Board paper: EAAG Independent advice summary

Paper title:	EAAG advice re: measures to improve price for distributed energy resources
Author:	Jamie Silk, on behalf of the *Measures to Improve Price Signals for Distributed Energy Resources* subgroup
Refers:	**ECTF 2A-2C**: Cost-reflective distribution injection tariffs consultation paper (2A)
Board meeting date:	16 December 2024
Action:	To inform Board decision-making, alongside ECTF-2A-2C papers from Authority staff.

Summary of independent advice regarding measures to improve price signals for distributed energy resources.

Prepared by Jamie Silk on behalf of the EAAG subgroup.

Refers: ***ECTF 2A-2C****: Cost-reflective distribution injection tariffs consultation paper (2A)*

Introduction

I am pleased to deliver the report on the work of the Cost Reflective Tariffs Subgroup of the Electricity Authority Advisory Group (EAAG). This first report under the Authority's new Advisory Group structure is an important milestone as we evolve how the Authority and Advisory Group iterate to develop well-informed regulation, quickly and robustly.

In delivering this, we have worked closely with the Authority team in their pre-consultation framing to balance the opportunities to 1) work with agility, efficiency and a tight scope and 2) independently provide an appropriate level of expert advice to the staff and the Authority within this scope.

With this approach pioneering practice that is different to recent Advisory Groups, in addition to our observations and recommendations, we have included additional comments. These cover the context and scope and the limitations to our work and advice for this 6-week, two-workshop sprint of work.

We report by exception on material matters where the consultation papers may

- not sufficiently reflect matters we have identified and/or
- not provide opportunity for comment and/or
- present a preferred proposal where the majority of the advisory group have material concerns that are expected to resonate with a significant proportion of stakeholders

We also provide comment on substantive matters that arose in our discussions but are out of the current scope of work.

Contents

1. Key Messages

1.1. What we are reporting on

We are reporting on 3 measures to improve price signals for distributed energy resources.

These include:

- “Mandating cost-reflective distribution injection tariffs” – considers and addresses issues with DG pricing signals for mass market customers specifically. This paper covers the Task Force recommendation 2A.

- “Mandating time-varying retail price plans for consumption and injection” –considers and addresses the issue of the existing market not delivering sufficient retail options for consumers to benefit from shifting their consumption or injection. This paper covers the Task Force recommendations 2B and 2C.

This report covers the material matters identified in our engagement with Authority staff during their preparation for draft consultation proposals having regard to how these matters are captured in those proposals.

1.2. Agile approach balances rewards and risks

- It has been an important opportunity working with the EA team on this high cadence project to address important consumer issues at pace and robustly. We recognise the benefits that consumer and industry stakeholders bring to early analysis and how this can assist in understanding risk-reward trade-offs to 1) action measures to progress at pace and/ or 2) qualify projects where more (or other) work is needed. We detail below the limited scope applied in this work.

- We acknowledge the pace at which the Authority has sought to progress selected new measures in response to market conditions and real consumer needs for the energy transition. The scope for this work engaged the Advisory Group only after a set of proposals had been identified. This missed the opportunity for the Group to engage with identifying the underlying problem and root cause analysis and so contribute to the full range of options the Authority has or the timing/ sequencing of those options – alongside other Authority programmes - for the most robust, timely regulation. This phasing of our work underpins a number of our key observations below and we look forward to opportunities for the EAAG to contribute at this earlier, more formative stage on future EA work. *We note again the work’s specific context and the new EEAG is working with the Authority management to optimise 1) the timing and levels of EAAG engagement with current and future work programme items and 2) the strategic framing of work. The work group has prepared a separate management letter on the process to contribute to how we function to support the Authority to develop well-informed regulation, quickly and robustly.*

1.3. Key in scope observations

- **The material matters that our engagement identified are sufficiently addressed in the consultation papers to provide an opportunity for stakeholders to share views.** We thank the team for their level of engagement, are pleased to advise that the material matters we discussed are reflected in the consultation and note the process as an effective dialogue to further develop existing proposals with agility.

- **Readers of the consultation papers will benefit from further context on how these measures fit in the overall Authority strategy.** Several of our comments illustrate this context would 1) have helped our work to have been more efficient, targeted or have better impact and/ or 2) help stakeholders better assess the timing or scope of these proposals considering their interdependencies with other Authority work (or possible interventions by other agencies). Whilst recognising that interdependent measures are identified in selected places throughout the proposals, we recommend a specific section at the start of each document sets out the strategic fit with related items in the Authority work programme, expected timing of implementation, impact from these measures and how these proposals fit.

- **There were material concerns expressed by some members on the pricing efficiency and equity impact of network injection rebates (2a)** with few injecting resources currently available, some sources of injection (e.g. solar PV) having a very low expected coincidence with availability when constraints are most material, risk that less value can be offered to other solutions (e.g. aggregators) reducing their growth and equity concerns regarding the distribution of these resources. The group agree that we need to ensure the right incentives are in place for consumer resources to participate, scale and enable solutions for equitable access to benefits. However, the majority view was that this broad-based signal is not the right approach for the above reasons, or this measure should not be taken in isolation of, or prior to, other measures. *We note the consultation papers provide appropriate opportunity for comment.*

- **There were significant concerns expressed by some members that battery injection that is not managed by the network cannot be relied on to defer network investments (2a)**. Network deferral decisions require certainty that the alternative capacity will be delivered when it is needed, for a term sufficient to support deferral of investment. Intermittent injection that is rewarded simply through the injection rebate may not be available and respond when it is needed (and will have no/ limited visibility to the network). A minority contra view held that network planning considers growth based on after diversity maximum demand and as the habitual use of BESS will be reflected in that demand profile, planners will by default include it in planning decisions alongside all the other demand variable hidden in the demand profile signal. *We note the consultation papers provide appropriate opportunity for comment.*

- **There were material concerns expressed across the group about the competition implications of mandating time varying retail plans for consumption (2b) and mandated time varying retail plans for injection (2c)**. Concern was expressed across the Subgroup of unintended consequences arising from intervening in the competitive retail market.

    - While not directly in scope, the Subgroup believes that the sequencing of the Package 1 and 2 measures requires serious consideration by the Authority prior to any final decision on Package 2 measures. A lack of competition in other parts of the value chain could be contributing to stifled retail competition which then results in the lack of retail market activity that Package 2 is addressing. Regulation of retail pricing may then result in unintended consequences if the regulatory structure stifles innovation and/or competition in an otherwise open market.

    - There was a minority view expressed in the group that there is clear evidence based on retail market share trends, hedge market activity (both ASX and OTC) and retail market pricing that current market settings are disadvantaging retail businesses from growing their businesses. The minority view is that Package 2 measures should be put on hold until at the very least all Package 1 measures are explored, the root cause of the lack of retail expansion is identified and relevant regulatory remedies are implemented and given time to flow through the market.

- In addition to the importance of clarity on how these measures fit with work to address the issues targeted in package 1 measures, clarity is important for the fit and timing with improved access for consumers (and their service providers) to digital information and consumer information tools needed to enable consumers to make time of use-based tariff choices.

- As an example of the potential for unintended consequences, this intervention risks the potential perverse effect of competitively disadvantaging an innovative independent retailer. Presenting consumers with a minimum mandated offer from an incumbent retailer that appears to meet their needs, risks spreading the consumer segment interested in these offers across incumbent retailers before innovative participants have a real or perceived level playing field to compete for these customers[1]. This may shrink the available market for these independents at a time their market growth is constrained. Concern was expressed that 1 April 2026 implementation does not leave much time for related market, open data and consumer comparison tool interventions to be effective and remove real or perceived barriers to a level playing field. Members recommend that the implementation, effective monitoring and follow up on these measures are treated as a matter of urgency.

- Whilst members note that the requirement is for retailers to offer a time varying tariff (and so does not inhibit other innovative offers) and the intervention is expected to be limited to a small number of larger retailers, concern was expressed that the added focus on one tariff evolution could inhibit other innovation. For instance, the UK Octopus Energy ‘zero bills’ homes innovation for highly flexible energy use homes would not qualify as either a time-of-use tariff (2b), or comply with an obligation to reward injection in a time-varying or cost-reflective way (2c), but nevertheless provides consumers with huge incentives and rewards for flexibility, in a highly engaging way. 2a could be an enabler of such an offer in New Zealand, provided it was not coupled with a requirement for the injection rebate to be passed through to consumers directly. We need to be careful not to shape regulation around more ‘traditional’ retail constructs, and certainly not create barriers to new ways of engaging consumers.

- We acknowledge that there are very few offers to consumers with time varying retail tariffs for injection (and at least one of these is limited in what consumers can access it) and a minority perspective was that action here warrants particular attention for the benefits of 2a to reach consumers. However, any intervention needs to ensure that it does not limit how retailers package this value, so long as it works to reward consumers who inject at peak.

- Some members acknowledged the case presented by the Authority that a significant shift in consumer engagement requires awareness of and access to offers to consumers that reward their flexibility to be widespread and an established

[1] A parallel could be drawn with the effect of many brands of the same product on supermarket shelves. A dominant producer of a laundry powder for instance may choose to offer multiple brands or versions of their product. A benefit of this is that consumer attention and demand will be split across these products and make it harder for a new entrant to grow their brand (regardless of its real benefits to consumers). Mandating retailers serving the vast majority of consumers to offer time varying prices risks diluting the market opportunity for more innovative and value adding services.

norm. This intervention is one option to drive this new norm. Members noted though, other tools are available to shift consumer awareness and support building capability that do not have the same risks from direct intervention in retail market competition e.g. shifting energy education focus from efficiency (informed by how much energy is used that locks in historic behaviours) to flexibility and consumer outcomes focus (e.g. efficiency informed by cost of energy). This focus opens up multiple pathways for consumer change without mandated tariffs including channels that can deliver high, direct reach to consumers. We note that some of these interventions need partnership with other agencies.

  - A view was expressed that time varying retail plans for investors with solar PV may build consumer expectations of price levels for PV that will not be sustained when there is high penetration of solar. It is important to help consumers understand the risks of future price changes when making investments today.

  - *We note the consultation papers provide appropriate opportunity for comment.*

- **Ensuring a level playing field between small and large Distributed Generation.** There is a minority view that limiting this intervention to standard consumers does not deliver a level playing field between large DG and small DG. Whilst large DG have negotiated contracts and EDBs should reward for the avoided cost of distribution, there was a concern that the large DG connecting parties do not have an equal negotiating footing when they have no choice but to contract with the network at that location and that limited ACOD payments in the market to any parties not related to EDBs is prime facie cause for concern. We note the Authority has other workstreams looking at distributed generation connection and networks have work to streamline the connection process (including visibility of information) and have not reviewed how this work may mitigate this concern. *We note the consultation papers provide appropriate opportunity for comment.*

- **The group felt there was insufficient initial clarity of the problem definition and that the cost benefit analysis for network injection rebates is not sufficiently robust (2a).** A strong opinion of some members is that the problem was not sufficiently defined and analysed, that the proposed pricing approach is not sufficiently targeted to underlying peak needs (2a) and the cost benefit analysis is not sufficiently robust (for instance not comparing different pathways to the same outcome). We note that the financial analysis focuses on the assumption that the primary benefit of intervention is to encourage more investment with a better financial return to consumers. Many consumers invest in distributed energy resources for reasons other than financial return. The impact and effectiveness of tariffs needs to be assessed through the lense of how consumers are engaged with the opportunity to use, and are rewarded for using, their assets in a way that meets their primary preferences and delivers beneficial system outcomes These concerns are informed by the international experience of unintended consequences following the use of feed in tariffs. We note that for all of three of the proposals our working sessions with the Authority staff did not include specific contribution to, briefing on or review of the cost benefit analysis and other data presented in the proposals due to the timing of our work. Our reporting window does not provide for detailed review and collective discussion on these. *We note the consultation papers provide appropriate opportunity for comment.*

1.4. Key out of scope or observations of significance but not passing the materiality test

- **Some consumers can benefit from investment incentives targeted to highest value times.** The 2a and 2c proposals will tend to spread the value shared with consumers over many kWh, every day of the year rather than encourage targeted investment/ use. This can work well with consumer segments that favour habitual use (set and forget). The diversion of value in this way however may reduce the value stack/ incentive available to grow other solutions (e.g. VPP or aggregator or other contracted solutions) and therefore the ability – as well as funding available – to sign up consumers to higher value, locational and temporal uses. The consequent inability to access sufficient value may have unintended consequences on competition in and from new entrants in the distributed energy resource value network. In addition, the "spreading" of this value across many kWh may not be sufficiently targeted to attract DERs that are available to participate in daily injection. We note the 2a consultation paper indicates monthly values in the range of $8-20 for a 10kWh battery system but also on some networks that value can be lower. Appendix 2 provides an example showing an annual rebate of $88 only for a 10kWh battery system in a large EDB with peak rates only applying for the 5 winter months on weekdays. However, we recommend separate Authority work to consider how to better segment consumer behaviour and enable relevant consumer segments to access and benefit from the system savings where injection is targeted at specific locations and times of high value constraint. The work should be done alongside other agencies and organisations that can influence relevant price and non-price incentives. We note the consultation covers network demand charges that may be used as part of a more targeted approach and does not preclude the growth of VPP or aggregator services. *We note that the consultation does provide for feedback on the balance between price-based and contracted flexibility.*

- **Past experience with distribution pricing principles provides lessons on how to accelerate principles-based regulation, not a reason to by-pass it.** A strong view was expressed by some members that there are valuable lessons learned by both regulated networks and the Authority from the long time it has taken to implement the distribution pricing principles. These lessons provide a basis for much faster implementation of future changes in a way that matches consumer needs and network value.

- **Distributed generation owners believe themselves disadvantaged by other (locational) pricing factors not in this scope.** A minority view identified that a significant factor that erodes consumer value and investment is that network costs charged to consumers are the same regardless of how far and how much network is used in delivering that electricity. The absence of "local" pricing (e.g. a local bus ticket) for highly localised power is counter intuitive to consumers using only a fraction of the system and undermines the inherent value of local generation. Innovations like MTR and peer to peer do not resolve this if "national" transportation or lines charges are still applied. In an extreme example, in 2 phase homes (that in some parts of the country are required/ encouraged by networks) a consumer can *instantaneously* be forced to sell their power for 12c/kWh and buy back at over 30c/kWh – the same second in the same home! We acknowledge this locational signal is out of scope of this intervention but that there may be a connection between this (perceived) consumer issue and the expressed consumer expectations informing this intervention. *The minority view is that either investment is needed to properly explain to consumers the underlying cost drivers or further work is needed on cost reflective distribution pricing principles.*

- **Recommendations to engage with existing experience and insights.** Members made specific recommendations to engage with customer segment and customer journey specific analysis, overseas experience, previous work (e.g. EPR) and insights from product offerings exploring new consumer offers (including those that have withdrawn from the market to avoid survivor bias). The sub-group has not had access to these engagements or specific insights.

- **System transition and timing perspective.** Differences of opinions within the sub-group reflected whether these measures were optimal in the context of the current DER landscape or how our electricity system would operate in a world of high variable renewable energy and flexible, distributed energy resources. Our separate management letter sets out more detail in this.

1.5. Other matters

- There was a minority view expressed that the phrasing of the TOU plan design basis may risk unintended restrictions on new services for consumers. This can be addressed at the code definition stage but may attract some comment. Paragraph 5.9 states that TOU plans are ones that "Actively engages the consumer in load or export shifting– ie, plans that rely solely on load control by another party would not be consistent with the design basis". Whilst the intent here looks clear that load control by 3rd party is allowed within a plan where active consumer engagement can shift further demand and that the exclusion only applies where the plan will rely solely on load control by another party (e.g. not reward other changes), guidance will need to make this very clear. Any grey area could be exploited to limit emergent 3rd party services and consumer choice.

- A minority view expressed the risk that participants may use non price levers to reduce the potential growth in injection and offset the price signal. Non price levers could include connection rules, settings, equipment or sizing requirements. An indication of how rules or monitoring reduce this risk will be valuable.

2. Introduction to EAAG and the subgroup

The EAAG was formed in June 2024 by the Electricity Authority (Authority). Under its terms of reference, the EAAG is expected to use its knowledge and expertise to investigate, analyse, and make recommendations to the Authority on matters included in its work plan as appropriate to the work plan item.

The work plan is primarily developed for the group to provide advice on Authority project work and consultation papers before public release, and, as appropriate, to assist in considering and reconciling views presented in submissions, developed with regard to the Authority's budget, part of the Authority's overall work programme, priorities and timeframes and can be updated to account for developments that occur in the course of the Authority's overall work programme.

A key role of the EAAG is to use its collective knowledge and experience when considering the matters before it. The EAAG's advice to the Authority must be independent, considered, and supported by robust analysis. The quality of the advice must be sufficient to enable the Authority to make well-informed decisions.

The cost reflective tariffs subgroup is a working group of the EAAG that first met mid-September 2024 with reporting early December 2024. It was formed to assist with a specific pre-scoped Authority project.

The members in the subgroup are recorded in Appendix 1.

3. Context to and scope of our work

The EAAG was formed as the Authority wants and needs to work differently to provide the regulation needed for the systems transition through:

- working more closely and transparently with the sector and consumers
- covering a wide range of topics across technical areas, consumer interest and future perspectives
- using an advisory group early and often in our decision-making processes.

The form and function of the advisory group contributes to how the Authority works differently – specifically alongside diverse groups of stakeholders to develop well-informed regulation, quickly and robustly.

This is the first report using this new approach which seeks to deliver a balance between 1. robust independent expert analysis and recommendations and 2. agile, quick and efficient delivery.

The Chair acknowledges the role of the Authority staff and subgroup members in pioneering new practice and their work in its delivery.

With our limited agile work scope, this report is an independent summary to the Authority under the engagement conditions outlined. We report by exception on material matters where the consultation papers may:

- not sufficiently reflect matters we have identified and/ or
- not provide opportunity for comment and/ or
- present a preferred proposal where the weight of the collective group have material concerns that a significant proportion of stakeholders will have high levels of concern relative to the benefits identified.

We also provide comment on substantive matters that arose in our discussions but are out of the current scope of work.

Our work does not provide for independent analytical review, research, investigation or solutioning steps that a longer and more deeply resourced programme may include.

3.1. Technical/ subject/ project scope

The cost reflective tariff project covered 3 discrete solution proposals where strawmen solutions were pre-scoped by the Authority.

Whilst the Authority and working group discussed the problem statements that informed the solutions, the working group scope was not to perform root cause analysis on the problem(s) or explore other pathways to address the problem(s).

3.2. Scale/ maturity of work

The project was mature in so far as there was a discrete pre-defined solution for each of the 3 work areas with a planned short, agile project to assess and input to the steps being taken by Authority staffed as these were analysed and options screened.

3.3. Timeline and resources

This was a short agile project sprint with two workshops over 5 weeks providing input and 6 business days from receiving the Authority report to the work group reporting. All analysis and documentation work were directed and managed by the Authority staff with no independent analysis commissioned.

3.4. Reporting on material matters only

This letter reports on matters the group assess as material for the intended user for the purpose of this scope. We acknowledge that there were discussions across themes of a less material nature but that can still be cumulatively significant to consumer investment in distributed generation (including storage) or supporting solutions (e.g. flexibility services).

3.5. Composition of the subgroup

The subgroup was selected in accordance with the Terms of Reference and a specific focus on having the required stakeholder insights and expertise within a small team to support agile work. The subgroup is not a proportionally representative group of stakeholders and so any reference to majority or minority opinions does not infer proportionality.

4. Approach to and nature of our work

- In performing our work, we have relied on discussions with Authority staff and the analysis/ papers prepared by the Authority staff or their consultants. The work has been staged so that the Authority staff can consider our discussions in their work as it is progressed.

- Our contribution is based on member experience and knowledge and, where appropriate considering the timing, resources and confidentiality, member generic insights from other stakeholders. This scope did not provide for modelling, research or other analysis independently of the Authority workstream.

- The approach was to provide collective expert advice with independent thinking at two key tollgates in the Authority work process through 1 to 1.5 hour workshops that targeted specific questions and needs identified by the staff, whilst providing limited time to discuss more broadly the information presented.

- With a short window and high cadence to the work and the expectation that Authority staff would further analyse this input as they progressed toward consultation documents, discussion focused on the diverse inputs of members rather than work through to a single collective voice or opinion (on a more limited range of matters).

- With the preparation of the Authority's draft documents, the subgroup has considered where there are collective, majority and minority perspectives and key drivers on material matters to this report.

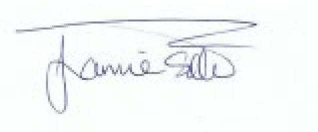
- The Authority Representative has provided secretariat resource to capture the record of our discussions and for the preparation of this letter, alongside the Chair.

5. Reporting party

The Cost Reflective Subgroup of the EAAG is providing this report in accordance with the request from the Authority to report to the Authority.

This is a stand-alone project and not part of the wider work plan of the EAAG.

Jamie Silk



Chair, Measures to Improve Price Signals for Distributed Energy Resources Subgroup

Appendices

6. Appendix 1 Members

The subgroup was comprised of the following members, selected as per the EAAG Terms of Reference:

- Jamie Silk (Chair)
- Ryno Verster
- Jason Larkin
- James Tipping
- Fiona Wiseman
- Huia Burt

Note: Deborah Hart was also originally a member of this subgroup but withdrew before the completion of the Authority's draft proposals and the preparation of this report. Deborah was appointed to Chair the Board of UDL, and resigned a sa result of the potential conflict of interest between roles.

7. Appendix 2: Illustrative examples of consumer rebate levels

The below anonymised examples were provided by a member of the subgroup, as an example of consumer rebates showing an annual rebate of $88 only for a 10kWh battery system in a large EDB with peak rates only applying for the 5 winter months on weekdays.

This is provided here to supplement the examples in the consultation paper with an additional EDB pricing setting. Please note that the subgroup members have not the opportunity to review or validate the examples on the consultation paper.

Solar 6kW + battery 10kWh (~ two peak discharge cycles, small peak PV injection, use of battery for peak load)

Fixed charge	365	1.4300	522		
peak	0	0.0983	0	Consumption kW	2000
off-peak	2000	0.0000	0	HW Control %	40%
controlled	3200	0.0162	52	Peak consumption	0%
peak injection	1788	-0.0492	-88		
off-peak injection	8000	0.0000	0		
			486		

Solar 6kW + battery 3kWh (~ two peak discharge cycles, small peak PV injection, use of battery for peak load)

Fixed charge	365	1.4300	522		
peak	0	0.0983	0	Consumption kW	2000
off-peak	2000	0.0000	0	HW Control %	40%
controlled	3200	0.0162	52	Peak consumption	0%
peak injection	262	-0.0492	-13		
off-peak injection	8000	0.0000	0		
			561		