



Jemena Electricity Networks (Vic) Ltd

IT Investment Brief – Flexible Trading Arrangements

Non-recurrent – Compliance



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Glossary

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
Capex	Capital Expenditure
CER	Consumer Energy Resources
Current regulatory period	The period covering 1 July 2021 to 30 June 2026
ESB	Energy Security Board
FTA	Flexible Trading Arrangements
ICT	Information and Communications Technology
Jemena	Refers to the parent company of Jemena Electricity Network
JEN	Jemena Electricity Network
Next regulatory period	The period covering 1 July 2026 to 30 June 2031
NEM	National Energy Market
NPV	Net Present Value
Opex	Operating Expenditure
RYxx	Regulatory year covering the 12 months to 30 June of year 20xx for years in the Next Regulatory Period. For example, RY25 covers 1 July 2024 to 30 June 2025
Totex	Total Expenditure

Flexible Trading Arrangements

Objective	The objective of this initiative is to implement the required system and process changes to address the recent Flexible Trading Arrangement (FTA) rule change. The Australian Energy Market Commission (AEMC) is introducing flexible trading by enabling small and large customers to have their Consumer Energy Resources (CER) separately identified and treated independently in market settlements - allowing them to engage with multiple service providers if they choose to.		
Non-recurrent ICT sub-categorisation	<input type="checkbox"/> Maintaining existing services, functionalities, capability, and/or market benefits	<input checked="" type="checkbox"/> Complying with new/altered regulatory obligations/requirements	<input type="checkbox"/> New or expanded ICT capability, functions, and services
Background	<p>The NEM Reform Program</p> <p>The Energy Security Board (ESB)'s post-2025 electricity market design set out a pathway to transition the National Energy Market (NEM) into a modern energy system fit to meet the community's evolving wants and needs and move towards a net-zero future for Australia. The designs sought to address essential change as ageing coal-fired generators are retired, replaced by an expanding array of new technologies, including large-scale renewable energy generation and storage systems, complemented by rapid growth in consumer energy options, including rooftop solar.</p> <p>The NEM Reform Program ('the Program')¹ was established by the Australian Energy Market Operator (AEMO) to collaborate with energy industry participants to deliver many of the ESB's post-2025 reforms along with various other energy market reforms impacting national electricity and gas markets across the east coast of Australia. The Program is a large-scale, complex, industry-wide program that aims to address essential change in a world of expanding consumer choices, new technologies, and large-scale capital replacement as ageing thermal power stations leave the market.²</p> <p>With all the reforms in place, the NEM will:</p> <ul style="list-style-type: none"> • allow consumers to benefit from rapidly changing technologies in our power system, • unlock the value of flexible demand and distributed energy resources, • work alongside government schemes which are delivering on their policy commitments including emissions reduction, and • provide clear signals for timely and efficient investment to deliver reliable, secure, and affordable electricity for consumers. <p>Rule change - Unlocking Consumer Energy Resource benefits through flexible trading</p> <p>In May 2022, AEMO submitted a rule change proposal entitled "<i>Flexible trading arrangements and metering of minor energy flows in the NEM</i>". The rule change request proposed modifications to the National Electricity Rules (NER) and National Electricity Retail Rules (NERR) in accordance with the ESB recommendations (as provided in its Post 2025 Market Design Final Advice³).</p> <p>On 15 August 2024, the AEMC made the rule change <i>Unlocking CER benefits through flexible trading</i>⁴. The FTA rule change introduces changes to enable the following:</p> <ul style="list-style-type: none"> • Flexible trading with multiple energy service providers at large customer premises <ul style="list-style-type: none"> • The proposed changes would enable large customers to establish secondary settlement points and engage multiple energy service providers to manage flexible resources at these points. 		

¹ AEMO NEM Reform Program | <https://aemo.com.au/initiatives/major-programs/nem-reform-program>

² NEM Reform Program Scope | <https://aemo.com.au/-/media/files/initiatives/regulatory-implementation-roadmap/tiles/nem-reform-program-scope.pdf?la=en&hash=121CC0B0C323F9C3744B425F265B8551>

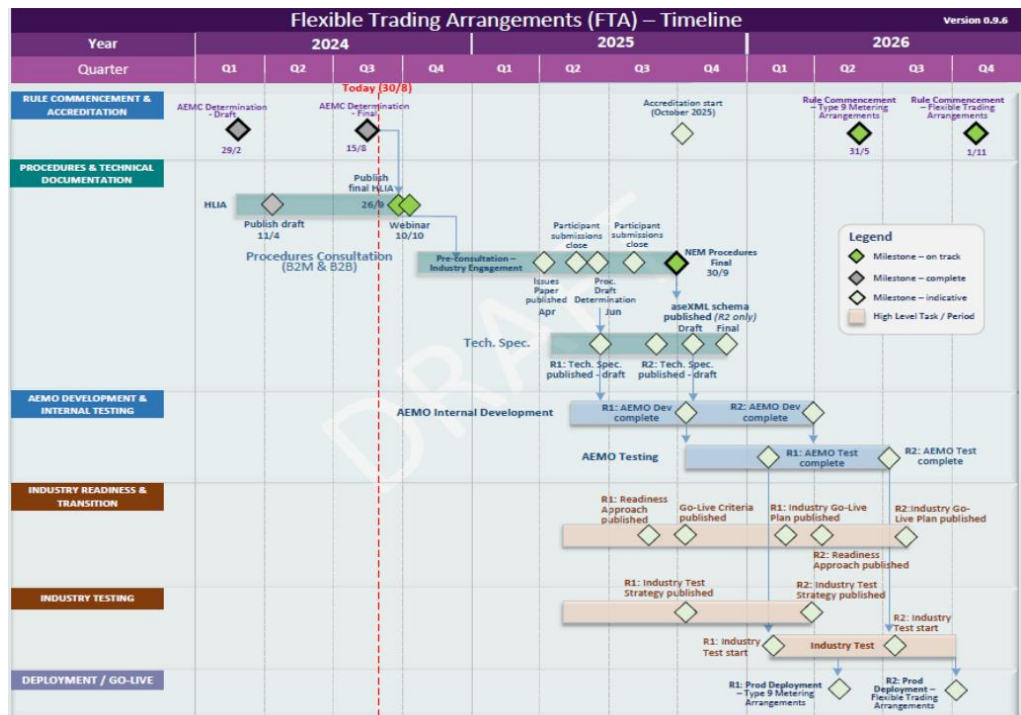
³ ESB Post-2025 Market Design | <https://esb-post2025-market-design.aemc.gov.au/32572/1629945838-post-2025-market-design-final-advice-to-energy-ministers-part-c.pdf>

⁴ <https://www.aemc.gov.au/rule-changes/unlocking-CER-benefits-through-flexible-trading> (FTA rule change)

- Opportunities to optimise CER flexibility for small customers
 - The proposed changes would enable small customers and their agents (i.e. retailers and aggregators) to identify and manage flexible CER separate from inflexible or passive energy use and would allow flexible CER to be better recognised in the energy market.
- Measuring energy flows from in-built technology (e.g. streetlights, EV chargers, other street furniture)
 - The proposed changes introduce arrangements for one new meter type in the NER that enable technology with in-built measurement capability to be used for settlement and billing.

Proposed AEMO Implementation Pathway

AEMO’s proposed timeline⁵ as of 30 August 2024 for FTA is shown below.



The amendments to the NER and NERR will take effect as follows:

- Arrangements related to in-built metering at primary connection points in technology such as streetlights and EV chargers (meter type 9) must be implemented 31 May 2026
- arrangements related to meter types 8A (large customers) and 8B (small customers), secondary settlement points, and changes to the NERR and retail contracts must be implemented by 1 November 2026.

JEN is considering a cost pass-through application for expenditures incurred in the Current Regulatory Period and will also seek to include expenditures for the next Regulatory Period in the 2026-31 Regulatory Proposal.

Customer Importance

The proposed rule change offers several benefits for both consumers and the energy system:

- Large customers will have increased choice from greater competition as energy providers could offer prices or incentives for these customers to operate their flexible load at lower cost. Similar benefits may be realised at a single property via increased competition, innovation and choice of network or retail pricing offers.

⁵ FTA high level implementation assessment | <https://aemo.com.au/-/media/files/initiatives/unlocking-cer-benefits-through-flexible-trading/flexible-trading-arrangements---final-high-level-implementation-assessment-v10.pdf?la=en>

- There will be reduced barriers to entry for traders of CER that can help consumers obtain value from their DER assets or their flexible demand through participation in the wholesale market or provision of network support services.
- Market participants will be able to use in-built measurement capability in technology such as electric vehicle (EV) chargers and streetlights - to enable innovative and essential products and services at a lower cost.

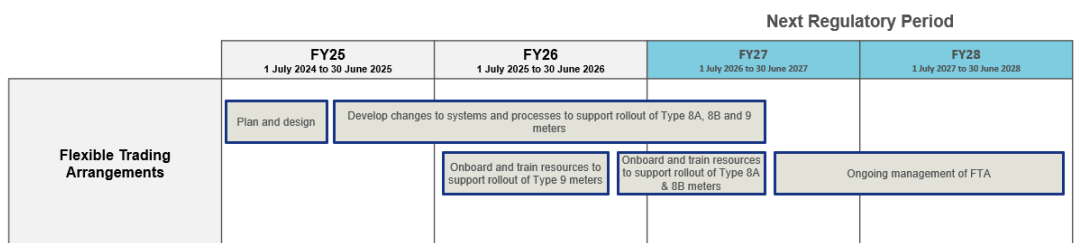
Key considerations

Future AEMO Market Reforms

To implement the change, we note that Market Procedures and market systems administered by AEMO will be modified. AEMO’s Procedure changes are not expected to be completed until 30th September 2025⁶, with drafts expected to be available March 2025. Until this time, Jemena Electricity Networks Vic Ltd. (JEN) will not be able to assess the full impact of the required changes with any certainty.

AEMO has provided high level system impacts and assumptions on 26th September 2024, in its ‘Final Determination High Level Implementation Assessment’ documentation.⁷

Based on AEMO’s indicative timeline and effective rule change dates, JEN has assumed the following implementation timing:



Together, these impacts and timing have formed the basis of our cost estimates presented herewith (refer Attachment A of this document).

How costs were derived

When project requirements are less developed and there are many unknowns as is the case here, proxy-based estimation is used to provide a best-fit cost approximation. By applying the costs from a similar past project, 5 Minute Settlement (5MS), with comparable complexity, duration, and scope, this method yields an efficient and reasonably accurate estimate without the need for granular project build-up. This allows for cost estimation based on historical benchmarks and reduces risk.

We have assumed capex as the related systems are on-premises and anticipate we will use a mix of internal resources and external subject matter experts. Opex will be used for associated change management and training.

JEN is closely monitoring developments and if necessary, will include a revised forecast in our Revised Regulatory Proposal to reflect any changes as further information becomes available.

Options

JEN has considered three alternatives to deliver the changes required to comply with the FTA rule change:

- (1) Option 1 - Do nothing – A non-credible option – not recommended
- (2) Option 2 – System and process changes - recommended
- (3) Option 3 – Process changes, tactical work arounds – not recommended

⁶ [AEMC rule change | Unlocking CER benefits through flexible trading Information Sheet - https://www.aemc.gov.au/sites/default/files/2024-08/Information%20Sheet-%20Unlocking%20CER%20benefits%20through%20flexible%20trading-%20Final%20rules.pdf](https://www.aemc.gov.au/sites/default/files/2024-08/Information%20Sheet-%20Unlocking%20CER%20benefits%20through%20flexible%20trading-%20Final%20rules.pdf)

⁷ <https://aemo.com.au/-/media/files/initiatives/unlocking-cer-benefits-through-flexible-trading/flexible-trading-arrangements---final-high-level-implementation-assessment-v10.pdf?la=en>

Option 1: Do nothing – do not comply with the rule change

Failure to address this regulatory change would result in non-compliance with the FTA rule change and limit JEN's ability to take part in the reformed NEM. This would create extreme risk for JEN, therefore the option of not addressing the FTA rule changes has not been considered.

Benefits

By doing nothing, JEN would avoid incurring the costs and many of the risks outlined in the recommended option.

Risks

In the absence of necessary investment to support JEN's implementation of the FTA rule change, JEN would be non-compliant. Furthermore, customer benefits associated with the rule change would not be realised.

Costs

This option would not allow JEN to comply with FTA rule change and so has not been costed.

Summary

This option is not a credible option and is not recommended as the risks associated with non-compliance and non-delivery of the customer benefits articulated above are not acceptable to JEN.

Option 2: System and process changes

Description

This option consists of updating existing systems and processes required to comply with the FTA rule change.

Costs for Option 2 are based on the high-level system impacts and assumptions documented in AEMO's 'Final Determination High Level Implementation Assessment' documentation⁸ and this option outlines our best estimate of what the system and process changes are and the impact to JEN to deliver these.

Benefits

This option will ensure JEN is compliant with the FTA rule change.

Risks

JEN will need to commence and implement some system changes ahead of AEMO's final procedure changes if we are to meet the implementation dates in May and November 2026. We will mitigate this risk by ensuring our architectural options take into consideration future requirements and will align system build timing with key procedural changes that are highest risk of uncertainty and that will only be confirmed once the procedure changes are published.

Another risk is the impact on JEN of other, additional initiatives that JEN may be required to implement concurrently based on what is proposed by AEMO and as outlined in AEMO's roadmap. Whilst this feedback has been shared with AEMO by industry participants, JEN will continue to work closely with AEMO to discuss and mitigate this risk.

Costs

Costs are based on the information and scope shared to date by AEMO and this is our best estimate of what the changes are and the impact to JEN to deliver these.

⁸ [flexible-trading-arrangements---final-high-level-implementation-assessment-v10.pdf](#)

JEN is closely monitoring developments and will provide a revised forecast for the Revised Regulatory Proposal to reflect any changes in AEMO's requirements, scope and timing and any additional information provided in the final FTA Procedures (September 2025).

JEN's indicative costs for this option are outlined in the table below.

\$2024 (M)	Current Regulatory Period (2021-26)		Next Regulatory Period (2026-31)				
	RY25	RY26	RY27	RY28	RY29	RY30	RY31
Total Capex	\$12M	\$10M	\$4M				
Non-recurrent Opex	\$2M	\$2M	\$1M				
Recurrent-step Opex				\$1M	\$1M	\$1M	\$1M
Total Opex	\$2M	\$2M	\$1M	\$1M	\$1M	\$1M	\$1M
Totex	\$14M	\$12M	\$5M	\$1M	\$1M	\$1M	\$1M

The indicative forecast non-recurrent capex for **next regulatory period** is \$4,000,000, non-recurrent opex is \$1,000,000 and recurrent-step opex is \$4,000,000. Total expenditure to deliver this capability over the 2026-31 period is \$9,000,000.

The capex will be used to complete required system and process changes associated with type 8A, 8B and 9 meters, the non-recurrent opex will be used for associated change management and training and the recurrent-step opex will be used for ongoing incremental licensing and/or additional support required.

As depicted in the table above our preliminary assessment of the change has determined that JEN will incur additional costs in the current regulatory period when implementing changes to comply with the new rules. This amount will be in excess of the materiality threshold requirements and as such we will be submitting a cost-pass through application by November 2025 when more certainty is known (following publication of Procedure changes in September 2025).

Summary

This option is recommended as it provides the lowest sustainable cost and prudent means by which JEN can comply with the FTA rule change. JEN also considers that it best reflects good industry practice.

Option 3: Process changes, tactical work arounds

Description

This option would involve implementing physical process change and 'work arounds' (likely requiring additional resources) to avoid changes to impacted systems.

Benefits

The only advantage with this option is that there would be minimal system changes and JEN would avoid incurring the system-related investment costs.

Risks

In the absence of system changes to support JEN's implementation of the FTA rules change, JEN would be non-compliant.

Market data transmissions are high volume, 2-way transactions with complex business rules that occur through internal and external (AEMO Hub) interfaces. Due to the nature, criticality and volume of the data involved and the market requirements for capturing and transacting

	<p>this data, it is considered that neither increased labour resources nor modification of business processes can provide a credible solution to address the FTA rule change.</p> <p>Costs This option would not allow JEN to comply with FTA rule change and so has not been costed.</p> <p>Summary This option is not recommended as the risks associated with non-compliance are not acceptable to JEN.</p>																								
Options Summary	<p>The table below summarises the quantitative and qualitative differences between the analysed options over the 2026-31 period.</p> <table border="1"> <thead> <tr> <th>\$2024</th> <th>Capex</th> <th>Opex</th> <th>Totex</th> <th>NPV</th> <th>Residual Risk</th> </tr> </thead> <tbody> <tr> <td>Option 1</td> <td>Not applicable</td> <td>Not applicable</td> <td>Not applicable</td> <td>Not applicable</td> <td>Extreme</td> </tr> <tr> <td>Option 2</td> <td>\$4M</td> <td>\$5M</td> <td>\$9M</td> <td>Not applicable</td> <td>Low</td> </tr> <tr> <td>Option 3</td> <td>Not applicable</td> <td>Not applicable</td> <td>Not applicable</td> <td>Not applicable</td> <td>Extreme</td> </tr> </tbody> </table>	\$2024	Capex	Opex	Totex	NPV	Residual Risk	Option 1	Not applicable	Not applicable	Not applicable	Not applicable	Extreme	Option 2	\$4M	\$5M	\$9M	Not applicable	Low	Option 3	Not applicable	Not applicable	Not applicable	Not applicable	Extreme
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What We Are Recommending	<p>JEN recommends Option 2 as it considers that it best reflects good industry practice, is based on a reasonable estimation process and provides the lowest sustainable cost.</p> <p>This option compromises system and process changes required to address the FTA rule change for type 8A, 8B and 9 meters.</p>																								
Dependencies on other Investment Briefs	Not applicable																								
Relationship to ICT Capital Forecast	The supporting modelling for this investment brief is contained in the following model: JEN – IT Investment Brief – Flexible Trading Arrangements – Costs and Benefits Analysis Model.																								

Appendix A – High level system and process impacts

High level key impacts

JEN's current understanding of changes required is based on AEMO's key impacts assessment as outlined in the Final High level implementation assessment as summarised below.⁹

Focus Area	Impact Heat Map	Impact Description
Accreditations	Low	<ul style="list-style-type: none"> MDPs and MPs will need to be accredited should they opt in to offer services for the new metering types - Type 8 & Type 9 NMISP Accreditation for SSPs
Change Request Process	Medium	<ul style="list-style-type: none"> Creation of SSPs which will be a market CP by the NMISP Accept new installation type codes, meter use, meter model and meter manufacturer Enhance Change request Automations
RoLR Process	None	<ul style="list-style-type: none"> The existing RoLR process to update the FRMP will apply for a SSP.
Manage Type 8 & 9 Metering Installations and Malfunctions	Medium	<ul style="list-style-type: none"> MC, MDP, FRMP and MP responsibilities to manage the new meter installation types
NMI Standing Data	Medium	<ul style="list-style-type: none"> SSPs and their relationship to CPs will need to be managed through the lifecycle (e.g. creation, abolition, de and re-energisation) Inclusion of Type 8A, 8B and Type 9 metering installation type codes
Portfolio Management	Low	<ul style="list-style-type: none"> Validation premises with SSP are not used for WDR
Distributed Energy Resources Register	None	<ul style="list-style-type: none"> No impacts identified. Impacts may be uncovered when developing the detailed requirements
Retail B2B Processes	Low	<ul style="list-style-type: none"> Potential new enumerations, and provisions to accommodate the NMISP
Energy Allocation for Settlements	Medium	<ul style="list-style-type: none"> Energy allocation based on subtractive metering on SSP setup Management of SSP where the premises CP is not connected to the NEM
Baselining & Predictability of Load (PoL)	None	<ul style="list-style-type: none"> No impacts identified. Impacts may be uncovered when developing the detailed requirements
Data Exchange	Medium	<ul style="list-style-type: none"> B2M aseXML changes, support for n & n-1 and transformations Changes to CATS transactions and reports schema formats B2B aseXML schema changes may be required Standing Data and Meter data access for DNSP's to child SSP will be provided via an interface
Registration	Low	<ul style="list-style-type: none"> MC coordinating and provisioning of metering services at a CP or SSP (Type 8A, 8B & Type 9)
B2M schema	Low	<ul style="list-style-type: none"> Inclusion of new NMI Standing Data elements in the B2M schema to support FTA Parent child relationships
B2B schema	Low	<ul style="list-style-type: none"> B2B aseXML schema changes may be required
CDR/CDP schema definitions	None	<ul style="list-style-type: none"> No impacts identified. Impacts may be uncovered when developing the detailed requirements
NMI Discovery	Medium	<ul style="list-style-type: none"> Updates to NMI Discovery (additional attributes on CP & SSP) for FRMPs to find out the standing data that is associated with a NMI
CATS & SDQ Reports	Medium	<ul style="list-style-type: none"> Amendments to current CATS & snapshot reports to include new NMI attributes New SDQ reports
RM Reports	Medium	<ul style="list-style-type: none"> Potential changes to RM reporting related to settlement of SSP
CDR / CDP Interfaces	None	<ul style="list-style-type: none"> No impacts identified. Impacts may be uncovered when developing the detailed requirements
Meter Read Estimation & Substitutions	Medium	<ul style="list-style-type: none"> New obligations for validation and substitution to include type 8A, 8B and type 9 metering installations
Receive & Process Meter Reads	None	<ul style="list-style-type: none"> No impacts identified. Impacts may be uncovered when developing the detailed requirements
Procedures & Market Documents	Medium	<ul style="list-style-type: none"> Refer Section 4 for details
Wholesale Settlements	None	<ul style="list-style-type: none"> Wholesale settlement functionality does not require changes and leverages the energy allocations that is calculated based on the subtractive metering

⁹ <https://aemo.com.au/-/media/files/initiatives/unlocking-cer-benefits-through-flexible-trading/flexible-trading-arrangements---final-high-level-implementation-assessment-v10.pdf?la=en>

System impacts

JEN's current understanding of changes required is based on AEMO's system impacts assessment as outlined in the Final High level implementation assessment as summarised below.¹⁰

AEMO System	Summary
MSATS CATS	<ul style="list-style-type: none"> • New and updated change requests to support the creation and management of SSP NMIs. <ul style="list-style-type: none"> ◦ Affects Change Request logic and configuration. • New attributes defined to record SSP relationships and statuses subject to consultation. <ul style="list-style-type: none"> ◦ Attribute on SSP stating the CP. ◦ Attribute or flag to identify a Primary CP (AEMO Managed). ◦ Attribute for the category of CP relationship, e.g. FTA. ◦ Attribute for the category of SSP relationship, e.g. FTA. • New Metering Installation Type Codes for introduced Type 8A, 8B & Type 9 metering.
	<ul style="list-style-type: none"> • Changes to various processes to display the CP and SSP relationships, e.g. Discovery, CATS Reports, Snapshot Reports, Browser changes. • New SDQ reports to identify potential standing data anomalies.
Meter Data Management (eMDM)	<ul style="list-style-type: none"> • Profile Allocation Engine <ul style="list-style-type: none"> ◦ Manage SSPs when premises CP is inactive. ◦ RM Report to enable reconciliation for CP/SSP Settlement Allocation - Retain subtractive metering, per the current Embedded Network process, for sites with SSP.
DERR	<ul style="list-style-type: none"> • No impacts identified.
CDR/CDP	<ul style="list-style-type: none"> • No impacts identified.
Portfolio Management	<ul style="list-style-type: none"> • New Validation of premises with SSP are ineligible for WDR.
B2M	<ul style="list-style-type: none"> • Support new B2M aseXML_r4(n) schema version as LATEST/CURRENT. • Standing Data and Metering data access for DNSP's to child SSP will be provided via an interface.
B2B	<ul style="list-style-type: none"> • B2B aseXML schema changes may be required.
Integration	<ul style="list-style-type: none"> • aseXML Schema changes to include new SSP attributes. • Transformation and management of schema versions for B2B and B2M data exchange.
AEMO provided Software	<ul style="list-style-type: none"> • B2B Validation Module - Possibility of a new aseXML schema for B2B. • Participant Batchter – New aseXML schema for B2M. • PDR Suite – Batchter, Monitor, Loader – No impact identified.
Capacity	<ul style="list-style-type: none"> • Increased transaction volumes expected based on the estimated additional SSP devices added per year.

¹⁰ <https://aemo.com.au/-/media/files/initiatives/unlocking-cer-benefits-through-flexible-trading/flexible-trading-arrangements---final-high-level-implementation-assessment-v10.pdf?la=en>