



# Advice on Establishing a Second Connection Point

Prepared by ENERGEIA for  
The Australian Energy Market Commission

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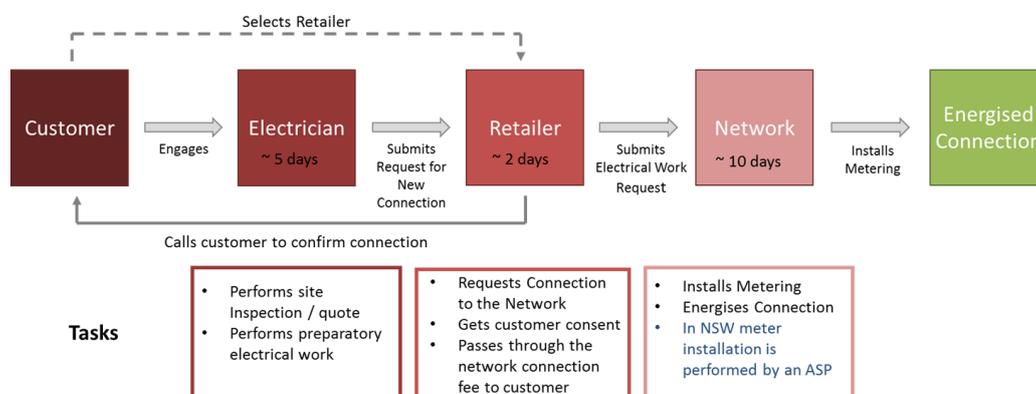
## Executive Summary

The Australian Energy Market Commission (AEMC) has been asked to assess a change to the National Electricity Rules (the Rules) which would enable electricity consumers to establish multiple trading relationships (MTR) with financially responsible market participants (FRMP), or retailers, at a single connection point. Under the current Rules an electricity consumer must establish a second connection point if it wishes to enter into a relationship with a second retailer.

The AEMC engaged Energeia to investigate the costs, timeframes and barriers to establishing an additional connection point and associated agreements with multiple FRMPs under current Rules.

## Processes

The process of establishing a second connection point is well defined and familiar to parties interviewed, with several electricians commenting that they carry out this task frequently for residential consumers. From a network and retailer perspective, establishing a second connection point is the same as establishing the first connection point in terms of both process and costs.



The process identified does not appear to be arduous on the consumer, in most cases the electrician handles co-ordination and submission of applications with the network and retailer and completes most on site work. In all jurisdictions except NSW the only network involvement is to install the meter and energise the new connection. In NSW the consumer nominated ASP performs this work.

## Timeframes

The process typically takes two to three weeks from the initial site visit by the consumer's electrician and the new connection being energised. This is dependent on the extent of works required in-premises by the consumer and the availability of both the electrician and the network's connections crews.

## Costs

The basic cost of establishing a second point, excluding any in-premises wiring and assuming the switchboard is in good condition, is in the range of **\$366 to \$1,437**.

Table 1 shows the charges each party levies for each task involved in establishing the second connection point.

Table 1 – Charges Levied by Party

Party \ Task	Generation of NMI	Meter Supply	Meter Install	Service Mains Upgrade	Switchboard Preparation	In-Premises Wiring
Electrician			✓*	✓*	✓	✓
Retailer						
Network	✓	✓	✓	✓		
AEMO						

\*In NSW only

Table 2 below gives a summary of costs by consumer class.<sup>1</sup>

Table 2 – Summary of Costs

Component	Applies	Price by Class			
		Small	Small with Micro-Generation	Multi-Phase	Large
Network Fee	Always	\$65.66 - \$937.45	\$65.66 - \$937.45	\$65.66 - \$937.45	Dependent on individual circumstances
Electrician Fee (Prepare Switchboard)	When switchboard in good condition	\$300 - \$500	\$300 - \$500	\$500 - \$700	Dependent on individual circumstances
Electrician Fee (replace switchboard)	When switchboard not in acceptable condition	\$1000	\$1000	\$2000	Dependent on individual circumstances
New/Upgraded Service Mains	When second linkage required or existing linkage is of insufficient capacity	\$0 - \$2000	\$0 - \$2000	\$0 - \$2000	Dependent on individual circumstances
Electrician Fee (in-premises wiring)	Sensitive to consumer application. Shown for scenario as per section 2.1. Not needed under subtractive metering.	\$2000	\$2000	\$2000	Dependent on individual circumstances

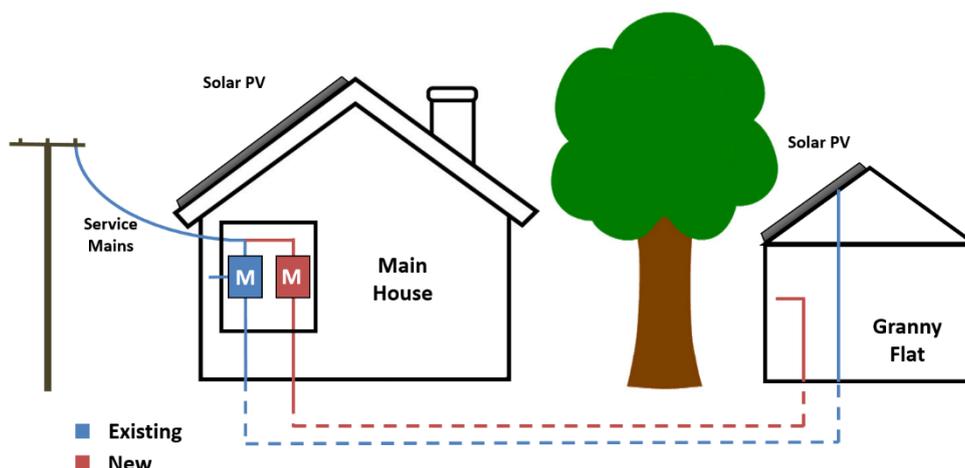
The processes for meter installation are currently under consideration by the AEMC as part of a rule change proposal. Should these processes change, the costs would potentially be different as the provision of the meter may no longer be organised and charged by the network, but by some other entity.

## Energeia's Approach

Energeia undertook desktop research and telephone conversations with networks, retailers and electricians to gather information and determine the process and associated costs of establishing a second connection point.

The particular scenario investigated was a main residence and a granny flat at the far end of the backyard. Both the main residence and the granny flat had solar PV panels installed, with existing wiring to the granny flat and a switchboard in good condition complying with applicable regulations.

<sup>1</sup> A second connection point would also attract a network and retail daily fixed charge, separate from that charged for the first connection point.



In the scenario, the owner of the premises wished to meter the supply to the granny flat separately such that a relationship with a different retailer the granny flat supply could be arranged. It was requested that all solar PV panels were to remain on the existing connection point as a realistic scenario where an owner wished to let out a granny flat such that the tenant would be free to make their own arrangements with a retailer for electricity supply. The scenario and the premises owner's motivation was easy to understand and communicate to parties during the calls with relevant parties.

The cost for the particular scenario is **\$2,366 - \$3,437** including in premise wiring. In the scenario outlined, running the additional wiring along the side of the house, trenching under the backyard and bringing the new wiring to the granny flat attracted an additional electrician fee in the order of **\$2,000**. This was required, despite the presence of an existing wire to the granny flat, to keep the PV solar on the main meter. In-premises wiring costs could still be incurred where the second metered load was under the same roof as the first load, for example in an in-house garage. In all such cases these costs would be dependent on existing wiring.

Under the subtractive metering arrangement described in the MTR proposed rule change, the installation of an additional wire would not be required, as the new meter could be placed at the granny flat utilising the existing wire. This scenario is expected to be frequently encountered with installation of electric vehicle charging points. However, under MTR, the installation of a second meter, the related preparation of the switchboard and electrical work may continue to apply.

### ***Modifications to Ease Barriers***

To increase transparency, consideration should be given to networks publishing a standard fee for establishment of a second supply point where no alterations are required to the existing service mains.

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## Disclaimer

While all due care has been taken in the preparation of this report, in reaching its conclusions Energeia has relied upon information and guidance from the AEMC, information provided by Distribution Network Service Providers (DNSPs), retailers, electricians and publically available information. To the extent these reliances have been made, Energeia does not guarantee nor warrant the accuracy of this report. Furthermore, neither Energeia nor its Directors or employees will accept liability for any losses related to this report arising from these reliances. While this report may be made available to the public, no third party should use or rely on the report for any purpose.

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# 1 Introduction

The Australian Energy Market Commission (AEMC) has been asked to assess a change to the National Electricity Rules (the Rules) which would enable electricity consumers to establish multiple trading relationships (MTR) with financially responsible market participants (FRMP), or retailers, at a single connection point. Under the current Rules an electricity consumer must establish a second connection point if it wishes to enter into a relationship with a second retailer.

The AEMC engaged Energeia to investigate the costs, timeframes and barriers to establishing an additional connection point and associated agreements with multiple FRMPs under current Rules.

## 1.1 Current Arrangements for Second Connection Point

Currently, a consumer must negotiate an individual connection to the local network service provider (LNSP) and establish a new National Metering Identifier (NMI) for each relationship with a retailer. This is due to the one-to-one relationship between the NMI (consumer), retailer and connection point under the current arrangements.

The following diagram demonstrates the possible electrical arrangements for establishing two connection points at a single location under current arrangements.

Figure 1 – Second Connection Point, Single Linkage (LHS), Double Linkage (RHS)

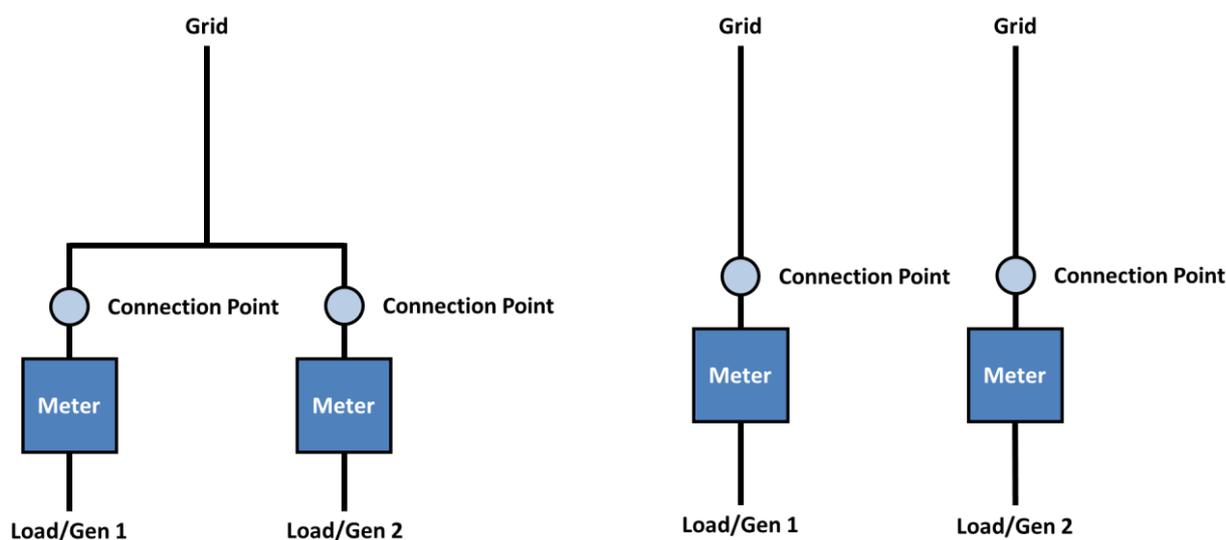


Figure 1 (LHS) shows the case where only one linkage to the network, in the form of an overhead or underground service main, is required. Note that either connection point may be used solely for connecting either generation, a new load or both.

Figure 1 (RHS) on the other hand shows the case where a new linkage to the network is required for the second connection point. Note that in both of the above arrangements the two connection points must remain electrically isolated from one another downstream of the connection points.<sup>2</sup>

## 1.2 Multiple Trading Relationships Rule Change Proposal

Under the proposed rule change for multiple trading relationships, three potential metering arrangements have been identified by AEMO:

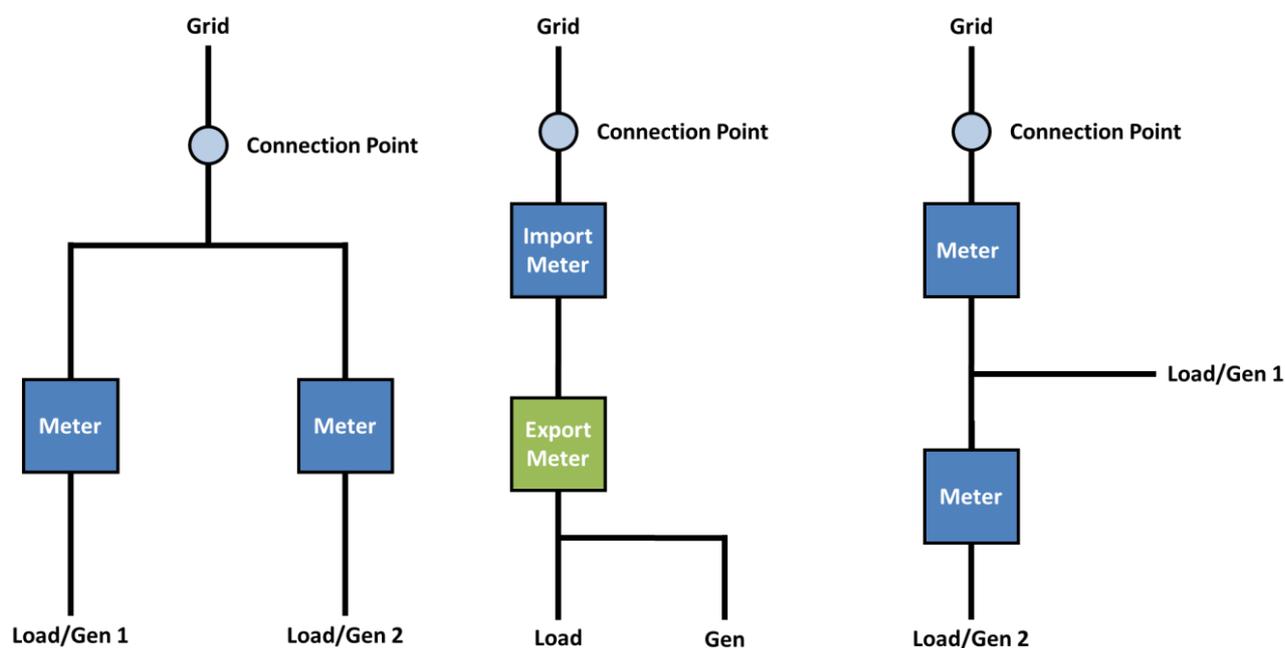
1. **Parallel Metering** – Shown in Figure 2 (LHS), where a second meter is installed in parallel to the existing meter, allowing the supply to be split between the two meters downstream of the connection point, negating

<sup>2</sup> The loads downstream of the connection points are served by different retailers and need to be isolated for settlement purposes.

the need to establish a second connection point with the LNSP. This arrangement applies equally for new generation or a new load. Under the parallel metering the electrical and physical arrangement of the meters is not materially different to establishing a second connection point with one network linkage under current arrangements.

2. **Net metering** – Shown in Figure 2 (Centre), allows for any net exports to the local grid to be associated with one retailer, while a different retailer can be engaged for the supply of net imports from the grid.
3. **Subtractive metering** – Shown in Figure 2 (RHS), enables consumers to install a child meter downstream of the primary, or parent, meter such that electricity usage for the sub-section of their premises is recorded by the child meter and subtracted off the usage recorded by the parent meter. The subsection metered by the child meter may be a single appliance, a second building, a generator or any load the consumer wishes. The consumer is then able to establish relationships with different retailers for each child meter and for the parent meter.

Figure 2 – MTR Metering, Parallel (LHS), Net (Centre), Subtractive (RHS) Metering



### 1.3 Structure of this Report

The remainder of this report is structured as follows:

**Introduction** – Outlines the investigation and background information to the Rule change request

**Approach** – Outlines Energeia’s approach for identifying the processes, costs and timelines for establishing an second connection point

**Results** – Provides the findings in terms of processes, costs and timelines in establishing a second connection point

**Barriers** – Explores barriers to consumers establishing a second connection point

**Appendix 1** – Provides a table of fees charged by each network for establishment of a second connection point

**Appendix 2** – Provides a tables of sample indicative fees charged by electricians for applicable work

## 2 Approach

Energeia's approach to the investigation was to establish the processes, costs and timeframes for a consumer to establish a second connection point for a particular scenario in terms of:

- Processes, times and costs associated with obtaining network approval
- Processes, times and costs engaging a second retailer
- Processes, times and costs in contracting an electrician to perform the work.

Energeia first reviewed the network published fees for establishment of the second connection point from the websites of each of the 13 networks in the NEM.

Energeia also placed calls to networks, retailers and electricians, posing as a customer wanting to set up a second connection point for the particular scenario in order to understand the costs, timelines and process involved to engage with each of these parties. During the calls, the scenario was explained and indicative costs and timeframes were obtained for each component:

- Preparation of the switchboard
- Supply and installation of the meter
- Additional in-premises wiring

A sample of electricians were contacted to provide an indicative cost to perform the electrical work.

### 2.1 Scenario

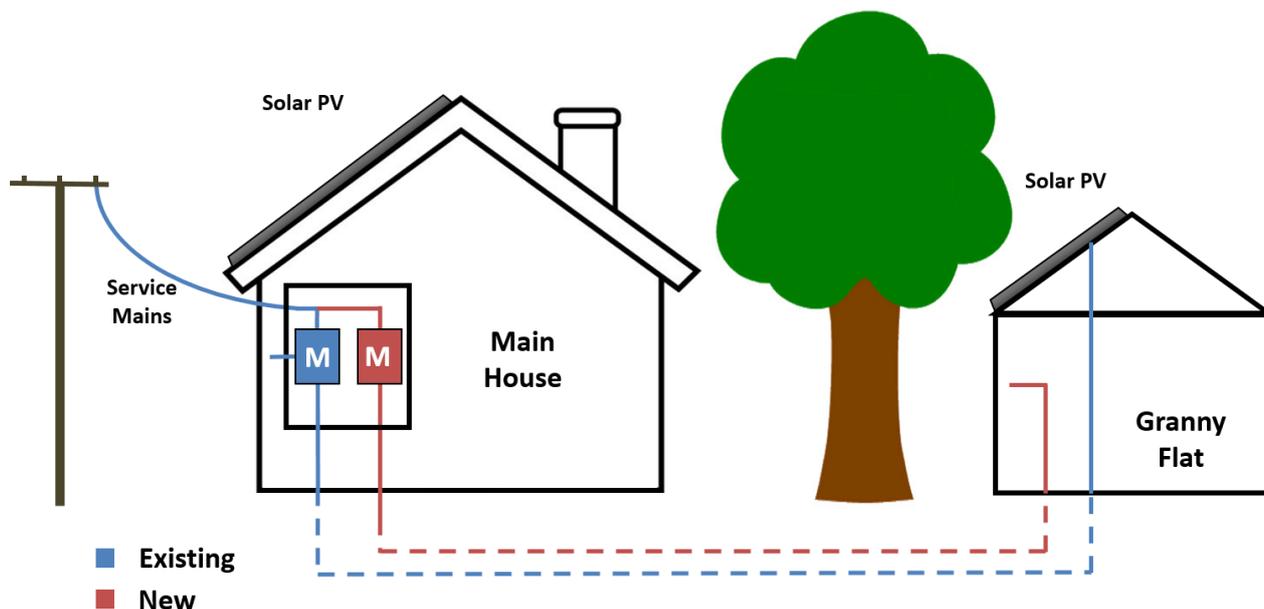
In order to fairly determine the costs of establishing a second connection point, Energeia developed a scenario which was used to cost the relevant activities.

The scenario consisted of a premises with a main residence and a granny flat at the far end of the backyard. Both the main residence and the granny flat had solar PV panels installed, with existing wiring to the granny flat and a switchboard in good condition complying with applicable regulations.

In the scenario, the owner of the premises wished to meter the supply to the granny flat separately such that a relationship with a different retailer the granny flat supply could be arranged. It was requested that all solar PV panels were to remain on the existing connection point as a realistic scenario of how an owner would wish to let out a granny flat so that the tenant would be free to make their own arrangements with a retailer for electricity supply. The scenario and the premises owner's motivation was easy to understand and communicate to parties during the calls with relevant parties.

This arrangement is shown in Figure 3.

Figure 3 – Arrangement of Scenario



This scenario was developed in order to test several components:

- The baseline processes to establish a second connection point
- The extra electrical work in running the wiring to the granny flat and
- The inclusion of embedded generation.

The costs for each component are easily separable in order to estimate costs for other variations on this scenario.

For example, other use cases for a second connection point may be to run the embedded generation on a connection of its own, or to run a specific appliance, such as a pool pump, air conditioning or an electric vehicle charger on the second connection rather than the granny flat.

### 3 Results

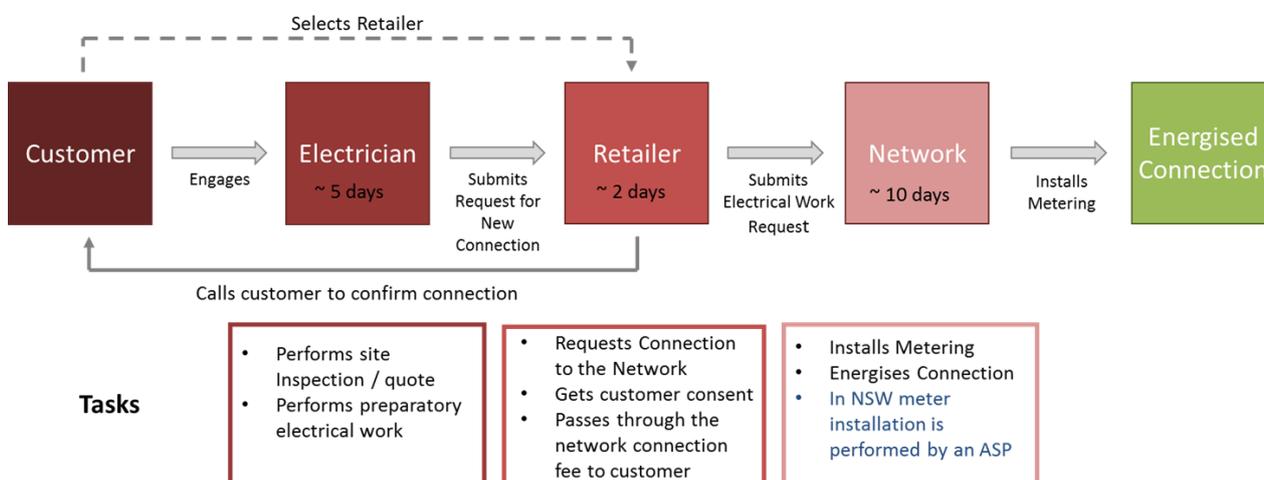
#### 3.1 Processes

A consumer wanting to establish a second connection point needs to first engage an electrician. The electrician selected will attend the job site and quote for the work and submit the request for a new connection to the network and retailer nominated by the consumer. Once the retailer receives confirmation from the network, the retailer will contact the consumer to set up a new account and energy plan.

The electrician will then perform the preparatory work on the switchboard, including any rearrangements, rating upgrades, new circuits and ensure the switchboard is compliant with regulations. The electrician will also perform any in-premises electrical work to support the consumers intended use of the second supply point, for example, connecting a specific appliance or running wiring through the premises.

The network will then attend the job site and install the new meter and energise the connection.

Figure 4 – Process for Second Connection Point Establishment



The process for establishing a second connection point was found to be mostly consistent across jurisdictions and networks, with only minor differences. The most notable being that in NSW the accredited service provider (ASP) performs the meter installation and energises the new connection rather than the network.

It should be noted that the parties Energeia contacted were all familiar with the process of establishing a second connection point at a single premises and a number of electricians commented that it was a job they perform frequently for residential premises.

#### 3.2 Timeframes

Timeframes were mostly consistent across states and jurisdictions with a typical timeframe for the entire process of around two to three weeks depending on availability of the electrician and the extent of the electrical work to be done.

Electricians gave typical timeframes of five business days lead and three to five hours on site to complete the work.

Retailers typically quoted two business days processing time for the application for connection and to submit the electrical works request to the network.

Networks quoted typical lead times of 10 business days lead time to arrange and schedule the job, with the worst case at 25 business days.

### 3.3 Costs

Energeia identified that there are two key costs involved with the establishment of a second connection point: the network fee and the electrician’s fee.

The network fee covers the network cost of generating the NMI, adding customer details to systems, supplying the meter and installation of the meter. Networks charge in the range of \$229 to \$937 for this component, excepting NSW where the charges range from \$66 - \$98 because the network does not perform the meter installation and the network charge is simply a processing fee.<sup>3</sup> Networks pass this fee on to the retailer or electrician, who then on-charge this amount to the consumer.

Energeia found that in the majority of cases an additional linkage to the network is not required, therefore the single linkage arrangement shown in Figure 1 (LHS) is used. An extra linkage may be required if the existing linkage does not have sufficient capacity for the additional load, or if there are network mains considerably closer to the location of the load the second connection point is to supply. If an extra linkage is required, the network may charge an additional amount depending on the individual circumstances of the job of between \$0 and \$2,000 for this job. In NSW, if required, the consumer must pay the ASP to perform connection of an additional linkage in the form of an underground or overhead service. This cost is in the order of \$2,000 for an overhead service.

The electrician’s fee covers the cost of the electrician’s time in preparing the switchboard, submitting requests to the network and co-coordinating the installation. The electrician will also charge a fee to perform all in-premises wiring work to support the consumer’s needs. The extent of this work, and hence the fee for this component, will vary significantly with the consumer’s requirements and application. Excluding in-premises wiring work and assuming the existing switchboard is compliant and has available space for an additional meter, Energeia found that the electrician’s fee is typically in the range of \$300 - \$500, the consumer pays this fee to the electrician directly.

There are no additional charges specifically related to a second connection point charged by any other party, including retailers. However it is worth noting that a second connection point attracts the network and retail daily fixed charge, as per the majority of electricity tariffs, in addition to the first connection point. Table 3 shows the charges each party levies for each task involved in establishing the second connection point.

Table 3 – Charges Levied by Party

Party \ Task	Generation of NMI	Meter Supply	Meter Install	Service Mains Upgrade	Switchboard Preparation	In-Premises Wiring
Electrician			✓*	✓*	✓	✓
Retailer						
Network	✓	✓	✓	✓		
AEMO						

\*In NSW only

#### 3.3.1 Factors Impacting Cost

There are a number of factors that can add additional cost to the establishment of the second connection point.

##### Generation

If the second connection point is to carry micro-generation, there is generally no additional network charge. However if the proposed generation is greater than a certain size, typically around 5KW, further information is required by the network to ensure the connection of generation will not compromise the reliability of the network at the consumer’s location. The electrician’s fee will be marginally greater to ensure the wiring and switchboard is compliant with regulations regarding installation of micro-generation.

<sup>3</sup> In NSW the meter installation is performed at the same time, and by the same person (the ASP), as the switchboard is prepared.

### *Condition of Switchboard*

The condition of the current switchboard is a significant factor in the final electrician's fee. If the switchboard is non-compliant with regulations or does not have sufficient space to install an additional meter a replacement switchboard may be required. If the existing switchboard contains asbestos, additional costs are incurred. An electrician's fee for a replacement switchboard is in the order of \$1000.

### *Service Connection Capacity*

If the consumer's service connection (link to the network) does not meet the requirements for the additional load applied by the second connection point, it will need to be upgraded. This may occur if the consumer wishes to apply significant additional load at the new connection point, or if the existing service connection is very old. The consumer may be required to pay the network an additional charge for this job. The actual cost depends on individual circumstances however it is typically in the order of \$0 to \$2,000. In NSW it is considered contestable work and an ASP will charge in the order of \$2,000 for this job.

### *Need for Multi-phase Connection*

The costs to establish the second connection point will increase if the consumer requires a multi-phase connection or requires capacity greater than what the network offers as a 'Basic' connection, typically 100A per phase (63A in South Australia). A consumer may want a multi-phase supply if they are connecting large machinery or heavy-duty air-conditioning to the network. Both cases will incur a higher charge from both the network and the electrician due to the heavier duty electrical infrastructure required.

### *In-premises Wiring Requirements*

In-premises wiring requirements will vary significantly depending on the application the consumer requires for the second connection point. Although, strictly speaking, the wiring behind the meter of the second connection point may not be considered as part of the cost of establishing the second connection point, it is important to consider because these costs may vary considerably under MTR.

In the scenario outlined, running the additional wiring along the side of the house, trenching under the backyard and bringing the new wiring to the granny flat attracted an additional electrician fee in the order of \$2,000. This was required, despite the presence of an existing wire to the granny flat, to keep the PV solar on the main meter. Under the subtractive metering arrangement described in the MTR proposed rule change, the installation of an additional wire would not be required, as the new meter could be placed at the granny flat utilising the existing wire. It is important to note that this is expected to be a common scenario with installation of electric vehicle charging points.<sup>4</sup>

In a scenario where there was no solar PV in the granny flat, in-premises wiring costs could still be incurred due to the need for the loads behind each meter to be electrically isolated from each other for settlement purposes. The extent of this cost would depend on the existing wiring at the premises. For example, the cost may not be significant if the granny flat were already wired on its own, separate, circuit.

In-premises wiring costs could still be incurred where the second metered load was under the same roof as the first load, for example in an in-house garage. In all such cases these costs would be dependent on existing wiring and may not be incurred under the subtractive metering arrangement proposed.

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<sup>4</sup> Source: Smart Grid, Smart City Electric Vehicle Technical Compendium, 2014

### 3.3.2 Summary of Costs

Table 4 below gives a summary of costs by consumer class.

Table 4 – Summary of Costs

Component	Applies	Price by Class			
		Small	Small with Micro-Generation	Multi-Phase	Large
Network Fee	Always	\$65.66 - \$937.45	\$65.66 - \$937.45	\$65.66 - \$937.45	Dependent on individual circumstances
Electrician Fee (Prepare Switchboard)	When switchboard in good condition	\$300 - \$500	\$300 - \$500*	\$500 - \$700	Dependent on individual circumstances
Electrician Fee (replace switchboard)	When switchboard not in acceptable condition	\$1000	\$1000*	\$2000	Dependent on individual circumstances
New/Upgraded Service Mains	When second linkage required or existing linkage is of insufficient capacity	\$0 - \$2000	\$0 - \$2000	\$0 - \$2000	Dependent on individual circumstances
Electrician Fee (in-premises wiring)	Sensitive to consumer application. Shown for scenario as per section 2.1. Not needed under subtractive metering.	\$2000	\$2000	\$2000	Dependent on individual circumstances

\* There may be additional costs associated with compliance to regulations for micro-generation systems, however these costs are considered as part of the micro-generation system rather than the second connection point.

Using the above table, a the basic cost of establishing a second point, excluding any in-premises wiring and assuming the switchboard is in good condition, is in the range of **\$366 to \$1,437**. The cost for the complete scenario including in-premise wiring as described in Section 2.1, is **\$2,366 to \$3,437**.

### 3.4 Key Differences for Large and Small Consumers

Whilst the overall process remains the same for small and large consumers, a large consumer may be subject to higher costs if a larger capacity connection is required. Some networks charge a higher fee for a multi-phase connection ranging from 0% to 30%. If the consumer requires a capacity greater than the 'Basic' connection offered by the network, metering technology able to cope with this level of demand is required and this may attract a higher cost.

If the consumer requires a capacity greater than the 'Basic' connection offered by the network and the network determines that the consumer's new demand will be greater than the network can currently deliver, the consumer may be required to contribute to the costs required to upgrade the local network to meet this additional demand.

Similar to a small consumer, the most significant cost for a large consumer is most likely to be the electrician's fee for work on the consumer's own electrical infrastructure, such as the switchboard/switch room equipment and in-premises wiring, rather than the actual establishment of the second connection point itself. The exception being if costly network upgrades are required due to a lack of spare capacity.

### 3.5 Differences to Establishing the Initial Connection Point

From a network and retailer perspective there is no material difference in the processes for establishing a second connection point and establishing the initial connection point. There are simply two NMIs at one location.

The costs of establishing a second connection point may be less than establishing the initial connection point if the existing switchboard can be used, or more if the switchboard requires removal and replacement.

In NSW the cost for connecting the service mains (network linkage) is not incurred for the second connection point if the existing service mains can be used. In other jurisdictions there is generally no additional cost for connecting the service mains.

The timeframe for establishment of a second connection point will not vary significantly when compared to the establishment of the initial connection point because the same process is taken. There is a possibility that the second connection point may take less time because installation of a new service main (network linkage) is not required.

## 4 Barriers

### 4.1 *Extent of Barriers*

Most networks, even for a basic scenario, do not include a specific fixed fee service for establishing a second connection point in their alternative control services, this makes the costs a consumer can expect to pay the network for this job difficult to determine. Some networks may charge a new connection fee, which includes a provision for new service mains, which will not be required in the majority of cases.

There is a cost for a small consumer to arrange a second connection point of up to \$1,437 in the basic case (excluding any in-premises wiring). However the extent to which this is a barrier depends on the value the customer places on a second connection point. If costs were lowered, more scenarios may become worthwhile for the consumer to consider establishing a second connection point.

In the scenario presented in Section 2.1 the in-premise costs were substantial, these costs may prove to be prohibitive for some consumers.

While the costs involved in establishing a second connection point vary across networks they largely align with the labour required. Under MTR, the installation of a second meter, the related preparation of the switchboard and electrical work may continue to apply and the costs to establish a relationship with a second retailer are therefore likely to be similar.

### 4.2 *Modifications to Existing Arrangements to Ease Barriers*

To increase cost transparency to consumers, consideration should be given to a requirement for networks to publish a standard fee for establishment of a second supply point where no alterations are required to the existing service mains.

The change with the greatest potential to ease existing barriers is the enablement of the subtractive metering arrangement, as it has the potential to significantly reduce the in-premises wiring costs for the consumer across a number of scenarios. Further investigation of the benefits of alternative arrangements are not in the scope of this report.

## Appendix 1 Network Fees

Network	Price					Service Description
	Single Phase	Multi-Phase	Service Mains Upgrade	Micro-Generation	Large Connection	
Ergon	\$937.45 <sup>1</sup>	\$937.45 <sup>1</sup>	As Quoted <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI
Energex	\$336.72 <sup>1</sup>	\$657.14 <sup>1</sup>	\$677.23 (1ph) / \$951 (3ph) <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
Essential	\$97.96	\$97.96	As Quoted (ASP) ~\$2000 <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI
Ausgrid	\$68.18	\$68.18	As Quoted (ASP) ~\$2000 <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI
Endeavour	\$65.66	\$65.66	As Quoted (ASP) ~\$2000 <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI
ActewAGL	\$551.00 <sup>1</sup>	\$806.86 <sup>1</sup>	\$779.75 <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
Jemena	\$525.32 <sup>1</sup>	\$635.58 <sup>1</sup>	As Quoted <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
United	\$251.28 <sup>1</sup>	\$251.28 <sup>1</sup>	As Quoted <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.

Network	Price					Service Description
	Single Phase	Multi-Phase	Service Mains Upgrade	Micro-Generation	Large Connection	
CitiPower	\$480.38 <sup>1</sup>	\$593.23 <sup>1</sup>	As Quoted <sup>3</sup>	\$320.84	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
Powercor	\$435.18 <sup>1</sup>	\$568.14 <sup>1</sup>	As Quoted <sup>3</sup>	\$294.66	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
Ausnet	\$229.21 <sup>1</sup>	\$320.57 <sup>1</sup>	As Quoted <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
SA Power Networks	\$434.50 <sup>2</sup>	\$434.50 <sup>2</sup>	As Quoted <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.
TasNetworks	\$347.78 <sup>1</sup>	\$421.53 <sup>1</sup>	As Quoted <sup>3</sup>	No Additional Fee	As Quoted	Check and update network load data, assess application for connection, making a connection offer, issuing a meter, co-ordinating with AEMO for establishing a new NMI. Installation of meter.

1: Indicative price only. Final price will depend on individual circumstances of the job.

2: Price for FY14/15.

3: Will need to be quoted for individual job, many variables influencing final cost

## Appendix 2 Electrician's Fees

Electrician	State	Prepare Switchboard	Replace Switchboard	Service Mains Upgrade/Replace	In-premises Wiring
Electrician 1	NSW	\$500	-	\$2000	\$2000
Electrician 2	NSW	\$400	-	-	-
Electrician 3	QLD	\$500	-	-	-
Electrician 4	NSW	\$600 (3ph)	\$2000 (3ph)	-	-
Electrician 5	VIC	\$450	\$1000	-	-