

Notice to supply information and documents to the Commerce Commission under section 53ZD(e) Commerce Act 1986

To:

All suppliers of electricity distribution services

Purpose of the Notice

Background

1. In May 2018, we (the Commerce Commission) published an open letter outlining our intention to gather information relating to emerging technologies.
2. In that open letter we outlined our aim to develop our understanding of:
 - 2.1 what emerging technology electricity distribution businesses (EDBs) are investing in;
 - 2.2 what effect emerging technology is having on the sector; and
 - 2.3 how emerging technology investments are being accounted for within the Part 4 regime.
3. Stakeholders' submissions on our open letter have helped develop our understanding in this area, as have existing studies and publically available information on emerging technology. We will continue engaging with EDBs and other stakeholders as this exercise evolves.

Purpose

4. Having considered the submissions on our open letter, we consider it appropriate to issue this notice under section 53ZD(e) of the Commerce Act 1986 (the Act) to require EDBs to provide us with the information specified in the attached Schedules (the Notice).
5. We require this information for the purpose of carrying out our functions and exercising our powers under Part 4 of the Act. In particular, we consider that developing our understanding of the matters in paragraphs 2.1 to 2.3 above would inform our view of how the Part 4 regime should treat emerging technology—for example, in the context of the upcoming reset of EDBs' default price-quality path (DPP).

6. We are particularly interested in improving our understanding of:
 - 6.1 EDBs' ability to understand and manage potential changes in peak demand from emerging technologies. Schedule 1 therefore seeks information on potential peak demand management options and how EDBs plan to identify and respond to potential impacts of emerging technologies; and
 - 6.2 How EDBs have accounted for their emerging technology investments under the Part 4 regime. Schedules 2–8 therefore seek information on how EDBs have treated the costs (including cost allocation) and revenues associated with EDBs' emerging technology investments in their previous disclosures under clause 2.3 of our information disclosure determination.

Date, place and format of responses

7. EDBs must fill in Schedules 1–8 and provide them as a response in electronic Excel spreadsheet format, with a completed certificate in the form specified in Schedule 9, via email to regulation.branch@comcom.govt.nz.
8. The email must be addressed to Matt Lewer, with the subject “[EDB name] - Response to section 53ZD(e) Notice – Emerging technology”, by no later than **4.30pm on Tuesday 4 September 2018**.
9. If the EDB requires additional disclosure Schedules for Schedules 2–8 in accordance with clause 17.1, the EDB must complete and include additional copies of the relevant Schedule in the EDB's Excel spreadsheet response. The EDB must label the additional Schedules clearly eg, “Schedule 2(a): Investment in distributed generation of 10kW or less in total”; “Schedule 2(b): Investment in distributed generation of 10kW or less in total”.

Confidential material

10. Please note we intend to publish the Notice and responses on our website. If you consider that, for confidentiality reasons, we should not publish any part of your response, please:
 - 10.1 indicate which part should not be published;
 - 10.2 explain why you consider that part is confidential; and
 - 10.3 provide a version of your response that we can publish (if we agree not to publish the full response).
11. If you indicate that we should not publish part of your response, we will discuss with you before deciding whether to not publish that part of your response.
12. However, please note that all responses we receive, including any parts that we do not publish, can be requested under the Official Information Act 1982. This means we would be required to release material that we did not publish unless good reason existed under the Official Information Act to withhold it. We would normally consult with you before releasing any material that you said should not be published.

Dated at Wellington 23 July 2018

Signed by:

A handwritten signature in black ink, appearing to read 'S. Gale', with a period at the end. The signature is written in a cursive, somewhat stylized font.

Dr Stephen Gale
Commissioner

Attachment A

13. In this notice, unless the context otherwise requires:
- 13.1 terms in **bold** type in this notice are defined under paragraph 14 below;
 - 13.2 a word which denotes the singular also denotes the plural and vice versa;
 - 13.3 a reference to a Schedule or Schedules is a reference to a Schedule or Schedules of this notice;
 - 13.4 an obligation to do something is deemed to include an obligation to cause that thing to be done;
 - 13.5 financial items:
 - 13.5.1 that are included within disclosures already made under clause 2.3 of the **ID determination** must be disclosed consistent with how the costs and revenues were accounted for in the **EDB's** disclosures under clause 2.3 of the **ID determination** in the relevant **disclosure year**; and
 - 13.5.2 in all other instances must be disclosed in accordance with **GAAP**, unless otherwise required by this notice or the **IM determination**;
 - 13.6 non-financial items must be measured and disclosed in accordance with standard industry practice unless otherwise required in this notice;
 - 13.7 guidance notes in this notice are for guidance purposes only and any material referred to in the guidance notes does not form part of the notice;
 - 13.8 where any material referred to in guidance notes is inconsistent with this notice, this notice prevails; and
 - 13.9 if there is any inconsistency between the main body of this notice (this includes the attachments) and any Schedule to this notice, the main body of this notice prevails.

14. In this notice, the words or phrases in **bold** type bear the following meanings:

Act	means the Commerce Act 1986
ancillary services	has the same meaning as defined in Part 1 of the Code
capital contribution	has the same meaning as defined in the IM determination
capital expenditure	has the same meaning as defined in the IM determination

Code	means the Electricity Industry Participation Code 2010, as brought into force under section 36, and amended from time to time under section 38, 40, or 43, of the Electricity Industry Act 2010
consumer	means a person who is supplied electricity for their consumption
consumer installation	has the same meaning as defined in Part 1 of the Code
demand response contract	means a contract between an EDB and a consumer that allows an EDB to carry out all forms of load control at the consumer's ICP , except ripple control or distributed batteries
directly attributable	has the same meaning as defined in the IM determination
disclosure year	has the same meaning as defined in the IM determination
distributed battery	<ul style="list-style-type: none"> a) for Schedule 1, means equipment and infrastructure on the consumer's side of the point of supply that is connected to the network and installed for the purpose of storing and discharging electricity: b) for Schedule 4, means a regulatory investment in: <ul style="list-style-type: none"> (i) equipment and associated infrastructure on the consumer's side of the point of supply that is connected to the network and installed for the purpose of storing and discharging electricity; and (ii) any costs of installing the equipment and associated infrastructure in paragraph (a)

distributed generation	means a regulatory investment in: <ul style="list-style-type: none"> a) generating plant and associated infrastructure that is connected, or able to be connected, to a distribution network or to a consumer installation that is connected to a distribution network; and b) any costs of installing the generating plant and associated infrastructure in paragraph (a)
distribution network/ network	means the electricity lines, and associated equipment, owned or operated by an EDB
EDB	has the same meaning as defined in the IM determination
electric vehicle	means any motor vehicle that is propelled, partly or wholly, by electricity
electric vehicle charger	means a regulatory investment in: <ul style="list-style-type: none"> a) any equipment or infrastructure located on either side of the point of supply, and installed to provide electricity to, or draw electricity from, electric vehicles; and b) any costs of installing the equipment or infrastructure in paragraph (a)
electricity distribution services	has the same meaning as defined in the IM determination
generating plant	has the same meaning as defined in Part 1 of the Code
ICP	has the same meaning as defined in Part 1 of the Code
ID determination	means an information disclosure determination in relation to an EDB made by the Commission under s52P of the Act

IM determination	means the Electricity Distribution Services Input Methodologies Determination 2012 [2012] NZCC 26, including amendments in effect at the time the relevant information was disclosed under the ID determination
load control	means the act of switching off, or otherwise controlling, electricity load at an ICP
load control capacity	means the amount of electricity an EDB estimates it can turn off with load control during maximum coincident system demand
low voltage (LV)	has the same meaning as defined in the ID determination
maximum coincident system demand	has the same meaning as defined in the IM determination
meters or home automation equipment	means a regulatory investment in any equipment, excluding equipment used only for ripple control , installed at an ICP that allows an EDB or a consumer to do one or more of the following: <ul style="list-style-type: none"> a) detect and manage electricity supply faults; b) measure reliability of electricity supply; c) measure active energy or reactive energy; d) carry out load control; and e) provide data for research and development relating to: <ul style="list-style-type: none"> (i) electricity lines services; and (ii) any other matter not relating electricity lines services

nameplate capacity	means the lesser of— a) the full-load continuous rating of generating plant under conditions specified by its designer in MW; or b) the full-load continuous rating of the generating plant’s inverter (if any) under conditions specified by its designer in MW
network battery	means a regulatory investment in: a) equipment and associated infrastructure on the distribution network side of the point of supply that is directly connected to the network and installed for the purpose of storing and discharging electricity into the network ; and b) any costs of installing the equipment and associated infrastructure in paragraph (a)
operating costs	has the same meaning as defined in the IM determination
other load control	means load control that is not ripple control, demand response contracts, or distributed batteries
point of supply	takes the definition under section 2(3) of the Electricity Act 1992
prices	has the same meaning as defined in the IM determination
purpose of investment	means the reason(s) the EDB is using, or intends to use, the regulatory investment
regulated service asset value	has the same meaning as defined in the IM determination

regulatory investment	means an investment for which capital expenditure or operating cost are included in prices
ripple control	means an EDB's ability to send signals to ICPs through ripple control receivers for the purpose of load control (for example, through hot-water heaters), and to avoid doubt, includes control through pilot wire systems
set of investment	means all investments the EDB has made that have the same purpose or purposes as identified in Schedules 2–8
smart grid assets	means a regulatory investment in assets that can integrate the actions of consumers and equipment connected to the network , including IT software and hardware, and meters within the network and SCADA systems, but excluding ICP meters or home automation systems, distributed batteries, network batteries and ripple control assets
standard capital contribution	means the capital contributions an EDB would normally charge a customer, without applying any discretion, for connecting the identified assets to the EDB's network
storage capacity	means the amount of electricity that an EDB estimates it can store from a distribution network during maximum coincident system demand
supply capacity	means the amount of electricity that an EDB estimates it can inject into a distribution network during maximum coincident system demand
unallocated capital expenditure	means capital expenditure included in unallocated works under construction

vested asset

has the same meaning as defined in the
IM determination

works under construction

has the same meaning as defined in the
IM determination

Information required

15. Every **EDB** must disclose information relating to peak demand management by completing Schedule 1: Peak demand management.
16. Every **EDB** must disclose information relating to investment in:
 - 16.1 **distributed generation** of 10kW or less in total by completing disclosure Schedule 2: Investment in **distributed generation** of 10kW or less in total;
 - 16.2 **electric vehicle chargers** by completing disclosure Schedule 3: Investment in **electric vehicle chargers**;
 - 16.3 **distributed batteries** by completing disclosure Schedule 4: Investment in **distributed batteries**;
 - 16.4 **meters or home automation equipment** by completing disclosure Schedule 5: Investment in **meters or home automation equipment**;
 - 16.5 **distributed generation** over 10kW in total by completing disclosure Schedule 6: Investment in **distributed generation** over 10kW in total;
 - 16.6 **network batteries** by completing disclosure Schedule 7: Investment in **network batteries**; and
 - 16.7 **smart grid assets** by completing disclosure Schedule 8: Investment in **smart grid assets**.
17. Every **EDB** must:
 - 17.1 fill out a separate disclosure Schedule for each **set of investment** the **EDB** has made;
 - 17.2 ensure that all costs and revenues disclosed under Schedules 2–8 are consistent with how the costs and revenues were accounted for in the **EDB's** disclosures under clause 2.3 of the **ID determination** in the relevant **disclosure year**; and
 - 17.3 complete and provide a certificate in the form set out in Schedule 9, duly signed by the Chief Executive Officer (or equivalent) of the **EDB**.

Schedule 1 Peak demand management

SCHEDULE 1: Peak demand management

The aim of this Schedule is to gain a better understanding of each EDB's ability to respond to potential changes in network demand.

	Unit	2014	2015	2016	2017	2018
Load control						
Estimated number of ICPs with ripple control	number					
Load control capacity from ripple control	MW					
Number of demand response contracts	number					
Load control capacity from demand response contracts	MW					
Supply capacity from demand response contracts	MW					
Number of distributed batteries that the EDB can use for load control	number					
Estimated number of distributed batteries that the EDB does not have the ability to use for load control	number					
Load control capacity from distributed batteries	MW					
Supply capacity of distributed batteries	MW					
Number of ICPs with other load control	number					
Load control capacity from other load control	MW					
Supply capacity of other load control	MW					

Understanding of LV network and customer behaviour

Describe what information the EDB has available to understand the utilisation, voltage levels and load on the LV network. Responses must include:

- whether the EDB has monitoring equipment in the LV network and if not, at what voltage the lowest level of network monitoring is done; and
- whether the EDB has access to meter data from individual ICPs on the EDB's network and what data is available.

Describe what, if any, strategy the EDB has for obtaining information about the capacity utilisation, voltage levels and load on the LV parts of the EDB's network?

Describe what research the EDB is using, and what research the EDB is doing, to better understand consumer behaviour and its impact on peak demand on the EDB's network?

Schedule 2 Investment in distributed generation of 10kW or less in total

SCHEDULE 2: Investment in distributed generation of 10kW or less in total

The following questions are on EDB investment in **distributed generation** of 10kW or less in total. We aim to better understand how each EDB has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the **ID determination**.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Does the EDB have distributed generation of 10kW or less in total? (if 'no' for all years, do not fill the rest of this Schedule out)	Y/N					
Number of distributed generation systems of 10kW or less in total	number					
Total nameplate capacity of EDB's distributed generation systems of 10kW or less in total	MW					
Total unallocated capital expenditure on distributed generation of 10kW or less in total	\$000's					
Total unallocated operating costs of distributed generation of 10kW or less in total	\$000's					
Standard capital contribution of distributed generation of 10kW or less in total	\$000's					
<p>1. Purpose of investment - each EDB must identify all current and future purposes of investment, both regulated and unregulated. Any purpose(s) of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.</p>						
a) Peak demand management	Y/N					
b) Supply of electricity	Y/N					
c) Supply of electricity distribution services	Y/N					
d) Improve network reliability, including managing planned and unplanned outages	Y/N					
e) R&D for an electricity distribution service	Y/N					
f) R&D not associated with electricity distribution services	Y/N					
g) Other - explain in question 6 below	Y/N					
2. a) Capital expenditure that is directly attributable to electricity distribution services	\$000's					
b) Capital expenditure that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services	\$000's					
3. a) Regulated service asset value that is directly attributable to electricity distribution services	\$000's					
b) Regulated service asset value that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of regulated service asset value in b) above that is allocated to electricity distribution services	\$000's					
4. a) Operating costs that are directly attributable to electricity distribution services	\$000's					
b) Operating costs that are not directly attributable to electricity distribution services	\$000's					
c) The proportion of operating costs in b) above that is allocated to electricity distribution services	\$000's					
5. Revenue associated with regulatory investment in distributed generation of 10kW or less in total other than revenue earned through prices	\$000's					
a) Supply of electricity	\$000's					
b) Sale of information collected	\$000's					
c) Capital contributions	\$000's					
d) Vested assets	\$000's					
e) Other - explain in question 6 below	\$000's					
<p>6. Each EDB must explain their business case for investing in distributed generation of 10kW or less in total, including:</p> <ul style="list-style-type: none"> - any details that may assist in understanding the strategy or reasons for the investment in this technology; - why investment in this technology has been chosen for regulatory purposes over other potential solutions; - what future investment the EDB is planning; - why, if any, discounts of line charges have been made; - description of other purpose(s) of investment from question 1 above; and - description of other revenue associated with regulatory investment from question 5 above. 						

Schedule 3 Investment in electric vehicle chargers

SCHEDULE 3: Investment in electric vehicle chargers
 The following questions are on EDB investment in electric vehicle chargers. We aim to better understand how each EDB has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the ID determination.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Number of electric vehicle chargers	number					
Total nameplate capacity of the EDB owned electric vehicle chargers	MW					
Total unallocated capital expenditure on electric vehicle chargers	\$000's					
Total unallocated operating costs of electric vehicle chargers	\$000's					
Standard capital contribution of electric vehicle chargers	\$000's					
1. Purpose of investment - each EDB must identify all current and future purposes of investment, both regulated and unregulated. Any purpose(s) of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.						
a) Earn income from the supply of electricity	Y/N					
b) Developing future growth of electricity distribution services	Y/N					
c) Seeding a market for reasons other than developing future growth in electricity distribution services	Y/N					
d) Potential to sell electric vehicle chargers as an asset or a business	Y/N					
e) Load control where the EDB has active control	Y/N					
f) Charging electric vehicles owned by EDB in order to provide electricity distribution services	Y/N					
g) R&D for an electricity distribution service	Y/N					
h) R&D not associated with electricity distribution services	Y/N					
i) Other - explain in question 6 below	Y/N					
2. a) Capital expenditure that is directly attributable to electricity distribution services	\$000's					
b) Capital expenditure that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services	\$000's					
3. a) Regulated service asset value that is directly attributable to electricity distribution services	\$000's					
b) Regulated service asset value that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of regulated service asset values in b) above that is allocated to electricity distribution services	\$000's					
4. a) Operating costs that are directly attributable to electricity distribution services	\$000's					
b) Operating costs that are not directly attributable to electricity distribution services	\$000's					
c) The proportion of operating costs in b) above that is allocated to electricity distribution services	\$000's					
5. Revenue associated with regulatory investment in electric vehicle chargers other than revenue earned through prices						
a) Supply of electricity	\$000's					
b) Sale of data collected	\$000's					
c) Capital contribution	\$000's					
d) Vested assets	\$000's					
e) Other - explain in question 6 below	\$000's					
6. Each EDB must explain their business case for investing in electric vehicle chargers, including: - any details that may assist in understanding the strategy or reasons for the investment in this technology; - why investment in this technology has been chosen for regulatory purposes over other potential solutions; - what future investment the EDB is planning; - why, if any, discounts of line charges have been made; - description of other purpose(s) of investment from question 1 above; and - description of other revenue associated with regulatory investment from question 5 above.						

Schedule 4 Investment in distributed batteries

SCHEDULE 4: Investment in distributed batteries
 The following questions are on EDB investment in **distributed batteries**. We aim to better understand how each EDB has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the ID determination.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Does the EDB have distributed batteries ? (If 'no' for all years, do not fill the rest of this Schedule out)	Y/N					
Number of distributed batteries	number					
Total nameplate capacity of distributed batteries	MW					
Total storage capacity of distributed batteries	MW/h					
Total unallocated capital expenditure on distributed batteries	\$000's					
Total unallocated operating costs of distributed batteries	\$000's					
1. Purpose of investment - each EDB must identify all current and future purposes of investment , both regulated and unregulated. Any purpose(s) of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.						
a) Demand charge reduction	Y/N					
b) Deferring investment in network or alternatives	Y/N					
c) Frequency keeping	Y/N					
d) Voltage support	Y/N					
e) Back-up power supply	Y/N					
f) Energy arbitrage	Y/N					
g) Time-of-use bill management	Y/N					
h) Transmission congestion relief	Y/N					
i) Transmission reserves	Y/N					
j) Transmission charge avoidance	Y/N					
k) R&D for an electricity distribution service	Y/N					
l) R&D not associated with electricity distribution services	Y/N					
m) Other - explain in question 6 below	Y/N					
2. a) Capital expenditure that is directly attributable to electricity distribution services						
b) Capital expenditure that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services	\$000's					
3. a) Regulated service asset value that is directly attributable to electricity distribution services						
b) Regulated service asset value that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of regulated service asset values in b) above that is allocated to electricity distribution services	\$000's					
4. a) Operating costs that are directly attributable to electricity distribution services						
b) Operating costs that are not directly attributable to electricity distribution services	\$000's					
c) The proportion of operating costs in b) above that is allocated to electricity distribution services	\$000's					
5. Revenue associated with regulatory investment in distributed batteries other than revenue earned through prices						
a) Sale of distributed batteries	\$000's					
b) Supply of electricity	\$000's					
c) Renting out distributed batteries	\$000's					
d) Sale of ancillary services	\$000's					
e) Sale of reliability services	\$000's					
f) Capital contribution	\$000's					
g) Vested assets	\$000's					
h) Revenue from Transpower	\$000's					
i) Energy arbitrage revenue	\$000's					
j) Other - explain in question 6 below	\$000's					
6. Each EDB must explain their business case for investing in distributed batteries, including:						
- any details that may assist in understanding the strategy or reasons for the investment in this technology;						
- why investment in this technology has been chosen for regulatory purposes over other potential solutions;						
- what future investment the EDB is planning;						
- why, if any, discounts of line charges have been made;						
- description of other purpose(s) of investment from question 1 above; and						
- description of other revenue associated with regulatory investment from question 5 above.						

Schedule 5 Investment in meters or home automation equipment

SCHEDULE 5: Investment in meters or home automation equipment
 The following questions are on **EDB** investment in **meters or home automation equipment**. We aim to better understand how each **EDB** has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the **ID determination**.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Does the EDB have meters or home automation equipment ? (if 'no' for all years, do not fill the rest of this Schedule out)	Y/N					
Number of ICPs with meters or home automation equipment	number					
Total unallocated capital expenditure on meters or home automation equipment	\$000's					
Total unallocated operating costs of meters or home automation equipment	\$000's					
1. Purpose of investment - each EDB must identify all current and future purposes of investment , both regulated and unregulated. Any purposes of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.						
a) Fault detection and management	Y/N					
b) Reliability measurement	Y/N					
c) Load control management	Y/N					
d) R&D for an electricity distribution service	Y/N					
e) R&D not associated with electricity distribution services	Y/N					
f) Other - explain in question 6 below	Y/N					
2. a) Capital expenditure that is directly attributable to electricity distribution services						
b) Capital expenditure that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services	\$000's					
3. a) Regulated service asset value that is directly attributable to electricity distribution services						
b) Regulated service asset value that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of regulated service asset values in b) above that is allocated to electricity distribution services	\$000's					
4. a) Operating costs that are directly attributable to electricity distribution services						
b) Operating costs that are not directly attributable to electricity distribution services	\$000's					
c) The proportion of operating costs in b) above that is allocated to electricity distribution services	\$000's					
5. Revenue associated with regulatory investment in meters or home automation equipment other than revenue earned through prices						
a) Sale of data to retailers	\$000's					
b) Capital contribution	\$000's					
c) Vested assets	\$000's					
d) Other - explain in question 6 below	\$000's					
6. Each EDB must explain their business case for investing in meters or home automation equipment, including:						
- any details that may assist in understanding the strategy or reasons for the investment in this technology;						
- why investment in this technology has been chosen for regulatory purposes over other potential solutions;						
- what future investment the EDB is planning;						
- why, if any, discounts of line charges have been made;						
- description of other purpose(s) of investment from question 1 above; and						
- description of other revenue associated with regulatory investment from question 5 above.						

Schedule 6 Investment in distributed generation over 10kW in total

SCHEDULE 6: Investment in distributed generation over 10kW in total
 The following questions are on EDB investment in **distributed generation** over 10kW in total. We aim to better understand how each EDB has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the ID determination.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Does the EDB have distributed generation over 10kW in total? (If 'no' for all years, do not fill the rest of this Schedule out)	Y/N					
Number of distributed generation systems over 10kW in total	number					
Total nameplate capacity of distributed generation systems over 10kW in total	MW					
Total unallocated capital expenditure on distributed generation over 10kW in total	\$000's					
Total unallocated operating costs of distributed generation over 10kW in total	\$000's					
Standard capital contribution of distributed generation over 10kW in total	\$000's					
1. Purpose of investment - each EDB must identify all current and future purposes of investment , both regulated and unregulated. Any purpose(s) of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.						
a) Peak demand management	Y/N					
b) Supply of electricity	Y/N					
c) Improve network reliability including managing planned and unplanned outages	Y/N					
d) R&D for an electricity distribution service	Y/N					
e) R&D not associated with electricity distribution services	Y/N					
f) Other - explain in question 6 below	Y/N					
2.a) Capital expenditure that is directly attributable to electricity distribution services	\$000's					
b) Capital expenditure that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services	\$000's					
3.a) Regulated service asset value that is directly attributable to electricity distribution services	\$000's					
b) Regulated service asset value that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of regulated service asset values in b) above that is allocated to electricity distribution services	\$000's					
4. a) Operating costs that are directly attributable to electricity distribution services	\$000's					
b) Operating costs that are not directly attributable to electricity distribution services	\$000's					
c) The proportion of operating costs in b) above that is allocated to electricity distribution services	\$000's					
5. Revenue associated with regulatory investment on distributed generation over 10kW in total other than revenue earned through prices						
a) Supply of electricity	\$000's					
b) Sale of information collected	\$000's					
c) Capital contribution	\$000's					
d) Vested assets	\$000's					
e) Other - explain in question 6 below	\$000's					
6. Each EDB must explain their business case for investing in distributed generation over 10kW in total, including: <ul style="list-style-type: none"> - any details that may assist in understanding the strategy or reasons for the investment in this technology; - why investment in this technology has been chosen for regulatory purposes over other potential solutions; - what future investment the EDB is planning; - why, if any, discounts of line charges have been made; - description of other purpose(s) of investment from question 1 above; and - description of other revenue associated with regulatory investment from question 5 above. 						

Schedule 7 Investment in network batteries

SCHEDULE 7: Investment in network batteries
 The following questions are on EDB investment in **network batteries**. We aim to better understand how each EDB has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the ID determination.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Does the EDB have network batteries ? (If 'no' for all years, do not fill the rest of this Schedule out)	Y/N					
Number of network batteries owned by EDB	number					
Total nameplate capacity of EDB's network batteries	MW					
Storage capacity of EDB's network batteries	MW/h					
Total unallocated capital expenditure on network batteries	\$000's					
Total unallocated operating costs of network batteries	\$000's					
1. Purpose of investment - each EDB must identify all current and future purposes of investment , both regulated and unregulated. Any purpose(s) of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.						
a) Demand charge reduction	Y/N					
b) Deferring investment in network or alternatives	Y/N					
c) Frequency keeping	Y/N					
d) Voltage support	Y/N					
e) Back-up power supply	Y/N					
f) Energy arbitrage	Y/N					
g) Time of use bill management	Y/N					
h) Transmission congestion relief	Y/N					
i) Transmission reserves	Y/N					
j) R&D for an electricity distribution services	Y/N					
k) R&D not associated with electricity distribution services	Y/N					
l) Other - explain in question 6 below	Y/N					
2.a) Capital expenditure that is directly attributable to electricity distribution services						
b) Capital expenditure that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services	\$000's					
3.a) Regulated service asset value that is directly attributable to electricity distribution services						
b) Regulated service asset value that is not directly attributable to electricity distribution services	\$000's					
c) The proportion of regulated service asset values in b) above that is allocated to electricity distribution services	\$000's					
4. a) Operating costs that are directly attributable to electricity distribution services						
b) Operating costs that are not directly attributable to electricity distribution services	\$000's					
c) The proportion of operating costs in b) above that is allocated to electricity distribution services	\$000's					
5. Revenue associated with regulatory investment on network batteries other than revenue earned through prices						
a) Revenue from Transpower including avoided cost of transmission payments	\$000's					
b) Energy arbitrage revenue	\$000's					
c) Sale of ancillary services	\$000's					
d) Sale of reliability services	\$000's					
e) Capital contribution	\$000's					
f) Vested assets	\$000's					
g) Other - explain in question 6 below	\$000's					
6. Each EDB must explain their business case for investing in network batteries, including:						
- any details that may assist in understanding the strategy or reasons for the investment in this technology;						
- why investment in this technology has been chosen for regulatory purposes over other potential solutions;						
- what future investment the EDB is planning;						
- why, if any, discounts of line charges have been made;						
- description of other purpose(s) of investment from question 1 above; and						
- description of other revenue associated with regulatory investment from question 5 above.						

Schedule 8 Investment in smart grid assets

SCHEDULE 8: Investment in smart grid assets
 The following questions are on EDB investment in smart grid assets. We aim to better understand how each EDB has been treating the costs and revenues associated with the investment in their disclosures made under clause 2.3 of the ID determination.

	Unit	Disclosure year (ending)				
		2014	2015	2016	2017	2018
Regulated service asset value of IT software included in smart grid assets	\$000's					
Regulated service asset value of IT hardware included in smart grid assets	\$000's					
Regulated service asset value of meters within the network included in smart grid assets	\$000's					
Regulated service asset value of SCADA systems included in smart grid assets	\$000's					
Total regulated service asset value of smart grid assets	\$000's					
Total unallocated capital expenditure on smart grid assets	\$000's					
Total unallocated operating costs of smart grid assets	\$000's					
<p>1. Purpose of investment - each EDB must identify all current and future purposes of investment, both regulated and unregulated. Any purposes of investment not specifically listed below must be identified in question 6. Each EDB must check 'Yes' or 'No' in the boxes below.</p>						
a) Demand management	Y/N					
b) Outages management	Y/N					
c) Energy arbitrage	Y/N					
d) Improve asset knowledge, asset utilisation or network management	Y/N					
e) R&D for an electricity distribution service	Y/N					
f) R&D not associated with electricity distribution services	Y/N					
g) Other - explain in question 6 below	Y/N					
<p>2. a) Capital expenditure that is directly attributable to electricity distribution services</p>						
	\$000's					
<p>b) Capital expenditure that is not directly attributable to electricity distribution services</p>						
	\$000's					
<p>c) The proportion of capital expenditure in b) above that is allocated to electricity distribution services</p>						
	\$000's					
<p>3. a) Regulated service asset value that is directly attributable to electricity distribution services</p>						
	\$000's					
<p>b) Regulated service asset value that is not directly attributable to electricity distribution services</p>						
	\$000's					
<p>c) The proportion of regulated service asset values in b) above that is allocated to electricity distribution services</p>						
	\$000's					
<p>4. a) Operating costs that are directly attributable to electricity distribution services</p>						
	\$000's					
<p>b) Operating costs that are not directly attributable to electricity distribution services</p>						
	\$000's					
<p>c) The proportion of operating costs in b) above that is allocated to electricity distribution services</p>						
	\$000's					
<p>5. Revenue associated with regulatory investment on smart grid assets other than revenue earned through prices</p>						
a) Sale of data to electricity retailers	\$000's					
b) Capital contribution	\$000's					
c) Vested assets	\$000's					
d) Other - explain in question 6 below	\$000's					
<p>6. Each EDB must explain their business case for investing in smart grid assets, including:</p> <ul style="list-style-type: none"> - any details that may assist in understanding the strategy or reasons for the investment in this technology; - why investment in this technology has been chosen for regulatory purposes over other potential solutions; - what future investment the EDB is planning; - why, if any, discounts of line charges have been made; - description of other purpose(s) of investment from question 1 above; and - description of other revenue associated with regulatory investment from question 5 above. 						

Schedule 9 Certification

I, [insert full name], being Chief Executive Officer (or equivalent) of [name of EDB] certify that, having made all reasonable enquiry, to the best of my knowledge:

- a) the following attached information of [name of EDB] prepared for the purposes of clause 16 of this notice, in all material respects complies with this notice; and
- b) the historical information used in preparing and completing Schedules 1, 2, 3, 4, 5, 6, 7 and 8, have been properly extracted from the [name of EDB]'s accounting and other records sourced from its financial and non-financial systems, and that sufficient appropriate records have been retained [and if not, what records and systems were used].

[Signature of Chief Executive Officer (or equivalent)]
[Date]