



## Local Electricity Trading

UTS: INSTITUTE FOR SUSTAINABLE FUTURES

# LOCAL ELECTRICITY TRADING: RETAILER CONSIDERATIONS

Facilitating local network charges  
and virtual net metering

April 2016



# 2016

## ABOUT THE AUTHORS

The University of Technology Sydney established the Institute for Sustainable Futures (ISF) in 1996, to work with industry, government and the community to develop sustainable futures through research and consultancy. Our mission is to create change toward sustainable futures that protect and enhance the environment, human well-being and social equity. We seek to adopt an inter-disciplinary approach to our work and engage our partner organisations in a collaborative process that emphasises strategic decision-making.

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AGL Energy

Mojo Power

Powershop

Enova Energy

Origin Energy

Red Energy

Energy Australia

Pooled Energy

Lumo

ERM Power

We would like to emphasise that any views put forward here are the responsibility of ISF alone, and may not reflect the views of workshop participants or survey respondents.

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## DISCLAIMER

The authors have used all due care and skill to ensure the material is accurate as at the date of this report. UTS and the authors do not accept any responsibility for any loss that may arise by anyone relying upon its contents.

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# SUMMARY

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This work was undertaken as part of an ARENA funded project led by the Institute for Sustainable Futures (ISF) to facilitate the introduction of local network charges and Local Electricity Trading<sup>1</sup> (LET).

Local Electricity Trading, as examined in this project, would involve retailers netting off electricity from generation sites to consumer sites, with both parties assumed to be retailer customers. The work aimed to:

- Increase industry awareness of LET,
- Gain an indication of the implementation challenges and business value, including the associated costs, and
- Assess whether regulation that requires LET as a retail offering would be desirable.

ISF facilitated a stakeholder workshop for electricity retailers on 16 February 2016 and undertook a written survey. The purpose of both the workshop and the survey was to explore potential impacts of LET for electricity retailers. The workshop aimed to share information about LET, including different models for LET operation and preliminary results of LET and local network charges virtual trials, and allow retailers to consider whether offering LET would add value to their businesses.

This paper provides a high-level analysis of these issues, using the key outcomes from the workshop discussions and the survey responses.

## Workshop and survey overview

Twelve people attended the workshop, representing eight different electricity retailers. The workshop was structured around two discussion sessions during which participants explored the value of LET to both their business and customers, as well as challenges associated with implementation.

A survey focusing on LET was circulated to electricity retailers in December 2015 via the then Electricity Retailers Association.<sup>2</sup> The survey aimed to explore in more depth the practical and cost implications of the introduction of LET. In total, eight retailers responded to the survey.

## Value to retailer businesses and customers

At the workshop, there was general agreement that LET is something retailers need to consider and it may offer more opportunities for newer entrants than existing retailers. If it is something that customers want, which seems likely, then retailers will try and offer it. Smart metering is likely to be needed, and for some retailers, scale and complexity may limit which customers they offer it to, with the focus on large customers.

A minority of participants saw no value in LET for their business, particularly in the short-term. The rest either saw high value in LET for their business or were unsure of the value.

Only a small number of participants thought it was highly likely that their business would offer LET as a standard offering. The majority either were unsure or thought it highly unlikely, particularly in the short term. However, in the longer term it would become more likely.

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<sup>1</sup> also known as Virtual Net Metering (VNM)

<sup>2</sup> Now the Australian Energy Council

3 out of 8 survey respondents said they see LET as a business opportunity for their organisation and 5 respondents were unsure. Those who were unsure either did not clearly see the benefits of LET for their organisation, did not see a significant difference to a standard feed-in tariffs buy back offering, or saw it as just one of a suite of innovative products under consideration.

### Challenges and costs of implementation

Workshop participants generally agreed that it would be easier for new retailers to build LET into billing systems than for existing retailers to modify established systems. Interesting questions were raised as to how energy would be allocated when there are multiple customers buying exported energy. It was thought that LET billing would be simpler for larger customers. For 'mass market' (i.e. residential and small business) customers, there are strict regulations on consumer protection that could make LET difficult. Some thought that time of use reconciliation would be too complex for small customers, while others thought it would be necessary to give customers what they want.

#### Survey

Of the 8 survey respondents, only 1 said their billing system allows them to assign generation from a single NMI to one or more other NMIs on a time of use basis (which is needed for 1-1 or 1-many LET). The other 7 respondents could not do this.

The majority of retailers responded that considerable changes to their billing systems would be required in order to enable the above to happen for all customers and that the costs involved in making such changes could be substantial (from \$50k to \$1700k), although 1 retailer said the costs would be small as the functionality was present but dormant. The average of all estimates for the implementation cost was close to \$500k. In the case that they were to offer LET, most retailers expected to recover costs by smearing them either wholly or partially over the entire customer base, although 3 of those expected some loading would occur for the customer classes expected to use the service. 2 retailers said they would recover all costs from those specific customers using the service.

On the question of whether the appropriate kWh charge for the services is likely to be lower, the same, or higher than the existing per kWh retail margin, responses were split with 3 saying higher, 1 the same, 2 saying lower, and 2 unsure.

In relation to local generation network credits, 6 out of the 8 respondents said that their billing system allows for multiple distribution tariffs on one NMI (i.e. the normal network tariff for usage plus a local network credit). All 8 responded that their billing system accommodates FiTs with respect to small customers, although 3 out of 8 said there are limitations on payments similar to FiTs on a time of use basis.

On the question of whether FiTs are categorised as a network tariff or a retail tariff in their billing system, responses were mixed. 4 respondents said they're categorised as both, 1 said network, 1 said retail and 2 said neither (FiTs classed as a separate type of tariff).

### Application of charges

Survey respondents were asked whether specific charges should be applied on netting off under LET arrangements. The table below summarises the responses

	In full	In part	Not at all	Unsure	No answer
<b>Energy charge</b>			7		1
<b>RET charge</b>	2		1	4	1
<b>AEMO charge</b>	1	1	2	3	1
<b>Retail margin</b>	4	3			1

Further work is required to determine the appropriate arrangements for RET and AEMO charges given the uncertainty and variability in the responses.

## Regulation

There was unanimous agreement among workshop participants that regulation is not needed for LET to be offered. Existing NECF regulations regarding consumer protection *may* present some barriers to offering LET to small customers, but there are no regulatory barriers for offering it to large customers. It is more likely to be a bespoke than a standard offering for existing retailers, while newer retailers are more likely to offer it as standard.

In general survey comments, one respondent stated that the implementation of local generation network credits seems to be critical to make LET cost effective for generators and consumers and it is vital that the AER amends regulations to bring local network charges into being to allow LET to work.

## Conclusion

The survey and workshop provided very useful information on the potential implementation of LET by retailers, including the challenges and benefits, and the question of whether regulation is desirable. The main implementation challenges lie in two areas, namely the technical and cost implications for billing systems and clarifying the value proposition itself. However, despite these challenges, several retailers are considering offering LET in the short to medium term.

### ***Technical (billing) implications and cost***

The challenges for billing systems were complex, particularly for the large retailers with legacy systems. Only one retailer had a billing system which could currently net off between different metering points, and all would require modification for the more complex applications, such as 1-to-many netting off. However, newer retailers are unlikely to incur significant costs if they choose to offer LET, as they are not dealing with legacy systems. In addition, several retailers share third party providers for billing systems, so it is possible some of those costs could be shared. The high cost for implementation for the large retailers indicated that LET is more likely to be offered to large customers, at least in the short term. Specific costings were not available for implementation, but the estimated costs varied from as little as \$50k to \$1700.

### ***Value proposition***

There is some uncertainty about whether LET on its own offers sufficient value, as potentially only the wholesale energy value is available to reduce the charges to customers. If this is the case, some retailers questioned whether it offered advantages over a more standardised buy back rate or feed in tariff, particularly in the absence of local network charges. Additional work is required to determine whether, and under which circumstances, other charges may also be netted off, in particular AEMO and RET charges.

However, customers may wish to utilise LET for other reasons as well as purely economic advantage, including taking control of their energy, or wishing to “buy local”, and may be willing to pay a premium to do so.

### ***Regulation***

It seems clear that regulation is not required for retailers to be able to offer LET, and that some retailers are already considering offering the service. It would be difficult to regulate, and runs the risk of reducing innovation in this area. However, several retailers raised the issue regulation to reduce network charges between local consumers and generators was needed in order to make LET of sufficient value, which is the subject of a 2016 rule change proposal.

# 1 WORKSHOP OVERVIEW

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## 1.1 Context and purpose

This work is being undertaken as part of an ARENA funded project led by the Institute for Sustainable Futures (ISF) to facilitate the introduction of local network charges and Local Electricity Trading<sup>3</sup> (LET). Three key deliverables of the project are:

- An assessment of the technical requirements and indicative costs for the introduction of LET
- Economic modelling of the benefits & impacts of local network charges and LET
- Increased industry understanding of local network charges and LET

ISF facilitated a stakeholder workshop for electricity retailers on 16 February 2016. The purpose of the workshop was to:

- Share information about LET with Electricity Retailers, presenting different models for LET operation and preliminary results of LET and local network charges virtual trials with a view to encouraging retailers to offer LET; and
- Explore potential impacts of LET for Electricity Retailers including the business value of LET, implementation challenges and regulation.

This paper provides a high-level analysis of the key issues and outcomes from the workshop discussions.

## 1.2 Participants

Twelve people attended the workshop, representing eight different electricity retailers.

### Attendees

<b>AGL</b>	1 attendee
<b>Energy Australia</b>	1 attendee
<b>Enova Energy</b>	1 attendee
<b>Ergon Energy</b>	2 attendees
<b>Mojo</b>	3 attendees
<b>Origin Energy</b>	1 attendee
<b>Pooled Energy</b>	1 attendee
<b>Red Energy</b>	2 attendees

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<sup>3</sup> also known as Virtual Net Metering (VNM)

## 1.3 Workshop format

The workshop ran from 10:30am to 2pm and was structured around two discussion sessions. The format for each session was:

- Overview of the questions to be discussed
- Facilitated table discussions at two tables
- Facilitated plenary 'spectrum' exercise and discussion, in which participants were asked to place themselves on a spectrum of agreement or disagreement with set statements.

## 1.4 The consultation questions

The following questions were discussed at the workshop in three discussion sessions.

### Discussion Session 1

- What value do you see in LET for your business?
- What value do you see in LET for your customers?

### Spectrum activity

- How much value do you see in LET for your business?  
(Answer range: No value, unsure, high value)
- How likely is that your business will offer LET as a standard offering?  
(Answer range: Highly unlikely, unsure, highly likely)

### Discussion session 2

#### Part A

- What are the implications of offering LET for your billing systems?
- Time of use reconciliation – is the complication worthwhile? Are there alternatives?
- Are there any other implementation issues?

#### Part B

- Is regulation needed for LET to become a standard offering?
- Are there any regulatory hurdles to it becoming a standard offering?

## 2 WORKSHOP OUTCOMES

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This section presents the key issues and outcomes arising from the workshop.

### Introductions

Participants were asked to introduce themselves and say what they wanted to achieve from the workshop. Below are examples of what participants said:

*"I want to understand how to deliver value to customers through embedded generation."*

*"I'd like clarity on specific requirements and parameters around some of the models."*

*"VNM/LET means different things to different people. I'm interested in hearing how it might work."*

*"I'd like to understand the proposed solutions, the practicality of it and how it's going to work."*

*"I'm interested in the rule change and how it develops."*

### 2.1 Q&A

After initial presentations about the project, which may be downloaded from the project webpage <http://bit.do/Local-Energy>, the concepts of LET and local network charges and different models of LET, there was space for participants to ask questions and make initial comments. ISF also asked participants a number of opening questions.

#### ISF questions

**ISF: Can the retailer mediate the energy payment from customer to generator? What would this involve?**

**Participant response:** A retailer owned smart meter would be needed to access both sides of the transaction.

**ISF: Are you already offering LET in some form?**

**Participant response:** No examples of netting off were provided (beyond those outlined in the ISF presentation), however, as it could be offered on an individual customer basis it may not be known widely within the business if it is offered.

#### Participant comments and questions

**Participant question:** How important are the non-financial benefits to investment decisions?

**ISF response:** Beyond a certain minimum financial threshold, it switches to the non-financial benefits e.g. for a Council it might be very important to hit carbon reduction targets, but they will only do so if it is at least cost neutral.

**Participant question:** What's preventing non-renewable energy from benefiting from LET?

**ISF response:** Nothing – it is available for e.g. gas co-generation or diesel standby generation.

**Participant question:** How does the interplay work, two sides with different network tariff structures and network tariff charges? Need to dive into more detail to understand how it will work in different scenarios. LET depends on the time it is being traded, etc.

**ISF response:** The trials are based on time of use. The trials look at what LET does to the demand charges, time of use charges, etc.

## 2.2 Discussion session 1: Value to retailer businesses and customers

- What value do you see in LET for your business?
- What value do you see in LET for your customers?

### Discussion

#### Retailer value

There was recognition of a growing appetite for LET and most retailers are looking into it. It could be a value-add product offered to business customers. However, there is a size/scale barrier and it may not be worthwhile for the retailer to offer LET to small customers. It could be difficult for retailers to make a business case for something that has high complexity and low financial return. The more complex it becomes with increasing numbers of customers and crossing distribution boundaries, the more cost is involved. It was noted several times that local generation network credits would help the business case.

Scale and control were seen as key. Retailers noted the need to know when generation would be available. Smart metering was seen by some participants as essential to making LET viable.

Participants saw a huge opportunity for newer entrants, as they don't have the same constraints on their billing systems. New entrants are looking at other options as well as LET. Focusing on LET alone may be too narrow. The future will involve lots of different platforms and it may not end up being a one-size-fits-all approach. It is too early to say which models will succeed.

Participants were in disagreement as to whether LET offered opportunities for residential customers, with some thinking the scale issue would make it uneconomical, particularly for incumbent retailers. Others saw major opportunities for residential customers selling to neighbours.

#### Customer value

Considerations mentioned included needing to consider the interaction with battery storage and the way the market is moving. As solar becomes more concentrated in certain regions it selling to neighbours may become important. It was noted that due to perceived unfairness, customers may be looking to go off-grid, whether or not it is economical to do so.

However, there is also a need to consider the impact on other customers, for example, in the form of increased network charges.

Participants noted the non-financial benefits for customers – perception of choice and control, as well as maximising investment decisions of customers. Some customers may even be prepared to pay more and it could help with customer retention.

#### Other challenges/considerations

- The broader context is the ongoing work on cost reflective network tariffs that impact the models for storage etc.
- The regulatory context around competitive neutrality is still being developed.
- Sonnen in Germany was an example mentioned to look into.

## Summary

There was general agreement that LET is something retailers need to consider and it may offer more opportunities for newer entrants than existing retailers. If it is something that customers want, which seems likely, then smart metering may be needed. For some retailers, scale and complexity may limit which customers they offer it to, with it being more likely to be offered to larger customers than small.

## 2.3 Spectrum activity: Value and likelihood of offering LET

### Outcomes

**How much value do you see in LET for your business? No value, unsure, high value.**

- **High value: 4 participants:** Looking for opportunities for customers. As storage becomes more of an option, trading becomes more valuable.
- **Unsure: 4 participants**
- **In between unsure and no value: 2 participants**
- **No value: 2 participants:** From retailer perspective, the margins will be the same, they don't see much value. In the short-term there is insufficient volume and scale therefore the value is lower. The higher volume scale and control, the value to retailer increases. In the longer-term they can see greater value. Customers want more control and value, it's a composite of stacked value schemes.



**How likely is that your business will offer LET as a standard offering? Highly unlikely, unsure, highly likely.**

- **Highly likely: 4 participants**
- **Unsure: 3 participants**
- **Highly unlikely: 5 participants:** in the short term, highly unlikely, however if looking at 5-10 year time horizon, then move towards highly likely. Shareholders unlikely to support it.

## 2.4 Discussion session 2: Challenges of implementation

### PART A

- What are the implications of offering LET for your billing systems?
- Time of use reconciliation – is the complication worthwhile? Are there alternatives?
- Are there any other implementation issues?

## Discussion

### Billing

Questions were raised including: How could the netting off be implemented? What will customers see on their bill or can netting off be done outside of the bill? What are the logistics of netting off when there is more than one customer? For example could there be a simple arrangement whereby every customer gets a percentage of the generation at any particular point of time, or a bidstack where customers get generation one after the other? Can you have carry-overs or wash-up?

If it is a very predictable output and consumption profile, it would be much easier than with multiple variables. It becomes more complicated as it goes to mass market. For mass market the rules are also very prescriptive about what has to be shown on the bill and there are significant consumer protection issues. Mass market = under 100-160 MWh/year (residential and small businesses). These customers may not have sufficient generation capacity or flexibility in their consumption profile.

It may be easier to have a credit profile or for community owned energy, to pay a dividend. The regulatory framework, licensing, exemptions etc. could also be relevant.

Some participants thought that changes to billing systems would be more viable for larger customers in 1-1 or 1-several netting off arrangements.

It was noted that if there is a mismatch between nodes in a location or between locations it may not balance, but customer 1 selling to customer 2 next door might be feasible.

Where billing is pre-automated and it would require an overlay of data that doesn't fit, serious changes would be needed to some systems.

### Time of use

Time of use reconciliation is more complicated for mass market because it's a bundled price.

Feed-in tariffs are simplified for a generic load profile. The more complex it becomes, the more it starts to be replicate AEMO's reconciliation system, which is already very complicated.

There was agreement that it should be possible to net off on a time of use basis for large customers. As smart meters are rolled out there will be more and more customers with time of use tariffs, and this will include more customer groups going forward. However, it is questionable how quickly this will occur for the mass market.

Some participants thought time of use netting off is doable for the mass market, but it is easier with similar tariff shapes and different metering types. It would be very complex when trying to reconcile a half-hourly market to a consumption (non time of use) meter, however netting off against a deemed load profile (net system load profile) wouldn't give customers what they want.

### Other issues/considerations

It was agreed that it is easier for newer retailers to build the functionality into their systems than existing retailers to build it into existing billing systems. New retailers can play a role in meeting customer demands and delivering a simple model that overcomes the complexity.

No one has fully scoped it out so until it is understood what the rules are governing the information flow, you can't build the system. It will be built to the market rules once they are put in place.

There aren't any other impediments to it being offered currently.

Open Utility, a small start-up in UK, was recommended to look into as a LET platform provider.

Reposit is building a platform to allow customers to sell grid credits. It's not necessarily a wholesale electricity retailing service.

## Summary

It was generally agreed that it would be easier for new retailers to build LET into new billing systems than for existing retailers to modify SAP systems. Interesting questions were raised as to how energy would be allocated when there are multiple customers. It was thought that LET billing would be simpler for larger customers. For mass market customers, there are strict regulations regarding customer protection that could make it difficult. Some thought that time of use reconciliation would be too complex for small customers, while others thought it would be necessary to give customers what they want.

## PART B

- Is regulation needed for LET to become a standard offering?
- Are there any regulatory hurdles to it becoming a standard offering?

## Discussion

### Is regulation needed for LET to become a standard offering?

It was agreed that regulation is not needed and in fact regulation may stifle innovation that could emerge in its absence. Regulation also tends to result in backlash from those who don't want to do it. There is currently nothing to prevent a retailer offering LET to a customer if they want it. The fact that it's not happening on a larger scale perhaps speaks to the business case not being quite there yet for the retailers.

### Are there any regulatory hurdles to it becoming a standard offering?

National Energy Customer Framework (NECF) regulations may limit the ability of retailer to offer it to small customers (NECF applies to <100-160 MWh, i.e. small business and residential). The framework was developed for one-way flow of generation but it is barely appropriate for solar and not appropriate for battery storage. Regulation is no longer fit for purpose – the consumer protections are not appropriate for what is needed now. The basis on which a bill has to be produced the information that has to be given to the customer is very prescriptive. For small customers and for retailers who don't have billing systems that provide granularity, it would be hard to get MSTATS to provide the required data.

It should be possible to build a product that overcomes the hurdles but it may or may not be LET. 'Standard offering' implies offered all the time and the same for everyone – this is too restrictive. Retailers need to be able to offer a bespoke offering that doesn't accidentally penalise those who choose not to offer it.

In the large customer market there are no regulatory barriers.

## Summary

There was unanimous agreement that regulation is not needed for LET to be offered. Existing NECF regarding consumer protections may present barriers to offering LET to small customers but there are no regulatory barriers for offering it to large customers. It is more likely to be a bespoke than a standard offering for existing retailers.

## 3 SURVEY OVERVIEW

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### 3.1 Introduction

The survey was circulated to electricity retailers via the then Electricity Retailers Association in December 2015. Following the workshop in February 2016, the closing date for the survey was extended to 4 March 2016.

The focus of the survey was **Local Electricity Trading (LET)**, as this would be a service offered by Electricity Retailers. Retailers were advised that the survey should be completed by someone within the organisation who has a good understanding of the organisation's customer billing system and customer tariffs.

The purpose of the survey was to gain information on the challenges to the implementation of LET, the potential costs, and to gauge interest among electricity retailers.

The survey was a questionnaire in a word document, circulated and returned via email, with questions on interest and technical requirements for LET. The survey itself is contained in Appendix 1

The following results are aggregated from the returned surveys. No responses are attributed to any individual retailer. The survey itself is included as Appendix 1.

### 3.2 Survey respondents

The survey was returned by 7 retailers and 1 further survey was completed via a phone interview. One retailer noted that their responses referred to SME and C&I customers only.

- AGL Energy
- Enova Energy
- ERM Power Limited
- Mojo Power
- Origin Energy
- Pooled Energy Pty Ltd
- Powershop
- Red Energy & Lumo Energy

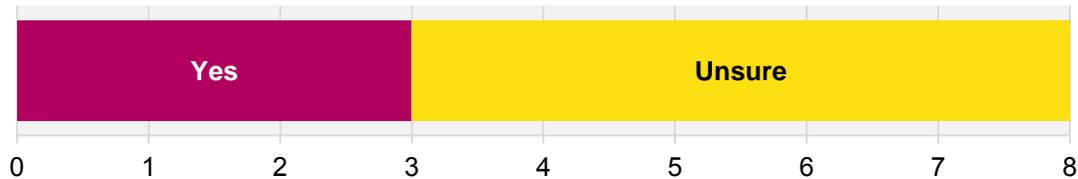
The survey was generally completed by senior personnel working in regulatory compliance and strategy.

# 4 SURVEY RESULTS

## 4.1 Local Electricity Trading

### Value of Local Electricity Trading

1. Do you see Local Electricity Trading as a business opportunity for your organisation?

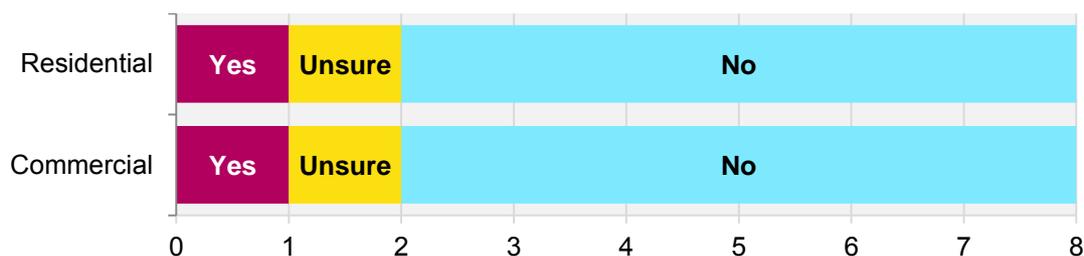


**Comments:**

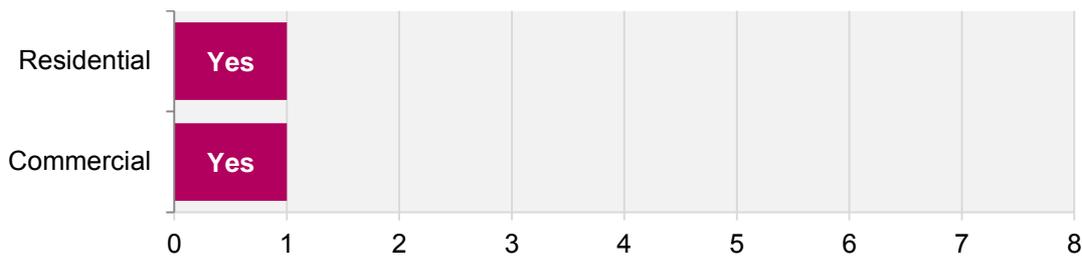
- Local Electricity Trading, in some form, may form part of [retailer name removed]'s product suite
- At this stage we do not clearly see what benefits might be realised from LET. We are interested in the concept; however need greater visibility of proposed solutions to make a determination on how we would implement this into our retail business.
- LET is seen to be a viable part of our overall strategy.
- We support the aim to fully utilise embedded generation. However we are concerned that to date LET/VNM schemes have not clearly articulated where value is created but rather sought to transfer cost recovery (e.g. retailers' operating costs/margin) from participating generators/virtual customers to non-participants. We hope this project will test this further.
- If there was an [LGNC] then we could pass that on to customers, then there would be an advantage. Currently we don't see any advantage over offering FiTs. FiTs are inclusive of more value than just energy value - retailers are forgoing the need to procure [and the risks of such procurement] electricity elsewhere. ... Probably LET won't be worth more than our FiT. Different risks associated with generation and consumption. Always will be an amount to pay in offsetting it from the other. Financially it ends up no different to buying electricity at one place and selling it another place.

### Assigning generation from one NMI to another

2a. Does your billing system allow you to assign generation from a single NMI to one or more other NMIs? (This would be needed for 1-1 Local Electricity trading and for 1-many Local Electricity Trading)



**2b. If yes, can the system do this on a Time Of Use (TOU) basis?**



**2c. If no to 2a, what changes would be required to your billing system in order to enable this to happen? Please consider this for both commercial and residential customer classes**

- *If we deployed resources in coding and reconfiguring our existing suite of systems and interfaces, then we could achieve this. However, as we use and operate them today, they cannot.*
- *Considerable changes would be required.*
- *We use a third party billing platform that is used by a number of retailers, so this would require substantial change in this platform. We would also want to see all customers participating using interval metering (even if not on a TOU tariff).*
- *A customised settlement function would need to be added to allow automation of the process.*
- *Extensive changes would be required in order for our billing system to incorporate this. It would also require the same customer to be both the generator and the recipient of the energy (i.e. under one retail contract).*
- *The billing system can probably handle this [but not on a TOU basis]. However the financing and hedging system would need to be updated. If everything was done by half hour at the same node, that would help. But you can't know in advance what's going happen [so] would still need to hedge as if the generator wasn't there and would find out after the fact if you had overhedged.*
- *We would need to customise our systems to enable the reassignment. We foresee these changes to be complex as there would need to be a means to determine when (1) a site has excess generation and (2) where to assign the generation and the appropriate credit with the assignment. Further complexities also arise given the extensive number of tariff structures that are evident across the state and how the credit is applied against that structure. That is, one NMI may have a flat structure and the netted off site has a... demand tariff.*
- *We have two different billing systems. One system to bill mass market customers and another system to bill commercial customers. Both systems would require configuration.*

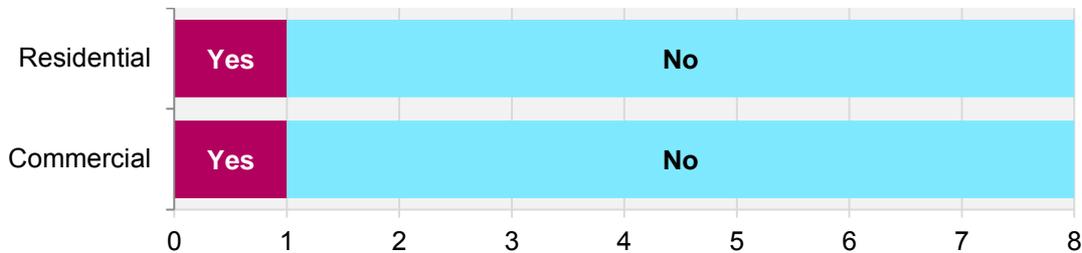
**2d and 3d. Would you expect to recover any implementation costs over your entire customer base, or from only those customers, or customer class(es) which you expect to use the service?**



\* Some costs be smeared over all customers, but there would be loading towards those using service

**Aggregating and assigning generation from one to multiple NMIs**

**3a. Does your billing system allow you to aggregate generation from one NMI to multiple NMIs on a TOU basis? (This would be needed for 1-many Local Electricity Trading)**



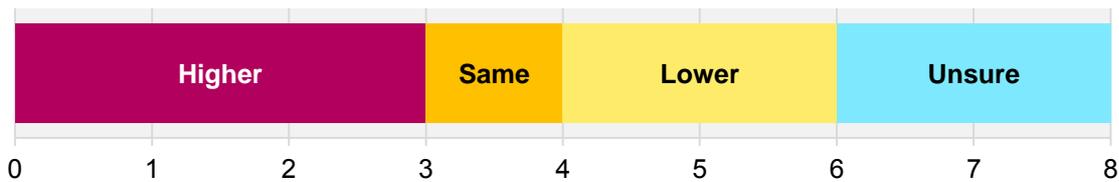
**3b. If no, what changes would be required to allow for this? Please consider this for both commercial and residential classes**

See answers to 2c – very similar except even more complex

**3c. What would be the approximate cost of these changes? Please consider this for both commercial and residential customer classes (note that we expect only an approximation).**

The range of answers to this question is very great, reflecting the different costs for different players and perhaps the range of functionality that retailers assume to be desirable. Qualitative answers included “small” (as the functionality is there, but dormant), “very high”, and “significant”. Numerical answers to the question have a large range, \$50k to \$1.7 million. The average of all answers, including both upper and lower limits, is close to \$500,000.

**4a. Is the appropriate per kWh charge for this service likely to be lower, the same, or higher than the per kWh retail margin?**

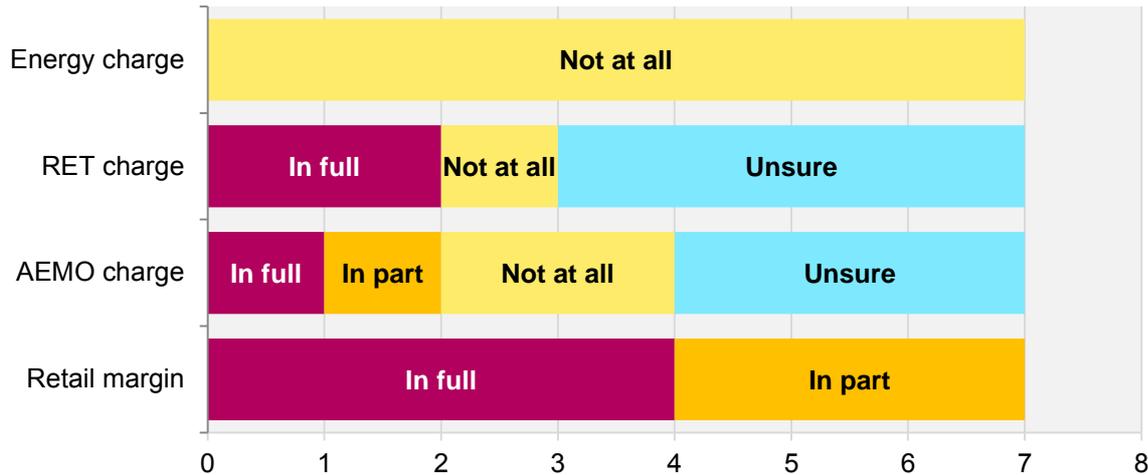


**4b If possible, please give an approximate per kWh charge for this service. Please note that this will remain confidential.**

There were insufficient answers to this question to protect confidentiality.

**Application of non-energy charges on netting off**

Volumetric energy charges will be avoided entirely at the sites where the generation is netted off on a TOU basis (note that this does NOT include the associated volumetric network charges, which would be applied in full). Should other charges (eg. RET, AEMO, retailer margin) still be applied to the site, in full or a portion?



**5a. Energy charge comments**

- However, the customer may be offered different energy rates if there is a material change in the customer's load shape (and therefore cost to serve).
- Assuming 100% time of use netting in a specified trading interval
- May still charge for hedging costs which are a component of energy charge
- As highlighted in the question, the purpose of LET is to offset energy costs.
- The question remains as to the value of this wholesale energy charge

**5b. RET charge comments**

- Still a relevant acquisition under RET legislation [charge should be applied in full]
- The CER would need to make a ruling on their interpretation of whether traded electricity was acquired by the retailer or should be treated as if it were consumed on the generator's site. If the generator and consumer were the same customer, we expect they would rule that electricity was not acquired and therefore RET charges would not be applied.
- RET liability is based on AEMO settled energy and is grossed up to include embedded generation. The 'netted off' site will still incur these charges.

**5c. AEMO charge comments**

- Will depend on whether the AEMO charge changes to \$ per connection point or remains volumetric energy based.
- We can net off the AEMO charges.
- AEMO charges are levied on NMIs consuming energy – if the consumption at the customer NMI is the same, then we still pay pool fees.
- Fees are charged to retailers based on per MWh of customer load. The 'netted off' site is an importer and will still incur these charges. Thus, AEMO charges for the relevant consumption should still be applied to the account.

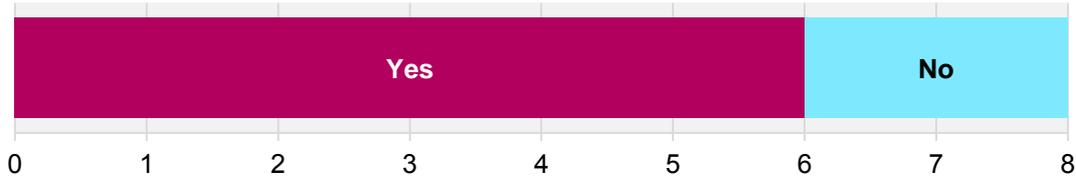
**5d. Retail margin comments**

- This would depend on product structure.
- Retailer still providing the service and managing the risk at the site.
- Retailer margin would be incurred as if the site used the full amount of energy.

- *It is assumed there will still be the same amount of work involved for the retailer in this, particularly in the 1-many situation (community owned generation to e.g. many renters).*
- *This is dependent on the exact situation and customer.*
- *Retail costs and retail margins are not separated out or itemised on customer bills.*

## 4.2 Local Network Charges

**6a. Can your billing system allow for multiple distribution tariffs on one NMI (specifically, the normal network tariff for usage AND the local network credit)?**



**6b. If no, what changes would be required to allow for this?**

- *In theory this should be feasible as the system currently accommodates FiTs and load control tariffs through the same NMI as general usage electricity tariffs.*
- *We can apply more than one network tariff code to one NMI (i.e. we apply one network tariff code to each register), however this approach is more complicated from a system perspective and therefore can be prone to error.*

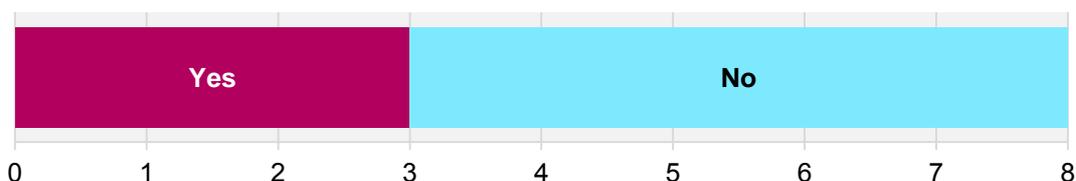
**6c. Does your billing system accommodate FiTs with respect to small customers? We assume the mechanism for paying feed in tariff (FiTs) would be administratively similar to the Local network Charges.**



**Comments:**

- *Yes, and they should be administratively similar. However, there will need to be some mechanism with the network to note customer consent for the tariff change.*
- *Yes. Similar administration of FiTs and local network charges would depend how these were treated in network tariff codes.*

**6d. Are there any limitations to payments similar to FiTs on a TOU basis as opposed to flat rate? If yes, please describe the limitations.**

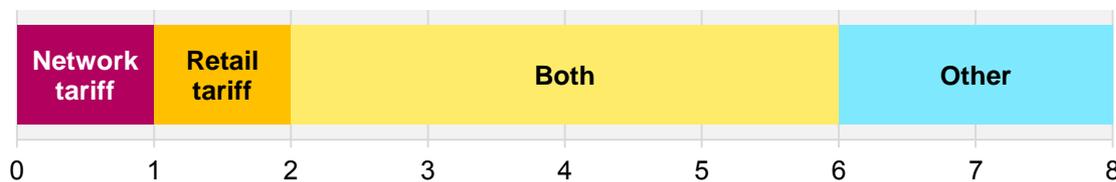


**Comments:**

- *Currently yes, but plausible with type 4 metering.*

- No, we have no current limitations if the customer is on a TOU tariff.
- Yes. We do not have TOU capabilities currently built into billing systems for small customers. Majority of network and retail tariffs are flat rates.

#### 6e. Are FiTs categorized as a network tariff or a retail tariff in your billing system?



#### Comments:

- *Both: For the customer categorisation standpoint, the network tariff guides what retail product the customer is assigned.*
- *Both: It depends on the customer contract type.*
- *Other: As a credit*
- *Other: Classed separately*

### 4.3 Other comments

- *The information presented as part of this survey didn't give us enough clarification on how the proposal is anticipated to operate in practice. As such, we have had to draw our own conclusions as to possible methods of operation and answered the questions presented in the survey based on these assumptions.*
- *The implementation of Local Network Charges seems to be critical to make Local Electricity Trading cost effective for generators and consumers. It is vital the AER amends regulations to bring LNC into being to allow LET to work. LET would make ...community scale generation owned by renters feasible, and much more.*
- *Distributors need to be encouraged to see that it is in their long term interest (to avoid stranded assets), to accept a two tier arrangement for Network Charges.*
- *At the moment it appears more likely that the power and influence of large scale energy market participants (whose billing systems are too cumbersome to enable rapid adaptation), and distributors (whose short term returns would be impacted) will influence the outcome and delay the implementation of more community scale renewable energy. However if the regulatory regime and framework does not keep pace with technology-driven market changes the shift will happen in any case but in a way which is far less equitable. i.e. those who can most afford to pay will be the first to leave the grid.*

# APPENDIX 1 THE RETAILER SURVEY

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## SURVEY

We ask for the following details so that we can contact you if we need to clarify anything in your responses. At the end of the survey we provide some options for further involvement in the project.

<b>Name</b>	
<b>Organisation</b>	
<b>Role</b>	
<b>Contact (email and phone)</b>	

In responding to the following questions please give approximations and high-level responses if providing detailed responses is time-consuming.

### LOCAL ELECTRICITY TRADING

#### Question 1: The value of Local Electricity Trading

**1. Do you see Local Electricity Trading as a business opportunity for your organisation?**

Yes

No

Unsure

**Comment:**

#### Question 2: Assigning generation from one NMI to another

**2a. Does your billing system allow you to assign generation from a single NMI to one or more other NMIs? (This would be needed for 1-1 Local Electricity trading and for 1-many Local Electricity Trading)**

Residential customers: Yes  No  Unsure

Commercial customers: Yes  No  Unsure

**2b. If yes, can the system do this on a Time Of Use (TOU) basis?**

Residential customers: Yes  No  Unsure

Commercial customers: Yes  No  Unsure

**2c. If no to 2a, what changes would be required to your billing system in order to enable this to happen? Please consider this for both commercial and residential customer classes**

**2d. Would you expect to recover any implementation costs over your entire customer base, or from only those customers, or customer class(es) which you expect to use the service?**

### Question 3: Aggregating and assigning generation from one to multiple NMIs

**3a. Does your billing system allow you to aggregate generation from one NMI to multiple NMIs on a TOU basis?** *(This would be needed for 1-many Local Electricity Trading)*

Residential customers:      Yes                               No                               Unsure

Commercial customers:      Yes                               No                               Unsure

**3b. If no, what changes would be required to allow for this?** *Please consider this for both commercial and residential classes*

**3c. What would be the approximate cost of these changes?** *Please consider this for both commercial and residential customer classes (note that we expect only an approximation).*

**3d. Would you expect to recover any implementation costs over your entire customer base, or from only those customers, or customer class(es) which you expect to use the service?.**

**Question 4a: Is the appropriate per kWh charge for this service likely to be lower, the same, or higher than the per kWh retail margin?**

lower                               the same                               higher

**4b If possible, please give an approximate per kWh charge for this service.** *Please note that this will remain confidential.*

### Question 5: Application of non-energy charges on netting off

It is assumed that volumetric **energy** charges will be avoided entirely at the sites where the generation is netted off on a TOU basis (note that this does NOT include the associated volumetric **network** charges, which would be applied in full).

It is less clear whether other charges - RET, AEMO, retailer margin - should still be applied to the site, and/ or, whether only a portion of these charges should be applied.

Please comment on each charge element, noting that in the behind the meter or private wire scenarios, these charges are in effect rebated in full.

5a. Energy charge should be applied:

In full  In part  Not at all  Unsure

Comment:

5b. RET charge should be applied:

In full  In part  Not at all  Unsure

Comment:

5c. AEMO charge should be applied:

In full  In part  Not at all  Unsure

Comment:

5d. Retail margin should be applied:

In full  In part  Not at all  Unsure

Comment:

**Question 6: Implementation of Local Network Charges (note this question is about local network charges, NOT Local Electricity Trading):**

6a. Can your billing system allow for multiple distribution tariffs on one NMI (specifically, the normal network tariff for usage AND the local network credit)?

Yes  No  Unsure

6b. If no, what changes would be required to allow for this?

6c. Does your billing system accommodate FiTs with respect to small customers? We assume the mechanism for paying feed in tariff (FiTs) would be administratively similar to the Local network Charges.

6d. Are there any limitations to payments similar to FiTs on a TOU basis as opposed to flat rate? If yes, please describe the limitations.

**6e.** Are FiTs categorized as a network tariff or a retail tariff in your billing system?

### Question 7: ANY OTHER COMMENTS

Please put any additional comments, observations or concerns you would like to raise about the possible introduction of Local Electricity Trading below.

### Further involvement in the project

The Electricity Retailers Association and the Institute for Sustainable Futures will run a workshop for Electricity Retailers on Local Electricity Trading in February 2016. Are you interested in attending the workshop (provisionally in w/c 15 Feb)?

Yes

No

Maybe

Would you be happy for ISF to conduct a follow up phone interview with you on this topic?

Yes

No

Maybe

Would you like to receive the project newsletter?

Yes

No

**Thank you for completing the survey**

