ELECTRICITY AUTHORITY
TE MANA HIKO

3 May 2024

s9(2)(a)
By email: s9(2)(a)

Tēnā koe s9(2)(a)

Your request

Thank you for your request, received on 9 April 2024, under the Official Information Act 1982 (the Act). This letter is in regard to Parts two and three of your request for the following information:

- ***"Part two***
  "In relation to the document received "Meeting with independent retailers, 10am, Wednesday, 6 September 2023":
  (i) we request that section 4 (currently redacted due to it being "out of scope") be released or a detailed explanation as to why/how it has been determined that section is out of scope (and the nature of the content) be provided:
  (ii) we query how an entire page in the context of that document is withheld on the grounds of protecting privacy under Section 9(2)(a). Please explain."
- ***Part three***
  "In addition, we request the responses from the gentailers in relation to voluntary requests or requests under section 46 of the Electricity Industry Act 2010 made by the Electricity Authority to the gentailers in March 2024 in relation to the Risk Management Review."

Response to part two

In relation to section 4 of the document titled *Meeting with independent retailers, 10am, Wednesday 6 September 2023* we can confirm that this was marked out of scope because it related to projects unrelated to the wholesale market or the issues raised in the s36 complaints. The two projects mentioned were the Authority's project to improve retail market monitoring using a clause 2.16 information notice and our work on the Consumer Care Guidelines. As discussed at our meeting on 10 April, the last page was redacted as it contained short profiles of six of the meeting participants.

Response to part three

The Authority is providing you with four tables, which summarise the information requests sent to each gentailer and the Authority's assessment of the gentailer's responses for the purposes of your official information request.

The information that is being released is attached in the four tables, two documents and one PDF.

The Authority is withholding the remainder of the information provided by the gentailers under:

- section 9(2)(ba)(i) of the Act because the gentailers were compelled (or could have been compelled) to provide the information under section 46 of the Electricity Industry Act 2010, and the making available of the information would likely prejudice the supply of similar information and it is in the public interest that such information should continue to be supplied; and

- section 9(2)(b)(ii) of the Act because it would unreasonably prejudice the commercial position of the gentailer.

I am satisfied, in terms of section 9(1) of the Act, that the need to withhold the information referred to above is not outweighed by other considerations that render it desirable, in the public interest, to make the information available.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

If you wish to discuss this decision with us, please feel free to contact us by emailing oia@ea.govt.nz.

Nāku noa, nā,

Airihi Mahuika
GM Legal, Monitoring and Compliance

GENESIS ENERGY LIMITED
AUGUST 2022

Market Security Options

Background

New Zealand has one of the most renewable electricity supplies in the world with approximately 82% of our supply coming from hydro, wind or geothermal.

Our own analysis shows that commitments by those in the sector to build more renewables will lift the level of renewable electricity generation to 96% - 98% by 2030. But, as we also know, the country's supply is at risk when the wind doesn't blow, the rain doesn't fall, and the sun doesn't shine. In April 2022, the Ministry for the Environment published a report - 'Aotearoa New Zealand climate change projections guidance' - that noted we can expect different rainfall patterns and that river flooding, drought severity and fire weather are projected to increase in most areas of the country. This highlights the intermittent nature of weather dependant renewable generation.

Huntly Power Station was built to provide back-up supply to New Zealand's highly renewable electricity generation. Back-up generation enables a highly renewable system to work, affords the market security of supply and supports price stability which, until recently, was partially contracted by market participants through supply contracts, called swaptions. These contracts provided generators with back-up supply that could be relied upon to ensure their customer demand was met. Whilst we expect back-up generation will be required less frequently looking ahead, it will become increasingly important when it's needed as the level of renewable generation increases.

Since 2014, Huntly Power Station has delivered total generation of 35,689 GWh, enough to power more than one million homes for five years. Seven of the past nine years have been among New Zealand's warmest on record and in six of those seven years, swaptions were called on. Most recently, in 2021, when a La Niña weather pattern brought a long, dry summer followed by a cold winter, and gas was in short supply, Huntly Power Station produced 819,950 MWh of electricity for other generators so they could meet their customers demand when their renewable sources could not deliver. This was enough to power around 120,000 homes for a year, not quite the size of Christchurch.

As an active enabler of the country's energy transition, Genesis faces a unique challenge. As a business, we are committed to reducing emissions from our own

generation portfolio through a combination of new renewable generation and exploring fuel alternatives such as biomass. At the same time, we are being relied upon to support security of supply for the country at times when generation from renewables are unable to meet national electricity demand. These considerations are central to our Future-gen strategy. In acting to further reduce our own generation emissions, we have made commitments to date for 1,940 GWh of new renewable generation, including our push into grid-scale solar. Genesis is targeting 81% of our own generation to be renewable by 2030. We are also on track to meet our Science Based Target of sustainably reducing 1.2m tonnes of annual carbon emissions by 2025 (measured against a 2020 base) and further reduce our annual carbon emissions by 1.8m tonnes by the end of the decade.

Today, the New Zealand energy markets sit against a back-drop of changing dynamics in the international energy and fuel markets. It is important to consider how changes in international markets will impact the New Zealand market if they persist over time. The cost of coal on the international market has skyrocketed since the start of the war in Ukraine. As geopolitics unfold in Europe, coal and gas prices are expected to remain high as a new normal. Electricity prices in New Zealand have been cushioned to date thanks in large part to the stockpile we hold but that will change when we need to replace it at current market prices.

As we transition to a more renewable future, the Market Security Options (MSOs) offer that we outline here provides a product for generators, retailers and major energy users to secure electricity supply from the Rankine units at Huntly Power Station, with stable pricing and in doing so will support security of supply and market price stability.

This document details how generators, retailers and major energy users can express an interest in participating in the offer.

Huntly produced 819,950 MWh of electricity for other generators so they could meet their customers demand when their renewable sources could not deliver. This was enough to power around 120,000 homes for a year, not quite the size of Christchurch.

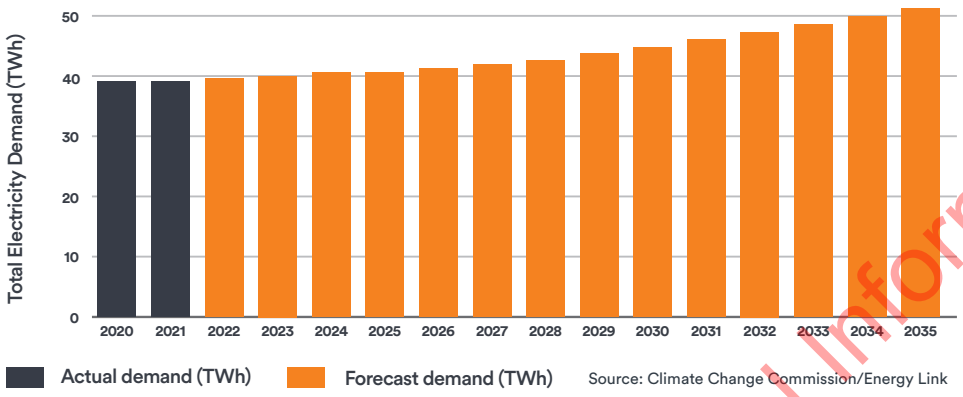
Demand

New Zealand currently faces the challenge of needing around 7,000 GWh of deep energy storage to deal with seasonal shifts in demand. Existing hydro lakes provide about 4,000 GWh of that and Huntly Power Station fills the gap, doing the job it was built to do. As the transition to a low carbon future evolves, demand is expected to rise significantly with electricity critical to decarbonising transport and the large commercial and industrial sectors.

The Infrastructure Commission noted in its strategy released this year that electricity generation capacity needs to increase by some 170% to meet the country's net zero carbon goals. According to modelling from the Climate Change Commission, national electricity demand is set to increase by four percent between now and 2025, 15% by 2030 and 32% by 2035. *(based on Tiwai staying)*.

A combination of existing plant planned grid-scale batteries and smarter demand response can manage most peaks. In the absence of significant investment in deep energy storage or energy import capability, long dry and, increasingly, still or dark spells will require support that only the Rankines can provide.

Annual Electricity Demand Forecast



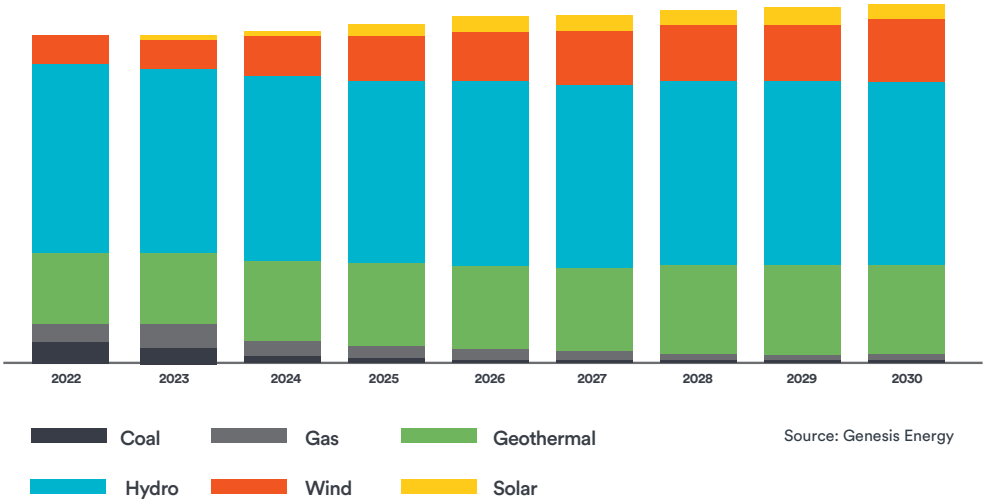
Source: Climate Change Commission/Energy Link

Supply

The level of renewable generation – solar, wind and geothermal - is set to increase over the next 10-15 years. Our own analysis shows New Zealand will have 96% - 98% renewable generation by 2030 given commitments to new renewable builds by the sector. Our analysis also shows we have reached the peak in using coal for generation and that it will decline steeply over the next few years, in normal market conditions. The highly renewable market will require peaking capacity and seasonal storage.

Approximately 1,000 MW of new wind generation and over 900 MW of solar are expected to be built by 2030 which will materially increase the volatility of the electricity spot market. Together these represent almost 15% of current generation. On average the new renewables will offset existing thermal generation or new load added to the grid but during still winter evening peaks or dry periods there will still be the need for other generation to fill the gap.

Forecast Electricity Supply by Generation Type



Source: Genesis Energy

Huntly Power Station, the reliable back-up

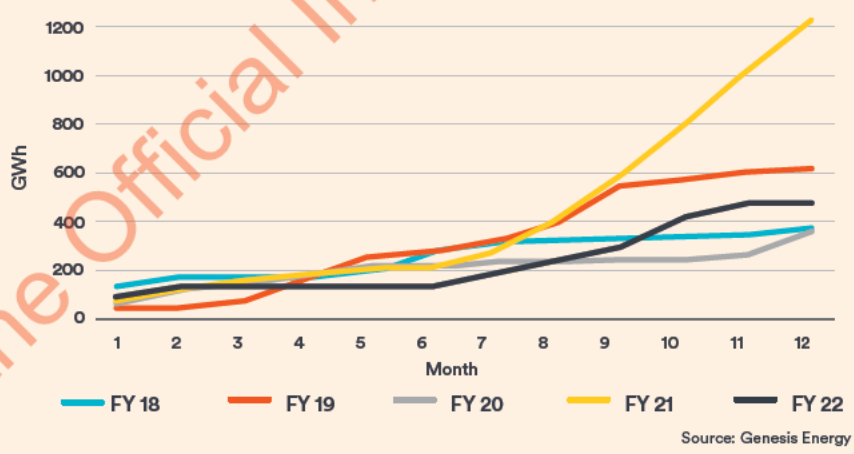
The 1,209 MW Huntly Power Station is arguably the best located station in the country. It is close to the largest demand centre, has connection points to the grid and gas lines and access to a skilled local work force. The station has five thermal generating units including three of the four original 250 MW Rankine units, a 400 MW combined cycle gas turbine and a 45 MW open cycle gas turbine. The dual-fuel Rankines have had four yearly maintenance and recertification outages over their life to date. A recertification process will begin with one of the units later this year. An independent engineering review that concluded some of the Rankine units can run to 2040 with continued investment.

The Rankines are currently the only plant capable of delivering long duration, deep energy storage, with access to international energy markets. By this, we mean, the Rankines are the only plant in the country that can provide sustained cover for days, weeks and longer and where additional supply can be provided to New Zealand as needed at reasonably short notice.

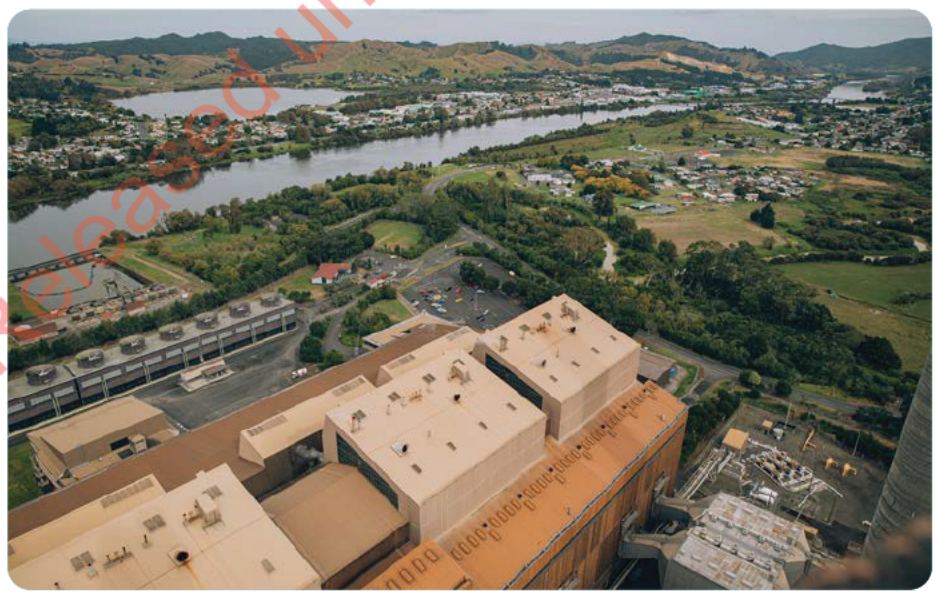
In addition to this, Huntly Power Station's location provides significant North Island energy security in the event of transmission outages, planned and unplanned, that disconnect the North Island from the South Island.

The extent of the cover provided is highlighted in the graph below. Huntly Power Station has been called on to provide around 400 GWh to the market in each of the last five years which has been essential to avoid the social and economic impact on households and business of power shortages.

...the Rankines are the only plant in the country that can provide sustained cover for days, weeks and longer...



Source: Genesis Energy



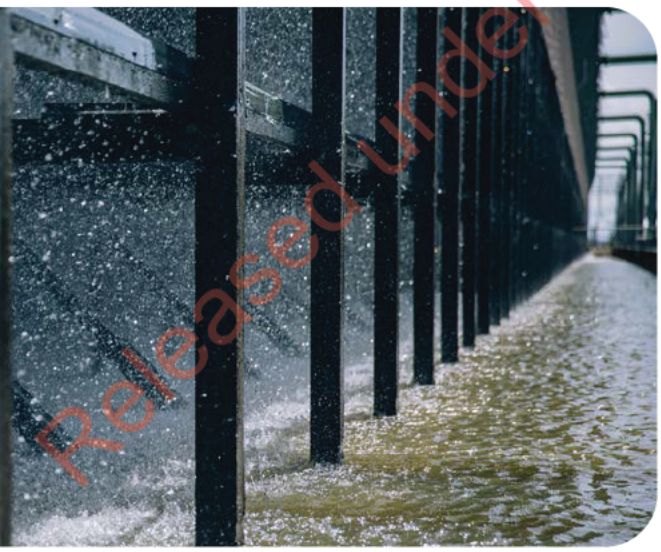
Huntly Power Station delivers

The power station delivers value in many ways to both Genesis and the broader market, including supporting a low cost, reliable supply of electricity.

Since 2014, Huntly Power Station has provided 2,054 GWh through supply contracts (swaptions) with generators to cover the shortfalls from their renewable generation. This is enough to power around 30,000 homes for 10 years, a city the size of Palmerston North.

In recent times, Huntly Power Station has been heavily relied upon. Between 2017 - 2021 generators called on their swaption supply contracts, on average, 109 days a year or, 29% of the time. The top three occasions were in 2017 when it was needed to cover the peak winter demand on the back of below average national hydro storage. It was a similar scenario in 2019 and 2021 when below average hydro storage was coupled with a tight supply of gas.

Huntly Power Station again supported the market earlier this year when hydro levels were very low but not to the extent that was required in 2021.



New Zealand's energy transition

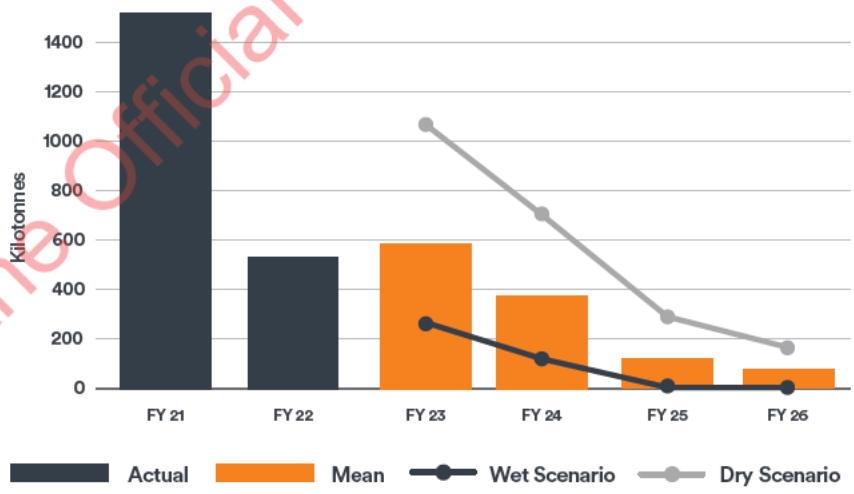
We believe the role Huntly plays today will evolve but is vital for a successful and just transition. At Genesis significant consideration is being given to the role of Huntly Power Station during the transition from a security of supply perspective. This has included looking at alternative fuel options for the Rankine units and alternative wholesale market settings that might better support delivery of a secure, reliable, and affordable supply of electricity looking ahead.

As stated in 2022, we believe the use of coal for generation has peaked and it will continue to steeply decline as new renewable generation comes online. An independent life assessment of the Rankines in 2021 determined that the current operational performance can be maintained to 2030 and could be extended out to 2040 if run on biomass.

We have plans to trial biomass as an alternative fuel to coal and have identified black pellets as a good option due to their high energy density which flows through to cost benefits in transport, storage, and handling. It also appears that little modification to existing infrastructure and equipment would be needed. Later this year, we will be investing in the recertification of one of the Rankine units.

We remain optimistic a trial burn will be held in 2023. We were encouraged to see the Government's Emissions Reduction Plan signal an intent to support the development of a local biomass market as large amounts will be needed, and a secure supply is critical to making this work for large industrial and commercial users.

Coal Consumption Forecast



Source: Genesis Energy

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Volatile international prices

International coal prices were already rising steeply before the war in Ukraine started in February 2022. At USD188 per tonne, it was close to record levels. Since, the Indonesian benchmark for coal has increased to USD322 in August. For context, it was USD49 in September 2020.

Europe imported over 50 million tonnes of coal annually from Russia before the war. By comparison, Europe imports approximately 2.6 million tonnes from Indonesia and 1.6 million tonnes from Australia per annum. Prices look likely to remain elevated as Europe tries to secure supply from other sources and China does likewise, after disruptions to production and transportation in some of its coal producing provinces as winter looms. For Genesis, this has changed the economics of holding high volumes of coal and the running of the Rankine units.

Based on our current forecast, Genesis' current coal stockpile is sufficient to cover average requirements through until the end of 2024. This coverage shortens dramatically in the event of a dry sequence when it would likely need to be replaced in mid-2023. At current replacement costs, maintaining a stockpile to provide market security would cost between $300 million – $400 million.

On top of high fuel prices, there is also the cost of carbon to consider (currently NZD85 per unit) which may increase further over the next 12 months. The simple and approximate formula for converting the cost of carbon to consumer pricing is each additional $1 per unit of carbon adds $1 per MWh of electricity from a Rankine unit generating on coal.

Genesis is not in a position and cannot reasonably be expected, to subsidise the market with back-up generation. The flow on effects of the 'new normal' in international fuel and energy markets will impact everyone and it is reasonable to expect a collective market approach to ensure security of supply for New Zealand.

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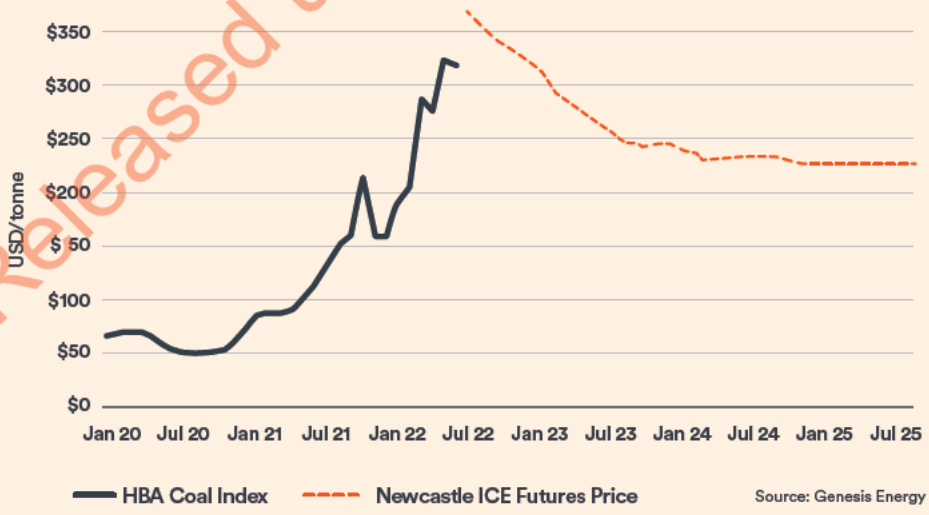
Historic and forward coal prices



Source: Genesis Energy

Genesis Energy

Expression of Interest

Market Security Options

Genesis Energy are requesting Expressions of Interest for Capacity under a Market Security Option in accordance with the attached term sheet.

All contracts entered into as a result of this EOI process will be identical save for the Counterparty, Capacity, and potential differences in ISDAs negotiated prior to this process. Genesis Energy's intention is that Market Security Options are available to all market participants to aid in managing their dry period risk cover on a level playing field.

Each interested party is required to:

- sign and return the Expression of Interest Information Protocol (attached); and
- indicate what Capacity (MW) that it is interested in,

(together, the Proposal) and submit the Proposal to Genesis Energy **by 5.00pm Tuesday 20 September 2022** (Closing Time), or such later time as Genesis Energy may specify by notice in writing to the recipients of this letter.

Proposals may be submitted by registered mail or email to the addresses outlined below:

Address: The Genesis Energy Building
155 Fanshawe Street
Auckland 1010, New Zealand

Name: Scott Foster
General Manager Trading
Email: commoditiesdesk@genesisenergy.co.nz

By submitting a Proposal to Genesis Energy, each interested party acknowledges and agrees that Genesis Energy may, in its sole discretion:

- accept any Proposal even though it may vary from the terms set out in this letter
- reject any or all Proposals
- discontinue or vary the process at any time for any reason, whether prior to or following the Closing Time
- waive any irregularities or informalities in the process or a Proposal
- deal with or enter into negotiations with one interested party without notifying the others

Genesis Energy agrees that it will not use the documentation and other information received by Genesis Energy from interested parties in response to this EOI for any purpose other than for evaluating Proposals and shall not disclose the same to any other interested party or other person, other than to Genesis Energy's advisers who also agree to keep the information confidential or as otherwise specified in this EOI.

CONDITIONS:

- Any contract resulting from this Expression of Interest will be governed by the provisions of an ISDA Master Agreement with an appropriate Schedule between Genesis Energy and the counterparty.
- Respondents not having current ISDA Master Agreements with Genesis Energy should be prepared to engage early in the EOI process to expedite the necessary legal documentation.
- All responses to questions will be copied to all prospective responders.
- You may only submit a Proposal if you are a "wholesale investor" as that term is defined in clauses 3(2)(a), (c) and (d) of Schedule 1 to the Financial Markets Conduct Act 2013.

PROCESS AND TIMELINE:

The process and timeline will be:

- Questions arising from this EOI should be raised **by 5:00pm 6th September 2022**.
- All responses to questions will be copied to all prospective responders.
- Expressions of Interest of MW Capacity required to be submitted **by 5:00pm Tuesday 20th September 2022**.
- A long form Confirmation will be sent to parties that have expressed interest **by 5:00pm Friday 23rd September 2022**.

Expression of Interest (continued)

Market Security Options (continued)

GENERAL:

This letter does not constitute an offer, but merely an invitation to interested parties to express their interest in the market security options.

The descriptions and details of the market security options set out in the attached documentation are for information purposes only and Genesis Energy does not give any warranty (express or implied) as to the accuracy, content, completeness, value or otherwise of such descriptions or details. Each interested party acknowledges if it submits a Proposal in response to this EOI that it does so in reliance solely on its own judgment and not in reliance on any representations made by Genesis Energy.

By participating in the EOI process, each interested party acknowledges that Genesis Energy has reserved to itself certain rights and discretions in this letter and agrees that Genesis Energy may at any time exercise any of these rights and discretions.

For the duration of the EOI, each interested party agrees to keep the EOI strictly confidential and not make any public statement to any third party in relation to any aspect of the EOI, the EOI process or the acceptance or rejection of any Proposal, without Genesis Energy's prior written consent. Each interested party must not attempt to influence or provide any form of personal inducement, reward or benefit to any representative of Genesis Energy in relation to the EOI. Any interested party who attempts to do anything prohibited by this paragraph may be disqualified from participating further in the EOI.

Genesis Energy intends to rely on the interested party's Proposal and all information provided by the interested party (e.g. in correspondence). In submitting a Proposal and communicating with Genesis Energy, each interested party warrants that all information it provides to Genesis Energy is true, accurate and complete and not misleading in any material respect and does not contain intellectual property that will breach a third party's rights.

Each interested party agrees that it shall not have any rights and further waives any rights it may have against Genesis Energy, or any other person arising from the exercise by Genesis Energy of its rights and discretions and agrees not to make any claim, bring any action, or otherwise seek to recover from Genesis Energy, or any other person associated with Genesis Energy, any of the costs incurred by that interested party in respect of its Proposal or involvement in the EOI process or any lost expectation of profits or other benefits which that interested party may expect to accrue from any acceptance of its Proposal.

We look forward to receiving your Proposal.

Yours sincerely

Pauline Martin
Chief Trading Officer
Genesis Energy Limited

Term Sheet

Market Security Option Term Sheet

This Indicative Term Sheet (**Term Sheet**) sets out the indicative key terms and conditions of a market security option agreement between Genesis Energy Limited (seller / floating rate payer) (**Genesis**) and the buyer / fixed rate payer (**buyer**). This Term Sheet is not legally binding and is not an offer capable of acceptance. No legal obligation arises in relation to the subject matter contained herein. This Term Sheet may only be published, delivered or distributed in or from any country or jurisdiction under circumstances which will result in compliance with all applicable laws and regulations.

1.	**Option Term**	1 January 2023 to (and including) 31 December 2024.
2.	**Option Capacity**	MW (buyer to indicate)
3.	**Available Days**	Any day during the Option Term (subject to the minimum duration of a Call transaction set out in section 7).
4.	**Grid Reference Point (Settlement Node)**	HLY2201.
5.	**Call Profile**	**Peak MW (TP15-44):** between 40-100% of the Option Capacity. **Off-Peak MW (TP1-14 & TP45-48):** between 50-100% of the Peak MW applicable to that Call. • Entire duration of a Call must have the same Peak MW and Off-Peak MW profile. • Multiple Calls can overlap provided that the combined MW of all Calls in effect at any time do not exceed the Option Capacity in any Trading Period
6.	**Notice Period**	Call Notice must be received by Genesis before 10am the Business Day prior to the Call Start Date.
7.	**Duration of each Call transaction**	• Not less than five calendar days, commencing at 00:00 hours on the Call Start Date and ending at 23:59 hours on the Call End Date • The term of a Call cannot be extended once it has been exercised.
8.	**Available Electricity**	Each Call must have sufficient Electricity in the Electricity Ledger for the duration of the Call, for the Call to be valid. This assessment is made after all Calls are made (and accounted for), but not yet commenced.
9.	**Electricity Purchase**	The buyer can elect to commit to notionally purchase Electricity at the **Electricity Purchase Price** in $/MWh in multiples of 0.5GWh (**Electricity Purchase**) by issuing an **Electricity Purchase Commitment.** • **Electricity Ledger WAC**: The weighted average cost (WAC) of the Electricity Ledger Volume will be adjusted to reflect the additional Electricity Purchase on the Electricity Availability Date. • **Electricity Ledger Volume:** The MWh balance in the Electricity Ledger is increased by the Electricity Purchase Volume on the Electricity Availability Date (and available to be Called).
10.	**Electricity Use**	Electricity is removed from the Electricity Ledger at the commencement of each Call in an amount equal to aggregate MWhs subject to the Call.
11.	**Call Strike Price**	The CFD strike price for a Call will be the Electricity Ledger WAC on the Call Start Date.
12.	**Electricity Purchase Price**	The **Electricity Purchase Price** for each Electricity Purchase is equal to the following (as determined on the date of the Electricity Purchase Commitment): ((**Coal Futures Price** x 0.72) / **NZDUSD FX Rate**) * 0.54 + **Carbon Price** + **Fixed Fee**, in $/MWh Where: • **Coal Futures Price** is the daily USD settlement price of the ICE Newcastle Coal Futures t+1 monthly contract. • **NZDUSD FX rate** is the daily settlement price for the New Zealand Dollar CME quarterly future that covers the Coal Futures Price. • **Carbon Price** is the daily settlement price for the Jarden CommTrade carbon platform. • **Fixed Fee** is the sum of international and local logistics, financing charges, and tolling fee. The Fixed Fee is NZD$94.30/MWh
13.	**Automatic final Call**	If the buyer has not Called all Electricity in the Electricity Ledger prior to the expiry date of the Option Term, an automatic final baseload Call regime will apply to ensure that the volume of Electricity in the Electricity Ledger is reduced to zero on the expiry date of the Option Term.

Term Sheet (continued)

Market Security Option Term Sheet (continued)

14.	**Suspension Events**	**ELECTRICITY PURCHASE** Any event, or series of events, resulting in a material delay of coal logistics which limits Genesis' ability to deliver relevant coal purchases to the Huntly Power Station in a timely manner. **GENERATION** MWh Loss @ Huntly Power Station • >= 50MW – Option Capacity reduced by 50% • >= 100MW – Option Capacity reduced by 100% Any event, or series of events, resulting in the reduction of generation capacity from, or the deliverability of coal to, the Rankine Units at the Huntly Power Station to meet the above thresholds in any Trading Period for whatever reason other than a planned outage of the relevant Rankine Unit. Volume suspended due to river heating restrictions (in accordance with Genesis' resource consent conditions), will be delivered as baseload the following day after the end of the Suspension Period. If the Peak Capacity of an active Call exceeds the available Option Capacity due to Suspension Event(s) then the relevant Call Profile(s) will be scaled so that the adjusted Peak Capacity is no greater than the available Option Capacity after accounting for Suspension Events.
15.	**Suspension Period**	The period during the Option Term commencing immediately upon the time Genesis issues a notice to the buyer that a Suspension Event has occurred and ending immediately upon the time Genesis issues a notice to the buyer that the Suspension Event has ceased.
16.	**Suspension Cessation**	The Suspension Event persists until the underlying event, or series of events, that caused the Suspension Event has ended (including through transient periods where the thresholds above are not met while the underlying event is ongoing).
17.	**Premium**	$125,000/yr/MW of Option Capacity Payable in advance.
18.	**Governing law**	New Zealand
19.	**Financial Markets Conduct Act**	The market security option agreement contemplated by this Term Sheet will only be available to certain qualifying "wholesale investors" within the meaning of the Financial Markets Conduct Act 2013. Each party will provide appropriate representations, warranties and certifications to the other in connection with the Financial Markets Conduct Act 2013.

Definitions

The meanings of the terms used in this Term Sheet are set out below:

Defined term	Meaning
Business Day	means a day (other than a Saturday or Sunday) on which banks are open for business in Auckland, New Zealand.
Call	means the exercise of an option resulting in Genesis selling a CFD to the buyer reflecting the details in the Call Notice and a strike price equal to the Electricity Ledger WAC.
Call Notice	means, in respect of each Call, a Call notice issued by the buyer (in the form to be provided by Genesis).
Call Start Date	means, in respect of each Call, the first date of the CFD as set out in the Call Notice.
Call Strike Price	has the meaning given in section 11.
Code	means the Electricity Industry Participation Code 2010 promulgated pursuant to the Electricity Industry Act 2010, as amended, replaced, supplemented or substituted from time to time.
Electricity	has the meaning given to it in the Code.
Electricity Availability Date	means, in respect of each Electricity Purchase, 90 days after the date a valid Electricity Purchase Commitment is received by Genesis, unless otherwise agreed between the parties.

Definitions (continued)

Market Security Option Term Sheet (continued)

Defined term	Meaning
Electricity Ledger	means the ledger maintained by Genesis which records the notional balance of Electricity available to be Called by the buyer, represented by the Electricity Ledger WAC and Electricity Ledger Volume.
Electricity Ledger WAC	means, at any time, the weighted average cost of all Electricity (per MWh) that has been added to the Electricity Ledger in accordance with section 9 net of the weighted average cost of all Electricity subject to prior Calls.
Electricity Ledger Volume	means, at any time, the total of each Electricity Purchase Volume that has been added to Electricity Ledger net of all prior Calls.
Electricity Purchase	has the meaning given in section 9, following the issuance of a valid Electricity Purchase Commitment.
Electricity Purchase Price	has the meaning given in section 12.
Electricity Purchase Commitment	means a commitment to notionally purchase Electricity, issued by the buyer to Genesis in a commitment notice (in a form to be provided by Genesis).
Electricity Purchase Volume	means, in respect of each Electricity Purchase, the number of GWh set out in the relevant Electricity Purchase Commitment.
Option Capacity	has the meaning given in section 2.
Option Term	has the meaning given in section 1.
Rankine Units	means the 250MW gas/coal units at the Huntly Power Station.
Suspension Event	has the meaning given in section 14.
Trading Period	has the meaning given to it in the Code.

Information Protocol

Introduction

1. Genesis Energy Limited (**Genesis**) and Counterparty (together the parties) are proposing to discuss a potential market security option arrangement between them for 2023 and 2024 (Proposal).
2. Genesis and Counterparty are mindful of their obligations under the Commerce Act 1986 (**Commerce Act**). The purpose of this information protocol (**Information Protocol**) is to ensure that the parties comply with the Commerce Act when discussing or negotiating the Proposal.

Information Protocol

3. The parties agree to comply with this Information Protocol when discussing, negotiating or corresponding in relation to the Proposal (collectively, the **Communications**) and when dealing with any commercially sensitive information of the other party gained as a result of the Communications.
4. The parties agree the following matters outlined in (a) to (h) below, in relation to the Communications:
   a. the Communications (and the fact of the Communications) will remain confidential;
   b. the parties will only engage in the Communications to the extent necessary for evaluating and negotiating the Proposal (permitted topics of discussion include the volumes that the parties are seeking to secure, the price of the option(s) and other key terms and conditions);
   c. the parties will involve in the Communications, only those individuals strictly required for the purposes of evaluating and pursuing the Proposal (**Specified Representatives**). Each party must retain a list of Specified Representatives and share it with the other party upon request;

Information Protocol (continued)

d. each Specified Representative must agree to comply with the terms of this Information Protocol;

e. the Specified Representatives will not (unless such information is publicly available and is strictly necessary for the purposes of the Proposal that it be discussed), discuss or share information in relation to:

   i. either party's current or future prices, production volumes or capacity;

   ii. future generation strategy;

   iii. the potential impact of proposed hedging contracts on market prices or generation decisions;

   iv. expectations of future market (e.g. supply/demand) scenarios occurring;

   v. negotiations or agreements with other counterparties;

   vi. underlying costs, margins or margin expectations;

   vii. matters relating to specific customers; or

   viii. any other matters which would result in a reduction in *competitive uncertainty* as to the future actions of either party in the market, without both parties first taking specific competition law advice in relation to such matters.

f. prior to any discussions in relation to the Proposal, a high-level agenda will be circulated. The first item on the agenda will be a reminder that the Communications are subject to this Information Protocol;

g. the parties will keep appropriate records of any Communications (including brief minutes or file notes). These will be headed *Confidential – subject to agreement and legal review*;

h. if any Specified Representative is in doubt as to whether information should be exchanged or discussed, they must confirm with their legal advisors beforehand

5. Any information obtained from the other party as a result of the Communications, must be:

   a. used only for the purpose of evaluating and pursing the Proposal;

   b. shared only with Specified Representatives;

   c. stored securely such that it is not accessible by individuals other than Specified Representatives; and

   d. returned or destroyed should the Proposal not proceed.

By signing this Information Protocol, each party agrees to be bound by its terms.

Signed for and on behalf of **Genesis Energy Limited** by its duly authorised signatory:	Signed for and on behalf of (**Counterparty**) by its duly authorised signatory:
Name:	Name:
Position:	Position:
Date:	Date:

Expectations on the OTC market to provide risk solutions for non-vertically integrated retailers

Question 9

What other risk management options have you been investigating or implementing beyond ASX or OTC options? For each option please provide your observations on the relative substitutability, efficiency, and cost for your organisation (versus OTC and ASX)

Meridian response

s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]

Examples of risk management options that Meridian has been investigating or implementing are noted below.

Risk management through physical generation assets

Growing our renewable generation portfolio, particularly in the North Island increases generation diversity and helps to reduce both dry year and basis risk (for both Meridian and the market more generally). North Island battery investments help to reduce winter peak risk but also basis risk since increasing the supply of North Island reserves reduces the risk of HVDC constraints and price separation. Meridian has a pipeline of generation investment options under investigation, which the Authority has previously enquired about. We would be happy to discuss further in the context of risk management. As the Authority will be aware two of our options are currently under construction at Harapaki and Ruakākā.

In addition to investment in new generation assets to manage risk, Meridian is investigating and implementing options to maximise the peaking capability of our existing hydro generation assets. We have secured unit capacity increases at Manapōuri and Benmore power stations, see: https://www.meridianenergy.co.nz/news-and-events/capacity-at-manapouri-power-station-update and https://www.meridianenergy.co.nz/news-and-events/benmore-power-station-unit-capacity-

update. Further work is also underway to access even greater unit capacity at Manapōuri: https://www.meridianenergy.co.nz/news-and-events/potential-increase-to-maximum-unit-capacity-at-manapouri-power-station. We have also secured an increase in total station capacity at Benmore power station: https://www.meridianenergy.co.nz/news-and-events/increase-to-maximum-station-capacity-at-benmore-power-station. These enhancements in aggregate add capacity to our generation portfolio and help to manage peak capacity risk.

Ownership of generation comes with a different set of risks compared to those faced by a non-integrated retailer. Meridian's generation assets require not only significant up-front capital investment (i.e. capital at risk) but also ongoing operating and maintenance costs and ongoing management of risks that could erode generation capacity and storage flexibility over time. This may not be what the Authority had in mind when formulating the question, but such activities are very much risk management options for Meridian. As examples:

- Meridian puts considerable effort into freshwater planning processes and the reconsenting of hydro generation schemes like our Waitaki scheme, which expires in April 2025. In any consenting process, there are risks that consent may not be granted or that more restrictive conditions will be placed on any consents limiting the energy storage and/or generation capacity of the scheme for example by altering river flow and lake level requirements. To manage this risk, Meridian endeavours to reach agreements with key stakeholders in order that they will support consenting or reconsenting on terms that do not unduly restrict generation. Such agreements have significant risk management value to Meridian, and for that matter for the wider power system given the importance of Meridian's generation as a source of capacity, flexible capacity, and energy storage.
- Meridian needs to manage a planned outage schedule to ensure ongoing maintenance of generation assets. Meridian considers its retail and contract position as well as the needs of the power system and the wholesale price risks associated during outages and plans accordingly by procuring contractual cover when required. Meridian is increasingly innovating to optimise outage planning, de-risk outages, and make our planning more dynamic and responsive to changing circumstances. This can include greater flexibility, most recently to move planned outages outside of winter periods where there is heightened peak capacity risks.
- Meridian purchases insurance policies to cover various physical and financial (business interruption) risks associated with our generation assets.

Generally speaking, both physical generation and financial markets like the ASX and OTC markets can be considered risk instruments that may limit the exposure of a retailer to spot prices.

The relative costs of generation compared to ASX and OTC contracts will depend on the present value of the average capital and ongoing operation and maintenance costs of any given generation development option over the life of the asset compared with expectations regarding wholesale purchase and contracting costs over the same timeframe. Generally speaking, generation investments involve up front capital expenditure but then generate wholesale revenue which, for an integrated firm, offsets ongoing operating expenses associated with wholesale energy purchase costs over the life of the asset. There is no guarantee of a return on generation investments.

Generation investments are inherently long term. While Meridian is committed to ongoing operations in New Zealand, others may prefer ASX or OTC contracts that cover shorter periods of time and avoid longer-term commitment of capital.

The generation profile of any development may not be comparable to ASX and OTC baseload and peak contracts. This will depend on the nature of the generation technology and its flexibility. Challenges associated with intermittent generation profiles for wind or solar can be overcome through a portfolio approach using different combinations of generation, batteries, demand response options, and contracts to shape a desired profile to reduce retail risk (in the same way that a retailer might consider a portfolio of baseload and peak risk management products rather than a single contract).

While there are advantages and disadvantages to each, Meridian has chosen to adopt a vertically integrated business model. Generation investment also brings with it benefits for the electricity system as a whole, by increasing the pool of generation available to meet the country's demand (and in the case of renewable generation contributing to the decarbonisation of the New Zealand economy). As discussed further in our response to question 11, there are no barriers to investment in generation assets. The cost of generation and battery technologies is also generally falling over time, and there are many willing investors that could enable PPAs, or partnerships with retailers to help overcome capital or expertise limitations.

Demand response risk management options

Meridian has agreed contracts with NZAS to provide demand response as follows:

- Smelter Demand Response under the main contract for a 250GWh reduction over 130 days subject to lake level triggers.
- An additional contract for up to 50 MW of demand response over up to 60 days with 2 or 3 days' notice (depending on option called).
- An additional contract for up to 20 MW of demand response over up to 2 hours with no less than 2 hours' notice.

Further details are published here: https://www.meridianenergy.co.nz/about-us/investors/reports/nzas-contract

An agreement has been signed with Open Country Dairy to enable demand to be reduced by up to 27MW when required to reduce Meridian's risk such as in winter peaks or periods of low hydro storage.

Meridian is investigating demand response agreements with several other large industrial consumers, including other dairy processors, hospitals, and breweries.

We see considerable opportunity for flexible hydrogen production to help address both peak capacity and dry year risks. Work continues with our partners on the Southern Green Hydrogen project.

Demand response options are readily substitutable for ASX and OTC products designed to manage peak price risk (e.g. super peak contracts for difference) and for OTC contracts designed to manage dry year risk such as swaption agreements with other generators. Meridian has entered into demand response agreements where it makes sense commercially i.e. it can be lower cost than the alternatives.

s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]

s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]

Options to manage locational price risks

Meridian also actively trades in the Financial Transmission Rights market to manage the risks associated with price differences between nodes.

Question 10

If you have investigated investing in batteries, please provide details of estimated or actual (where possible) development costs of such investment.

Meridian response

Meridian is currently constructing a grid scale battery (200 MWh, 100 MW) at Ruakākā in Northland. Budgeted development costs are $180m and the project is tracking to budget. Please let us know if the Authority is interested in any further details breaking down the total cost.

Meridian has several other grid scale battery options in its development pipeline, including a site at Bunnythorpe. We expect to build another grid scale battery around 2028. At this stage none of the options have progressed to the point where we could provide a meaningful estimate of total project costs.

On a smaller scale, Meridian is delivering a battery-backed electric vehicle public fast-charging solution for deployment in remote and electrically constrained Springs Junction. The battery will be 360kWh and the total cost including the charging infrastructure will be between s9(2)(b)(ii) & s9(2)(ba)(i) [redacted] (excluding costs for design and software integration). We intend to bring the charger online this calendar year.

Question 11

What other risk management options do you believe non-integrated retailers have beyond ASX and OTC options? For each option you identify, please provide your observations on the relative substitutability, efficiency, and cost of these options for non-integrated retailers (versus OTC and ASX).

Meridian response

Non-integrated retailers have a number of options (beyond the ASX and OTC markets) for managing risks associated with wholesale price volatility. These range from physical options (which involve generation assets) through to purely financial options, with many options in between.

No single risk-management option is likely to afford a complete solution in respect of all risks. For instance, most of Meridian's generation assets are located in the South Island and therefore do not perfectly hedge North Island retail exposures. Meridian's risk management options include a range of different initiatives as described in our answers to question 9 and 13, including demand response initiatives, large contracts with industrial consumers, swaptions and insurance products to manage dry year and other risks, and smaller shorter-term contracts to adjust our risk position closer to real time.

The list below sets out some of the options available roughly ordered from physical through to financial options. For each option we have provided some initial observations on the relative substitutability, efficiency, and cost of these options for non-integrated retailers (versus OTC and ASX). We also note that many of the risk management options and innovations discussed in our responses to questions 9 and 13 are options available to non-integrated retailers to manage risk.

- **Operating generation / battery assets directly (i.e. becoming vertically integrated to some extent)**: Assets could be obtained via purchase or by developing assets. We are aware of a number of purported difficulties which are often raised when discussing the development of renewable generation. However, as evidenced by the number of generation developments planned both by incumbents and new entrant generators, none of the difficulties are insurmountable. We discuss this in more detail below. We consider that there are real benefits in vertical integration and deliberately entered into business in Australia with that model.

  In our view, OTC or ASX products are a substitute for physical capacity rather than the other way around. The best way to lower the cost of electricity to consumers (whilst maintaining energy security and reliability) is through additional generation investment and without additional generation investment, financial products merely rearranging risk amongst participants rather than reduce overall risk. ASX and OTC products can be considered derived from physical capacity. If a party is seeking OTC peak products, for example, it needs to find a party who either has the relevant generation or demand response capacity or is over-hedged in that respect (which means that at some point, peak products have been purchased from someone with the relevant physical capacity and therefore incentives to underwrite such a contract). Expanding the availability of OTC products requires the expansion of generation / battery / demand response capacity to underwrite those products or alternatively a willingness to be a speculator and put significant capital at risk through contract markets.

  Relative costs of generation compared to ASX and OTC contracts will depend on the capital and ongoing operation and maintenance costs of any given generation development option over the life of the asset compared with expectations regarding wholesale purchase and contracting costs over the same timeframe. The spread of capital and operating costs will vary by technology option, for example thermal generation may have lower up front capital costs but higher ongoing fuel and carbon costs. Generally speaking, generation investments involve up front capital expenditure but for an integrated firm they then offset ongoing operating expenses associated with wholesale energy purchase costs over the life of the asset.

  Generation investments are inherently long term, so a retailer making such an investment would need to be committed to ongoing operations in New Zealand (or willing to find a purchaser to exit). Whereas ASX or OTC contracts can cover shorter periods of time and avoid commitment of capital. Generation also has operational risk (i.e. plant failure, fuel unavailability, etc.)

How comparable the generation profile of any development will be with ASX and OTC baseload and peak contracts will depend on the nature of the generation technology and its flexibility. Challenges associated with intermittent generation profiles for wind or solar can be overcome through a portfolio approach using different combinations of generation, batteries, demand response options, and contracts to shape a desired profile to reduce retail risk (in the same way that a retailer might consider a portfolio of baseload and peak risk management products rather than a single contract).

Meridian has chosen to adopt a vertically integrated business model. Generation investment also brings with it benefits for the electricity system as a whole, by increasing the pool of generation available to meet the country's demand (and in the case of renewable generation contributing to the decarbonisation of the New Zealand economy).

- **Acquiring interests in generation / battery assets**: An interest in generation could be arrived at via, for example: partnerships with new entrant or existing generators; acquiring shareholdings in such generators (or some other arrangement giving the retailer access to some of the benefits of vertical integration); or power purchase agreements with such generators (we are aware of a number of potential counterparties offering PPAs). All of these initiatives could be designed or included as part of a portfolio to manage a retailer's spot price exposure.

  This option has many of the same substitutability, efficiency, and cost factors (relative to OTC and the ASX) as for the physical generation option above but may enable access to the benefits of vertical integration with smaller capital investments or none at all in the case of a PPA.

- **Distributed generation / battery assets**: Smaller scale generation investments are also an option for retailers to manage wholesale price risk. This option has many of the same substitutability, efficiency, and cost factors (relative to OTC and the ASX) as for the physical generation option above but may be achievable at a smaller scale and incrementally.

- **Demand response:** There are opportunities for retailers to invest in demand response initiatives both with large customers and through the aggregation of smaller customers. Demand response agreements can be structured to manage the risks specific to the portfolio of a retailer and consider the physical capabilities of the counterparty. For example, reducing exposure to peak prices, or for larger industrial consumers altering operations to better work in harmony with a generation portfolio.

- **Retail options:** Retailers can choose to pass through spot prices directly or offer time of use prices (including periods of free power to encourage load shifting) that seek to allocate some or all of the retailer's wholesale purchase risks to customers. In the extreme example, a retailer that only offered spot contracts would have no need for ASX or OTC contracts i.e. this option is entirely substitutable. However, viability will depend on the existence of counterparties that are willing to take on spot risks themselves and either ride through the volatility of prices or alter their behaviour to avoid high price periods. Spot price residential options used to be commonplace but with increasing wholesale volatility may be more suitable for larger industrial customers.

- **Managing risk directly from the balance sheet**: Retailers have the option to simply manage wholesale volatility risks through the strength of their balance sheet. With enough capital in

reserve a retailer could remain viable through periods of higher prices while enjoying increased profitability in periods of lower prices.

Over the long run one might expect average spot prices to be similar to average contract prices. However, a retailer may be able to avoid any risk premiums on contract options if it manages the risk itself through its balance sheet. Whether this option is more efficient will depend on a firm's risk appetite, the cost of capital reserves, and shareholder expectations regarding stability of returns.

We are aware of suggestions from independent retailers that it is difficult to vertically integrate. However, we are sceptical of the merits of these arguments given:

- Any challenges are clearly surmountable as evidenced by the number of new generators coming into the market across a range of sizes and technologies, with strong pipelines of projects.
- Land on which to develop generation options is readily available for the right price and even where options are already being developed, generation options are commonly brought and sold.
- There are significant overlaps in the knowledge and expertise required to operate a retail business and a generation business, particularly as smaller scale aggregation of generation and demand response options increasingly blurs the line between generation and retail. In any event, there are also ways to invest in generation without having a high level of development expertise, for example through joint ventures or other partnership structures, PPAs, or shareholdings.
- While a single intermittent generation asset on its own may be a less than perfect hedge for a retail business, this is the same challenge faced by all in the industry. It is difficult for any party to perfectly hedge their risk exposure, whether through physical or financial means, or both. However, as noted above, a portfolio approach using different combinations of generation, batteries, demand response options and contracts can be used to shape a desired profile to reduce retail risk (in the same way that a retailer might consider a portfolio of baseload and peak risk management products rather than a single contract). Alternatively selling PPAs to commercial customers that have a similar load profile to the generation being developed (e.g. solar to universities or shopping malls) is a viable way forward.
- Significant capital investment may not be necessary as smaller scale can also be viable. Small scale generation (like small battery and solar developments) present less challenge for resource consenting, are less risky, can add scale incrementally, and are being actively pursued by many players in the industry. Large scale developments can be carried out in partnership with other parties to reduce the capital investment or share expertise in different areas. Meridian has, for instance, reached agreement with NZ Windfarms (via a joint venture and PPA) to partner in the repowering of the Te Rere Hau Wind Farm.

Question 12

What are some of the information and incentive challenges you have with contracting and pricing deal structures for different contract types with counterparties (in contrast with providing it to an internal party)?

Please provide this information by type of counterparty (gentailer, non-integrated retailers, industrial customers). Do you consider the risk /cost of supplying an internal retail business unit the same as a third party (ignoring credit risk)? Why/why not?

Meridian response

This question seems to suggest that we provide contracts to, or otherwise supply, an internal retail business unit. That is not the case. Meridian's retail segment buys from the spot market at spot prices. ITP is commonly misunderstood as some sort of internal transaction, but it is merely a notional accounting benchmark to give external investors a more stable view of the performance of the retail segment.

We will answer this question by assuming it is asking:

"What are some of the information and incentive challenges you have with contracting and pricing deal structures for different contract types with counterparties (in contrast with running a vertically integrated business)?

Please provide this information by type of counterparty (gentailer, non-integrated retailers, industrial customers). Do you consider the risk /cost of being vertically integrated the same as the risk / cost of supplying a third party (ignoring credit risk)? Why/why not?"

As a vertically integrated business we sell physically to our own retail customers as well as selling wholesale hedge contracts to a range of counterparties. The information, incentives, risks, and costs to sell into each of these channels are in many respects similar and there can be as much variation within a class of counterpart as there can between classes. Credit risks are a key difference when dealing with any counterpart in respect of contracts that can give rise to significant financial liabilities.

However, putting credit risks to one side, retail sales tend to be smaller and by adjusting how we compete in the retail market over time we can attempt to incrementally scale up or down the volume of Meridian's exposure to spot purchases on behalf of those customers.

There can be opportunities associated with retail sales (both mass market and commercial and industrial) that do not exist with financial contracts. For example, we can build brand value, we can develop long-term strategic relationships with large customers (i.e. future contracting opportunities), we can investigate opportunities to unlock additional value such as through partnerships, demand response options, new process heat demand conversions, and other options.

While retail sales are often for a variable volume that is subject to change at any time, the risk is manageable as consumption volumes can be readily estimated based on the nature of a customer, their historic consumption, and expected activities at an ICP. The same could not be said for financial contracts with generator-retailer or non-integrated retailer counterparties where a variable volume contract would give rise to unpredictable risk for Meridian for example because:

- Potential volume growth could outstrip Meridian's ability to underwrite the contract with physical generation capacity and lead to significant and unmanageable spot price exposure for Meridian.
- A counterparty could arbitrage a contract price in the event of clear shifts in spot prices over time, for example if a counterparty had a variable volume contract for difference for (say) winter 2025 at $150 and it became clear closer to the time that 2025 was going to be a dry year and spot prices would exceed $150 then the counterparty could purchase uncapped volumes from Meridian and sell to other parties at significant profit to them and loss to Meridian. Conversely if 2025 turned out to be a very wet year with very low spot prices the counterparty could reduce their volume to zero.

While it varies by customer, retail sales tend to have (especially in aggregate) a profile shaped to include increased consumption during peak periods. It can be more costly to manage the spot price risks associated with such a profile compared to say a baseload financial contract.

Aside from credit risk, there is little or no difference between the information and incentives and risks and costs associated with physical supply or financial hedge contracts with large industrial consumers. Credit risks may be easier to manage with a physical supply contract where disconnection is an option and the scope for the counterparty to accrue debt is reduced (as opposed to a financial contract that could give rise to liabilities across the full life of the contract).

Aside from the differences noted above, the information, incentives, risks, and costs to sell into each of these channels (i.e. retail sales, wholesale contracts with generator-retailers, speculators, large industrial consumers, and non-integrated retailers) are in many respects similar.

Innovations that impact the risk management market

Question 13

Please list all innovations have you been investigating or implementing that may change the landscape for risk management? (Innovations could include such things as demand response initiatives, investment in batteries or other new technologies, different retail offerings, ways of making more flexible generation available for risk management, different contract types offered etc).

Please provide details of what the innovations entail and their timelines (eg, when the project was first considered, when the first trial began, etc).

Meridian response

Meridian is investigating or implementing several innovations that may change the risk management landscape. Note that many of the innovations that Meridian is investigating or implementing are also risk management options that Meridian has investigated or implemented or risk management options available to non-integrated retailers. Therefore, there is some repetition between this response to question 13 and responses to earlier questions.

In brief (and we note we are happy to discuss these initiatives further with the Authority if that would be of assistance):

Demand response innovations

Meridian has secured demand response options with NZAS, including:

- Smelter Demand Response under the main contract for a 250GWh reduction over 130 days subject to lake level triggers.
- An additional contract for up to 50 MW of demand response over up to 60 days with 2 or 3 days' notice (depending on option called).
- An additional contract for up to 20 MW of demand response over up to 2 hours with no less than 2 hours' notice.

Further details are published here: https://www.meridianenergy.co.nz/about-us/investors/reports/nzas-contract

An agreement has been signed with Open Country Dairy to enable demand to be reduced by up to 27MW when required to reduce Meridian's risk such as in winter peaks or periods of low hydro storage.

Meridian is investigating demand response agreements with several other large industrial consumers, including other dairy processors, hospitals, and breweries.

Longer term we see considerable opportunity for flexible hydrogen production to help address both peak capacity and dry year risks. Work continues with our partners on the Southern Green Hydrogen project.

Retail innovations

s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]

- s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]

Trials and development are underway for behind-the-meter controlled electric vehicle charging enabled via an app that enables customers to set base parameters and then Meridian manages the charging profile within those parameters: https://www.meridianenergy.co.nz/ev/smart-charging-trial.

s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]

Battery investments

Meridian is currently constructing a grid scale battery (200 MWh, 100 MW) at Ruakākā in Northland. The project is on track for completion in September 2024.

Meridian has several other grid scale battery options in its development pipeline, including a site at Bunnythorpe. We expect to build another grid scale battery around 2028.

On a smaller scale, Meridian is delivering a battery-backed electric vehicle public fast-charging solution for deployment in remote and electrically constrained Springs Junction. The battery will be 360kWh and the total cost including the charging infrastructure will be between s9(2)(b)(ii) & s9(2)(ba)(i) [redacted] (excluding costs for design and software integration). We intend to bring the charger online this calendar year.

Making flexible generation available for risk management

Meridian has been working to maximise the peaking capability of our existing hydro generation assets. We have secured unit capacity increases at Manapōuri and Benmore power stations, see: https://www.meridianenergy.co.nz/news-and-events/capacity-at-manapouri-power-station-update and https://www.meridianenergy.co.nz/news-and-events/benmore-power-station-unit-capacity-update. Further work is also underway to access even greater unit capacity at Manapōuri:

https://www.meridianenergy.co.nz/news-and-events/potential-increase-to-maximum-unit-capacity-at-manapouri-power-station. We have also secured an increase in total station capacity at Benmore power station: https://www.meridianenergy.co.nz/news-and-events/increase-to-maximum-station-capacity-at-benmore-power-station.

These enhancements in aggregate add significant capacity to our generation portfolio. Having this flexible capacity available will help manage risks such as winter peak periods.

Questions in information provision portal	Authority assessment of Contact's responses for purposes of OIA request
Credit approach and consistent treatment of participants	
Q1: All documents referring or related to credit assessment policies and processes, including your approach to: a. assessing the credit strength of a prospective counterparty b. setting counterparty credit risk limits c. measuring the potential credit exposure with respect to both individual deal structures and a portfolio of trades (e.g. netting) d. the treatment of credit enhancements e.g. letters of credit, guarantees.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Q2: All documents referring or related to credit assessment scores and limits carried out during the timeframe specified above (including how the assessment followed the framework or guidelines) applied to non-integrated retailers, other gentailers, and large energy users regardless of whether the other party entered into an agreement with you. Please also note the type of counterparty and whether you have a current ISDA with the counterparty.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q3: If not covered by (a) above, all documents referring or related to policies and procedures for determining whether to offer an ISDA to counterparties (by counterparty type, if applicable), and policies and procedures deciding on the terms to be offered and the process for executing an ISDA.	Nothing provided
Pricing contract methodologies	

Q4: All documents referring or related to your organisation's methodologies for pricing various types of contract structures through OTC instruments. This includes baseload, shaped, FPVV, option and cap contracts, as well as contracts with any other structures you are presented with or have offered or traded. Please include at least one recent worked example for each contract type. Please note: a. If there is differentiation in pricing methodologies for each of the contract types between non-integrated retailers, inter-generator and industrial customers (please include at least one worked example for each differentiation) b. How you assess credit exposure for each of the contract types, and how you price for counterparty credit, if at all	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
RFP responses and FPVV contracts	

Q5: Please fill in the attached spreadsheet (see below) for: a. all OTC RFPs or requests received that resulted in a signed contract (excluding requests from non-integrated retailers) b. Your ten largest (where size is based on GWh/year) FPVV (144 price schedule) contracts signed over the period (excluding those where the counterparty was a non-integrated retailer). (Please ignore irrelevant columns, and please note that one FPVV contract will require multiple rows filled in – please refer to the guidance attached). Please ensure prices entered are energy only prices.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q6: For any RFP you received and priced (this time including those received from non-integrated retailers) that did not follow the pricing methodologies supplied in (Q4) please provide supporting evidence to show how the final price was reached.	Nothing provided
Q7: Please provide all documents referring or related to methodologies or factors considered when deciding whether to respond to an RFP.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Q8: For any RFPs you received but did not respond to, the reason and evidence to support the decision to not respond, including any correspondence with the requestor in relation to the reasons for the decision.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Expectations on the OTC market to provide risk solutions for non-vertically integrated retailers	
Q9: What other risk management options have you been investigating or implementing beyond ASX or OTC options? For each option please provide your observations on the relative substitutability, efficiency, and cost for your organisation (versus OTC and ASX).	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q10: If you have investigated investing in batteries, please provide details of estimated or actual (where possible) development costs of such investment.	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** As noted in our 2023 Annual report we have an option for a 100MW battery in Glenbrook. Once the project reaches a final investment decision full costs for the project will be disclosed, s9(2)(b)(ii) & s9(2)(ba)(i) [redacted] If this project goes ahead we are considering making its capacity available across the market, including in frequency keeping, reserve markets, and wholesale arbitrage. As part of

	this we will engage with requests for risk management products from independent retailers or other market participants. s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]
Q11: What other risk management options do you believe non-integrated retailers have beyond ASX and OTC options? For each option you identify, please provide your observations on the relative substitutability, efficiency, and cost of these options for non-integrated retailers (versus OTC and ASX)?	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q12: What are some of the information and incentive challenges you have with contracting and pricing deal structures for different contract types with counterparties (in contrast with providing it to an internal party)? Please provide this information by type of counterparty (gentailer, non-integrated retailers, industrial customers). Do you consider the risk /cost of supplying an internal retail business unit the same as a third party (ignoring credit risk)? Why/why not?	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Innovations that impact the risk management market	

Q13: Please list all innovations you have been investigating or implementing that may change the landscape for risk management? (Innovations could include such things as demand response initiatives, investment in batteries or other new technologies, different retail offerings, ways of making more flexible generation available for risk management, different contract types offered etc). Please provide details of what the innovations entail and their timelines (e.g., when the project was first considered, when the first trial began, etc).	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Questions in information provision portal	Authority assessment of Genesis' response for purposes of OIA request
Credit approach and consistent treatment of participants	
Q1: All documents referring or related to credit assessment policies and processes, including your approach to: a. assessing the credit strength of a prospective counterparty b. setting counterparty credit risk limits c. measuring the potential credit exposure with respect to both individual deal structures and a portfolio of trades (e.g. netting) d. the treatment of credit enhancements e.g. letters of credit, guarantees.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Q2: All documents referring or related to credit assessment scores and limits carried out during the timeframe specified above (including how the assessment followed the framework or guidelines) applied to non-integrated retailers, other gentailers, and large energy users regardless of whether the other party entered into an agreement with you. Please also note the type of counterparty and whether you have a current ISDA with the counterparty.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q3: If not covered by (a) above, all documents referring or related to policies and procedures for determining whether to offer an ISDA to counterparties (by counterparty type, if applicable), and policies and procedures deciding on the terms to be offered and the process for executing an ISDA.	Nothing provided
Pricing contract methodologies	

Q4: All documents referring or related to your organisation's methodologies for pricing various types of contract structures through OTC instruments. This includes baseload, shaped, FPVV, option and cap contracts, as well as contracts with any other structures you are presented with or have offered or traded. Please include at least one recent worked example for each contract type. Please note: a. If there is differentiation in pricing methodologies for each of the contract types between non-integrated retailers, inter-generator and industrial customers (please include at least one worked example for each differentiation) b. How you assess credit exposure for each of the contract types, and how you price for counterparty credit, if at all	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
RFP responses and FPVV contracts	

Q5: Please fill in the attached spreadsheet (see below) for: a. all OTC RFPs or requests received that resulted in a signed contract (excluding requests from non-integrated retailers) b. Your ten largest (where size is based on GWh/year) FPVV (144 price schedule) contracts signed over the period (excluding those where the counterparty was a non-integrated retailer). (Please ignore irrelevant columns, and please note that one FPVV contract will require multiple rows filled in – please refer to the guidance attached). Please ensure prices entered are energy only prices.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Q6: For any RFP you received and priced (this time including those received from non-integrated retailers) that did not follow the pricing methodologies supplied in (Q4) please provide supporting evidence to show how the final price was reached.	Nothing provided
Q7: Please provide all documents referring or related to methodologies or factors considered when deciding whether to respond to an RFP.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q8: For any RFPs you received but did not respond to, the reason and evidence to support the decision to not respond, including any correspondence with the requestor in relation to the reasons for the decision.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Expectations on the OTC market to provide risk solutions for non-vertically integrated retailers	
Q9: What other risk management options have you been investigating or implementing beyond ASX or OTC options? For each option please provide your observations on the relative substitutability, efficiency, and cost for your organisation (versus OTC and ASX).	**Released in full:** The OTC market has several objectives, including providing for the trading of bespoke contracts tailored to the needs and objectives of contracting counterparties. It does not have as its principal objective the provision of risk management solutions for a particular category of market participants. Genesis has previously designed and offered "market security options" (MSOs - see attached) to the market, but this had limited take up from the market, and none from non-vertically integrated retailers. Key factors driving the MSOs include the ability for Genesis to manage the risk involved in providing these and a commensurate commercial return

Q10: If you have investigated investing in batteries, please provide details of estimated or actual (where possible) development costs of such investment.	**Part withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA** **Refer to document:** Genesis Energy Market Security Options (Final).pdf
Q11: What other risk management options do you believe non-integrated retailers have beyond ASX and OTC options? For each option you identify, please provide your observations on the relative substitutability, efficiency, and cost of these options for non-integrated retailers (versus OTC and ASX)?	**Released in full:** Other options available include investing in new renewable generation, and contracting / developing with large industrials, demand response products.
Q12: What are some of the information and incentive challenges you have with contracting and pricing deal structures for different contract types with counterparties (in contrast with providing it to an internal party)? Please provide this information by type of counterparty (gentailer, non-integrated retailers, industrial customers). Do you consider the risk /cost of supplying an internal retail business unit the same as a third party (ignoring credit risk)? Why/why not?	**Released in full:** This has been traversed at length with the Authority and the industry working group on the OTC Voluntary Code of Conduct, including genuine intent to contract, reasonableness of time frames, standardisation of documents, streamlining credit risk reviews. We expect that many of these will be resolved over time as participants align with the Code of Conduct.
Innovations that impact the risk management market	

Q13: Please list all innovations you have been investigating or implementing that may change the landscape for risk management? (Innovations could include such things as demand response initiatives, investment in batteries or other new technologies, different retail offerings, ways of making more flexible generation available for risk management, different contract types offered etc). Please provide details of what the innovations entail and their timelines (e.g., when the project was first considered, when the first trial began, etc).	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Questions in information provision portal	Authority assessment of Mercury's response for purposes of OIA request
Credit approach and consistent treatment of participants	
Q1: All documents referring or related to credit assessment policies and processes, including your approach to: a. assessing the credit strength of a prospective counterparty b. setting counterparty credit risk limits c. measuring the potential credit exposure with respect to both individual deal structures and a portfolio of trades (e.g. netting) d. the treatment of credit enhancements e.g. letters of credit, guarantees.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) OIA**

Q2: All documents referring or related to credit assessment scores and limits carried out during the timeframe specified above (including how the assessment followed the framework or guidelines) applied to non-integrated retailers, other gentailers, and large energy users regardless of whether the other party entered into an agreement with you. Please also note the type of counterparty and whether you have a current ISDA with the counterparty.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)**
Q3: If not covered by (a) above, all documents referring or related to policies and procedures for determining whether to offer an ISDA to counterparties (by counterparty type, if applicable), and policies and procedures deciding on the terms to be offered and the process for executing an ISDA.	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** We have included relevant policies and procedures regarding contracting with counterparties above. s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]
Pricing contract methodologies	

Q4: All documents referring or related to your organisation's methodologies for pricing various types of contract structures through OTC instruments. This includes baseload, shaped, FPVV, option and cap contracts, as well as contracts with any other structures you are presented with or have offered or traded. Please include at least one recent worked example for each contract type. Please note: a. If there is differentiation in pricing methodologies for each of the contract types between non-integrated retailers, inter-generator and industrial customers (please include at least one worked example for each differentiation) b. How you assess credit exposure for each of the contract types, and how you price for counterparty credit, if at all	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)**
RFP responses and FPVV contracts	
Q5: Please fill in the attached spreadsheet (see below) for: a. all OTC RFPs or requests received that resulted in a signed contract (excluding requests from non-integrated retailers) b. Your ten largest (where size is based on GWh/year) FPVV (144 price schedule) contracts signed over the period (excluding those where the counterparty was a non-integrated retailer). (Please ignore irrelevant columns, and please note that one FPVV contract will require multiple rows filled in – please refer to the guidance attached). Please ensure prices entered are energy only prices.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)**

Q6: For any RFP you received and priced (this time including those received from non-integrated retailers) that did not follow the pricing methodologies supplied in (Q4) please provide supporting evidence to show how the final price was reached.	Nothing provided
Q7: Please provide all documents referring or related to methodologies or factors considered when deciding whether to respond to an RFP.	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** Mercury's response to RFPs is consistent with the OTC Code of Conduct and the s9(2)(b)(ii) & s9(2)(ba)(i) are provided in response to the preceding requests.
Q8: For any RFPs you received but did not respond to, the reason and evidence to support the decision to not respond, including any correspondence with the requestor in relation to the reasons for the decision.	Nothing provided
Expectations on the OTC market to provide risk solutions for non-vertically integrated retailers	
Q9: What other risk management options have you been investigating or implementing beyond ASX or OTC options? For each option please provide your observations on the relative substitutability, efficiency, and cost for your organisation (versus OTC and ASX).	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** s9(2)(b)(ii) & s9(2)(ba)(i) [redacted] Within this context, as the OTC market is bespoke we will price all RFPs and risk management structures, proactively engaging with counterparties, suggesting innovative structures to counterparties, promoting our incentive to invest and innovate.

Q10: If you have investigated investing in batteries, please provide details of estimated or actual (where possible) development costs of such investment.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)**
Q11: What other risk management options do you believe non-integrated retailers have beyond ASX and OTC options? For each option you identify, please provide your observations on the relative substitutability, efficiency, and cost of these options for non-integrated retailers (versus OTC and ASX)?	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** Mercury is not in a position to comment on non-integrated retailers' specific decisions and circumstances regarding business models, how they position themselves in the market, and their choices regarding ASX, OTC and other risk management options. Such comments would be speculative. s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]
Q12: What are some of the information and incentive challenges you have with contracting and pricing deal structures for different contract types with counterparties (in contrast with providing it to an internal party)? Please provide this information by type of counterparty (gentailer, non-integrated retailers, industrial customers). Do you consider the risk /cost of supplying an internal retail business unit the same as a third party (ignoring credit risk)? Why/why not?	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** Mercury does not in general have any information nor incentive challenges in negotiating deals with counterparties. We consider the risk/cost of supplying all parties, taking into consideration as applicable to the party, s9(2)(b)(ii) & s9(2)(ba)(i) [redacted]
Innovations that impact the risk management market	

Q13: Please list all innovations you have been investigating or implementing that may change the landscape for risk management? (Innovations could include such things as demand response initiatives, investment in batteries or other new technologies, different retail offerings, ways of making more flexible generation available for risk management, different contract types offered etc). Please provide details of what the innovations entail and their timelines (e.g., when the project was first considered, when the first trial began, etc).	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)**

Questions in information provision portal	Authority assessment of Meridian's response for purposes of OIA request
Credit approach and consistent treatment of participants	
Q1: All documents referring or related to credit assessment policies and processes, including your approach to: a. assessing the credit strength of a prospective counterparty b. setting counterparty credit risk limits c. measuring the potential credit exposure with respect to both individual deal structures and a portfolio of trades (e.g. netting) d. the treatment of credit enhancements e.g. letters of credit, guarantees.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**

Q2: All documents referring or related to credit assessment scores and limits carried out during the timeframe specified above (including how the assessment followed the framework or guidelines) applied to non-integrated retailers, other gentailers, and large energy users regardless of whether the other party entered into an agreement with you. Please also note the type of counterparty and whether you have a current ISDA with the counterparty.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q3: If not covered by (a) above, all documents referring or related to policies and procedures for determining whether to offer an ISDA to counterparties (by counterparty type, if applicable), and policies and procedures deciding on the terms to be offered and the process for executing an ISDA.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Pricing contract methodologies	

Q4: All documents referring or related to your organisation's methodologies for pricing various types of contract structures through OTC instruments. This includes baseload, shaped, FPVV, option and cap contracts, as well as contracts with any other structures you are presented with or have offered or traded. Please include at least one recent worked example for each contract type. Please note: a. If there is differentiation in pricing methodologies for each of the contract types between non-integrated retailers, inter-generator and industrial customers (please include at least one worked example for each differentiation) b. How you assess credit exposure for each of the contract types, and how you price for counterparty credit, if at all	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
RFP responses and FPVV contracts	

Q5: Please fill in the attached spreadsheet (see below) for: a. all OTC RFPs or requests received that resulted in a signed contract (excluding requests from non-integrated retailers) b. Your ten largest (where size is based on GWh/year) FPVV (144 price schedule) contracts signed over the period (excluding those where the counterparty was a non-integrated retailer). (Please ignore irrelevant columns, and please note that one FPVV contract will require multiple rows filled in – please refer to the guidance attached). Please ensure prices entered are energy only prices.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q6: For any RFP you received and priced (this time including those received from non-integrated retailers) that did not follow the pricing methodologies supplied in (Q4) please provide supporting evidence to show how the final price was reached.	**Response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA**
Q7: Please provide all documents referring or related to methodologies or factors considered when deciding whether to respond to an RFP.	**Part of response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA** **Introduction released:** The response for this question has deliberately been left blank. In all instances where Meridian contemplated not responding to an RFP, we decided not to respond and the relevant documents are therefore captured under question 8.

Q8: For any RFPs you received but did not respond to, the reason and evidence to support the decision to not respond, including any correspondence with the requestor in relation to the reasons for the decision.	**Part of response withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i) of the OIA** **Introduction released:** We have provided all correspondence in instances when Meridian decided not to respond to RFPs. In all cases, the RFPs were received from a generator-retailer or speculators. Meridian decided not to respond in all cases because there was limited commercial interest in the proposal, i.e. the contract did not suit our portfolio at the time.
Expectations on the OTC market to provide risk solutions for non-vertically integrated retailers	
Q9: What other risk management options have you been investigating or implementing beyond ASX or OTC options? For each option please provide your observations on the relative substitutability, efficiency, and cost for your organisation (versus OTC and ASX).	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** See document "Meridian responses to Q9-12"
Q10: If you have investigated investing in batteries, please provide details of estimated or actual (where possible) development costs of such investment.	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** See document "Meridian responses to Q9-12"
Q11: What other risk management options do you believe non-integrated retailers have beyond ASX and OTC options? For each option you identify, please provide your observations on the relative substitutability, efficiency, and cost of these options for non-integrated retailers (versus OTC and ASX)?	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** See document "Meridian responses to Q9-12"

Q12: What are some of the information and incentive challenges you have with contracting and pricing deal structures for different contract types with counterparties (in contrast with providing it to an internal party)? Please provide this information by type of counterparty (gentailer, non-integrated retailers, industrial customers). Do you consider the risk /cost of supplying an internal retail business unit the same as a third party (ignoring credit risk)? Why/why not?	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** See document "Meridian responses to Q9-12"
Innovations that impact the risk management market	
Q13: Please list all innovations you have been investigating or implementing that may change the landscape for risk management? (Innovations could include such things as demand response initiatives, investment in batteries or other new technologies, different retail offerings, ways of making more flexible generation available for risk management, different contract types offered etc). Please provide details of what the innovations entail and their timelines (e.g., when the project was first considered, when the first trial began, etc).	**Redacted text withheld under sections 9(2)(b)(ii) and 9(2)(ba)(i)** See document "Meridian response to Q13"