

# Electricity contract co-design

## Workshop 1 discussion materials

26 May 2026

These materials are intended to supplement a discussion with L.E.K. Consulting. These perspectives will, therefore, only be meaningful to those in attendance. The contents of the materials are confidential and subject to obligations of non-disclosure. Your attention is drawn to the full disclaimer contained in this document.

## Disclaimer

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## Additional notes to these materials

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- Some of the contents of the workshop discussion materials were included for the purposes of group facilitation - e.g. housekeeping, group activities, etc. These have not been included in this set of materials outputs, for the sake of clarity and brevity
- The workshop discussion materials may include some contemporaneous notes. In the event of any inconsistencies between the workshop discussion materials and meeting minutes, reviewers should refer to the meeting minutes as the endorsed record of discussion and outcomes and regard these materials as supplementary only

## Acknowledgement of Country



*We acknowledge the Traditional Owners of Country throughout Australia, and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present*

Source: 'Gadigal Country – Here and Now' by Dunghutti and Biripi Artist, Wanita Lowe, commissioned by L.E.K. as part of our Reflect RAP

# Competition and Consumer law obligations and information sharing

Workshop 1

Introduction

The Competition and Consumer Acts prohibits anti-competitive conduct, including:

## Cartel conduct

Contracts, arrangements or understandings between competitors to fix prices, restrict supply or acquisition of goods/services, allocate customers, suppliers, territories or rig bids

## Concerted practices

Other cooperation between competitors with the purpose, effect or likely effect of substantially lessening competition

## Substantially lessening competition

Any other contracts, arrangements or understandings which have the purpose, effect or likely effect of substantially lessening competition

Any conduct by a company with market power which has the purpose, effect or likely effect of substantially lessening competition

Under no circumstances may Working Group members share competitively sensitive information with one another. As a general rule, if a Working Group member considers information to be sensitive from a commercial perspective and the information is not publicly available, it should not be discussed during Working Group meetings

# We have aligned on principles for how we will work together as a team

Workshop 1

Introduction

## Public Purpose Mindset

- Bring your experience and perspectives, but also step outside of them to consider the effect across the market and the grid
- Act in line with the National Electricity Objectives

## Constructive Participation

- A workable, imperfect, but standardised product beats many bespoke ones
- Constructive compromise is key
- Disagreement should always be clear and civil
- **Opinions without sufficient data to support them will not be treated as equal to evidence-backed perspectives**

## Ownership

- The Working Group, not the Convening Group, owns the recommendations
- We're looking for this group to lean in and help drive the process
- Decisions should aim to reach consensus and represent all sides of the market

## Openness

- Chatham house rules apply – you can share externally but do not attribute. Where possible we will agree common talking points for what is shared across the industry
- We plan to invite participation of other industry representatives when their input would be valued

## L.E.K.'s role on this project is to facilitate and synthesise

Workshop 1

Introduction

### What L.E.K.'s role will involve

- ✓ **Design and lead the co-design process**, including workshop structure, content, cadence, and workplan together with the Working Group
- ✓ **Facilitate workshops** to guide Working Group discussions, manage group dynamics, and drive progress toward decisions
- ✓ **Manage the development and distribution of co-design workshop supporting materials** (agendas, pre-reads, templates, summaries)
- ✓ **Enable alignment and consensus** across stakeholders
- ✓ **Maintain regular communication** with Working Group between workshops to encourage participation and communicate progress and any issues
- ✓ **Synthesise outputs** into final recommendations

### What L.E.K.'s role will not involve

- × **Provide substantive policy or technical analysis** on contract design options
- × **Advocate for specific positions or market outcomes**
- × **Have voting rights and make decisions** on behalf of the Working Group or Convening Group
- × **Deliver administrative or secretariat functions** (e.g. logistics, publishing, note-taking)
- × **Undertake legal drafting** or detailed contract development
- × **Lead direct engagement or communications with external stakeholders** such as peak bodies and media relations

**Chatham House rules apply. You can generally freely discuss information, but do not identify or attribute to any specific members without explicit approval from those attendants**

Workshop 1

*Introduction*

**Members can discuss the substance of discussions within their organisations or with external stakeholders**

**Members should not attribute specific views or positions to individual members or their organisations**

**Members should only describe discussions by attributing to the Working Group rather individuals/organisations**

## Workshop 1 will focus on ensuring a strong foundational understanding of potential contract models and design choices, defining required analysis, and establishing how we work together as a team

Workshop 1

Introduction

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9:00-9:30 am	30 mins	Introduction and recap of objectives, norms and protocols	<ul style="list-style-type: none"> <li>Re-cap of key kick-off discussion items and Working Group objectives</li> </ul>	L.E.K.
9:30-10:30 am	60 mins	Background to the Electricity Contract Co-design process	<ul style="list-style-type: none"> <li>Contextualise NEM review process and role of the Electricity Contract Co-design Working Group</li> </ul>	Tim Nelson / Phil Hirschhorn
10:30-10:45 am	15 mins	Break		All
10:45-12:15pm	90 mins	Communications and stakeholder engagement	<ul style="list-style-type: none"> <li>Agree on Working Group approach to communications, stakeholder engagement and external perspectives</li> </ul>	L.E.K.
12:15-1:00pm	45 mins	Lunch		All
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4:15-5:00 pm	45 mins	Feedback, action items, next steps and wrap-up	<ul style="list-style-type: none"> <li>Summary of where feedback and input is required, action items and responsibilities and key outcomes from the workshop</li> </ul>	L.E.K.

# The Working Group has been given a defined mandate to develop standardised electricity derivative contract structures – our initial workshop will establish foundations

Workshop 1

Introduction

## Working Group purpose

Leverage the commercial expertise, operational knowledge, and practical experience of market participants (who will use these contracts) to enable effective and efficient outcomes

## Working Group objective

Develop standardised electricity derivative contract structures covering the three core ESEM services as defined in the NEM Review Final Report (bulk energy, shaping and firming)

## Workshop 1 objectives

1. Ensure Working Group participants have a strong foundational understanding of how a core set of contract models would work, the choices that underpinned their selection, and their intended features
2. Define the analysis or other inputs that we will need to support selection of contract designs
3. Establish how we are going to work as a team, including communications planning

# The Working Group is responsible for developing standardised electricity derivative contract structures covering the three core ESEM services as defined in the NEM Review Final Report

## Contract types identified in the NEM Review

<p><b>Bulk energy</b></p>	<p>Capability to generate zero emissions electricity from one or more specified generating units or voluntarily scheduled resources</p>
<p><b>Shaping</b></p>	<p>Capability to consume or generate from one or more specified bidirectional units or voluntarily scheduled resources, or to consume and cease to consume from one or more specified voluntarily scheduled resources</p>
<p><b>Firming</b></p>	<p>Capacity from one or more specified scheduled generating units, bidirectional units, voluntarily scheduled resources or wholesale demand response units that is capable of being dispatched continuously for the time it takes to reach the cumulative price threshold if prices are at the market price cap</p>

## Contract attributes

<p><b>Electricity Services Entry Mechanism</b></p>	<p>Can be used to finance new electricity service provider projects via the Electricity Services Entry Mechanism (ESEM) The ESEM is a mechanism to extend contract tenors and manage long-term price risk for new electricity service providers, supporting resource adequacy</p>
<p><b>Market Making Obligation</b></p>	<p>Can be subject to a Market Making Obligation (MMO) An MMO is an obligation on designated market participants to provide liquidity in standardised derivative contracts, ensuring price discovery and enabling effective risk management</p>
<p><b>Final contract template format</b></p>	<p>Are in the form of a final contract template For example, a template confirmation for use with the latest 2002 ISDA Master Agreement and 2006 AFMA Electricity Markets Addendum</p>

Source: Industry-led electricity contract co-design – Interim guidelines and procedures

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**Why are we here?**

# The National Electricity Market is intended to connect the physical and financial electricity system across three time horizons...

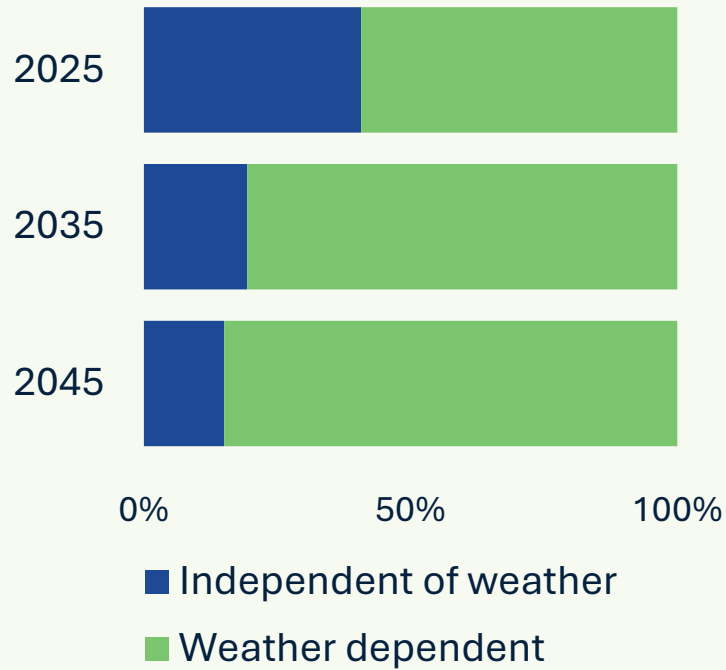


# ... but challenges to the functioning are growing...

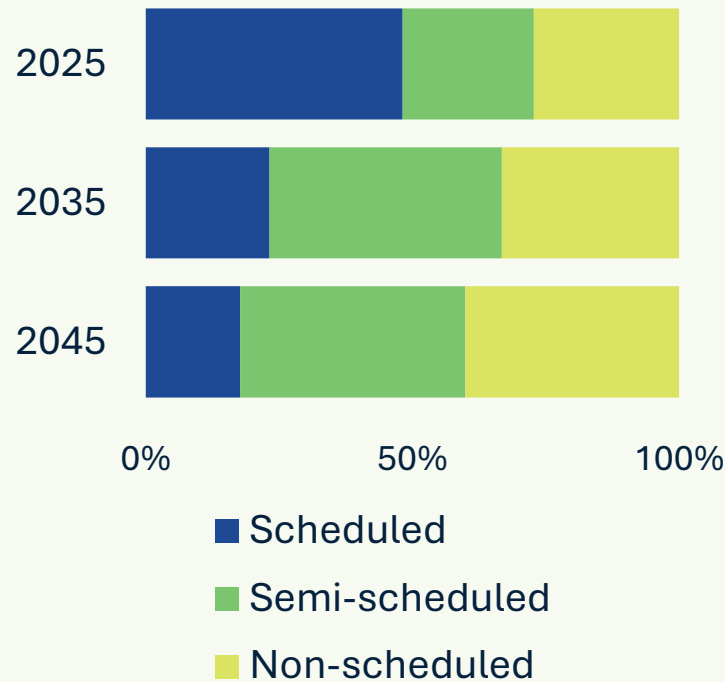


# Changing technology has a number of implications...

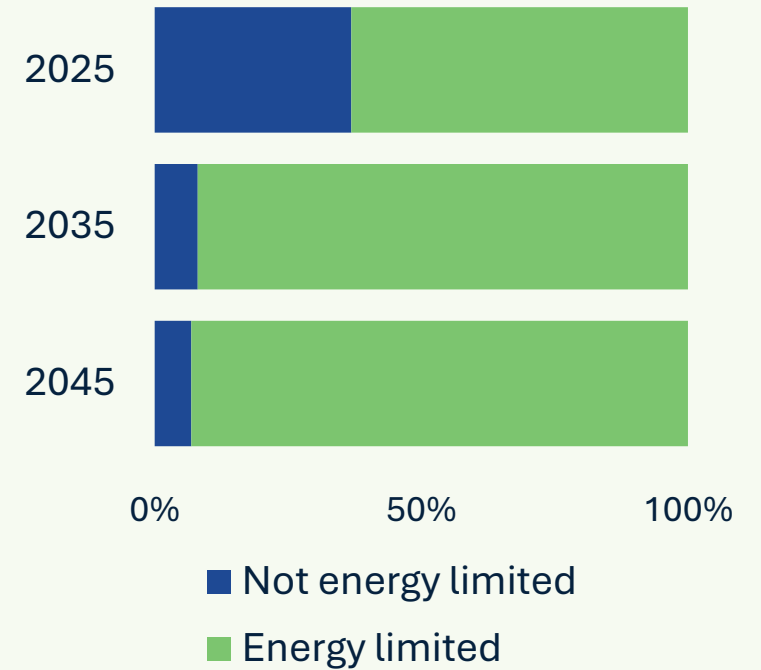
More weather-dependent



Less visible and less scheduled

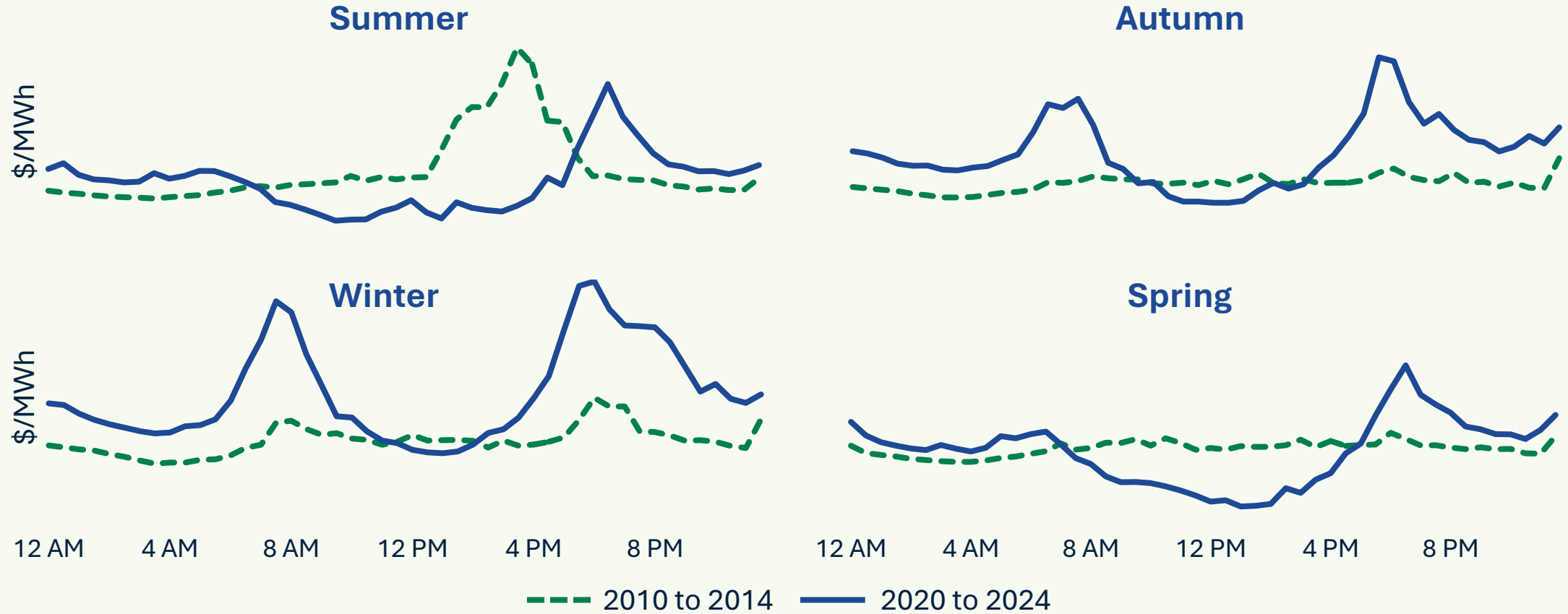


More energy limited



Percentage of total capacity. Sources: AEMO ISP 2024 data, NEM Review analysis

# More predictably variable...

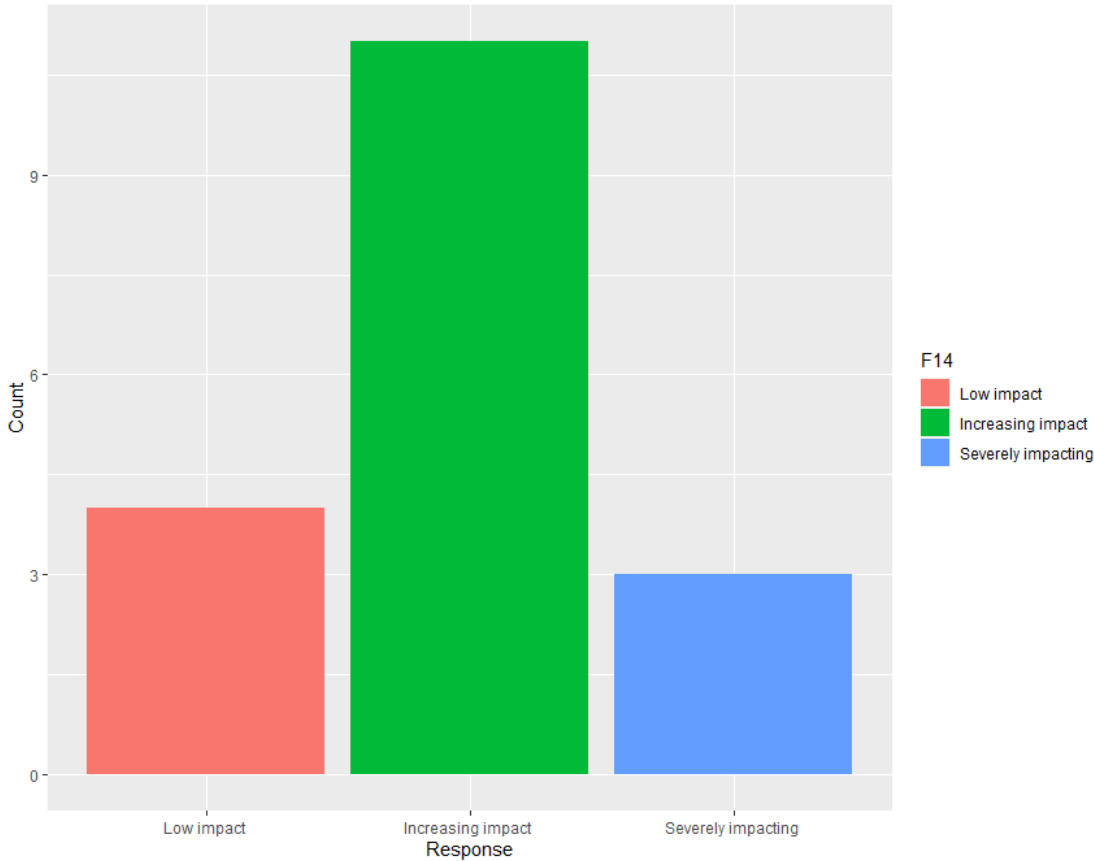


Average prices (2023 dollars) per megawatt-hour, based on calendar seasons. Sources: AEMO MMS data, NEM Review analysis

# Contract liquidity a growing concern...

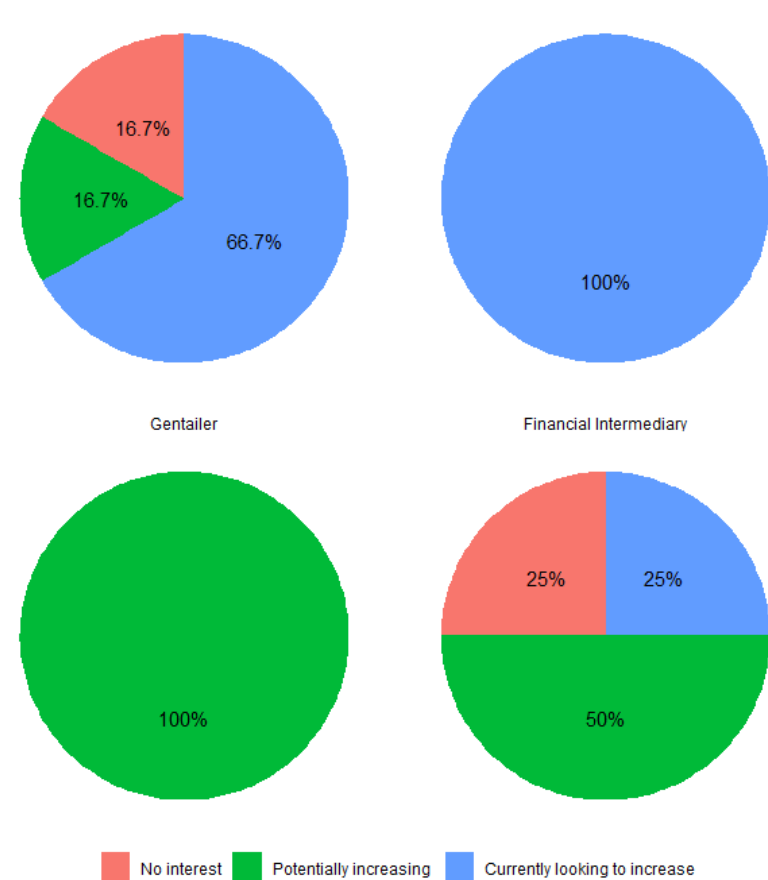
- Respondents expressed increasing concern that swap contract availability would impact their business
- In response, many are looking to increase their physical asset presence and increase vertical integration

Participants view on loss of swap will have to their business



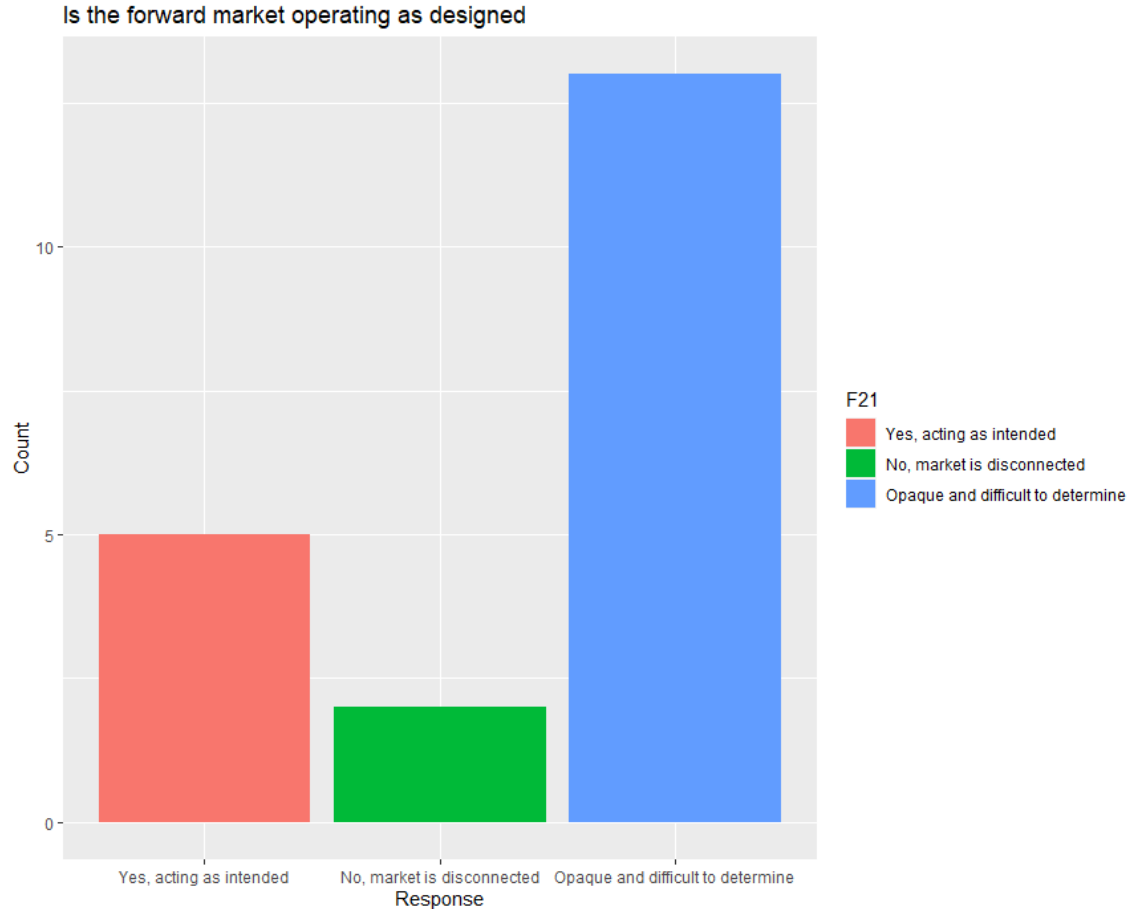
[griffith.edu.au/griffith-business-school/research/centre-applied-energy-economics-policy-research](http://griffith.edu.au/griffith-business-school/research/centre-applied-energy-economics-policy-research)

Participants willingness to increase vertical integration

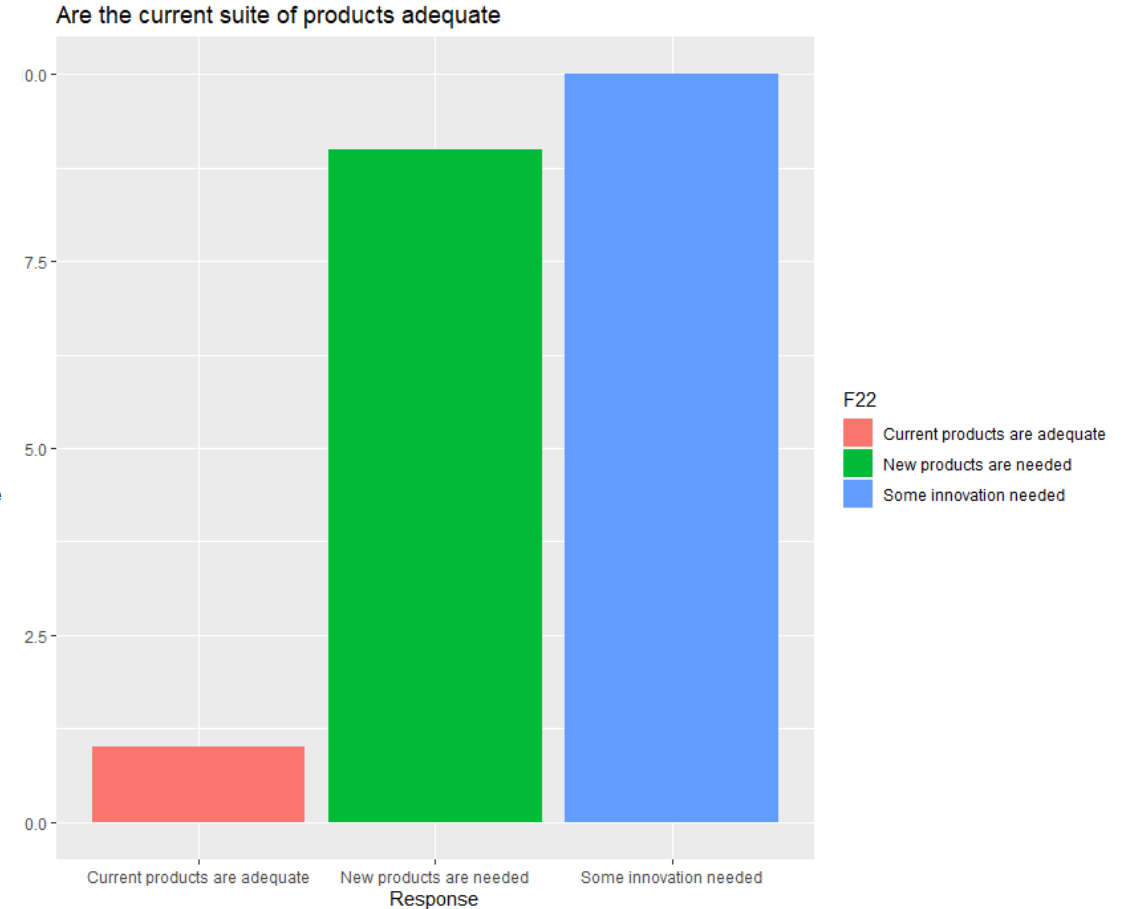


# Is the market acting as intended?

- Majority felt the market is at best opaque with a small group believing it is not acting as intended



- Majority suggested innovation in derivatives is required as the current suite of products can at best be complemented and at worst need to be replaced



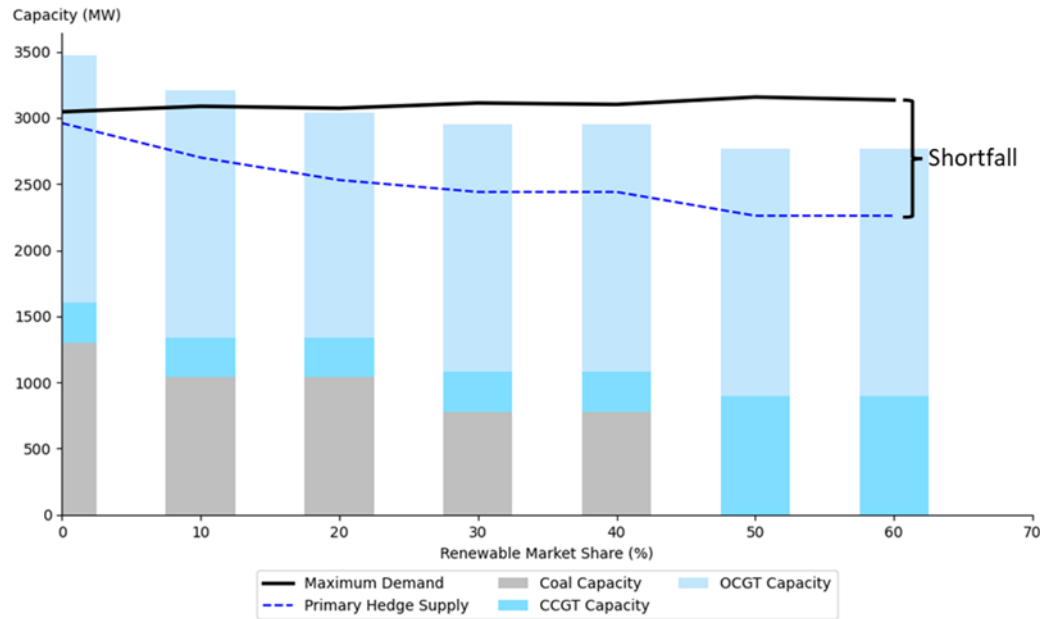
[griffith.edu.au/griffith-business-school/research/centre-applied-energy-economics-policy-research](http://griffith.edu.au/griffith-business-school/research/centre-applied-energy-economics-policy-research)

# South Australia

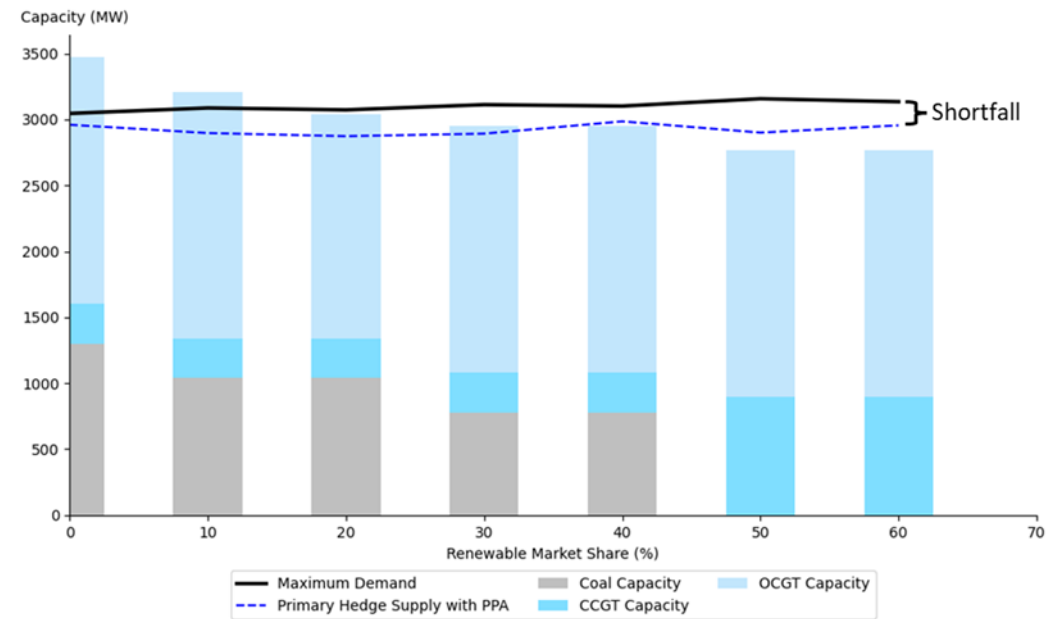
When off-market CfDs dominate the market...

- On a maximum demand of 3,144
- Primary hedge contract capacity falls by **700 MW**
- Creating a contract shortfall of **22%**
- When on-market PPAs are used shortfall is **not entirely mitigated**

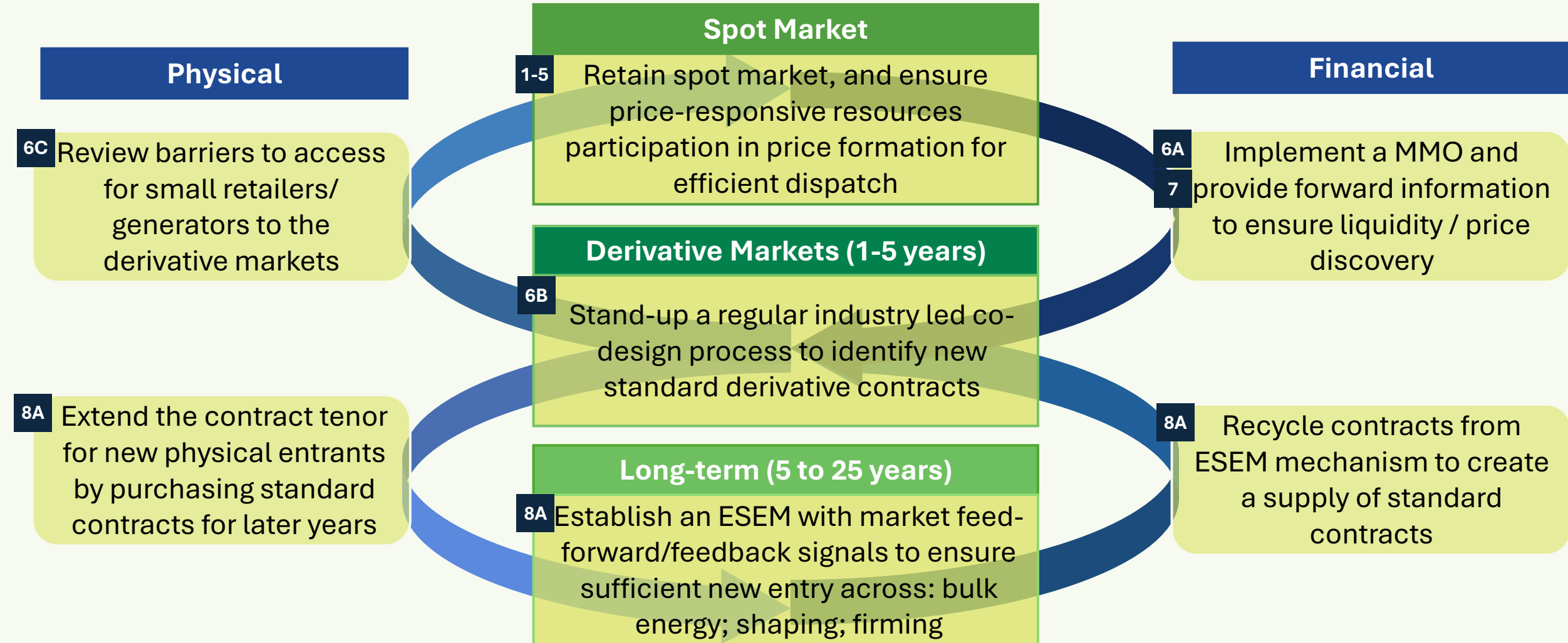
Off-market CfDs



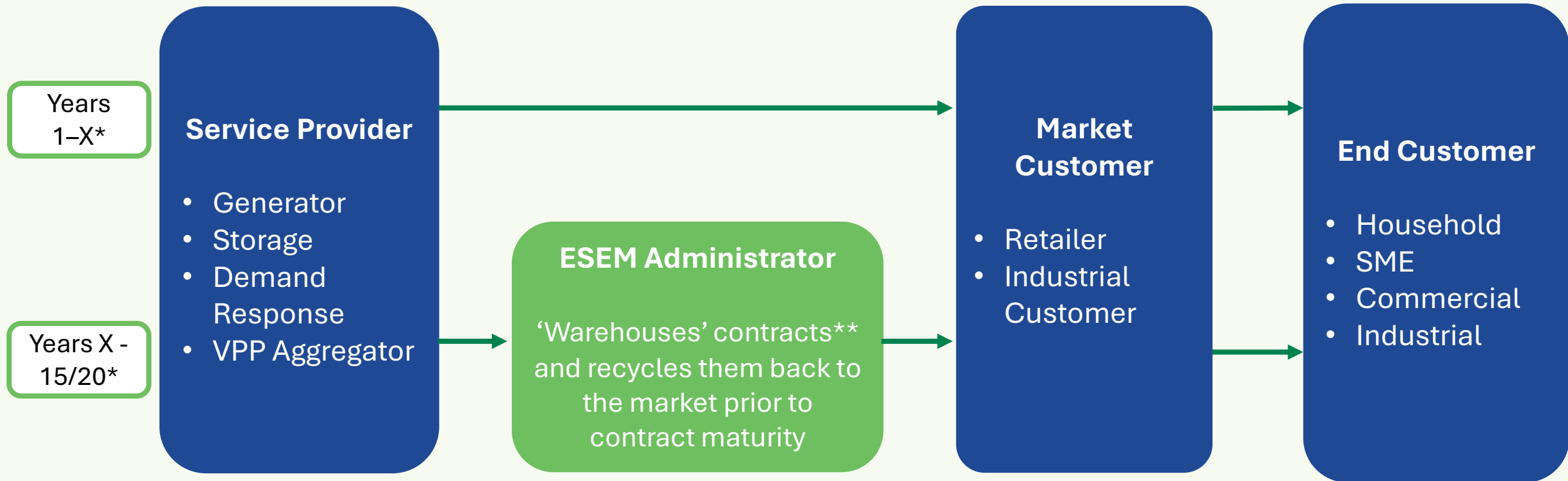
On-market PPAs



# ... leading to a suite of recommendations from NEM Review



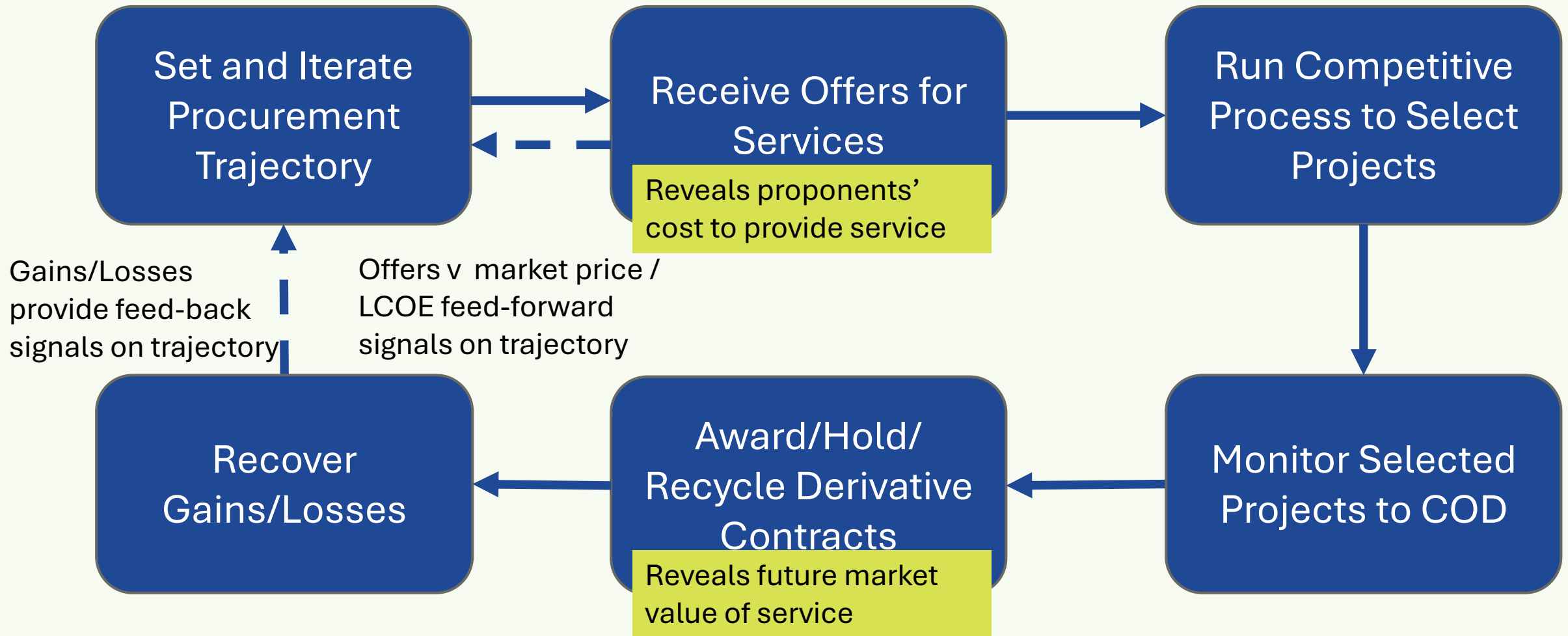
# The ESEM is designed to solve the tenor gap using an enduring framework



\* Years provided are indicative and may actually be different for different services

\*\* Contracts are derivatives, established through the process outlined in the medium-term market recommendations

## Broadly 6 steps to administer the ESEM mechanism



# Standardised, fungible contracts at the heart of our recommendations

1

## Manage Risk

- Accessible, unitised mechanism for buyers and sellers to manage risk in weather dependent system (e.g. versus alternative of plant-specific PPAs)
- Transparent mechanism for market to trace underlying cost of managing risk
- Transparent/Liquid contracts that manage risk for retailers create potential linkage to DMO

2

## Underpin the MMO

- Contracts that strike the right risk management create a larger number of natural buyers/sellers
- This allows for a meaningful, and low impost Market Making Obligation
- A Market Making Obligation ensures liquidity and trust in prices
- Line-of-sight to liquidity helps increase speed to market at the exchange-level

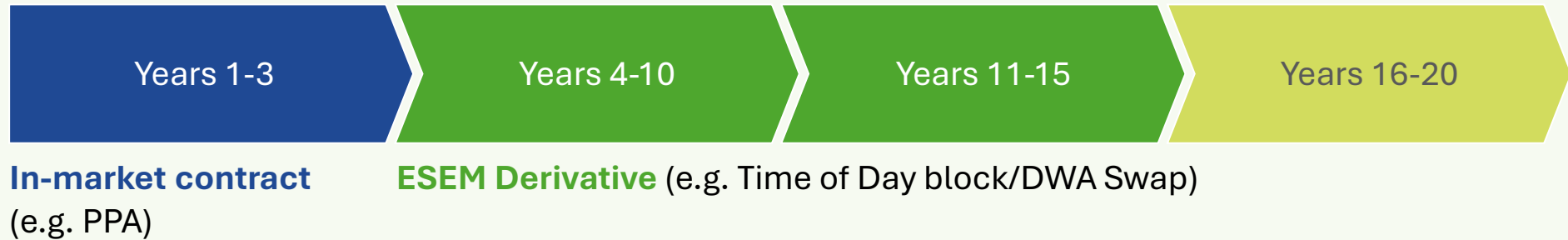
3

## Applied in ESEM

- Underwriting via standardised contracts dramatically simplifies project selection for ESEM (price = value)
- Standardised contracts, that are traded increases number of potential buyers when ESEM administrator recycles contracts, especially if linked to DMO
- Ability to compare prices paid for contracts in competitive tenders, with traded contract prices and market prices received in recycling creates market discipline for ESEM administrator

# Fungible contracts provide flexibility to ESEM proponents (I)

## Maintain derivative position



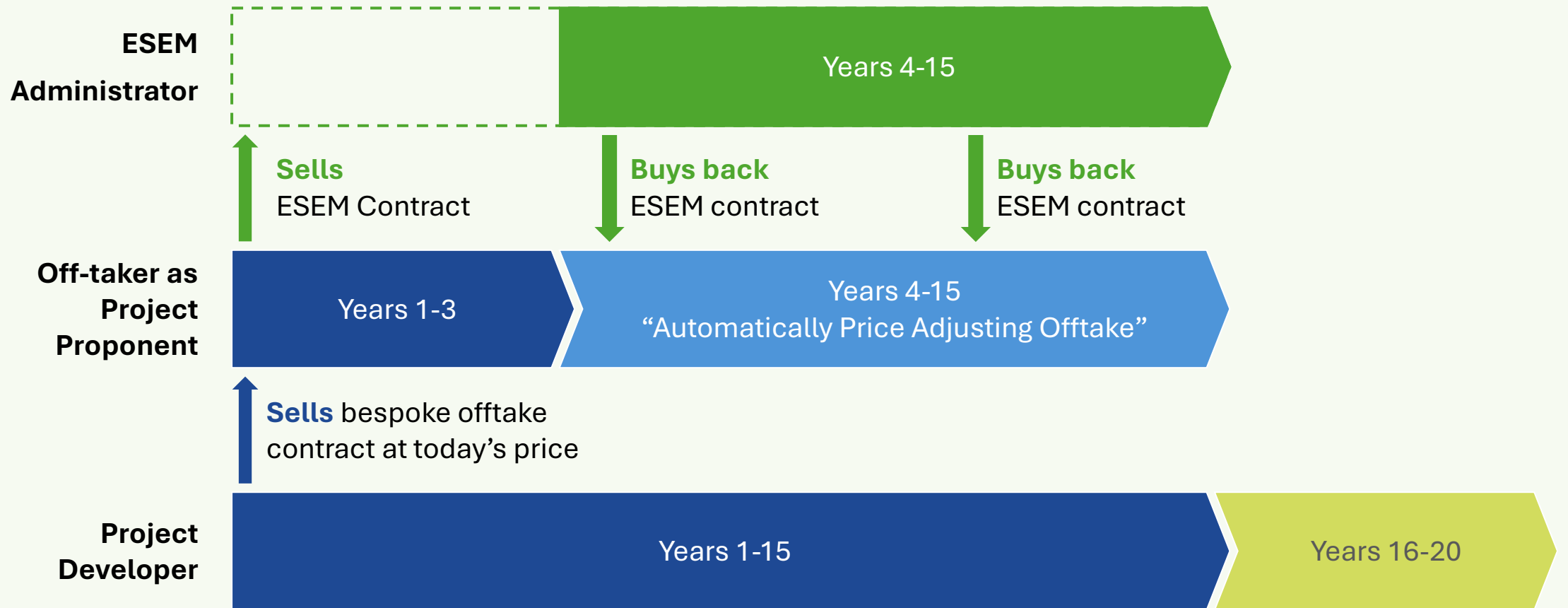
## Cycle back into bespoke contract



1. Possible that ESEM Administrator has direct buy-back approach or alternative, given MMO, that the contract is liquidly back-to-backed on an exchange.

# Fungible contracts provide flexibility to ESEM proponents (II)

## Off-taker acts as project proponent

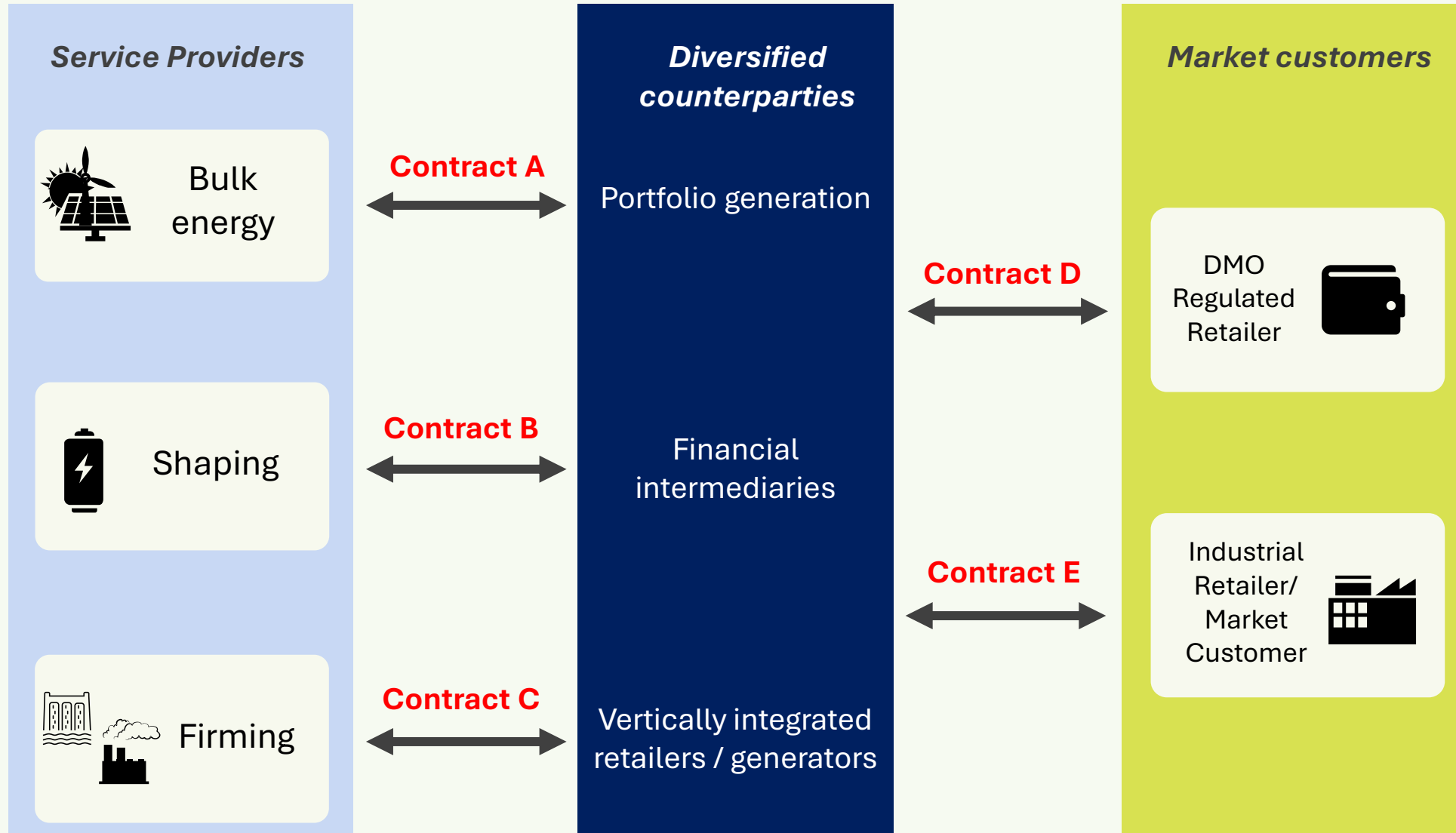


# What services do we need contracts for?

Bulk energy	Zero emissions electricity generation (MWh)
Shaping	Matching the intraday profiles of supply and demand
Firming	Very long-duration and dispatchable resources that can be delivered as needed
Combined	Contracts that could, combine the services into single products for retailers/customers

**Contracts for Individual Services**

**Contracts for 'Combined' Services**



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# Transparent, two-way communication with a wide range of stakeholders is critical gaining industry support for the proposed designs

Workshop 1

Communications

## Be transparent

Bring the industry on the journey. Share information on the process, options and trade-offs

## Listen to feedback

Listen to stakeholder perspectives, insights and feedback into proposed contract designs and related issues

## Engage early

Drive engagement from the outset – communicate openly to build trust in both the recommendations and the process

## Refine the answer

Refine designs and our understanding of implementation issues through ongoing discussion and feedback

# As a self-governing group, we need to agree several communications and stakeholder engagement protocols

Workshop 1

Communications

- 1 Format for minutes and protocols for minute taking, review and publication
- 2 How will the Working Group engage with stakeholders, collect feedback and bring in external perspectives
- 3 How should the working group co-ordinate external communications, and who should lead this for each stakeholder group?
- 4 Align on an approach to outbound engagement, including defining who should deliver messages to whom, and when
- 5 Align on an initial set of inbound perspectives, presentations or training sessions that would be valuable for Working Group members and how they should be delivered

# Format for minutes and protocols for minute taking, review and publication

## Workshop 1

## Communications

### Meeting Minutes

#### Minutes of the Electricity Contract Co-Design Working Group Meeting

19 May 2026

##### Working Group Members Present

Tom Arnold (ACEN Australia), Paul Curnow (Akaysha Energy), Jialin Shen (Ampyr Energy), Paul Grzanic (Aurora Energy), Nick Hawke (CEFC), Declan Kelly (Flow Power), Stephanie Easton (Iberdrola Australia), Ally Bonakdar (NAB), Daniel Teng (Origin Energy), Andrew Mulder (RWE), Andrew Wilkins (SA Water).

##### Other attendees

Jeff Forest (L.E.K Consulting), Lucy Carter (L.E.K Consulting), Ryan Wilson (DCCEE), Dennis Venning (DCCEE), Zach Hall (DCCEE), Thimo Mueller (ASL), Michael Riordan (ASL), Ross Anderson (ASL), Fiona Hooymans (AER).

##### Overview

The Working Group (WG) convened for its inaugural session, establishing a shared understanding of its mandate, confirming expectations for participation, and outlining the proposed approach to co-design. The sessions also considered outputs from the 2025 pilot process and reviewed the forward program of work, including workshop scheduling and stakeholder engagement.

##### Mandate and Scope

The WG reaffirmed its mandate, as set out in the Guidelines, to develop standardised electricity contract structures across three Electricity Services Entry Mechanism (ESEM) services: bulk energy, shaping, and firming. These structures are intended to support the financing of new market entrants through the ESEM and may be subject to future application under the MMO framework.

Members acknowledged the core expectations of participating, including:

- Acting in accordance with the National Electricity Objective;
- Contributing expertise while moving beyond organisational advocacy;
- Working constructively toward consensus; and
- Adhering to Chatham House rules.

It was strongly reinforced that the co-design process is industry-led in both substance and outcomes.

##### Ways of Working

The WG considered proposed principles to guide engagement, including a public purpose mindset, shared ownership of outcomes, constructive participation, and transparency with industry.

The need for analytical support throughout the co-design process was discussed. The Convening Group (CG) confirmed that support will be made available as required, while also encouraging WG members to leverage internal capabilities and broader industry networks to inform analysis and inputs.

##### Pilot Process Outcomes

The WG reviewed outputs from the 2025 pilot co-design process. It was clarified that these outputs do not constrain the current phase of work.

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Members revisited the critical design criteria used during the pilot, noting that these may require refinement. Initial discussions highlighted several areas warranting further analysis and consideration as the co-design process progresses.

##### Program of Work and Communications

The WG considered a proposed program of work, including a series of five to six in-person workshops through to November 2026.

Discussion also covered communications protocols, including confidentiality and competition law considerations, as well as approaches to broader industry engagement.

##### Next Steps

- WG members to provide feedback on proposed ways of working ahead of in-person workshop.
- WG to identify and communicate any analytical support requirements to the CG.
- WG to review pilot process outputs in detail to inform baseline alignment.
- WG to consider and provide feedback on the proposed workshop schedule and structure.
- WG and CG to further develop approaches to broader industry engagement.

##### Forward Schedule

The first in-person WG workshop is scheduled for 26 May 2026.

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- ASL will prepare and share minutes in a communiqué style (per the image on the left), with the Working Group members having 48 hours to review and propose changes before ASL distributes the minutes to stakeholders
- Review of the minutes will be time sensitive to ensure the meeting materials are published in a timely manner

# Engagement with external stakeholders to keep them updated with the process and gather relevant feedback will be critical to the success of the Working Group

Workshop 1

Communications

1

## Nominate a Working Group Chairperson to lead external communications

- Single point of responsibility for external communications
- Ensures consistency of messaging

Advantages

Disadvantages

- May not have existing relationships / established trust with all key stakeholder groups
- Significant resourcing burden placed on a single Working Group member

2

## Working Group members assume responsibility for engaging with specified external stakeholders

- Distributes responsibilities more evenly across Working Group members
- Allows different Working Group members to leverage existing stakeholder relationships / trust
- Concerted effort required by individual Working Group members to ensure ongoing cadence of engagement and consistency of messaging

**Preferred approach of the WG**

3

## Request separate communications support / resourcing from the Convening Group

- Alleviates some communication burden on Working Group members
- Single point of responsibility for external communications
- Ensures consistency of messaging
- Optics of being seen as a filter for group messages – diminishes industry ownership
- Still require significant input and support from Working Group members

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**Recap:** We will need to consider how we leverage the positions developed by the Pilot Working Group to reach designs that allow for balanced consideration of overall structure and detailed terms

Workshop 1

*Evaluation criteria*

**Refined list of contract options**

**Critical design criteria**

**Supporting analysis and explanatory materials**

## Several key contract design criteria were developed by the Pilot Working Group

Workshop 1

Evaluation criteria

	Criteria	Description	Changes or updates
Pilot Working Group criteria	1. Fungible	<ul style="list-style-type: none"> <li>Can be separated from any individual buyer or seller and on-sold</li> </ul>	Requirement under the Terms of Reference
	2. Simple to value	<ul style="list-style-type: none"> <li>Contracts requiring a point of view on more parameters and more conditionality can be more challenging to value accurately</li> </ul>	N/A
	3. Works as a portfolio (modular, assessed across services)	<ul style="list-style-type: none"> <li>Covers all risks when used together with other contracts in set: no gaps / no overlaps</li> <li>Can sufficiently support portfolio risk management for a retailer or large user</li> </ul>	Added detail on need to address demand-side needs
	4. Assigns risk to buyers and sellers based on who can best manage	<ul style="list-style-type: none"> <li>Assigns risks to buyers and sellers based on who is best placed to manage, and thus preserve incentives for optimal investment/operational decisions</li> <li>Includes considerations of financing and bankability</li> </ul>	Bankability now separated
	5. Adaptable to future market	<ul style="list-style-type: none"> <li>Can flex as market conditions change in future</li> </ul>	N/A
	6. Cross-technology competition	<ul style="list-style-type: none"> <li>Multiple technologies able to be compared</li> </ul>	Addressed in Working Group Terms of Reference
Additions	7. Operationally achievable	<ul style="list-style-type: none"> <li>Can be readily implemented in a real-world setting</li> </ul>	Added
	8. Bankability	<ul style="list-style-type: none"> <li>Supports reasonable financing terms for new projects</li> </ul>	Separated from (4)
	9. Attracts both supply and demand	<ul style="list-style-type: none"> <li>Address objectives both to bring new supply and support energy buyers' to manage portfolios</li> </ul>	Added

Source: Industry-led electricity contract co-design – interim guidelines and procedures

## Workshop 1 will focus on ensuring a strong foundational understanding of potential contract models and design choices, defining required analysis, and establishing how we work together as a team

### Workshop 1

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# The Pilot Working Group proposed several specific contract options, noting that additional work is still required to define the exact characteristics / settings of these products

Workshop 1

Contract options

## Pilot Working Group proposed contracts

### Firming

- The Pilot Working Group considered that **caps** were the most suitable product to underwrite investment in firming assets as they are widely used, established products

- Caps** sells an option contract that pays out all spot market prices above a specified strike price for a given contracted capacity

### Shaping

- The Pilot Working Group considered the **heads-and-tails spread** the preferred shaping contract based on feedback regarding its suitability for shaping projects, its durability to market changes over time and its potential to complement the ex-post DWA swap

- H&T spreads** captures the value of daily price arbitrage based on price difference between a specified number of highest and lowest price trading intervals each day

- The group also acknowledged that **time-of-day blocks** could also be a workable option for consideration if operational or financeability issues with the heads-and-tails spread cannot be resolved

- ToD blocks** sell a standardised swap contracts for specific time periods throughout the day

### Bulk energy

- The Pilot Working Group considered **ex-post dispatch weighted average (DWA) swaps** were the preferred bulk energy product for use in the ESEM

- Ex-post DWA swaps** sell a fixed MWh output matching an actual reference generation profile determined ex-post. Reference profile would be technology specific

- The Pilot Working Group also considered **ex-post revenue swaps** may be an alternative to DWA swaps

- Ex-post revenue swaps** sell market revenue for fixed MW of reference generation profile

- The group noted that **capped time-of-day blocks** could also be a workable option for consideration if any intractable issues arise with DWA swaps

- Capped ToD blocks** sell a standardised swap contracts for specific time periods throughout the day with a price cap

Source: Pilot Working Group Section 5.2 Appendix C – Contract Options; NEM review contracts co-design group pilot – Workshop 1 Outcomes



# Contract deep dive: Caps

Workshop 1

Contract options

Firming

Cap



### Buyer gets

- Spot revenues above cap strike price



### Seller gets

- Fixed payment (e.g. \$15/MW/hour) multiplied by nominated capacity



### Why it might be interesting

- Exchange-listed, deeply liquid, used for firming today so well understood
- Insurance against rare but severe price volatility



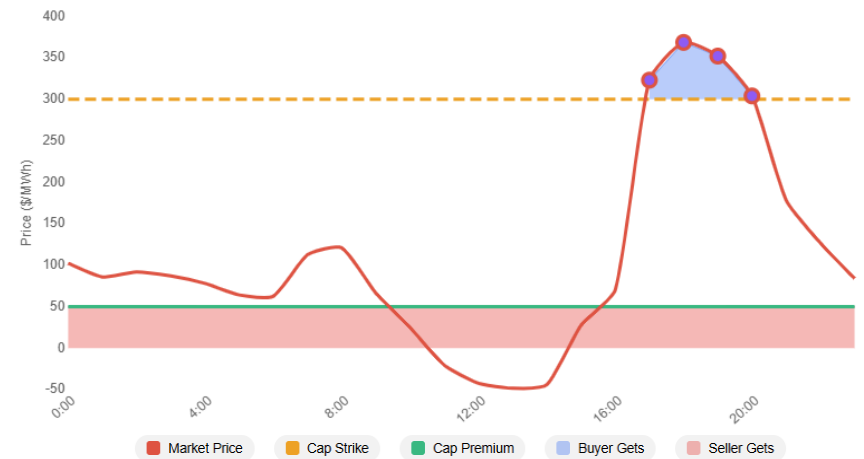
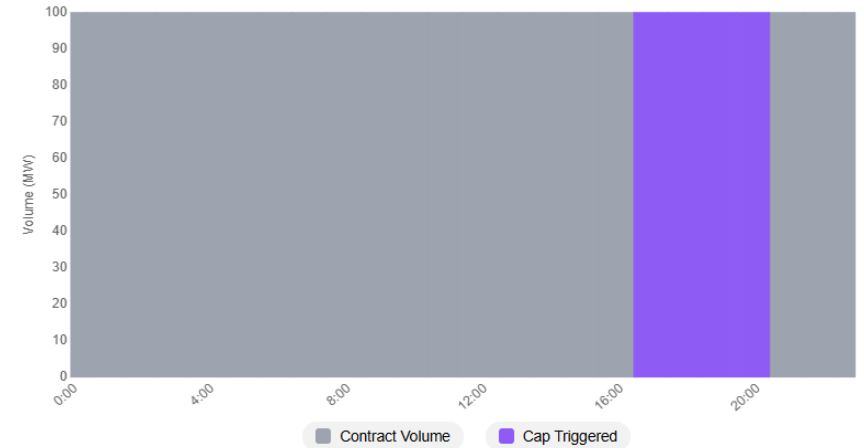
### Notes for further consideration

- Options such as limiting cap timing to some hours-of-day, or adding an energy-limit (e.g. max 100 MWh per MW over \$300 per 7 days).
- Is \$300 the right strike price?
- Other implementation concerns, such as the impact of longer tenure, or the market price cap

How does it work?

Why would or wouldn't this be a good choice?

What analysis or evidence do we need to decide?



Source: Pilot Working Group Section 5.2 Appendix C – Contract Options; NEM review contracts co-design group pilot – Workshop 1 Outcomes

# Contract deep dive: High/low price spread

Workshop 1

Contract options

## Shaping

## High/low price spread

### Buyer gets

- Spread of average highest and lowest hours, net of fixed swap premium

### Seller gets

- Fixed revenue for daily charge/discharge cycle; market revenue sourced outside the energy market (e.g. FCAS)

### Why it might be interesting

- Simple structure, captures value from intraday volatility without requiring physical dispatch

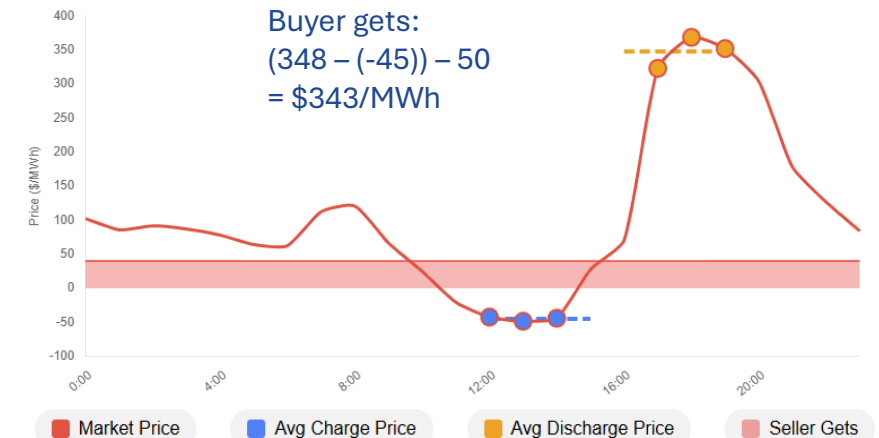
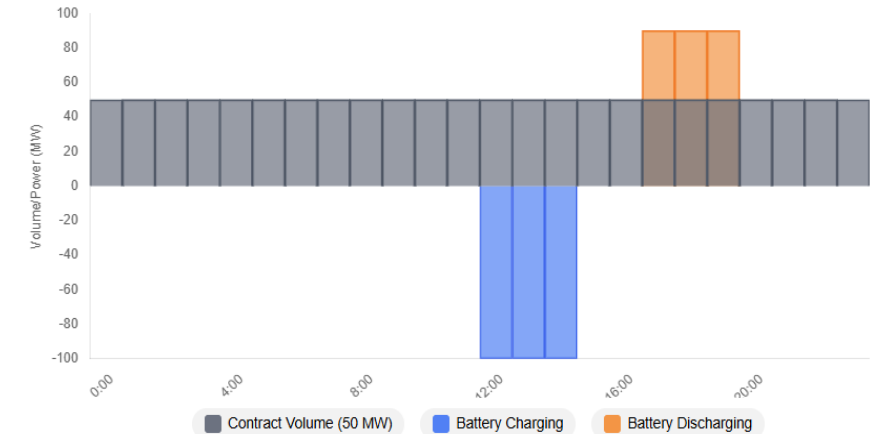
### Notes for further consideration

- Swap premium is likely to be high to compensate for risk
- Could be combined with other services for additional revenue stacking
- Standardised round trip efficiency option could allow batteries to mirror their charge/discharge profile more accurately
- Could potentially extend beyond intra-day
- May be difficult to standardise
- Window for spread calc could be daily/weekly/quarterly
- Doesn't give much buyer flexibility
- Options for parameters such as duration, contiguous hours, time blocks

How does it work?

Why would or wouldn't this be a good choice?

What analysis or evidence do we need to decide?



# Contract deep dive: Ex-post dispatch weighted average (DWA) swaps

Workshop 1

Contract options

Bulk Energy

Ex-post dispatch weighted average (DWA) swap



### Buyer gets

- Virtual Offtake: Fixed MWh output at the reference/average renewable project's ex-post shape



### Seller gets

- Fixed revenue per month with obligation for delivering fixed MWh of reference/average wind farm
- Net market revenue for production above/under profile



### Why it might be interesting

- Some high price protection for sellers when VRE is likely low – less payout on contract is required
- Provides buyers exposure to slice of all VRE in the region
- Avoids distortions from generators operating when prices are negative



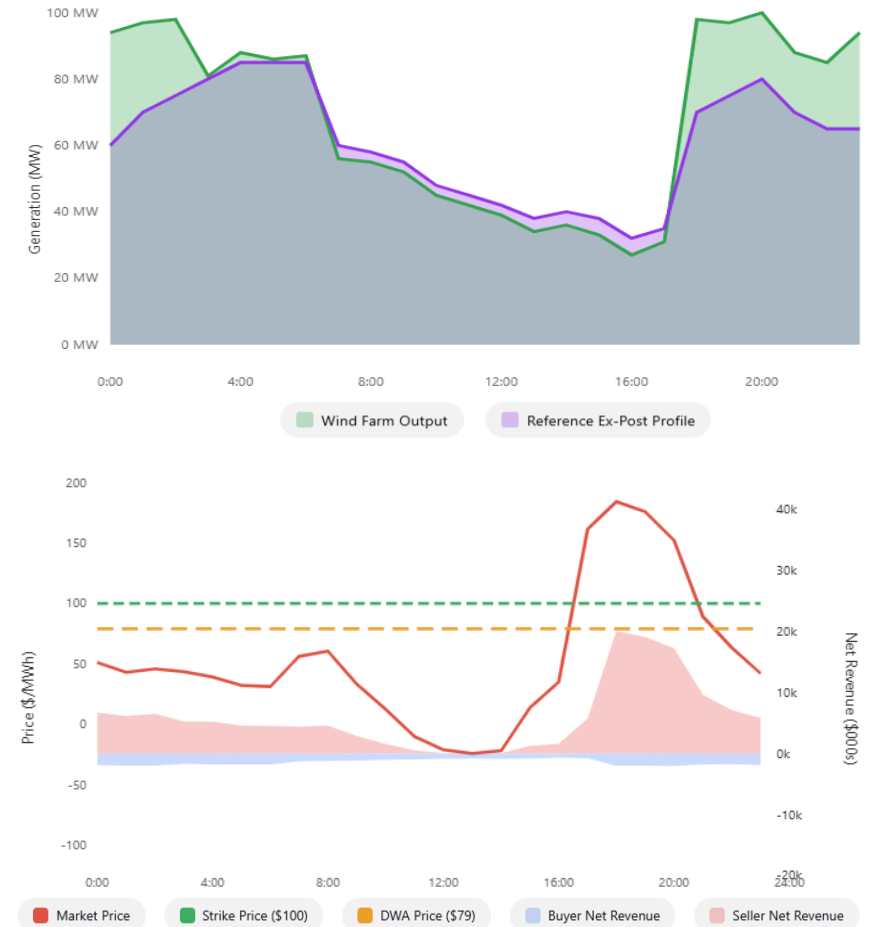
### Notes for further consideration

- Volume risk remains material for generators
- May need technology-specific variants (solar vs wind profiles)
- Could use calculated indexes to determine new reference shape but would need to define the 'index' for calculations
- Potential for different performance in different regions (e.g., based on resource diversity, market depth)
- Long duration of contracts increases uncertainty on future market conditions (including the reference index)

How does it work?

Why would or wouldn't this be a good choice?

What analysis or evidence do we need to decide?



Source: Pilot Working Group Section 5.2 Appendix C – Contract Options; NEM review contracts co-design group pilot – Workshop 1 Outcomes

# Contract deep dive: Ex-post revenue swap

Workshop 1

Contract options

Bulk Energy

Ex-post revenue swap



### Buyer gets

- Virtual ownership: Ex-Post market Revenue for fixed MW of reference/average wind-farm



### Seller gets

- Fixed Revenue per MW + any net market revenue above reference/average wind-farm of same size



### Why it might be interesting

- Retailers hedge exposure to low residual load prices during strong renewable conditions
- Provides buyers exposure to slice of all VRE in the region



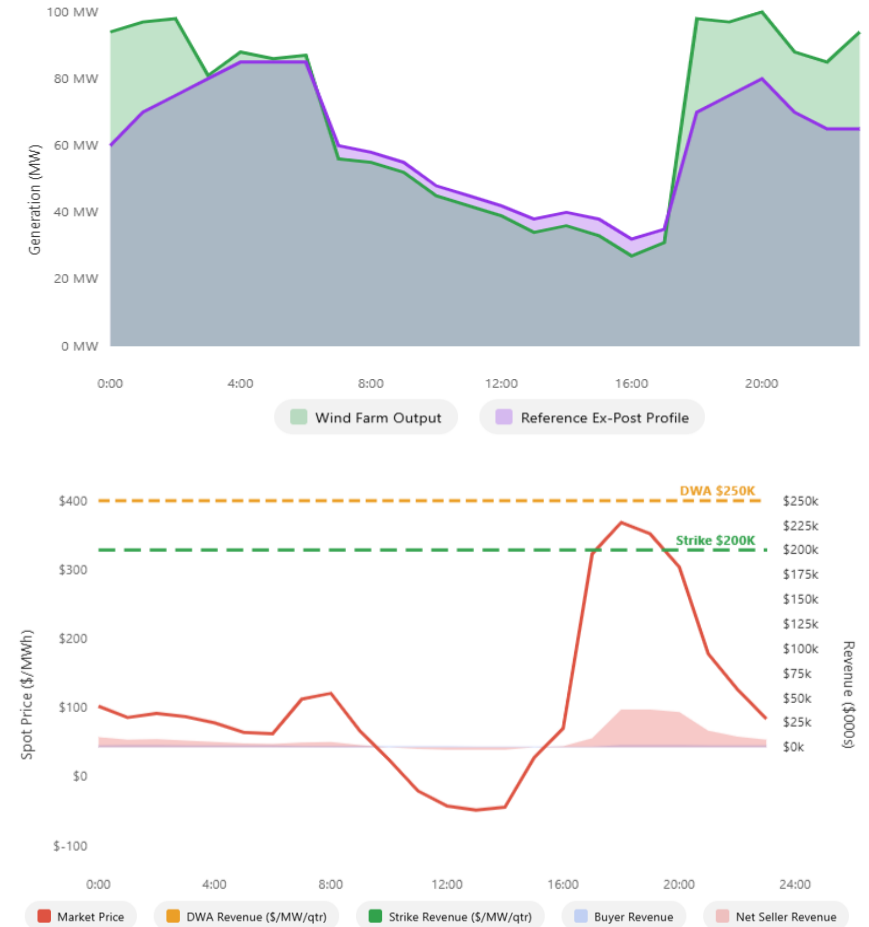
### Notes for further consideration

- Volume risk remains significant - may need technology-specific variants (solar vs wind profiles)
- Restricts how VRE can be operated (i.e. limits ability to put in portfolio or curtail to protect portfolio earnings)
- Difficult to standardise
- Needs to consider the reference index, including treatment of outliers

How does it work?

Why would or wouldn't this be a good choice?

What analysis or evidence do we need to decide?



# Contract deep dive: Time-of-day (ToD) block price swap

Workshop 1

Contract options

## Bulk Energy Shaping

## Time-of-day (ToD) block price swap



### Buyer gets

- Virtual offtake in block shape at differential but fixed prices for each block



### Seller gets

- Fixed revenue with obligation to deliver the shape. Market revenue for net delivery above shape



### Why it might be interesting

- Simple, fungible contract that allows variable renewables to sell only those hours they are well suited to defending (e.g. solar only nominates daytime)



### Notes for further consideration

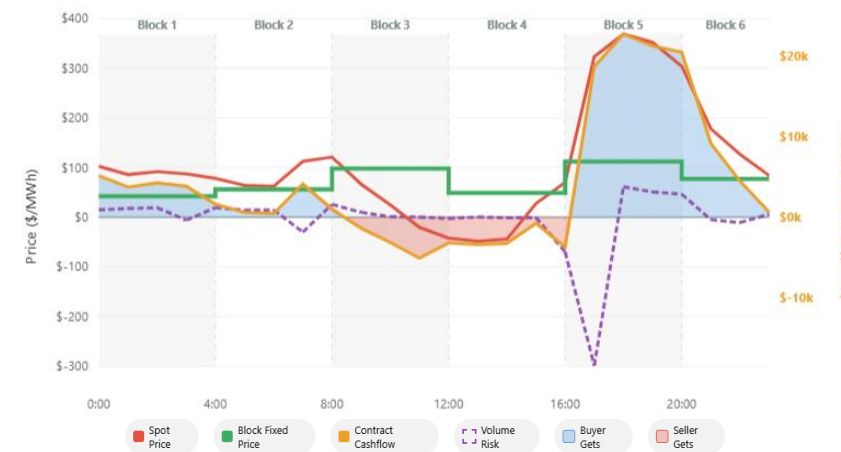
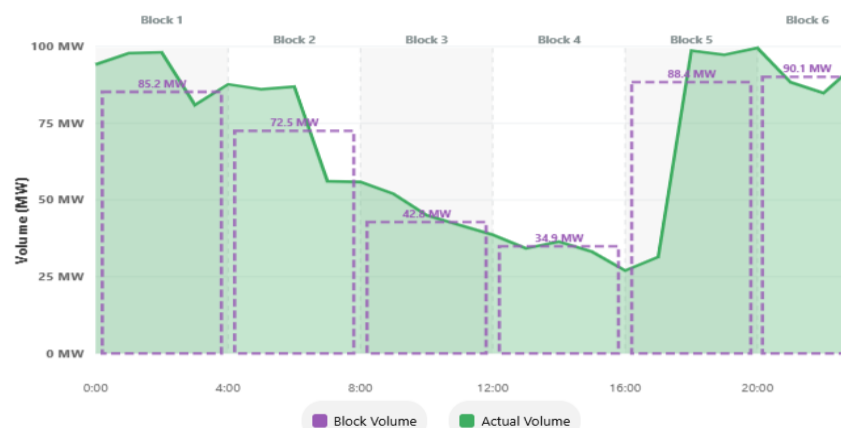
- Agreeing a standard set of hours could be difficult – locking them in for a long time might not make sense if the world changes (e.g. evening peak gets later)
- You could cap this contract for bulk energy to limit the exposure for variable generators (e.g. stops paying out if spot price exceeds \$300)
- Low liquidity to date
- Fungibility becomes subjective in a few years time
- Could be a better way to balance seller volume risk in DWA/revenue swap

*Capped ToD swaps can also fulfil Shaping functions*

How does it work?

Why would or wouldn't this be a good choice?

What analysis or evidence do we need to decide?



## Other contract types

Workshop 1

*Contract options*

**Are there any other contract types we have not considered, but should consider?**

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**Recap: The initial workshops will focus on exploring the potential options, then selecting preferred contracts, deciding implementation plans and then producing the final recommendation**

Workshop 1

Wrap up

1

**Workshop 1: Foundations**

- Establish how we are going to work as a team
- Ensure Working Group participants have a strong foundational understanding of potential contract models
- Define required analysis to drive choices

*Today*

2

**Workshop 2: Contract features**

- Workshop contract options and assess against evaluation criteria
- Identify and articulate pros / cons of different alternatives
- Determine any further analysis required

3

**Workshop 3: Contract selection**

- Re-visit evaluation of contract options with any additional evidence
- Determine 'short list' of preferred contract options

4

**Workshop 4: Implementation planning**

- Workshop and align on preferred implementation approach
- Align on a high-level implementation roadmap

5

**Workshop 5: Recommendations & final report**

- Align on final report recommendations
- Issue final report

# Our agreed communications approach

Workshop 1

Wrap up

## What we will do at the end of, and after, each meeting

- ASL will **circulate minutes** to the Working Group post-meeting
  - Working Group members to have 48hrs to review / comment, before minutes are finalised
- At the **end of each workshop**, we will agree:
  - A set of materials we would be happy to distribute outside the Working Group
  - Any key questions where we want external input, and what external input we need (to be included in the minutes)
  - A summary of key takeaways from the discussion

## Our approach to industry engagement

- Where **industry engagement** is agreed as a post-meeting action:
  - It will primarily be via **briefings to identified groups** (supply, demand and market intermediaries). These will be hosted as a group and not individually (unless specifically required)
  - We will be mindful of a set of **specific sub-groups** (e.g. offshore wind and smaller retailers) and the need to engage across the industry
  - We will also brief through **existing forums** (e.g. AFMA quarterly meetings) – L.E.K. and the Convening group to prepare a list of these
  - Unless under exceptional circumstances, we will leverage the published minutes and agreed slides (not produce new materials)
- We will publish a **report** at the end of the process

## What we will not be doing

- Requesting / reviewing non-targeted, written submissions from external stakeholders
- Offering regular media briefings
- Producing extensive bespoke materials for external stakeholder discussions

# Recap: The final recommendations report will be required to include the contract structures, specific rationale and other supporting information

Workshop 1

Wrap up



## **Final contract term sheets**

- Final commercial term sheets for a new bulk energy, shaping, and firming derivative



## **Rationale for contract term sheets**

- Why the Working Group decided on these specific derivatives
- Evaluation against requirements and evaluation criteria



## **Implementation considerations**

- Key considerations and dependencies when implementing the new contract terms



## **Trade-offs and limitations**

- Any anticipated trade-offs or limitations attached to the implementation processes or contract term sheets recommended



## **Process and consensus**

- Where consensus and disagreement was found
- Summary of co-design process and approach

## How will the Working Group structure the deliverables to be publicly released?

Workshop 1

Wrap up

Proposed structure of deliverables

Documentation to support industry feedback

Final Recommendations Report

Inputs for commercial terms sheets

Are there other proposed outputs?  
Are there interim deliverables needed?

*The Working group does not need to produce legislative or regulatory drafting, detailed implementation planning beyond key considerations, or publish meeting notes*

Final contract templates are required for Phase 2

These documents will likely be developed in close consultation with legal experts such as AFMA's Documentation Committee

## We should have alignment across the following areas

Workshop 1

Wrap up



Future workshop timelines



Confirmed or refined evaluation criteria



Communication norms and how this group will work together



Next steps and action items required, including analysis or inputs ahead of Workshop 2



Final deliverable and objectives of this working group



Initial perspectives on suitability of Pilot Working Group preferred contract options

## Workshop 1 participants and attendees

Workshop 1

Wrap up

### Working Group

Representative	Organisation	Role
Tom Arnold	ACEN Renewables	Consider and debate contract structures, make decisions on preferred designs
Ally Bonakdar	NAB	
Paul Curnow	Akaysha Energy	
Stephanie Easton	Iberdrola	
Paul Grzinic	Aurora Energy	
Nick Hawke	CEFC	
Declan Kelly	Flow Power	
Andrew Mulder	RWE	
Jialin Shen	Ampyr Energy	
Daniel Teng	Origin Energy	
Andrew Wilkins	SA Water	Facilitators
Lucy Carter Jeff Forrest	L.E.K. Consulting	

### Other attendees

Representative	Organisation	Role
Alistair Newman Sarah Helms	AER	Convening Group
Thimo Mueller Michael Riordan Ross Anderson Jack Kratzat	ASL	
Dennis Venning Ryan Wilson	DCCEEW	
Tim Nelson	Griffith University	Panel chair – National Electricity Market wholesale market setting review
Philip Hirschhorn	Energy Path	Panel member – National Electricity Market wholesale market setting review