



# SUBMISSION ON THE ELECTRICITY AUTHORITY'S PROPOSED QUICK WINS FOR INCREASING ACCESS TO ELECTRICITY SERVICES



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## Submission on the Electricity Authority's Proposed Quick Wins for Increasing Access to Electricity Services

### Introduction

1. This is Vector Limited's (Vector) submission on the Electricity Authority's (the Authority) consultation paper, *Quick Wins for Increasing Access to Electricity Services*, dated 23 April 2019. We appreciate the Authority's engagement with industry participants on privacy issues relating to this consultation through a roundtable discussion on 27 May 2019.
2. Vector supports initiatives that enable increased access to electricity services and promote consumer participation in electricity markets. We support the creation of new options that make it easier for consumers to share their consumption data with businesses or agents that they trust, so that new and innovative services that benefit them can be developed. These options are comparable to emerging data portability rights in other jurisdictions, including the Consumer Data Right being developed in Australia. As such, they go to the heart of consumer control.
3. We propose an alternative approach (referred to as "the OAuth style model" for the purposes of this consultation) for the Authority's consideration, which we believe will provide more efficient and effective authentication and authorisation processes. It will enable consumers to share their data more conveniently and in a more timely manner. We use a series of diagrams to illustrate how the model works from the perspective of different industry participants – consumers, agents, retailers, metering service providers, and other 'resource holders'.
4. No part of this submission is confidential. Vector's contact person for this submission is:

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### The Authority's proposals

5. Vector suggests that the Authority expand its range of options for making it easier for consumers to share their consumption data with businesses, or agents, that they trust.
6. We do not support the Authority's proposals, which retain some features that create barriers to a seamless consumer experience and more real-time delivery of consumer benefits. These barriers include:
  - a. the use of e-signatures, which: 1) could create further processes, 2) provide a poor means to verify identity or authorisation, particularly because retailers do not generally hold signatures to verify against, and 3) could discourage consumers who may be wary of providing their e-signature to their retailer or agent;

- b. manual intervention by retailers in the authentication process, which can be prone to error, potentially compromising the integrity of the data sharing system; and
- c. a waiting period of up to two business days for: 1) a retailer to reject a request, or 2) a retailer to advise an agent of a consumer's revocation of the agent's authority, or 3) an agent to notify the retailer of a consumer's revocation of the agent's authority.

### **Proposed alternative approach**

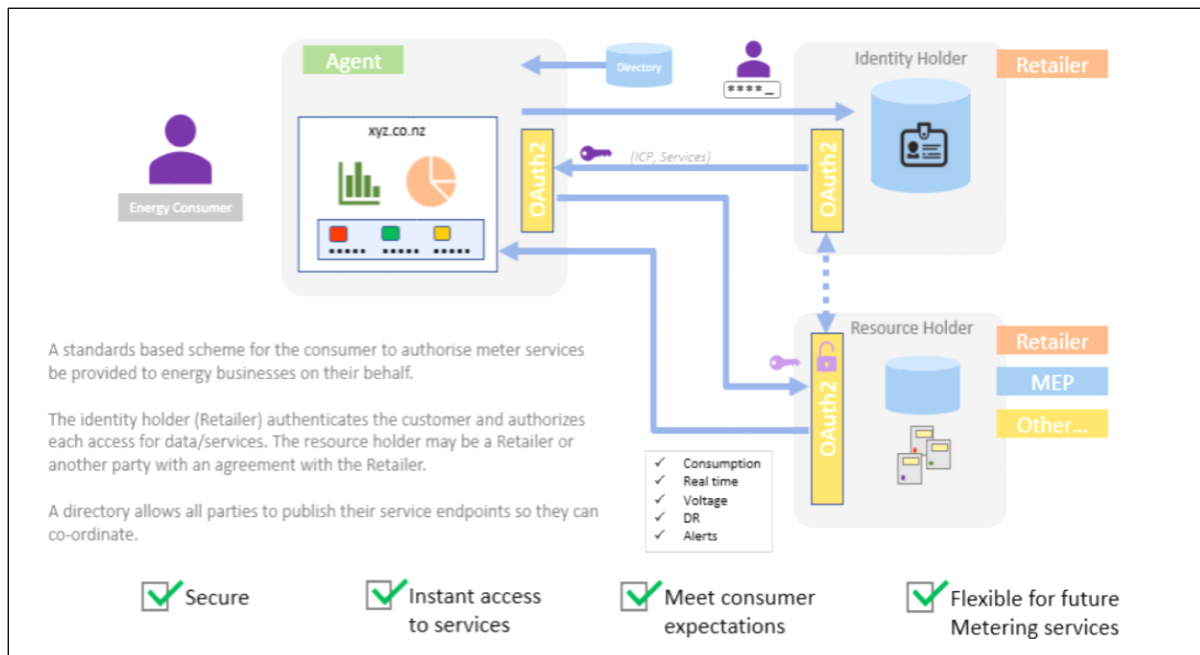
7. Vector proposes an alternative approach which we believe will make it much easier for consumers to authorise their retailer to provide their consumption data to their agent. It is based on a modern, 'delegated authority' approach which will both deliver the 'quick wins' the Authority is seeking to achieve, and remove the above barriers.
8. The OAuth style model is a decentralised model that uses token-based authentication and authorisation processes using the OAuth 2.0 standard. We believe the electricity industry should consider a proven standards-based approach to address barriers to consumers' desire to delegate their right to access and share their data.
9. OAuth 2.0 was developed by the Internet Engineering Task Force OAuth working group and is now the leading standard for delegated authorisation. It is widely used by private companies such as Google, Facebook and Microsoft. It is part of the UK Open Banking Standard. In New Zealand, OAuth is recommended by digital.govt.nz and is used by the Ministry of Business, Innovation and Employment (MBIE - api.business.govt.nz).
10. The Green Button Alliance in the USA has used OAuth 2.0 in its framework that allows a retail consumer to authorise a third party to access the consumer's data held by the data custodian. Green Button was an industry-led response to a government call for action to improve data sharing in the utility sector. We prefer to see a similar industry-led initiative in the New Zealand electricity sector.

### **General features of the OAuth style model**

11. Diagram 1 provides a high-level view of the OAuth style model which does not include the above barriers. It incorporates the following features which enable the delivery of greater benefits to consumers:
  - a. The model is secure. The model is based on the OAuth 2.0 standard which uses secure token-based authentication. By entering a username and password once, a consumer allows an agent to receive a uniquely generated encrypted token. The token is then used to access the requested data instead of the login credentials for a specified period.
  - b. It provides instant access to services. Under this model, it should be reasonable for an agent to provide a service that the consumer can sign up for and begin using with real data within 5 minutes.
  - c. It meets consumer expectations. Immediate access and use of data is the default consumer expectation of modern app-driven transactions. OAuth 2.0 is widely used and the consumer experience OAuth 2.0-enabled applications provide is already familiar to many consumers who use these applications in their day-to-day transactions.
  - d. It is sufficiently flexible for the integration of future metering and data services. This model will enable a path for third parties to access data services and APIs to build a user experience where the source of those APIs is not limited to the retailer. It could be a metering provider or another 'resource holder'.

- e. Metering service providers are well suited to developing a wide variety of data services and real-time interactions with the meter. Because of their ‘proximity’ to the technology, metering service providers are well positioned to offer a consistent set of services in this space. The OAuth style model enables them to practically introduce these services into the market in a secure fashion.
12. Retailers, agents, and ‘resource holders’ will need to do some work to integrate to the OAuth style model. However, it is reasonable to assume that many of them are, or will be, using this technology in other areas of their business.

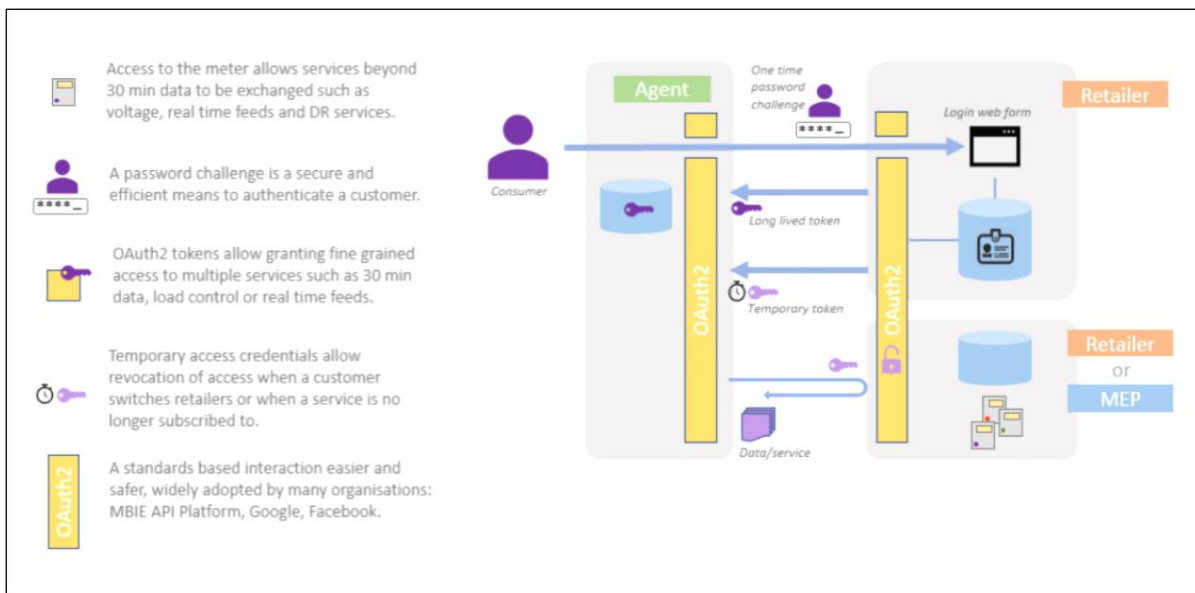
**Diagram 1: Overall design of the OAuth style model**



**A model for consumers to authorise access**

13. Diagram 2 shows an agent’s OAuth style interaction with the retailer to securely and robustly authenticate the consumer. This interaction will also verify if the agent has been given permission to access data/services the consumer has expressly allowed.
14. The OAuth style model provides a seamless user interface experience that is familiar to the consumer, co-ordinated by the agent and backed by the retailer authentication/authorisation service. The consumer does not need to independently visit the retailer site. The consumer can grant access to the agent in the time it takes to read the permissions the consumer is granting and enter a password.
15. The agent is then provided with a long-lived token encapsulating the details of the permission from the consumer. The retailer can subsequently revoke this access as the agent is required to re-submit this token periodically to gain temporary access credentials.
16. This model focusses on validating that consumers have granted permission to access data/services without limiting how these are provided, or what the data/services are. This allows retailers and/or metering service providers to offer services in response to the needs of the market. Permission to access 30-minute kWh, annual total kWh, voltage data, real time feeds, alerts, and others might all be granted to different agents depending on the service required and level of trust of the consumer.

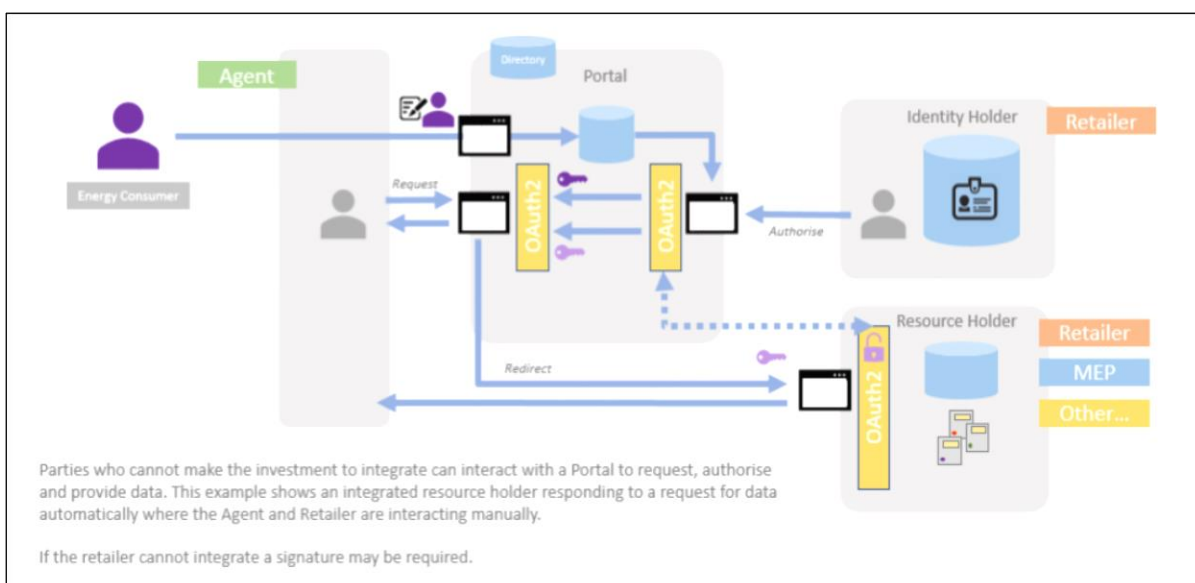
**Diagram 2: Consumer access to the meter**



**Alternative options for smaller retailers and agents**

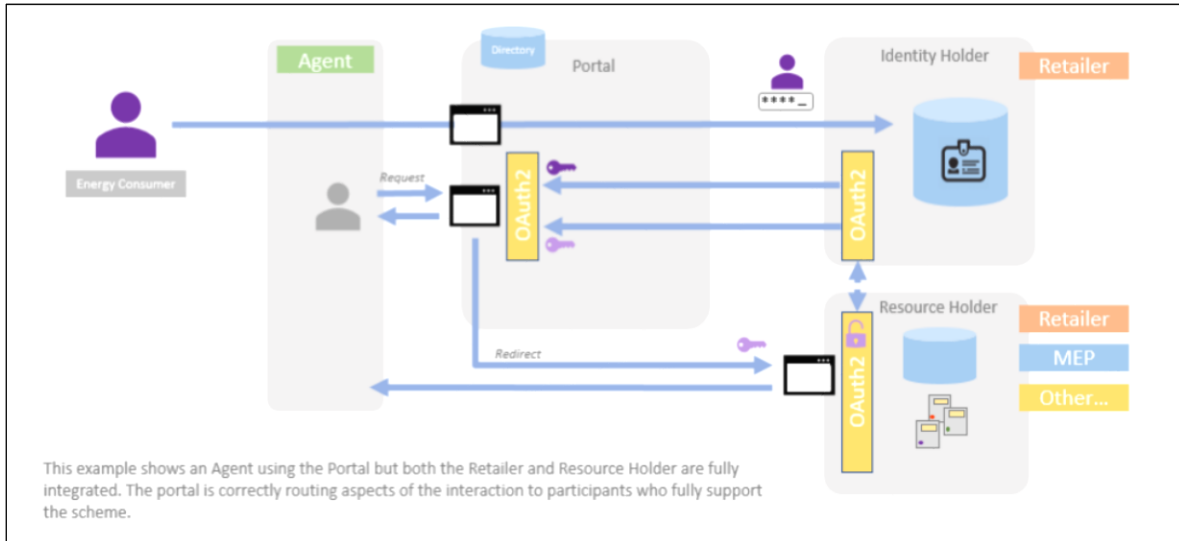
17. Some smaller retailers and agents may not be able to integrate directly with the authentication and authorisation processes. The OAuth style model incorporates a portal that allows these parties to participate without fully integrating. The portal could be provided by the Authority or by an independent party selected through a contestable process.
18. Use Case 1 illustrates an example where both the agent and the retailer are using the portal for this reason while the resource holder has fully integrated.

**Use Case 1: Interaction via portal (1)**



19. Use Case 2 illustrates a smaller agent using the portal where the retailer and the metering provider are fully integrated into the system.





### Use case 2: Interaction via portal (2)



### Comparative summary of features

20. Table 1 outlines the benefits of the OAuth style model compared with the Authority's proposals:

Feature	Authority's proposals	OAuth style model
Consumer benefits: <ul style="list-style-type: none"> <li>Ease of use</li> <li>Familiarity</li> <li>Timeliness</li> </ul>	✗ Improves current arrangements but could take up to 2 business days for some processes.	✓ Sign-up and use of real data can be achieved within 5 minutes.
Consumer benefit - security	✗ E-signatures are less robust and can be prone to abuse, raising issues around security. Modern digital companies do not typically use e-signatures.  Long-lived authority to access data is a risk if the consumer no longer wants to allow the agent access.	✓ Retailer login based authentication is more secure in validating that the agent's consumer is the same one that initially signed up.
Retailer costs - upfront	✓ Lower cost to integrate with initially.	✗ There will be a cost to integrate.
Retailer costs - ongoing	✗ Ongoing retailer back office costs to verify that each request is valid may limit volumes able to be processed.	✓ Very low ongoing marginal cost for each request.
Retailer benefit	✗ Imposes new operational costs but does not stimulate the growth of new services.	✓ Unlocks the potential for growth of services based on regular

Feature	Authority's proposals	OAuth style model
		energy data and metering services.
Benefits for businesses and other data access seekers	 Standardising the requirements to authorise a consumer makes things easier.	 Enabling quick authentication and regular data access will dramatically lower the cost to serve for existing energy businesses, and enable previously impractical consumer propositions.
Potential for innovation	 Essentially retains the existing arrangements of slow authorisation and irregular access to data.	 Will unlock the potential for regular data access and new metering services to be provided to the market, stimulating the growth of new businesses.

## Privacy considerations

21. The overall privacy risk depends on whether consumption data (when associated with an ICP and not an identifiable individual) is deemed to be personal information under the Privacy Act. While Vector has generally taken the view that it is, and has managed this data in compliance with the Privacy Act, it should be noted that this question has not been settled. It may be helpful for the Authority to obtain clarity on this point by seeking an advisory opinion from the Privacy Commissioner.
22. However, assuming that consumption data is personal information, both the Authority's proposals and Vector's proposed alternative model comply with the Privacy Act. As a component of the principle 6 access right, the assumption is that resource holders will release information on request from the consumer (via their agent) unless they have a lawful basis not to.
23. The major risk in the process is raised by section 45 of the Privacy Act, which requires the retailer to take reasonable precautions to ensure an agent is properly authorised. A key concern with the Authority's proposals was whether these could be relied upon to reasonably satisfy a retailer that an agent was properly authorised.
24. The OAuth style model would mitigate this key risk by:
  - a. enabling the consumer to take an action which directly and expressly authorises the agent with the retailer, requiring the consumer to verify his identity using data the retailer already holds in order to authorise the agent and generate a token;
  - b. reducing the risk of an agent obtaining access to consumer data by submitting a fraudulent request, by removing the agent from the authorisation process;
  - c. providing for a more robust identity verification and authorisation processes; and
  - d. giving the consumer more effective and prompt control of the authorisation process, and the ability to quickly revoke authorisation without the input of the agent.

25. Further, it is suggested that the Authority could consider adopting a process to control agent access to the access model, whether or not the Authority proceeds with its proposals or adopts the OAuth style model. This could provide resource holders with further assurance that only trusted people or agents can use this process to access consumer data. This could include:
- a. requiring agents to agree to a set of user terms and conditions that include a requirement to comply with the Electricity Industry Participation Code (the Code) and the Privacy Act;
  - b. creating an agent category of industry participants that would be subject to the parts of the Code relevant to this access process. This would give the Authority some enforcement powers in respect of the agent practice, at least as it relates to the use of the access model; and
  - c. developing a negative licencing model whereby agents found to have breached either the Code, model terms and conditions, or the Privacy Act would have their access rights revoked.

### **Concluding comment**

26. We are happy to discuss our proposed OAuth style model with the Authority and interested industry participants. We can further discuss how the model or aspects of it can work in practice, or be improved, to enable consumers to authorise the sharing of their data with greater ease.

Yours sincerely  
For and on behalf of Vector Limited

A handwritten signature in blue ink, appearing to read "Richard Sharp".

**Richard Sharp**  
Head of Pricing and Regulatory Compliance