force could consider include regulatory and policy uncertainty, foreign investment approval, consenting, grid integration challenges, and financing hurdles. These are all critical to allow a competitive market to function properly and new entrants.
Q2. Do you have any suggested additions or modifications for PPA terms and concepts?	Below are proposed additions: **PPA Definition**: The current definition is clear but could acknowledge merchant PPAs (where the seller takes on market risk) and virtual PPAs (where financial hedging occurs without direct power delivery) beyond physical PPAs (direct delivery of electricity). **PPA Firming**: Firming may involve purchasing hedge products, such as cap contracts or futures, to manage price volatility. We support the EA's work on the standardization of flexibility products to increase their availability and liquidity as the energy system further decarbonises. **Residual Volume**: This definition is correct but would benefit from noting that the risk associated with residual volume can be managed through standard hedging mechanisms. New Zealand's ASX electricity futures market and financial derivatives provide tools for managing residual volume risks, particularly for the seasonal shape of solar farms. This reduces the necessity for firming PPAs.
Q3. Do you agree with our definition of PPAs?	The document defines PPAs as long-term contracts for selling electricity output, typically to an end user or another party. While this definition is broadly accurate, it does not fully capture: • The variety of PPA structures, such as physical vs. financial (virtual) PPAs, which impact how risk is allocated. • The evolution of merchant PPAs in New Zealand and globally, where generators take on price risk but still secure financing. We suggest expanding the definition to reflect different PPA structures, acknowledging that financial PPAs (e.g., contracts-for-difference) can be just as viable as physical PPAs.

Q4. Have we correctly identified buyer and seller motivations for PPAs?	The document identifies key motivations for PPAs, such as revenue certainty for generators and cost predictability for buyers. However, it could better acknowledge: • industrial and corporate buyers' growing preference for flexible procurement strategies, including shorter-term PPAs or hybrid agreements that combine market exposure with fixed-price elements to avoid being locked into long term agreements. • sellers' ability to leverage merchant sales and hedge independently, reducing reliance on firming PPAs. • new entrants can hedge risks via futures contracts, demand-side management, and battery storage, rather than relying on firming PPAs.
Q5. Have we correctly identified how PPAs may fit with other contracts?	We suggest a couple of modifications: • Clarify that PPAs are one of many tools for hedging price risks, alongside futures markets, FTRs, and structured derivative contracts. This is partially covered by the consultation paper's proposed options under flexibility trading. • Acknowledge the role of innovative PPA structures, such as hybrid PPA contacts where multiple energy generation and/or storage sources are bundled together under a single agreement to provide a more stable and predictable supply of electricity. These agreements typically combine intermittent renewable sources (like wind or solar) with firming solutions such as battery storage, hydro, or gas-fired backup generation.
Q6. Do you agree with our characterisation of how PPAs may impact system evolution?	The document suggests that PPAs will contribute to system stability by encouraging new investment. However, we also note: • It is important that PPA prices do not dampen accurate investment signals, eg, do not over-incentivise solar developments, putting system security at risk. • The role of distributed generation, battery storage, and demand response in reducing reliance on firming contracts. We recommend that in the next stage the Task Force more explicitly acknowledge the impact excessive firming PPAs could have on incumbent generators financial risks. This could ultimately lead to less investment into the assets that the system needs the most.
Q7. Have we correctly identified and understood PPA headwinds?	The paper's discussion of PPA headwinds should place a greater emphasis on interventions to support market-driven alternatives, including: • Facilitating voluntary contracting innovations. • Continue the EA's focus on addressing grid connection issues. • Considering wider barriers to entry, eg OIO, resource consenting, access to capital, etc.

Q8. Do you agree with the potential benefits we have identified?	While PPAs offer benefits for investment certainty and hedging, the paper overstates the necessity of firming PPAs, and does not sufficiently acknowledge alternative risk management options available in the New Zealand market. A more balanced approach would recognize the role of market-driven contracting solutions in supporting a competitive electricity sector, including: • merchant projects such as Lodestone Energy solar developments; • partnerships between gentailers and developers e.g. Contact/Lighsource Bp, Meridian/Harmony Energy/First Renewables, Genesis/ FRV Australia; • corporate PPAs e.g. Contact PPAs with NZ Steel, Oji Fibre, Pan Pac and Fonterra; • diversified risk management strategies e.g. ASX futures and cap contracts; and • system flexibility investments e.g. demand response, battery storage.
Q9. Do you agree with the potential risks we have identified?	We agree with the unintended market distortions that could arise from market intervention as raised in the paper. However, the Task Force should also acknowledge the potential for misallocation of risk, where gentailers bear additional financial burden that they may not be able to manage within their portfolio. This could: • Reduce their incentive to invest in new generation capacity (as noted in the paper). • Lead to higher costs for retail consumers as risk premiums are passed on. • Undermine merchant investment models that rely on flexible hedging rather than rigid long-term contracts. Contact is particularly sensitive to this risk as it has a largely inflexible portfolio. The Clutha hydro scheme is New Zealand's largest run of river scheme, with very limited storage, it cannot ramp up and down to compensate for large changes in wind or solar output. Contact intends to retain its Stratford Gas Peakers, and its Ahuroa Gas Storage contract for the medium term, which provides it some necessary flexibility to compensate for the variability of the Clutha. However, given the perilous state of the gas sector, Contact cannot use gas assets to support long term investments in intermittent renewables. [

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While the paper suggests that intervention could reduce investment certainty, it does not fully explore the risks to market efficiency and innovation**.**

If the Task Force were to force firming PPAs, the it would risk crowding out alternative contracting mechanisms that have been successfully adopted in other markets, such as:

- **Hybrid PPAs** that combine fixed and floating price components
- **Short-term renewable PPAs** that align with corporate buyers' flexibility needs.
- **Financial hedging strategies** that reduce the need for physical firming.

The Task Force should assess global examples (e.g., Australia's evolving merchant market, US corporate PPA models) before considering intervention. Lessons from these markets suggest that liquid financial instruments and voluntary contracts are preferable to regulatory mandates.

For instance, 2 hybrid PPA examples below show voluntary commercial arrangements involving a gentailer on the one hand and a developer on the other for similar services provided to C&I customers contracting PPAs. This illustrates how a new entrant, such as Neoen, can replicate the services provided by an incumbent gentailer.

1. **TESCO/EDF** (large corporate and UK gentailer). In October 2024, Tesco entered into a 15-year Power PPA with EDF, securing 65% of the electricity generated by the Cleve Hill Solar Park in Kent, UK. This facility includes integration of 373 megawatts (MW) of solar capacity with substantial battery storage, making it the largest hybrid solar and battery storage project in the UK. The energy produced will be sufficient to power approximately 144 large Tesco stores annually, accounting for up to 10% of Tesco's UK electricity demand. In addition to the Cleve Hill agreement, Tesco has engaged in multiple PPAs, including wind and solar energy projects.

   Risk allocated as below:

Risk Type	Quinbrook (Developer)	EDF (Supplier)	Tesco (Buyer)
Development & Construction	✅ (Main risk)	❌	❌
Operational Performance & Generation	✅ (Primary responsibility)	✅ (Manages dispatch & balancing)	❌
Market Price Risk	❌	✅ (Price exposure)	✅ (Long-term cost exposure)
Intermittency & Balancing	❌	✅ (Battery & market balancing)	❌

2. BHP/Neoen (large corporate and Australian independent generator) Neoen and BHP signed a 70 MW baseload renewable energy contract to supply power to BHP's Olympic Dam operations in South Australia starting in July 2025. This PPA combines:
    - Wind power from Goyder South Stage 1 Wind Farm
    - Battery storage from Blyth Battery

    The contract is designed to provide a firm, 24/7 renewable energy supply, reducing BHP's reliance on fossil fuels while maintaining reliability
    - The agreement ensures a steady energy supply, unlike traditional wind PPAs that provide variable output.
    - Firming is provided by Neoen using battery storage, which smooths out supply fluctuations.
    - Power is delivered via grid connection to South Australia's transmission network. This allows Neen to utilise grid balancing mechanisms (Frequency and voltage control, arbitrage on NEM prices)
    - Neoen will likely use financial hedging instruments alongside the physical PPA to further smooth revenue and supply risks, as well as procure additional firming through market contracts.

	Risk allocation as below: | Risk Type	Neoen (Supplier)	BHP (Buyer)
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Development & Construction Risk	✅ Responsible for delays, cost overruns, and commissioning Goyder South & Blyth Battery	❌ No development risk
Generation & Performance Risk	✅ Must ensure wind farm + battery deliver contracted output	❌ Has security in receiving firmed power
Intermittency & Firming Risk	✅ Neoen manages fluctuations with battery storage	❌ Receives steady power, regardless of wind variability
Market Price Risk	✅ May face opportunity cost if market prices spike above PPA price	❌ Locked into a long-term fixed price (protected from volatility)
Regulatory & Policy Risk	✅ Faces exposure to changes in grid fees, carbon pricing, etc.	✅ Could be impacted by future decarbonization policies
Grid & Transmission Risk	❌ Dependent on transmission network performance	❌ Relies on grid connection to receive power | | Q10. Do you agree with the potential options we have identified?	**Enhancing transparency** and market information. Improving transparency around contract availability, pricing, and counterparty risks could help new entrants without distorting market structures. **Standardized PPAs** could provide more accessible contract structures for new entrants. **Requiring gentailers to offer firming PPAs** is the most concerning proposal. It imposes unnecessary risks on gentailers**,** potentially leading to higher costs for consumers and reduced incentives for new investments in renewable generation. The key risks we foresee are: • **distortion of market signals:** by forcing firming PPAs, price signals in the wholesale market could be artificially influenced, leading to inefficient investment decisions. • **Increased Financial Exposure for Gentailers:** Mandating firming PPAs would shift market risks onto incumbent players, potentially increasing retail electricity prices and affecting their credit rating. • **Reduced Market Flexibility:** New Zealand's electricity market benefits from merchant renewable investment and corporate PPAs. This proposal could stifle

	competition and innovation by making new entrants reliant on incumbent gentailers.
Q11. Do you agree with our comments on potential options?	We consider that the Task Force should investigate the alternative options listed in table 5.2, socialising prudential risk, revenue risk or firming risk, which have proven as effective measures for PPA development in other jurisdictions. For example in Australia several government programmes have been established to support new generation investment. In designing these programmes the regulators identified similar risks to what has been identified by the Authority, and designed a series of risk mitigations to address them, including:[1] • Setting the price of support on a project-by-project basis based on appropriate due diligence and expert advice • Proponents of feasible projects have to demonstrate purchase commitment from commercial and industrial customers and/or small retailers for a period of at least three years. • Projects seeking government support are required to agree to an 'open book' process, whereby they provide the Government with a range of commercial-in-confidence information. • The Government does not bear the risks in full and expects some risk sharing with debt providers. If Government assumed the full risk it would reduce the incentive of debt providers to undertake thorough due diligence on the project. We note that all of the risks raised by the Task Force in relation to the proposals in Table 5.2 would equally apply to a gentailer who is forced to sell a firming PPA. However, crucially, none of the risk mitigations above are available to gentailers. As such government is better placed to undertake this role in a way that reduces the risks of distortions to the wider market.
Q12. Do you have a view on the most promising options?	Among the three options, enhancing transparency (Section 5.11) is the most effective approach**,** while mandating firming PPAs (Section 5.10) is the most problematic due to its potential market distortions**.** The Task Force should prioritize interventions that support market-driven solutions, ensuring that New Zealand's electricity market remains competitive, flexible, and investment-friendly.

[1] https://oia.pmc.gov.au/sites/default/files/posts/2021/12/UNGI%20RIS.pdf