

The background of the slide features large, overlapping, 3D-style geometric shapes in shades of orange and yellow, creating a dynamic, angular pattern.

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# **HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017**

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## 1 Introduction

### 1.1 Purpose

Horizon Energy services over 24,800 customers in an area bounded by Whangaparaoa Bay, Te Kaha to the North, Pikowai and Lake Rotoma to the East, and Ruatahuna to the South, an area of approximately 8,400km squared.

In March 2016, Horizon published a comprehensive Asset Management Plan. This Asset Management Plan Update 2017 provides the latest information on forecasts, long term asset management strategy changes, and any notable changes that affect the network or assets. This update covers the planning period 1 April 2017 to 31 March 2027.

This AMP is the first AMP update Horizon has produced. It is intended to supplement, and be read in conjunction with, the 2016 Asset Management Plan and provides information about events that materially alters information provided in the full AMP.

### 1.2 Significant Achievements of 2016

There were a number of key achievements in 2016 some of the highlights include:

- Construction commenced on a customer owned 35MVA embedded geothermal generation plant in Kawerau. It is scheduled for commissioning late 2017. The Transpower Kawerau 11kV bus upgrade project has been brought forward from the originally planned 2019-20 to meet the generator commissioning dates. Significant changes to the Kawerau distribution network are in progress to accommodate the generator, which is connected at 11kV;
- Selection of an Asset Management System software package with commissioning scheduled later in 2017. The project initiated to implement the software and enhance our asset management practices will improve the asset management maturity of the organisation and be detailed in future AMPs;
- Upgrade of the SCADA system to respond to changing customer needs (such as electric vehicles, solar and batteries) by providing a platform for more dynamic operation of the network, integration of more field monitoring devices and customer feedback on outages;
- Establishment of the Opotiki substation and installation of an 11kV switch-room on the site. This will allow us to develop the sub-transmission network in the region, whilst continuing to meet current and forecast demands;
- Commissioning of the Galatea 33kV switchyard and return to service of the Aniwhenua power station connection to Galatea, which has been unavailable since 2009. This will

improve the quality of supply to the Galatea, Murupara, Minginui, Ruatahuna and Kaingaroa regions; and

- Horizon Energy (the Electricity Distribution business) has rebranded and will trade as Horizon Networks going forward. In addition the Electrical Contracting business that has been operating as Horizon Services has rebranded and will also trade as Horizon Networks going forward. However, there is no change to the legal entities that these brands operate under and hence the Electricity Distribution business's legal entity will continue to be Horizon Energy Distribution Limited.

## 2 Information Disclosure Requirements

Clause 2.6.3 in the *Electricity Distribution Disclosure Determination 2012* allows Horizon Energy to compete and publically disclose an *AMP update* to the full AMP issued in 1 April 2016.

For the purpose of clause 2.6.5, the AMP update must:

1. Relate to the electricity distribution services supplied by the EDB;
2. Identify any material changes to the network development plans disclosed in the last AMP under clause 11 of Attachment A or in the last AMP update disclosed under this section;
3. Identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last AMP under clause 12 of Attachment A or in the last AMP update disclosed under this section;
4. Provide the reasons for any material changes to the previous disclosures in the Report on Forecast Capital Expenditure set out in Schedule 11a and Report on Forecast Operational Expenditure set out in Schedule 11b; and
5. Identify any changes to the asset management practices of the EDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure.
6. Contain the information set out in the schedules described in clause 2.6.6 (11a - 12d)

## 3 Material Changes to the AMP

Determination schedules 11A to 12D are included in this document. These schedules provide the forward planning for a ten year period starting 1 April 2017. Explanations are included in the following sections where schedules have significantly altered from previous forecasts.

### 3.1 Network Development Plans

Significant changes to the planned network developments since the 2016 AMP include:

- Indefinitely deferring the installation of a second 33kV line into Aniwhenua following the successful re-connection of circuit to Galatea to the generator. This included a review of

the project justification. The new switchyard configuration and low regional load growth forecasts negate the need for a second line.

- Delaying the Opotiki sub transmission from 2019 to 2020 due primarily to prolonged negotiations with Transpower over access to the 50kV Te Kaha line. This has led to a subsequent delay in land easement negotiations for an alternate option.
- Station Road transformer and switchboard replacements have been delayed by one year to 2021 due to acceptable asset condition and to level resource requirements as a consequence of delaying the Opotiki sub-transmission project. The assets are scheduled to be replaced in sequence over 3 years between 2021 and 2023.
- Advice by Transpower that the Putauaki radio site has to be vacated by May 2017, resulting in the development of a new communications site at Manawahe and additional works to connect remote substations digitally to the central network.
- A request for a new 20MVA load in Kawerau with likely connection by 2019. This will consist of 2km of circuit with N security supply from the Kawerau GXP;
- An increasing number of new connections resulting in an increased forward prediction trend, we are now forecasting 150-200 new connections per annum (up from less than 100 per annum previously). This includes an increased load at Opotiki, with planned industrial developments brought forward from their original planned dates;
- Shutdown of Nova Energy TG2 embedded generator at Kawerau following a fire. No return to service date has been advised.

These changes are graphically represented in the changes to the capital spend profile in figure 1, Expenditure Comparison 2016-2017 AMP below.

### 3.2 Asset Lifecycle Plans

There are no significant changes to the 2016 AMP fleet lifecycle planning. Specific equipment that has had its maintenance changed includes:

- Replacement of SF6 circuit breakers with vacuum breakers at Fonterra. SF6 leaks detected in the board have accelerated the replacement programme for the circuit breakers.

### 3.3 Asset Management Practices

There have been no significant changes to the 2016 AMP asset management practices apart from:

- A reduction in live line works pending a review of the risks associated with this work practice by the industry.

### 3.4 Schedules 11a and 11b - Forecast Operating and Capital Expenditure

Schedule 11A alterations from the 2016 forecast reflect the expenditure changes associated with the movement of projects by year. Schedule 11B, Operational Expenditure, remains consistent with the 2016 AMP forecast adjusted for 2017 nominal value.

**Table 1:**  
**Accumulated Network CAPEX and OPEX Expenditure Current and Upcoming Regulatory Period**

	\$M	2016 Forecast	2017 Forecast	Change
2018-2020	Network CAPEX	\$25.14	\$22.54	-\$2.59
	Network OPEX	\$8.71	\$9.08	\$0.37
2021-2025	Network CAPEX	\$30.98	\$35.38	\$4.41
	Network OPEX	\$14.57	\$15.08	\$0.51

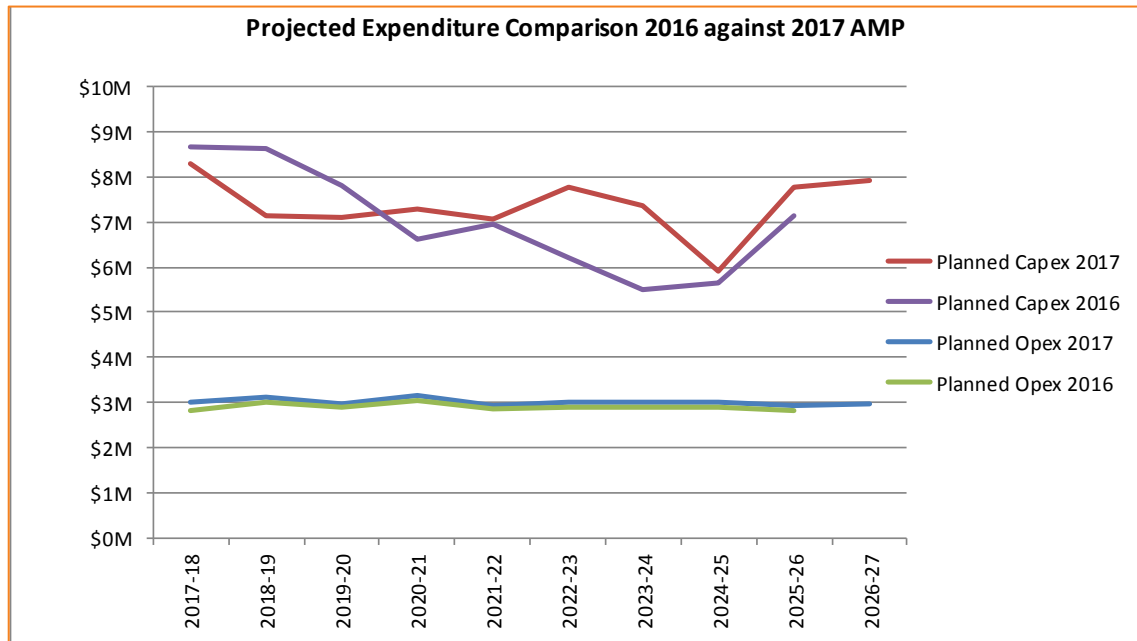
The table above compares the expected expenditure for the current and the following regulatory periods as forecast by the previous AMP and this update. Key highlights include:

- Asset inspections have identified a significant number of distribution transformers that have been scheduled for replacement in this regulatory period (c. \$480k).
- Surge arrestors on feeders connected to the Kawerau and Plains zone substations to be replaced to work in conjunction with neutral earthing resistors being installed by Transpower at the Kawerau GXP (c. \$410k).
- The decommissioning of the Putauaki communication site has prompted the need for upgrade to DMR communication at various sites (c. \$170k additional budget and timing changes).
- Postponing of the Station Road upgrades (with an average spend of \$1.2M per annum between 2021-2023) by two years, accounts for majority of the shift in capital expenditure between the two financial periods (c. \$2.8M).
- Automation of feeder open points has been postponed between the two financial periods, pending the successful upgrade of the communication networks (c. \$260K).
- A further \$1.3M increase in the 2021-2025 regulatory period is driven by the change in customer connections forecast. This is detailed below.
- Total forecast OPEX for the two regulatory periods (i.e. 2018-2025) remains consistent, any changes are due to adjustment in input costs between forecasts.

The projects responsible for the change in forecasts are also summarised in section 3.1. In line with previous forecasts from the 2016 AMP, the spend profile is heavily weighted towards major asset replacements for zone substation assets during the first regulatory period (2018-2020) with planned expenditure increasing on undergrounding, line and cable replacements

continuing into the next regulatory period 2021-2025. These changes in cost are also illustrated in **Figure 1** below.

**Figure 1:**  
**Expenditure Comparison between 2016 AMP and the 2017 AMP Update**



**Table 2:**  
**Customer Connection and System Growth Capital Forecast Comparison**

	\$M	2016 Forecast	2017 Forecast	Change
2018-2020	System Growth	\$4.82	\$2.47	-\$2.35
	Customer Connections	\$1.05	\$1.47	\$0.42
	Customer Contribution*	\$1.06	\$0.93	-\$0.13
2021-2025	System Growth	\$1.54	\$3.74	\$2.19
	Customer Connections	\$1.41	\$2.67	\$1.26
	Customer Contribution*	\$1.37	\$1.67	\$0.30

\* Customer contributions in part offset the costs associated with customer connection CAPEX. Over time the infrastructure development contributions seek to fund the system growth investment required.

The table overleaf compares the expected system growth and customer connection between regulatory periods and AMP forecasts. Key highlights include:

- The postponement of the final phase of the Opotiki sub transmission build (\$1.9M) and the purchase of land for the CBD zone substation (\$270k) to the upcoming regulatory period are the main reasons for deferral of the change in system growth expenditure.

- The increase in customer connections (and contributions) is due to a forecast increase from an average of 90 connections per year to 160 connections per year is the main reason in increase of the customer connection and customer contribution costs. Other factors that have also been considered include the proposed 25MVA connection of a timber processing plant in Kawerau, and possible connection of an 8MVA water processing plant at Edgecumbe.
- Change in methodology of forecasting Customer contributions. Whilst the forecast number of new connections is growing, Horizon has reviewed and reduced the contribution per customer.

**Table 3:**  
**Accumulated Non-Network CAPEX and OPEX Expenditure Current and Upcoming Regulatory Period**

\$M		2016 Forecast	2017 Forecast	Change
2018-2020	Non-network CAPEX	\$0.95	\$0.95	\$0
	Non-network OPEX	\$16.4	\$17.6	\$1.2
2021-2025	Non-network CAPEX	\$1.4	\$1.3	-\$0.1
	Non-network OPEX	\$27.4	\$29.4	\$2.0

The table above compares the expected non-network expenditure between regulatory periods and AMP forecasts. Key highlights include:

- an increase in OPEX to enhance our asset management capability and cover associated support costs; and
- to assess and respond to the impact of disruptive technologies.

### 3.5 Schedule 12a - Asset Condition

There have been a number of minor adjustments to Schedule 12a. This is based on clean-up of our data and as we commence transition to the new asset management system. The confidence level of the information has remained the same. The confidence levels are likely to improve over time once the new Asset Management System is implemented.



### 3.6 Schedule 12b - Forecast Capacity

The Zone Substation forecast capacity is consistent with the forecast issued in the 2016 AMP. Remedial projects to clear constraints identified at Kopeopeo substation remain on track with scheduled 33kV and transformer upgrade projects 2017 to 2019.

### 3.7 Schedule 12c - Forecast Network Demand

Consumer connections growth is showing a positive increase compared to a previous negative trend, and the forecast has been altered accordingly. A higher number of connections for the 2016 year reflect a number of existing sub divisions having dwellings installed. The annual rate of new connections is 0.6% of the total number of installed connections.

There has been an increasing volume of expressions of interest for industrial connections, compared to previous years, but these are not factored into the forecast until there is some certainty that the projects are likely to proceed.

Distributed generation (predominately solar) connections are showing an exponential growth trend and the forecast has been altered to reflect this from a previously forecasted linear trend.

System demand (MW) includes the commissioning of 28MW net generation export from the TAOM geothermal generator in Kawerau in 2017, and a probable 20MVA industrial load at Kawerau in 2019.

A peak load increase of 1.7% per annum has been used to predict forward growth across the existing demand load.

Opotiki substation has not been identified separately as the area capacity is still determined at the Waiotahi GXP.

The correlation between peak demand, increasing at 1.7% increase per annum over the last 3 years, and total electricity volumes carried (0.1% increase per annum over the same period), continues to widen. The shift towards cost-reflective pricing across all consumer groups (such as a Time of Use tariff) should over time signal the increase in costs required to augment the network if the trend continues. Horizon Networks, along with other EDBs, at the request of the Electricity Authority will be publishing its plans to shift consumer groups to more cost-reflective pricing.

### **3.8 Schedule 12d - Forecast Interruptions and Duration**

There has been an increase in forecast targets, 25% for SAIDI and 15% for SAIFI, for class B (Planned interruptions on the network) to reflect the reduced use of live line work on the network.

This year saw an increase of weather related unplanned outages, but targets for unplanned interruptions have remained consistent with previous forecasts.

### **3.9 Asset Management Maturity**

The implementation of the Asset management System (AMS) software is anticipated to provide a platform to move to more condition based maintenance practices. Embedded within the AMS, improved record keeping will address a number of the asset management practice improvement opportunities that have been identified previous AMPs.

This system is planned to go live during 2017. The system is designed with integration to GIS and SCADA systems to allow regular updating of captured asset condition, changes to the network topography, and the acquisition of dynamic data from field devices. Coupled with revised work flow procedures, continuous improvement in the management of network assets is expected.

This is expected to flow into revised budget forecasts from 2018 onwards.

## Appendix A1 – Information Disclosure Schedules 11-12

Company Name

AMP Planning Period

Horizon Energy Distribution Limited

1 April 2017 – 31 March 2027

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).

This information is not part of audited disclosure information.

sch ref

7

Current Year CY

CY+1

CY+2

CY+3

CY+4

CY+5

CY+6

CY+7

CY+8

CY+9

CY+10

8

for year ended

31 Mar 17

31 Mar 18

31 Mar 19

31 Mar 20

31 Mar 21

31 Mar 22

31 Mar 23

31 Mar 24

31 Mar 25

31 Mar 26

31 Mar 27

9

11a(i): Expenditure on Assets Forecast

10

Consumer connection

264

506

484

508

533

559

586

614

643

672

703

11

System growth

2,546

315

251

1,979

2,517

230

235

861

185

2,237

2,635

12

Asset replacement and renewal

4,903

6,422

5,731

3,600

4,048

5,924

6,132

5,884

4,883

5,032

4,932

13

Asset relocations

9

51

48

251

53

56

59

61

64

67

70

14

Reliability, safety and environment:

15

Quality of supply

381

332

119

504

28

295

1,190

504

638

721

311

16

Legislative and regulatory

-

99

307

313

319

325

109

111

113

116

118

17

Other reliability, safety and environment

1,081

574

321

208

212

216

220

225

229

234

681

18

Total reliability, safety and environment

1,463

1,005

748

1,024

559

836

1,520

840

980

1,070

1,109

19

Expenditure on network assets

9,184

8,299

7,262

7,361

7,710

7,605

8,531

8,261

6,755

9,079

9,450

20

Expenditure on non-network assets

1,812

577

163

218

169

226

330

336

343

350

357

21

Expenditure on assets

10,997

8,876

7,425

7,579

7,879

7,831

8,861

8,597

7,099

9,429

9,807

22

23

plus Cost of financing

119

108

94

96

100

99

111

107

88

118

123

24

less Value of capital contributions

442

320

307

322

337

352

369

385

401

418

438

25

plus Value of vested assets

-

-

-

-

-

-

-

-

-

-

-

26

27

Capital expenditure forecast

10,674

8,664

7,212

7,352

7,643

7,579

8,603

8,320

6,785

9,129

9,493

28

29

Assets commissioned

9,674

7,664

6,212

6,352

6,643

6,579

7,603

7,320

5,785

8,129

8,493

30

Current Year CY

CY+1

CY+2

CY+3

CY+4

CY+5

CY+6

CY+7

CY+8

CY+9

CY+10

31

for year ended

31 Mar 17

31 Mar 18

31 Mar 19

31 Mar 20

31 Mar 21

31 Mar 22

31 Mar 23

31 Mar 24

31 Mar 25

31 Mar 26

31 Mar 27

32

\$000 (in constant prices)

33

Consumer connection

264

506

476

490

504

519

533

547

562

576

591

34

System growth

2,546

315

247

1,910

2,381

213

213

768

162

1,918

2,214

35

Asset replacement and renewal

4,903

6,422

5,633

3,475

3,831

5,496

5,577

5,247

4,269

4,313

4,145

36

Asset relocations

9

51

48

242

50

52

53

55

56

58

59

37

Reliability, safety and environment:

38

Quality of supply

381

332

117

486

26

273

1,083

449

557

618

261

39

Legislative and regulatory

-

99

302

302

302

302

99

99

99

99

99

40

Other reliability, safety and environment

1,081

574

316

200

200

200

200

200

200

200

572

41

Total reliability, safety and environment

1,463

1,005

735

988

529

775

1,382

749

857

917

932

42

Expenditure on network assets

9,184

8,299

7,138

7,105

7,296

7,055

7,759

7,366

5,906

7,782

7,941

43

Expenditure on non-network assets

1,812

577

160

210

160

210

300

300

300

300

300

44

Expenditure on assets

10,997

8,876

7,298

7,315

7,456

7,265

8,059

7,666

6,206

8,082

8,241

45

46

Subcomponents of expenditure on assets (where known)

47

Energy efficiency and demand side management, reduction of energy losses

120

303

216

40

81

40

40

428

428

500

500

48

Overhead to underground conversion

49

Research and development

50

# HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

## SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions).  
EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).  
This information is not part of audited disclosure information.

sch ref

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
51												
52												
53	<b>Difference between nominal and constant price forecasts</b>	\$000										
54	Consumer connection	-	-	8	18	29	40	53	66	81	96	112
55	System growth	-	-	4	69	135	17	21	93	23	320	421
56	Asset replacement and renewal	-	-	98	125	217	428	555	637	614	719	788
57	Asset relocations	-	-	1	9	3	4	5	7	8	10	11
58	Reliability, safety and environment:											
59	Quality of supply	-	-	2	18	1	21	108	55	80	103	50
60	Legislative and regulatory	-	-	5	11	17	24	10	12	14	17	19
61	Other reliability, safety and environment	-	-	5	7	11	16	20	24	29	33	109
62	<b>Total reliability, safety and environment</b>	-	-	13	36	30	60	137	91	123	153	177
63	<b>Expenditure on network assets</b>	-	-	124	256	414	550	772	895	850	1,298	1,510
64	Expenditure on non-network assets	-	-	3	8	9	16	30	36	43	50	57
65	<b>Expenditure on assets</b>	-	-	127	264	423	566	802	931	893	1,348	1,567
66												
67												
68	<b>11a(ii): Consumer Connection</b>											
69	Consumer types defined by EDB*	\$000 (in constant prices)										
70	General	264	506	476	490	504	519					
71	[EDB consumer type]											
72	[EDB consumer type]											
73	[EDB consumer type]											
74	[EDB consumer type]											
75	*Include additional rows if needed											
76	<b>Consumer connection expenditure</b>	264	506	476	490	504	519					
77	less Capital contributions funding consumer connection	442	320	302	311	319	326					
78	<b>Consumer connection less capital contributions</b>	(178)	186	174	179	186	193					
79	<b>11a(iii): System Growth</b>											
80	Subtransmission	-	-	-	-	471	213					
81	Zone substations	1,811	216	-	1,910	1,910	-					
82	Distribution and LV lines	-	-	247	-	-	-					
83	Distribution and LV cables	735	99	-	-	-	-					
84	Distribution substations and transformers	-	-	-	-	-	-					
85	Distribution switchgear	-	-	-	-	-	-					
86	Other network assets	-	-	-	-	-	-					
87	<b>System growth expenditure</b>	2,546	315	247	1,910	2,381	213					
88	less Capital contributions funding system growth	-	-	-	-	-	-					
89	<b>System growth less capital contributions</b>	2,546	315	247	1,910	2,381	213					
90												

# HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

## SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions).

EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).

This information is not part of audited disclosure information.

sch ref

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
<b>11a(iv): Asset Replacement and Renewal</b>	<b>\$000 (in constant prices)</b>					
Subtransmission	-	418	238	-	-	-
Zone substations	944	1,999	2,221	407	263	2,092
Distribution and LV lines	1,658	1,471	1,302	1,328	1,554	1,202
Distribution and LV cables	1,634	1,288	702	729	1,043	1,025
Distribution substations and transformers	513	508	670	872	673	836
Distribution switchgear	117	458	234	118	240	322
Other network assets	37	282	266	19	59	19
<b>Asset replacement and renewal expenditure</b>	<b>4,903</b>	<b>6,422</b>	<b>5,633</b>	<b>3,475</b>	<b>3,831</b>	<b>5,496</b>
less Capital contributions funding asset replacement and renewal	-	-	-	-	-	-
<b>Asset replacement and renewal less capital contributions</b>	<b>4,903</b>	<b>6,422</b>	<b>5,633</b>	<b>3,475</b>	<b>3,831</b>	<b>5,496</b>
	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
<b>11a(v): Asset Relocations</b>	<b>\$000 (in constant prices)</b>					
Project or programme*						
Transformer relocations driven by customer requests	9	51	48	242	50	52
[Description of material project or programme]						
[Description of material project or programme]						
[Description of material project or programme]						
[Description of material project or programme]						
*Include additional rows if needed						
All other project or programmes - asset relocations						
<b>Asset relocations expenditure</b>	<b>9</b>	<b>51</b>	<b>48</b>	<b>242</b>	<b>50</b>	<b>52</b>
less Capital contributions funding asset relocations	-	-	-	-	-	-
<b>Asset relocations less capital contributions</b>	<b>9</b>	<b>51</b>	<b>48</b>	<b>242</b>	<b>50</b>	<b>52</b>
	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
<b>11a(vi): Quality of Supply</b>	<b>\$000 (in constant prices)</b>					
Project or programme*						
Poletop digital rollout Y1	93	-	-	-	-	-
11kV surge arrestors upgrade- Plains East bank stage 1	88	-	-	-	-	-
Rewatu Road dual circuit pole realignment	-	106	-	-	-	-
Kape/SR/Gateway 11kV distribution tie points automation Y2	-	-	-	-	-	247
Hillcrest Cable upgrade 540m -2 RMU	-	-	-	179	-	-
Split West bank feeder off Rangateki feeder	-	-	-	196	-	-
[Description of material project or programme]	-	-	-	-	-	-
*Include additional rows if needed						
All other projects or programmes - quality of supply	200	226	117	111	26	26
<b>Quality of supply expenditure</b>	<b>381</b>	<b>332</b>	<b>117</b>	<b>486</b>	<b>26</b>	<b>273</b>
less Capital contributions funding quality of supply	-	-	-	-	-	-
<b>Quality of supply less capital contributions</b>	<b>381</b>	<b>332</b>	<b>117</b>	<b>486</b>	<b>26</b>	<b>273</b>

# HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

## SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions).  
EDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).  
This information is not part of audited disclosure information.

sch ref		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
135							
136							
137	<b>11a(vii): Legislative and Regulatory</b>						
138	<i>Project or programme*</i>	\$000 (in constant prices)					
139	LT end of run earthing project Y2			203			
140	LT end of run earthing project Y3				203		
141	LT end of run earthing project Y4					203	
142	LT end of run earthing project Y5						203
143	(Description of material project or programme)						
144	<i>*Include additional rows if needed</i>						
145	All other projects or programmes - legislative and regulatory		99	99	99	99	99
146	<b>Legislative and regulatory expenditure</b>		99	302	302	302	302
147	less Capital contributions funding legislative and regulatory						
148	<b>Legislative and regulatory less capital contributions</b>		99	302	302	302	302
149							
150							
151	<b>11a(viii): Other Reliability, Safety and Environment</b>						
152	<i>Project or programme*</i>	\$000 (in constant prices)					
153	Galatea 33kV bus upgrade	691					
154	Relocate Galatea T2	135					
155	SCADA relocatable disaster recovery unit	49					
156	Zone Sub CB remote open-close project	44					
157	Te Rahu South /WBM South Structures reconfigure		236				
158	(Description of material project or programme)						
159	<i>*Include additional rows if needed</i>						
160	All other projects or programmes - other reliability, safety and environment	163	338	316	200	200	200
161	<b>Other reliability, safety and environment expenditure</b>	1,081	574	316	200	200	200
162	less Capital contributions funding other reliability, safety and environment						
163	<b>Other reliability, safety and environment less capital contributions</b>	1,081	574	316	200	200	200
164							
165							
166	<b>11a(ix): Non-Network Assets</b>						
167	<i>Routine expenditure</i>						
168	<i>Project or programme*</i>	\$000 (in constant prices)					
169	Information and technology systems	91	86	110	110	110	110
170	Tools	19	16	10	10	10	10
171	Office buildings, depots, and workshops			25	25	25	25
172	Office furniture and equipment	5	15	15	15	15	15
173	Motor vehicles	27	30	-	-	-	-
174	<i>*Include additional rows if needed</i>						
175	All other projects or programmes - routine expenditure						
176	<b>Routine expenditure</b>	142	147	160	160	160	160
177	<i>Atypical expenditure</i>						
178	<i>Project or programme*</i>	\$000 (in constant prices)					
179	Information and technology systems				50		50
180	Asset Management System	633	430				
181	Land	983					
182	Electric Vehicle Charging Infrastructure	54					
183	(Description of material project or programme)						
184	<i>*Include additional rows if needed</i>						
185	All other projects or programmes - atypical expenditure						
186	<b>Atypical expenditure</b>	1,671	430	-	50	-	50
187							
188	<b>Expenditure on non-network assets</b>	1,812	577	160	210	160	210

# HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

## SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. EDBs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes). This information is not part of audited disclosure information.

sch ref		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
9	<b>Operational Expenditure Forecast</b>	<b>\$000 (in nominal dollars)</b>										
10	Service interruptions and emergencies	869	855	868	881	894	912	931	949	968	988	1,007
11	Vegetation management	655	615	625	634	644	656	670	683	697	711	725
12	Routine and corrective maintenance and inspection	883	878	919	860	884	794	1,008	954	974	894	1,014
13	Asset replacement and renewal	649	641	741	694	870	759	670	742	748	807	732
14	<b>Network Opex</b>	<b>3,056</b>	<b>2,990</b>	<b>3,153</b>	<b>3,069</b>	<b>3,292</b>	<b>3,122</b>	<b>3,278</b>	<b>3,328</b>	<b>3,387</b>	<b>3,399</b>	<b>3,479</b>
15	System operations and network support	2,028	2,410	2,324	2,457	2,494	2,544	2,595	2,647	2,700	2,754	2,809
16	Business support	3,596	3,561	3,553	3,606	3,660	3,733	3,808	3,884	3,962	4,041	4,122
17	<b>Non-network opex</b>	<b>5,624</b>	<b>5,971</b>	<b>5,877</b>	<b>6,063</b>	<b>6,154</b>	<b>6,277</b>	<b>6,402</b>	<b>6,530</b>	<b>6,661</b>	<b>6,794</b>	<b>6,930</b>
18	<b>Operational expenditure</b>	<b>8,681</b>	<b>8,961</b>	<b>9,029</b>	<b>9,132</b>	<b>9,446</b>	<b>9,399</b>	<b>9,680</b>	<b>9,859</b>	<b>10,048</b>	<b>10,194</b>	<b>10,409</b>
19		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
20	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
21		<b>\$000 (in constant prices)</b>										
22	Service interruptions and emergencies	869	855	855	855	855	855	855	855	855	855	855
23	Vegetation management	655	615	615	615	615	615	615	615	615	615	615
24	Routine and corrective maintenance and inspection	883	878	905	834	846	745	927	860	861	775	861
25	Asset replacement and renewal	649	641	730	674	832	711	616	669	661	699	622
26	<b>Network Opex</b>	<b>3,056</b>	<b>2,990</b>	<b>3,106</b>	<b>2,979</b>	<b>3,148</b>	<b>2,927</b>	<b>3,013</b>	<b>2,999</b>	<b>2,993</b>	<b>2,945</b>	<b>2,954</b>
27	System operations and network support	2,028	2,410	2,290	2,385	2,385	2,385	2,385	2,385	2,385	2,385	2,385
28	Business support	3,596	3,561	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
29	<b>Non-network opex</b>	<b>5,624</b>	<b>5,971</b>	<b>5,790</b>	<b>5,885</b>	<b>5,885</b>	<b>5,885</b>	<b>5,885</b>	<b>5,885</b>	<b>5,885</b>	<b>5,885</b>	<b>5,885</b>
30	<b>Operational expenditure</b>	<b>8,681</b>	<b>8,961</b>	<b>8,896</b>	<b>8,864</b>	<b>9,033</b>	<b>8,812</b>	<b>8,898</b>	<b>8,884</b>	<b>8,878</b>	<b>8,830</b>	<b>8,839</b>
31	<b>Subcomponents of operational expenditure (where known)</b>											
32	Energy efficiency and demand side management, reduction of											
33	energy losses											
34	Direct billing*											
35	Research and Development											
36	Insurance											
37	* Direct billing expenditure by suppliers that direct bill the majority of their consumers											
38		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
39	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22	31 Mar 23	31 Mar 24	31 Mar 25	31 Mar 26	31 Mar 27
40												
41	<b>Difference between nominal and real forecasts</b>	<b>\$000</b>										
42	Service interruptions and emergencies	-	-	13	26	39	57	75	94	113	132	152
43	Vegetation management	-	-	9	19	28	41	54	68	81	95	109
44	Routine and corrective maintenance and inspection	-	-	14	25	39	50	81	94	113	120	153
45	Asset replacement and renewal	-	-	11	20	38	47	54	73	87	108	110
46	<b>Network Opex</b>	<b>-</b>	<b>-</b>	<b>47</b>	<b>90</b>	<b>144</b>	<b>195</b>	<b>265</b>	<b>329</b>	<b>395</b>	<b>455</b>	<b>525</b>
47	System operations and network support	-	-	34	72	109	159	210	262	315	369	424
48	Business support	-	-	52	106	160	233	308	384	462	541	622
49	<b>Non-network opex</b>	<b>-</b>	<b>-</b>	<b>87</b>	<b>178</b>	<b>269</b>	<b>392</b>	<b>517</b>	<b>645</b>	<b>776</b>	<b>909</b>	<b>1,045</b>
50	<b>Operational expenditure</b>	<b>-</b>	<b>-</b>	<b>133</b>	<b>268</b>	<b>413</b>	<b>587</b>	<b>782</b>	<b>974</b>	<b>1,171</b>	<b>1,364</b>	<b>1,570</b>

# HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

## SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

Asset condition at start of planning period (percentage of units by grade)											
	Voltage	Asset category	Asset class	Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
7	All	Overhead Line	Concrete poles / steel structure	No.	-	3.83%	91.77%	4.07%	0.34%	2	4.10%
8	All	Overhead Line	Wood poles	No.	2.22%	7.85%	79.79%	7.44%	2.70%	2	12.15%
9	All	Overhead Line	Other pole types	No.	-	1.19%	45.24%	5.95%	47.62%	2	5.95%
10	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	-	-	98.05%	1.56%	0.39%	1	-
11	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	-	-	-	-	-
12	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	-	-	66.71%	33.29%	-	4	-
13	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	-	-	-	-	-	-	-
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	-	-	-	-	-
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	-	-	-	-	-	-	-
16	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	-	-	-	-	-
17	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	-	-	-	-	-
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	-	-	-	-	-
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	-	-	-	-	-
20	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	-	-	-	-	-
21	HV	Zone substation Buildings	Zone substations up to 66kV	No.	-	-	80.00%	10.00%	10.00%	3	-
22	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	-	-	-	-	-
23	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	-	-	-	100.00%	-	4	-
24	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	-	30.00%	20.00%	50.00%	-	2	30.00%
25	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	-	-	-	-	-	-	-
26	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	-	8.57%	25.71%	48.57%	17.14%	1	8.57%
27	HV	Zone substation switchgear	33kV RMU	No.	-	-	-	-	-	-	-
28	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	-	-	-	-	-
29	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	-	-	-	-	-	-	-
30	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	-	-	84.91%	15.09%	-	4	-
31	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	-	71.43%	-	28.57%	-	4	71.43%



# HORIZON NETWORKS ASSET MANAGEMENT PLAN UPDATE 2017

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

## SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

Asset condition at start of planning period (percentage of units by grade)											
	Voltage	Asset category	Asset class	Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
36											
37											
38											
39	HV	Zone Substation Transformer	Zone Substation Transformers	No.		46.67%	40.00%	13.33%	-	4	46.67%
40	HV	Distribution Line	Distribution OH Open Wire Conductor	km	0.01%	2.87%	92.26%	3.58%	1.28%	3	3.87%
41	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km							
42	HV	Distribution Line	SWER conductor	km	-	-	94.41%	4.39%	1.20%	3	-
43	HV	Distribution Cable	Distribution UG XLPE or PVC	km	0.01%	0.30%	75.14%	23.57%	0.98%	2	1.31%
44	HV	Distribution Cable	Distribution UG PILC	km	-	-	93.41%	3.45%	3.14%	2	-
45	HV	Distribution Cable	Distribution Submarine Cable	km							
46	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	-	-	22.68%	73.20%	4.12%	3	-
47	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.							
48	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	8.62%	24.20%	45.88%	20.28%	1.02%	1	36.02%
49	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.							
50	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	0.81%	2.02%	56.28%	36.44%	4.45%	3	4.86%
51	HV	Distribution Transformer	Pole Mounted Transformer	No.	2.02%	17.40%	65.31%	12.42%	2.85%	3	22.95%
52	HV	Distribution Transformer	Ground Mounted Transformer	No.	2.07%	9.37%	63.46%	16.26%	8.84%	2	13.40%
53	HV	Distribution Transformer	Voltage regulators	No.	-	-	-	100.00%	-	4	-
54	HV	Distribution Substations	Ground Mounted Substation Housing	No.	0.26%	5.13%	79.20%	13.22%	2.18%	2	6.42%
55	LV	LV Line	LV OH Conductor	km	-	0.03%	74.95%	2.19%	22.83%	2	0.09%
56	LV	LV Cable	LV UG Cable	km	-	0.01%	86.31%	6.25%	7.43%	2	0.56%
57	LV	LV Streetlighting	LV OH/UG Streetlight circuit	km		9.42%	82.94%	3.41%	4.23%	2	12.54%
58	LV	Connections	OH/UG consumer service connections	No.	0.04%	8.63%	86.97%	3.54%	0.81%	3	11.40%
59	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	-	-	34.78%	65.22%	-	3	-
60	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	55.56%	22.22%	22.22%	-	-	4	77.78%
61	All	Capacitor Banks	Capacitors including controls	No.	-	-	50.00%	50.00%	-	4	-
62	All	Load Control	Centralised plant	Lot	25.00%	75.00%	-	-	-	4	100.00%
63	All	Load Control	Relays	No.							
64	All	Civils	Cable Tunnels	km							

Company Name **Horizon Energy Distribution Limited**  
AMP Planning Period **1 April 2017 – 31 March 2027**

### SCHEDULE 12b: REPORT ON FORECAST CAPACITY

This schedule requires a breakdown of current and forecast capacity and utilisation for each zone substation and current distribution transformer capacity. The data provided should be consistent with the information provided in the AMP. Information provided in this table should relate to the operation of the network in its normal steady state configuration.

sch ref

#### 12b(i): System Growth - Zone Substations

Existing Zone Substations	Current Peak Load (MVA)	Installed Firm Capacity (MVA)	Security of Supply Classification (type)	Transfer Capacity (MVA)	Utilisation of Installed Firm Capacity %	Installed Firm Capacity +5 years (MVA)	Utilisation of Installed Firm Capacity + 5yrs %	Installed Firm Capacity Constraint +5 years (cause)	Explanation
East Bank	9	-	N	20	-	-	-	No constraint within +5 years	Switched security of supply from adjacent substations
Galatea	5	8	N-1	-	67%	8	69%	No constraint within +5 years	None
Kaingaroa	3	5	N-1	-	51%	5	52%	No constraint within +5 years	None
Kawerau	18	25	N-1	2	70%	20	80%	Transpower	Transpower GXP
Kopeopeo	15	13	N-1	12	115%	16	124%	Subtransmission circuit	Incoming 33kV cables thermal capacity limited
Ohope	5	-	N	4	-	-	-	Transformer	Single phase tx with one installed spare
Plains	8	-	N	17	-	-	-	No constraint within +5 years	Switched security of supply from adjacent substations
Station Road	12	10	N-1	18	124%	10	153%	Transformer	Switched security of supply from adjacent substations
Te Kaha	2	-	N	-	-	-	-	Transpower	Transpower GXP
Waiotahi	10	10	N-1	2	104%	10	114%	Transpower	Transpower GXP
[Zone Substation_11]					-			[Select one]	
[Zone Substation_12]					-			[Select one]	
[Zone Substation_13]					-			[Select one]	
[Zone Substation_14]					-			[Select one]	
[Zone Substation_15]					-			[Select one]	
[Zone Substation_16]					-			[Select one]	
[Zone Substation_17]					-			[Select one]	
[Zone Substation_18]					-			[Select one]	
[Zone Substation_19]					-			[Select one]	
[Zone Substation_20]					-			[Select one]	

<sup>1</sup> Extend forecast capacity table as necessary to disclose all capacity by each zone substation

Company Name **Horizon Energy Distribution Limited**

AMP Planning Period **1 April 2017 – 31 March 2027**

### SCHEDULE 12C: REPORT ON FORECAST NETWORK DEMAND

This schedule requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch ref

#### 12c(i): Consumer Connections

Number of ICPs connected in year by consumer type

Consumer types defined by EDB\*

General
Other
[EDB consumer type]
[EDB consumer type]
[EDB consumer type]

Connections total

\*include additional rows if needed

#### Distributed generation

Number of connections

Capacity of distributed generation installed in year (MVA)

	Number of connections					
Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
	190	150	155	160	165	170
	5	4	4	4	4	4
	195	154	159	164	169	174
	40	77	126	204	331	537
	0	0	1	1	1	2

#### 12c(ii) System Demand

##### Maximum coincident system demand (MW)

GXP demand

plus Distributed generation output at HV and above

Maximum coincident system demand

less Net transfers to (from) other EDBs at HV and above

Demand on system for supply to consumers' connection points

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
	88	62	63	79	80	82
	-	28	28	28	28	28
	88	90	91	107	108	110
	88	90	91	107	108	110

##### Electricity volumes carried (GWh)

Electricity supplied from GXPs

less Electricity exports to GXPs

plus Electricity supplied from distributed generation

less Net electricity supplied to (from) other EDBs

Electricity entering system for supply to ICPs

less Total energy delivered to ICPs

Losses

Load factor

Loss ratio

481	435	266	331	334	339
-	-	-	-	-	-
81	133	305	306	306	306
-	-	-	-	-	-
562	568	571	637	640	645
535	541	544	607	610	615
27	27	27	30	30	30
73%	72%	72%	68%	67%	67%
4.8%	4.8%	4.7%	4.7%	4.7%	4.7%

Company Name **Horizon Energy Distribution Limited**

AMP Planning Period **1 April 2017 – 31 March 2027**

Network / Sub-network Name

### SCHEDULE 12d: REPORT FORECAST INTERRUPTIONS AND DURATION

This schedule requires a forecast of SAIFI and SAIDI for disclosure and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumed impact of planned and unplanned SAIFI and SAIDI on the expenditures forecast provided in Schedule 11a and Schedule 11b.

sch ref

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
	for year ended	31 Mar 17	31 Mar 18	31 Mar 19	31 Mar 20	31 Mar 21	31 Mar 22
8							
9							
10	<b>SAIDI</b>						
11	Class B (planned interruptions on the network)	44.0	25.0	25.0	25.0	25.0	25.0
12	Class C (unplanned interruptions on the network)	131.0	125.0	125.0	125.0	125.0	125.0
13	<b>SAIFI</b>						
14	Class B (planned interruptions on the network)	0.22	0.16	0.16	0.16	0.16	0.16
15	Class C (unplanned interruptions on the network)	1.60	1.60	1.60	1.60	1.60	1.60

## Appendix A1 – Schedule 14a Mandatory Explanatory Notes on Forecast Information

Company Name Horizon Energy Distribution Limited

For Year Ended 31 March 2018

### Schedule 14a Mandatory Explanatory Notes on Forecast Information

1. This Schedule requires EDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.
2. This Schedule is mandatory—EDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

*Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a)*

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11a.

**Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts**

Difference between nominal and constant price capital expenditure forecasts are due to forecast indexation applied. For the forecast to 2027 this is based on an updated capital goods price index from NZIER through to 2020, and then an annualised average forecast indexation using capital goods price index estimates of 2.50%.

*Commentary on difference between nominal and constant price operational expenditure forecasts (Schedule 11b)*

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the current disclosure year and 10 year planning period, as disclosed in Schedule 11b.

**Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts**

Difference between nominal and constant price operational expenditure forecasts are due to forecast indexation applied. For the forecast to 2027 this is based on annualised average forecast consumer price index estimates of 1.5% up to 2020 and then 2.0% for the remainder of the forecast period up to 2027.

## Appendix A1 – Schedule 15 Voluntary Explanatory Notes

Company Name Horizon Energy Distribution Limited

For Year Ended 31 March 2018

### Schedule 15 Voluntary Explanatory Notes

1. This schedule enables EDBs to provide, should they wish to-
  - 1.1 additional explanatory comment to reports prepared in accordance with clauses 2.3.1, 2.4.21, 2.4.22, 2.5.1 and 2.5.2;
  - 1.2 information on any substantial changes to information disclosed in relation to a prior disclosure year, as a result of final wash-ups.
2. Information in this schedule is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.
3. Provide additional explanatory comment in the box below.

**Box 1: Voluntary explanatory comment on disclosed information**

1. All forecast capital expenditure provided for in schedule 11a is intended to be included in the value of assets commissioned relating to the RAB.
2. Vested Assets – Vested assets with a combined construction cost \$7.65 million are expected during this 10 year planning period.

Significant vested asset construction costs include \$2.65 million in 2017/18 and \$1.5 million in 2018/19 for four commercial customers. In addition, smaller customer vested assets, averaging \$350,000 are expected each year.

Schedule 11a discloses the fair value of vested assets at the consideration provided by Horizon Energy Distribution Limited. As these vested assets are fully paid for by the customers, the disclosed fair value of these vested assets is Nil in the RAB. These vested assets are then maintained by the Network for the duration of their useful operating lives.

## Appendix B - Certificate for Asset Management Plan Update

### Certification for Year-beginning Disclosure – Asset Management Plan Update

#### Clause 2.9.1

We, ANTHONY DE FARIAS and CHRISTOPHER BOYLE, being directors of HORIZON ENERGY DISTRIBUTION LIMITED certify that, having made all reasonable enquiry, to the best of our knowledge -

- a) the following attached information of HORIZON ENERGY DISTRIBUTION LIMITED prepared for the purposes of clauses 2.6.3, 2.6.4, 2.6.5, 2.6.6, and 2.7.2 of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.
- b) the prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.
- c) The forecasts in Schedules 11a, 11b, 12a, 12b, 12c and 12d are based on objective and reasonable assumptions which both aligns with HORIZON ENERGY DISTRIBUTION LIMITED's corporate vision and strategy and are documented in retained records.

Dated: 27<sup>th</sup> day of March 2017



.....  
ANTHONY DE FARIAS



.....  
CHRISTOPHER BOYLE