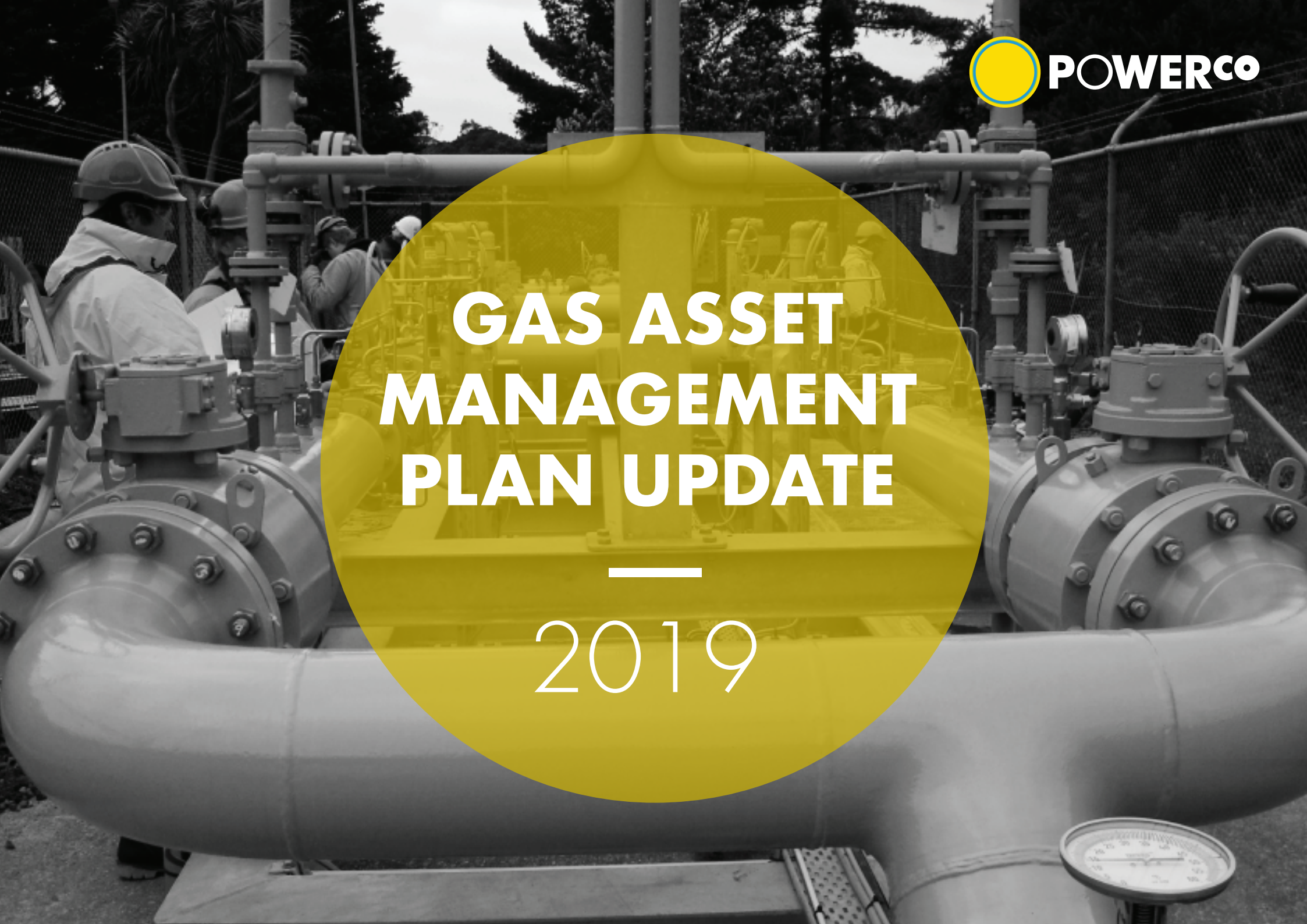


POWERCO

GAS ASSET MANAGEMENT PLAN UPDATE

2019

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

Powerco's gas network provides an important service to many households and businesses across the North Island of New Zealand. As long-term stewards of the network assets, our aim is to focus on managing the network to deliver a safe, high-quality and highly efficient gas supply. Our gas business has an objective to deliver exceptional service to our customers and this influences our overall attitude, our priorities and day-to-day activities.

Since 2013, we have publicly disclosed our long-term expenditure forecasts every year, and we have published three comprehensive Asset Management Plans (AMP) – the latest being in 2018.

The 2018 AMP set out the long-term strategy for the delivery of Powerco's gas distribution services. It described, at a practical level, our asset management policies, strategy and processes, and the performance we expect and receive from our network assets. It also detailed how we strive to efficiently utilise the resources required to balance the price and service quality trade-offs that our customers tell us they require.

This 2019 Asset Management Plan Update (AMP update) covers the period from 1 October 2019 to 30 September 2029. It builds on last year's plan and provides the latest information on Powerco's long-term strategy on managing our gas assets.

This AMP update was approved by Powerco's Board of Directors on 22 August 2019.

1.2 COMPLIANCE WITH INFORMATION DISCLOSURE REQUIREMENTS

This AMP update complies with the Gas Distribution Information Disclosure Determination 2012 – (consolidated in 2018). We have structured this document to enable the reader to easily match the contents with the disclosure requirements.

The specific requirements on the contents of the AMP update are included in clauses 2.6.5 and 2.6.6. The AMP update must:

- Relate to the gas distribution services supplied by the gas distribution business (GDB)
- Identify any material changes to the network development plans disclosed in the last AMP
- Identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last AMP
- 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
- Identify any changes to the asset management practices of the GDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure
- Include the reports set out in Schedule 11a, 11b, 12a, 12b and 12c, respectively related to:
  - Forecast Capital Expenditure
  - Forecast Operational Expenditure
  - Asset Condition
  - Forecast Utilisation
  - Forecast Demand

1.3 SUMMARY OF MATERIAL CHANGES

There are no material changes to our network development plans or lifecycle asset management plans since the 2018 AMP. This reflects our higher asset management maturity as demonstrated by the increase in the score obtained through the Asset Management Maturity Assessment Tool. We would like to draw your attention on the following points:

- Since publishing the 2018 AMP, forecasts have been modified due to delays to the implementation of our new Enterprise Resource Planning (ERP) system.
- We are continuing our commitment to promote bringing more comfort and cost-savings to our customers and are seeing the number of customer connections trending up. These consumer connection rates are higher than forecasted, which is reflected in the expenditure category forecast being higher than previous years to reflect this activity.

There have been some minor amendments to network plans, affecting the timing and, in some cases, the solution proposed in the 2018 AMP. These amendments have been made to accommodate changes in customer-initiated subdivision development plans, and advancements in our monitoring and modelling of network performance. The amendments, however, do not materially alter the overall expenditure forecasts.

We are continuously improving our Asset Management practices. A new programme to attain ISO55000 compliance has been undertaken this year to improve our Asset Management governance, processes and procedures and maturity. We do not see ISO55000 compliance, or any other initiatives, materially affecting the results

1.4 STRUCTURE OF THE 2019 AMP UPDATE

This AMP update is designed to meet disclosure requirements. In the interests of brevity, we have not attempted to duplicate the more explanatory style of the 2018 AMP.

If the reader seeks detailed information on how Powerco manages its gas assets over the long-term, we encourage them to revert to the 2018 AMP, available on Powerco's website (www.powerco.co.nz).

This AMP update has four sections:

- Section 1 introduces the document
- Section 2 discusses the changes in the network plans published in Section 8 of the 2018 AMP
- Section 3 provides the justification for the changes in the expenditure forecasts
- Section 4 provides schedules 11a, 11b, 12a, 12b and 12c

2 CHANGES IN NETWORK PLANS

2.1 CONTEXT

Powerco operates 35 distribution networks over five regions:

- Wellington
- The Hutt Valley and Porirua
- Taranaki
- Manawatu and Horowhenua
- Hawkes Bay

The two primary drivers for network development are our delivery and efficiency objectives and strategies described in Section 6 of the 2018 AMP. These include aspects such as:

- The rate of demand growth
- Network capacity and utilisation
- Network reliability
- Efficiency and location (safety) of stations (DRSs)
- Optimisation of our assets

Together, these form the basis for our network development plans.

Our previous AMP covered network plans up to 2023. This was reflective of our current knowledge and understanding of the network performance and our planning horizon being less accurate after a five-year horizon. This plan extends to 2029

For this AMP update, we have reviewed the list of projects, their timing, and added projects in response to changes or issues identified since publishing the 2018 AMP. Changes in the network plans have affected all regions except Manawatu and Horowhenua.

Powerco believes that natural gas networks in New Zealand play, and will continue to play, an important part of our energy mix. It is an integral part of the country's energy security, is affordable, and has the potential to lower greenhouse gas emissions when displacing coal and other hydrocarbon fuels. The government's current undertaking to move towards a net zero-carbon economy will not affect the development of the gas networks in the short term. In line with our long-term approach to asset management, we are investigating and readying our assets for alternative uses, including conveying biomethane, and hydrogen. It might, however, reduce the economic life of our assets and we will consider if an adjustment is warranted during the planning period.

2.2 WELLINGTON

2.2.1 CBD UPGRADE

The second sector, the largest of the four, of the upgrade of the Wellington CBD gas network to a 25kPa operating pressure was completed in RY19.

Sector two saw a reduction in forecast expenditure from $5.5M down to $3.5M. A reforecast of expenditures has reduced the overall expected expenditure for the entire project from $11.6m down to $9.9m.

2.2.2 WELLINGTON NORTH

Most subdivision growth in Wellington is occurring in Woodridge (Newlands), Grenada and Churton Park. As the subdivisions continue to grow away from the points of supply, the network starts to become constrained. We have worked to increase the diameter of the trunk mains feeding these areas, however there are still some smaller diameter mains requiring an upgrade. Pressure monitoring is indicating the growth is not constraining the network as expected, allowing us to defer the upgrade projects to later years.

We plan to upgrade the following mains to support the forecast growth:

- Woodridge: Middleton/Helston Roads in RY25 for $175k.
- Grenada: Mark Ave in RY24 for $160k.
- Churton Park: Westchester Dr in RY22 for $450k.

2.3 HUTT VALLEY AND PORIRUA

2.3.1 KELSON ADDITIONAL POINT OF SUPPLY

Pressure monitoring indicates that gas uptake in the area is slower than originally forecast. This project has been pushed back to RY25 to when the constraint is now expected to occur.

2.3.2 BELMONT LIP

Constraint on the LIP (Low Intermediate Pressure pipeline) is being observed on the main feeding part of the Upper Hutt network as well as the Wallaceville system (including new subdivision). The planned Upper Hutt and Wallaceville Rationalisation projects will see load constraints reduced from this IP leg. The forecast for these rationalisation projects were included in the 2018 AMP.

Growth in demand in Wainuiomata will also create a constraint on the Belmont LIP. High rates of infill coupled with subdivision growth indicate an additional 800 lots over the next 20 years. This growth will constrain the small diameter mains of the Intermediate Pressure (IP) system supplying Wainuiomata. We will reinforce the IP network supplying Wainuiomata by laying new mains interconnecting the IP along Parkway and Nelson Crescent. We plan to spend $50k in RY24 for feasibility and $230k in RY25 for construction.

2.3.3 PLIMMERTON FARM

Plimmerton Farm in Porirua is expected to see the construction of up to 2,000 lots over 20 years beginning in RY22. We intend to support this growth by reticulating the suburb. The existing supply point is expected to become constrained within the first year of this development. Therefore, we will need to upgrade the IP section (Plimmerton IP) supplying this station to ensure security of supply to the growing number of consumers. We forecast the uprating of the Plimmerton IP in RY22 and plan to spend $50k in RY22 for construction.

2.4 TARANAKI

2.4.1 LEPPERTON

In RY19 we completed the reinforcement of the Lepperton pipeline capacity. This included isolating the Lepperton pipeline from the Waitara network and subsequent pressure uprating of Lepperton. This has removed network constraints that were being observed on the poultry sheds at the extremities of the network

2.4.2 NUGENT STREET OVERLAY

The small diameter main in the southwest of Bell Block North has been overlaid in a larger diameter (in RY 19), successfully bringing pressures in this network up to acceptable levels.

2.5 HAWKES BAY

2.5.1 HAVELOCK NORTH REINFORCEMENT

Havelock North is seeing growth in gas customers, from both existing homes connecting to gas as well as new subdivision growth. This growth is putting constraint on the network which is fed off a single main coming from Hastings. We have started a feasibility study to determine the best option for reinforcement. We have identified three possible options for reinforcement:

1. Outlay a new IP main from the Hastings Gas Gate along Havelock Rd with a new supply point (district regulator station) in Havelock North.
2. Increase the pressure to the entire Hastings LMP network including Havelock North.
3. Isolate the trunk main supplying Havelock North from the Hastings LMP network and increase the network pressure supplying Havelock North.

We foresee going with Option 1 as the best solution, with an anticipated expenditure of $800k in RY21 for construction.

3 CHANGES IN EXPENDITURE FORECASTS

3.1 CONTEXT

Our updated capital expenditure forecast is slightly higher than our 2018 AMP forecast. Consumer connection expenditure has increased due to a higher than forecasted number of customer connections and higher connection costs. Additionally, the development of our Enterprise Resource Planning (ERP) system has seen an increase in forecast non-network expenditures.

Our updated operational expenditure forecast is broadly aligned with the 2018 AMP forecast.

A summary of forecast capital expenditure (CAPEX) and forecast operational expenditure (OPEX) over the planning period is provided in the figures below. A more detailed summary of forecast expenditure is provided as part of the schedules in Section 4.

The graphs that follow show forecast expenditures in 2019 constant-dollar terms to 2028/29.

3.2 CAPITAL EXPENDITURE

The capital expenditure forecast has increased slightly over the period. Reasons for change in expenditure are:

- An increase in volume and cost of customer connections. Customer growth continues to be stronger than forecasted. We are also seeing higher connection costs, which we are working to reduce offset.
- Non-network capex is higher over the period, driven by the development of an ERP system and the capitalisation of leases.

Figure 1 shows the difference in our forecasts previously disclosed in our 2017 (Update) and 2018 AMPs, and the actuals since RY15 (converted into 2019 constant-dollar terms).

Figure 1: Comparison of Capital Expenditure (constant $)

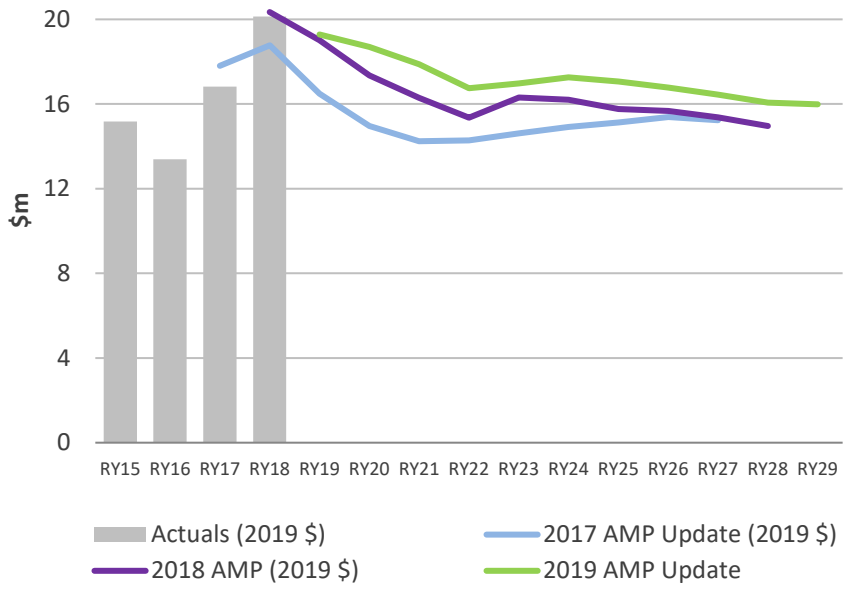
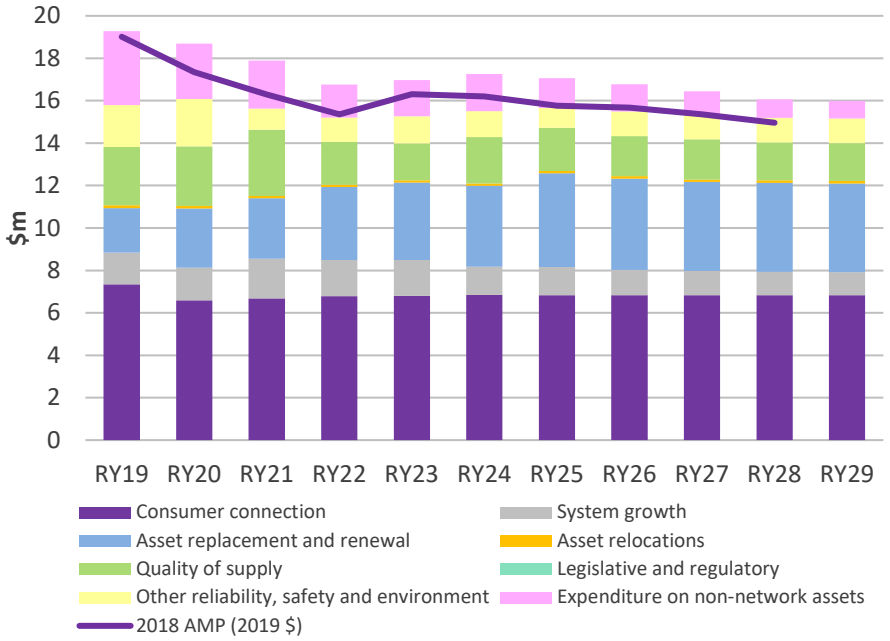


Figure 2 below shows the summary of capital expenditure broken down in the different categories. The 2018 AMP forecast have been added for comparison purposes.

Figure 2: 2019 AMP Update Capital Expenditure Summary (constant $)



3.3 OPERATIONAL EXPENDITURE

The operational expenditure over the planning period is broadly aligned with previous forecasts, being between our 2017 AMP Update and 2018 AMP forecasts.

The increase since 2018 is driven primarily by business support costs. We expect the level of expenditure to decrease over the planning period.

Figure 3 below shows the revised operational expenditure forecast.

Figure 3: Comparison of Operational Expenditure (constant $)

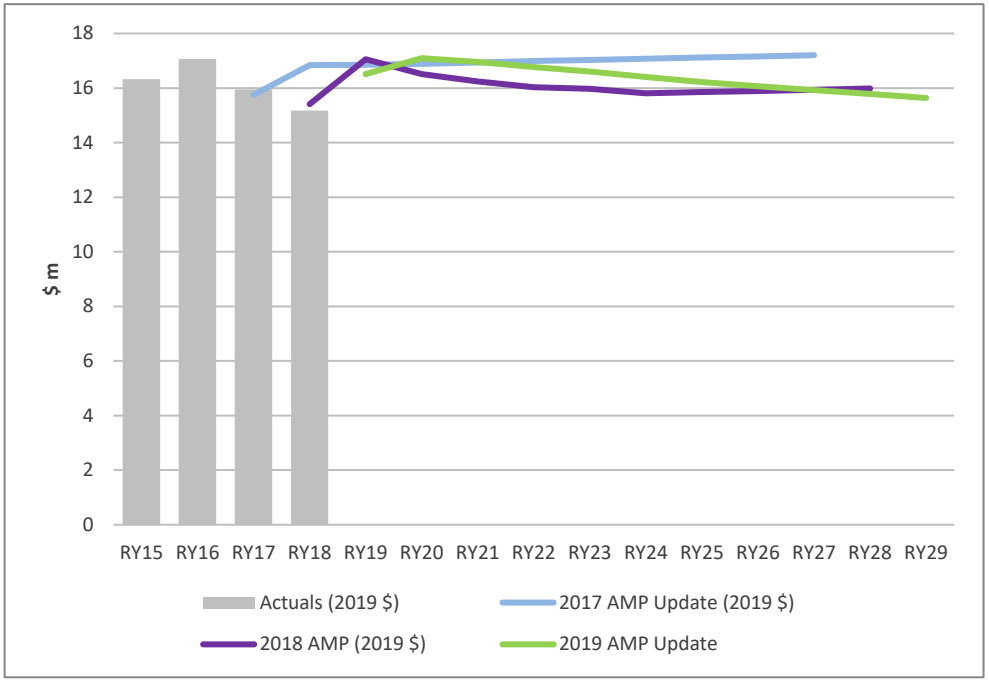
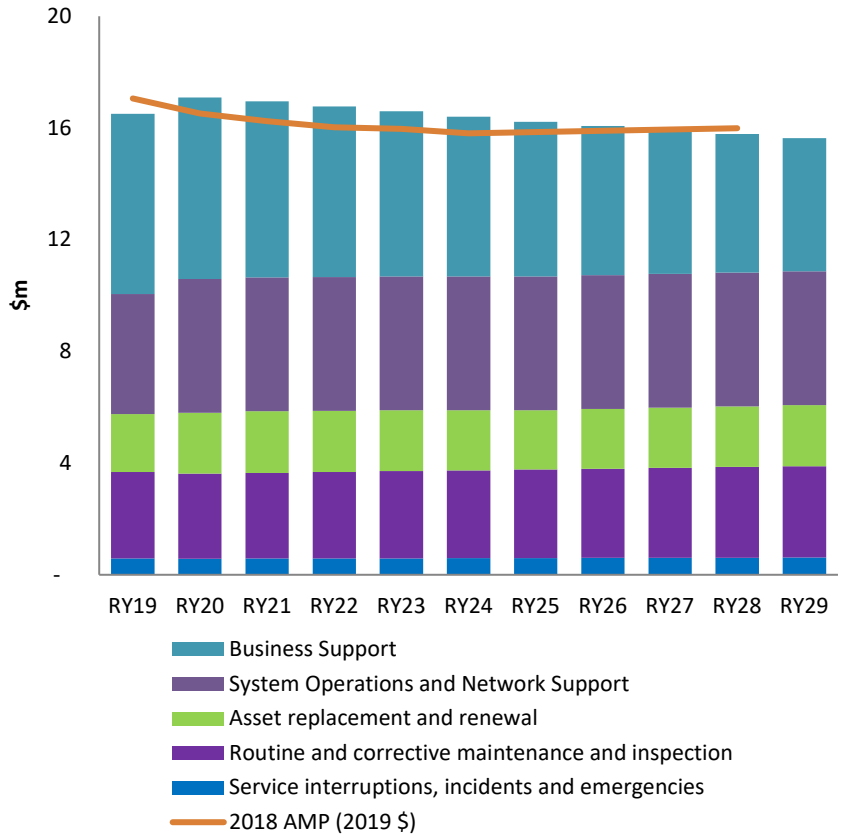


Figure 4 below shows the summary of operational expenditure broken down in the different categories. The 2018 AMP forecast have been added for comparison purposes.

Figure 4: 2019 AMP Operational Expenditure Summary (constant $)



4 SCHEDULES

Company Name: **Powerco Limited**

AMP Planning Period: **1 October 2019 – 30 September 2029**

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)

GDBs 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
8		for year ended	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26	30 Sep 27	30 Sep 28	30 Sep 29
9	**11a(i): Expenditure on Assets Forecast**		**$000 (nominal dollars)**										
10		Consumer connection	7,339	6,716	6,933	7,176	7,347	7,538	7,680	7,829	7,990	8,149	8,311
11		System growth	1,504	1,561	1,943	1,803	1,814	1,475	1,494	1,367	1,331	1,314	1,311
12		Asset replacement and renewal	2,091	2,852	2,946	3,758	3,945	4,071	4,954	4,926	4,900	4,997	5,097
13		Asset relocations	139	116	118	121	123	125	128	130	133	136	138
14		Reliability, safety and environment:											
15		Quality of supply	2,745	2,859	3,231	2,138	1,992	2,289	2,283	2,170	2,215	2,126	2,168
16		Legislative and regulatory	0	0	0	0	0	0	0	0	0	0	0
17		Other reliability, safety and environment	1,974	2,277	1,037	1,205	1,376	1,340	1,052	1,328	1,355	1,382	1,409
18		**Total reliability, safety and environment**	4,719	5,136	4,268	3,344	3,368	3,629	3,335	3,498	3,570	3,508	3,578
19		**Expenditure on network assets**	15,792	16,381	16,208	16,202	16,598	16,838	17,592	17,751	17,923	18,104	18,435
20		Expenditure on non-network assets	3,493	2,664	2,347	1,645	1,844	1,932	1,589	1,475	1,297	1,040	1,003
21		**Expenditure on assets**	19,285	19,045	18,555	17,847	18,442	18,770	19,181	19,226	19,220	19,144	19,438
22													
23	*plus*	Cost of financing	58	67	66	66	68	69	72	73	74	82	91
24	*less*	Value of capital contributions	880	816	879	885	902	882	898	898	909	923	938
25	*plus*	Value of vested assets	0	0	0	0	0	0	0	0	0	0	0
26		**Capital expenditure forecast**	18,462	18,295	17,742	17,028	17,607	17,958	18,356	18,401	18,385	18,303	18,592
27													
28		Assets commissioned	18,690	18,320	17,825	17,135	17,520	17,905	18,296	18,394	18,387	18,316	18,548
29													
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	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26	30 Sep 27	30 Sep 28	30 Sep 29
32			**$000 (in constant prices)**										
33		Consumer connection	7,339	6,594	6,681	6,779	6,804	6,844	6,837	6,833	6,836	6,836	6,835
34		System growth	1,504	1,533	1,872	1,704	1,680	1,340	1,330	1,193	1,139	1,103	1,078
35		Asset replacement and renewal	2,091	2,800	2,839	3,550	3,654	3,696	4,410	4,299	4,192	4,192	4,191
36		Asset relocations	139	114	114	114	114	114	114	114	114	114	114
37		Reliability, safety and environment:											
38		Quality of supply	2,745	2,807	3,114	2,020	1,845	2,079	2,033	1,894	1,895	1,784	1,783
39		Legislative and regulatory	0	0	0	0	0	0	0	0	0	0	0
40		Other reliability, safety and environment	1,974	2,236	999	1,139	1,275	1,217	937	1,159	1,159	1,159	1,159
41		**Total reliability, safety and environment**	4,719	5,043	4,113	3,159	3,120	3,295	2,969	3,053	3,055	2,943	2,942
42		**Expenditure on network assets**	15,792	16,083	15,619	15,306	15,372	15,289	15,660	15,492	15,335	15,187	15,161
43		Expenditure on non-network assets	3,493	2,615	2,262	1,554	1,708	1,754	1,415	1,287	1,110	872	825
44		**Expenditure on assets**	19,285	18,699	17,881	16,860	17,080	17,043	17,075	16,779	16,445	16,059	15,986
45	**Subcomponents of expenditure on assets (where known)**												
46		Research and development	0	0	0	0	0	0	0	0	0	0	0

Company Name: **Powerco Limited**

AMP Planning Period: **1 October 2019 – 30 September 2029**

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)

GDBs 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												
48		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
49	for year ended	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26	30 Sep 27	30 Sep 28	30 Sep 29
50	**Difference between nominal and constant price forecasts**	**$000**										
51	Consumer connection	0	122	252	397	543	694	843	996	1,154	1,313	1,476
52	System growth	0	28	71	100	134	136	164	174	192	212	233
53	Asset replacement and renewal	0	52	107	208	291	375	544	627	707	805	905
54	Asset relocations	0	2	4	7	9	12	14	17	19	22	25
55	Reliability, safety and environment:											
56	Quality of supply	0	52	117	118	147	211	251	276	320	343	385
57	Legislative and regulatory	0	0	0	0	0	0	0	0	0	0	0
58	Other reliability, safety and environment	0	41	38	67	102	123	116	169	196	223	250
59	**Total reliability, safety and environment**	0	93	155	185	249	334	366	445	515	565	635
60	**Expenditure on network assets**	0	298	588	896	1,226	1,549	1,932	2,259	2,588	2,918	3,274
61	Expenditure on non-network assets	0	48	85	91	136	178	175	188	187	168	178
62	**Expenditure on assets**	0	346	674	987	1,362	1,727	2,106	2,447	2,775	3,085	3,452
63												
64												

65		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
66	**11a(ii): Consumer Connection** for year ended	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24
67	*Consumer types defined by GDB**	**$000 (in constant prices)**					
68	Residential / Small Commercial	6,673	6,307	6,387	6,481	6,507	6,548
69	Commercial / Industrial	666	287	294	298	297	296
70							
71							
72							
73	** include additional rows if needed*						
74	**Consumer connection expenditure**	7,339	6,594	6,681	6,779	6,804	6,844
75	*less* Capital contributions funding consumer connection	596	536	543	551	553	556
76	**Consumer connection less capital contributions**	6,742	6,058	6,138	6,228	6,251	6,288

Company Name: **Powerco Limited**

AMP Planning Period: **1 October 2019 – 30 September 2029**

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)

GDBs 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							
77	**11a(iii): System Growth**						
78	**Intermediate pressure**						
79	Main pipe	0	0	0	0	0	0
80	Service pipe	0	0	0	0	0	0
81	Stations	171	128	252	197	0	0
82	Line valve	0	0	0	0	0	0
83	Special crossings	0	0	0	0	0	0
84	**Intermediate Pressure total**	171	128	252	197	0	0
85	**Medium pressure**						
86	Main pipe	1,219	1,308	1,620	1,507	1,680	1,340
87	Service pipe	108	91	0	0	0	0
88	Stations	0	0	0	0	0	0
89	Line valve	3	3	0	0	0	0
90	Special crossings	1	1	0	0	0	0
91	**Medium Pressure total**	1,330	1,403	1,620	1,507	1,680	1,340
92	**Low Pressure**						
93	Main pipe	2	2	0	0	0	0
94	Service pipe	1	1	0	0	0	0
95	Line valve	0	0	0	0	0	0
96	Special crossings	0	0	0	0	0	0
97	**Low Pressure total**	3	2	0	0	0	0
98	**Other network assets**						
99	Monitoring and control systems	0	0	0	0	0	0
100	Cathodic protection systems	0	0	0	0	0	0
101	Other assets (other than above)	0	0	0	0	0	0
102	**Other network assets total**	0	0	0	0	0	0
103							
104	**System growth expenditure**	1,504	1,533	1,872	1,704	1,680	1,340
105	*less* Capital contributions funding system growth	166	169	207	188	186	148
106	**System growth less capital contributions**	1,338	1,364	1,666	1,515	1,495	1,192
107							
108							

Company Name: **Powerco Limited**

AMP Planning Period: **1 October 2019 – 30 September 2029**

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)

GDBs 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.

11a(iv): Asset Replacement and Renewal

sch ref	for year ended	Current Year CY 30 Sep 19	CY+1 30 Sep 20	CY+2 30 Sep 21	CY+3 30 Sep 22	CY+4 30 Sep 23	CY+5 30 Sep 24
111	**Intermediate pressure**	**$000 (in constant prices)**					
112	Main pipe	0	0	8	22	22	22
113	Service pipe	0	0	3	10	10	10
114	Stations	27	134	336	785	783	837
115	Line valve	3	0	0	0	0	0
116	Special crossings	0	0	0	0	0	0
117	**Intermediate Pressure total**	29	134	347	818	815	869
118	**Medium pressure**						
119	Main pipe	1,147	1,269	1,307	1,600	1,594	1,591
120	Service pipe	531	714	869	1,004	1,000	998
121	Station	40	239	0	0	0	0
122	Line valve	38	0	2	6	6	6
123	Special crossings	0	0	0	1	1	1
124	**Medium Pressure total**	1,756	2,222	2,179	2,611	2,602	2,597
125	**Low Pressure**						
126	Main pipe	0	0	1	4	4	4
127	Service pipe	0	0	1	2	2	2
128	Line valve	0	0	0	0	0	0
129	Special crossings	0	0	0	0	0	0
130	**Low Pressure total**	0	0	2	6	5	5
131	**Other network assets**						
132	Monitoring and control systems	0	0	0	0	0	0
133	Cathodic protection systems	307	444	311	116	232	224
134	Other assets (other than above)	0	0	0	0	0	0
135	**Other network assets total**	307	444	311	116	232	224
136							
137	**Asset replacement and renewal expenditure**	2,091	2,800	2,839	3,550	3,654	3,696
138	*less* Capital contributions funding asset replacement and renewal	0	0	0	0	0	0
139	**Asset replacement and renewal less capital contributions**	2,091	2,800	2,839	3,550	3,654	3,696
140							

Company Name: **Powerco Limited**

AMP Planning Period: **1 October 2019 – 30 September 2029**

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)

GDBs 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

11a(v): Asset Relocations

	*Project or programme**							
143	None							
144								
145								
146								
147								
148		** include additional rows if needed*						
149		All other projects or programmes - asset relocations	139	114	114	114	114	114
150		**Asset relocations expenditure**	139	114	114	114	114	114
151	*less*	Capital contributions funding asset relocations	118	97	97	97	97	97
152		**Asset relocations less capital contributions**	21	17	17	17	17	17
153								

11a(vi): Quality of Supply

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
	for year ended	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24
157	*Project or programme**	**$000 (in constant prices)**					
158	Wellington CBD Pressure Upgrade	1,764	2,554	1,546	0	0	0
159	Havelock North Reinforcement	56	112	782	0	0	0
160	Westchester Drive Overlay - Churton Park	0	0	56	449	0	0
161	Westown Capacity Reinforcement - Ferndale (Taranaki)	348	0	0	0	0	0
162	Mark Ave Overlay - Grenada	0	0	0	0	56	126
163	Kelson additional point of supply (HVP)	0	0	0	0	0	223
164	** include additional rows if needed*						
165	All other projects or programmes - quality of supply	577	141	730	1,571	1,789	1,730
166	**Quality of supply expenditure**	2,745	2,807	3,114	2,020	1,845	2,079
167	*less* Capital contributions funding quality of supply	0	0	0	0	0	0
168	**Quality of supply less capital contributions**	2,745	2,807	3,114	2,020	1,845	2,079
169							

11a(vii): Legislative and Regulatory

	Project or programme						
172	None						
173							
174							
175							
176							
177	** include additional rows if needed*						
178	All other projects or programmes - legislative and regulatory	0	0	0	0	0	0
179	**Legislative and regulatory expenditure**	0	0	0	0	0	0
180	*less* Capital contributions funding legislative and regulatory	0	0	0	0	0	0
181	**Legislative and regulatory less capital contributions**	0	0	0	0	0	0

Company Name: **Powerco Limited**

AMP Planning Period: **1 October 2019 – 30 September 2029**

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)

GDBs 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							
182	**11a(viii): Other Reliability, Safety and Environment**						
183	*Project or programme**						
184	HB Valves Safety Improvement	158	0	0	0	0	0
185	DRS SCADA & Flow measurement	0	167	335	337	335	335
186	Isolation plans and resilience	253	236	201	269	268	268
187	DRS Renewals	855	1,825	463	140	0	0
188	Palmerston North Rationalisation	0	0	0	280	559	279
189	** include additional rows if needed*						
190	All other projects or programmes - other reliability, safety and environment	708	8	0	112	112	335
191	**Other reliability, safety and environment expenditure**	1,974	2,236	999	1,139	1,275	1,217
192	*less* Capital contributions funding other reliability, safety and environment	0	0	0	0	0	0
193	**Other Reliability, safety and environment less capital contributions**	1,974	2,236	999	1,139	1,275	1,217
194							
195	**11a(ix): Non-Network Assets**						
196	**Routine expenditure**						
197	*Project or programme**						
198	ICT capex	2,484	2,019	1,829	1,174	1,318	1,188
199	Facilities capex	371	306	266	246	282	259
200							
201							
202							
203	** include additional rows if needed*						
204	All other projects or programmes - routine expenditure	0	0	0	0	0	0
205	**Routine expenditure**	2,855	2,325	2,095	1,420	1,600	1,448
206	**Atypical expenditure**						
207	*Project or programme**						
208	Facilities capex	638	290	167	134	108	307
209							
210							
211							
212							
213	** include additional rows if needed*						
214	All other projects or programmes - atypical expenditure	0	0	0	0	0	0
215	**Atypical expenditure**	638	290	167	134	108	307
216							
217	**Expenditure on non-network assets**	3,493	2,615	2,262	1,554	1,708	1,754

Company Name	Powerco Limited
AMP Planning Period	1 October 2019 – 30 September 2029

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.
GDBs 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												
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	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26	30 Sep 27	30 Sep 28	30 Sep 29
9	Operational Expenditure Forecast	$000 (in nominal dollars)										
10	Service interruptions, incidents and emergencies	585	587	602	619	637	655	673	692	711	731	751
11	Routine and corrective maintenance and inspection	3,090	3,108	3,185	3,277	3,372	3,466	3,563	3,662	3,765	3,870	3,978
12	Asset replacement and renewal	2,081	2,215	2,296	2,318	2,351	2,366	2,380	2,447	2,515	2,585	2,657
13	**Network opex**	5,757	5,909	6,082	6,213	6,360	6,487	6,616	6,801	6,991	7,186	7,386
14	System operations and network support	4,294	4,879	4,973	5,071	5,172	5,275	5,381	5,488	5,598	5,710	5,824
15	Business support	6,460	6,621	6,539	6,469	6,392	6,310	6,221	6,127	6,026	5,919	5,805
16	**Non-network opex**	10,755	11,501	11,513	11,540	11,564	11,585	11,602	11,615	11,624	11,629	11,629
17	**Operational expenditure**	16,511	17,410	17,595	17,753	17,924	18,071	18,218	18,416	18,614	18,814	19,015

18		Current year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
19	for year ended	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26	30 Sep 27	30 Sep 28	30 Sep 29
20		$000 (in constant prices)										
21	Service interruptions, incidents and emergencies	585	576	580	585	590	594	599	604	608	613	618
22	Routine and corrective maintenance and inspection	3,090	3,051	3,069	3,095	3,123	3,147	3,172	3,196	3,221	3,246	3,271
23	Asset replacement and renewal	2,081	2,174	2,212	2,189	2,178	2,148	2,119	2,135	2,152	2,169	2,185
24	**Network opex**	5,757	5,802	5,861	5,869	5,891	5,890	5,889	5,935	5,981	6,028	6,075
25	System operations and network support	4,294	4,791	4,793	4,791	4,790	4,790	4,790	4,790	4,790	4,790	4,790
26	Business support	6,460	6,501	6,302	6,111	5,920	5,729	5,538	5,347	5,156	4,965	4,774
27	**Non-network opex**	10,755	11,292	11,095	10,901	10,710	10,519	10,328	10,137	9,946	9,755	9,563
28	Operational expenditure	16,511	17,094	16,956	16,771	16,600	16,409	16,217	16,072	15,927	15,782	15,638
29	Subcomponents of operational expenditure (where known)											
30	Research and development	0	0	0	0	0	0	0	0	0	0	0
31	Insurance	95	96	98	100	102	104	106	108	110	112	114
32												

33		Current year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
34	for year ended	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26	30 Sep 27	30 Sep 28	30 Sep 29
35	**Difference between nominal and real forecasts**	$000										
36	Service interruptions, incidents and emergencies	0	11	22	34	47	60	74	88	103	118	133
37	Routine and corrective maintenance and inspection	0	56	116	181	249	319	391	466	544	624	706
38	Asset replacement and renewal	0	40	83	128	174	218	261	311	363	417	472
39	**Network opex**	0	107	221	344	470	597	727	866	1,009	1,158	1,312
40	System operations and network support	0	89	181	281	382	485	591	698	808	920	1,034
41	Business support	0	120	237	358	472	581	683	780	870	954	1,031
42	**Non-network opex**	0	209	418	638	854	1,066	1,274	1,478	1,678	1,874	2,065
43	**Operational expenditure**	0	316	639	982	1,324	1,663	2,001	2,344	2,688	3,032	3,377

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2019 – 30 September 2029**

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.

sch ref

					Asset condition at start of planning period (percentage of units by grade)						
8	**Operating Pressure**	**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**
9	Intermediate Pressure	Main pipe	IP PE main pipe	km	-	-	0.00%	99.30%	0.70%	3	-
10	Intermediate Pressure	Main pipe	IP steel main pipe	km	-	-	79.81%	0.31%	19.88%	3	-
11	Intermediate Pressure	Main pipe	IP other main pipe	km	-	-	21.55%	-	78.45%	3	-
12	Intermediate Pressure	Service pipe	IP PE service pipe	km	-	-	65.59%	31.71%	2.70%	3	-
13	Intermediate Pressure	Service pipe	IP steel service pipe	km	-	0.03%	23.42%	0.71%	75.84%	3	0.03%
14	Intermediate Pressure	Service pipe	IP other service pipe	km	-	-	93.65%	1.80%	4.55%	3	-
15	Intermediate Pressure	Stations	Intermediate pressure DRS	No.	0.67%	4.03%	78.52%	16.78%	-	3	4.70%
16	Intermediate Pressure	Line valve	IP line valves	No.	0.14%	0.18%	41.10%	11.38%	47.20%	3	0.23%
17	Intermediate Pressure	Special crossings	IP crossings	No.	-	-	94.67%	0.95%	4.38%	3	-
18	Medium Pressure	Main pipe	MP PE main pipe	km	0.14%	0.02%	91.46%	7.68%	0.70%	3	0.16%
19	Medium Pressure	Main pipe	MP steel main pipe	km	0.69%	0.02%	79.26%	0.15%	19.88%	3	0.70%
20	Medium Pressure	Main pipe	MP other main pipe	km	-	-	21.54%	0.01%	78.45%	3	-
21	Medium Pressure	Service pipe	MP PE service pipe	km	-	0.10%	84.63%	12.57%	2.70%	3	0.10%
22	Medium Pressure	Service pipe	MP steel service pipe	km	0.07%	0.06%	23.99%	0.03%	75.84%	3	0.13%
23	Medium Pressure	Service pipe	MP other service pipe	km	-	0.02%	94.82%	0.61%	4.55%	3	0.02%
24	Medium Pressure	Stations	Medium pressure DRS	No.	1.54%	9.23%	78.46%	7.69%	3.08%	3	10.77%
25	Medium Pressure	Line valve	MP line valves	No.	-	0.19%	33.38%	19.05%	47.38%	3	0.09%
26	Medium Pressure	Special crossings	MP special crossings	No.	-	0.72%	90.69%	2.41%	6.18%	3	0.36%
27	Low Pressure	Main pipe	LP PE main pipe	km	-	0.02%	86.26%	13.02%	0.70%	3	0.02%
28	Low Pressure	Main pipe	LP steel main pipe	km	-	-	79.97%	0.15%	19.88%	3	-
29	Low Pressure	Main pipe	LP other main pipe	km	-	-	6.62%	14.93%	78.45%	3	-
30	Low Pressure	Service pipe	LP PE service pipe	km	-	1.29%	85.12%	10.88%	2.70%	3	1.29%
31	Low Pressure	Service pipe	LP steel service pipe	km	-	-	23.77%	0.38%	75.84%	3	-
32	Low Pressure	Service pipe	LP other service pipe	km	-	-	79.39%	16.06%	4.55%	3	-
33	Low Pressure	Line valve	LP line valves	No.	-	0.08%	35.56%	15.47%	48.89%	3	0.04%
34	Low Pressure	Special crossings	LP special crossings	No.	-	-	99.41%	-	0.59%	3	-
35	All	Monitoring and control systems	Remote terminal units	No.	-	32.62%	51.06%	16.31%	-	4	-
36	All	Cathodic protection systems	Cathodic protection	No.	-	31.15%	40.98%	16.39%	11.48%	3	7.79%

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2019 – 30 September 2029**

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref

Forecast Utilisation of Heavily Utilised Pipelines

Utilisation

Region	Network	Pressure system	Nominal operating pressure (NOP) (kPa)	Minimum operating pressure (MinOP) (kPa)	Total capacity at MinOP (scmh)	Remaining capacity at MinOP (scmh)	Unit	*Current Year CY* y/e 30 Sep 19	*CY+1* y/e 30 Sep 20	*CY+2* y/e 30 Sep 21	*CY+3* y/e 30 Sep 22	*CY+4* y/e 30 Sep 23	*CY+5* y/e 30 Sep 24	Comment
Hawkes Bay	Hastings	Hastings LMP	150	75	1,390	28.2	scmh	1,392	1,428	1,465	1,487	1,508	1,519	This subsystem currently experiences droop higher than 40%, with strong growth projected in the form of additional subdivisions. We expect the subsystem to reach 50% droop this winter. In FYE2021 the proposed upgrade is to extend IP from the gas gate to improve supply into Havelock North. A pressure uplift may subsequently be required beyond FYE2024, with the timing depending upon the rate and extent of residential growth.
							kPa	73	69	113	111	110	108	
Hawkes Bay	Hastings	Taradale	150	75	779	38.5	scmh	759	837	883	904	926	948	Unexpectedly strong commercial growth has resulted in demand exceeding previous projections. Droop is expected to exceed 50% of NOP by RYE2020. The pressure uplift is scheduled for FYE2022. The desired NOP after uplift is at least 300kPa to meet long term council residential growth projections.
							kPa	84	64	53	251	251	250	
Hutt Valley/Porirua	Belmont	Belmont LIP	860	430	16,247	148	scmh	16,364	16,516	16,649	16,779	16,890	17,006	Current low pressures IP pressures are localised to a single branch of the network. Rapid residential development and high gas uptake in Upper Hutt near the end of this IP branch have necessitated a transfer of load to a less constrained branch of the LIP. Works to transfer some of this load will be completed by FYE2020.
							kPa	240	370	520	507	477	446	
Hutt Valley/Porirua	Belmont	Lower Hutt LMP	125	63	7,110	104	scmh	7,117	7,117	7,140	7,140	7,140	7,140	The low pressure constraint on this subsystem is limited to a single branch of the Lower Hutt LMP subsystem. We permanently monitor the lowest point on the constrained branch. Strong infill residential growth in Lower Hutt central may cause a decline in pressure at this extremity. In the event of a decline in pressures a new cocon in Lower Hutt Central will improve pressures.
							kPa	61	61	61	61	61	61	
Hutt Valley/Porirua	Waitangirua/ Pauatahanui	Pauatahanui IP	1,000	500	1,244	85	scmh	1,197	1,151	1,228	1,229	1,358	1,474	In RY20 tie-ins in Aotea within the Porirua MP network will transfer more load to the Waitangirua IP. Expected residential growth around Plimmerton will necessitate a reduction in the Plimmerton DRS setpoint pressure to shift load to other stations. In RY23 a gas gate pressure uplift to 1500kPa will improve the pressures further as more load connects
							kPa	602	673	635	703	1,162	1,011	
Manawatu	Palmerston North	Palmerston North LMP	100	50	5828.852	80.7	scmh	5,833	5,920	5,984	6,024	6,089	6,118	To address low pressures in the extremities of Hokowhitu a constrained regulator station on Victoria/Main St will be replaced and a new road crossing shall be installed. The replacement will enable the retirement of the Princess St station which is near the end of its asset life. This is scheduled for completion in FYE2022. The next lowest pressure in the subsystem is in the West of Palmerston North in Highbury. Plans to
							kPa	49	47	47	56	56	55	
Manawatu	Palmerston North	Summerhill	100	50	508	-287	scmh	416	484	520	556	592	628	As the biggest identified area for growth in Palmerston North, we will actively monitor demand and pressure levels. We plan to raise the NOP to approximately 150kPa around RYE2023 if the growth happens as modelled.
							kPa	71	63	57	54	117	112	
Taranaki	Manaia	Manaia	330	165	181.3	20	scmh	160	160	160	160	160	160	Gas gate volumes through Manaia have been slowly trending down for the last decade, hence the improvement compared to historical AMP figures.. Recent monitoring indicates that peak droop is less than 40%.
							kPa	205	205	205	205	205	205	
Taranaki	New Plymouth	Bell Block North	225	112.5	828.107	42.4	scmh	787	833	869	905	941	977	The Nugent St tie-ins are complete, the tie-ins combined with a regulator station pressure re-balancing has improved pressures in the subsystem. Strong residential growth will see droop return to MINOP, on this basis further upgrades are recommended in 2023. Upgrades are proposed as a
							kPa	148	143	140	136	161	160	
Taranaki	New Plymouth	New Plymouth IP	1250	625	7490	428	scmh	7,458	7,568	7,671	7,754	7,837	7,920	Pressures at the inlet to Tukapa St station are observed near 50% droop on occasion. This is not forecast to have any quality of supply impact in the forseeable future as the regualtor station is adequately sized to perform
							kPa	642	620	606	598	591	583	

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2019 – 30 September 2029**

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref

Forecast Utilisation of Heavily Utilised Pipelines

Utilisation

Region	Network	Pressure system	Nominal operating pressure (NOP) (kPa)	Minimum operating pressure (MinOP) (kPa)	Total capacity at MinOP (scmh)	Remaining capacity at MinOP (scmh)	Unit	*Current Year CY* y/e 30 Sep 19	*CY+1* y/e 30 Sep 20	*CY+2* y/e 30 Sep 21	*CY+3* y/e 30 Sep 22	*CY+4* y/e 30 Sep 23	*CY+5* y/e 30 Sep 24	Comment
Taranaki	New Plymouth	New Plymouth MP	250	125	5447.629	51.9	scmh	5,462	5,507	5,567	5,592	5,592	5,643	There is a single branch of this network where low pressures have been detected. The localised constraint is due to a relatively long run of a relatively low diameter main supplying industrial customers near Port Taranaki. Pressure monitoring is performed regularly. The remainder of the network has pressures within specifications, even considering reasonable residential demand growth.
							kPa	109	108	107	107	107	107	
Taranaki	Patea	Patea	350	175	343	57	scmh	355	355	355	355	355	355	Gas gate volumes through Patea have been slowly trending down for the the last 5 years, hence the improvement compared to historical AMP figures. Montoring is ongoing.
							kPa	154	154	154	154	154	154	
Taranaki	Waitara	Waitara MP	250	125	758	21	scmh	751	751	751	767	783	798	The supplies to Lepperton and Waitara have been separated. The supply pressure in Lepperton was increased to ease supply constraints in that network. The current Waitara network extremity of the droop is approximately 40%. Monitoring is ongoing. The droop is not projected to
							kPa	136	136	136	133	130	126	
Wellington	Tawa A	Chartwell	70	35	221.5	31.8	scmh	163	187	210	227	227	227	The new Crofton Downs subdivision will constrain this network, and we expect that our pressure threshold will be reached in RY2022. We will monitor the pressure and demand on the network, and increase the NOP in RY2023 if needed.
							kPa	63	55	44	33	69	69	
Wellington	Tawa A	Karori	130	65	1755.6	27.6	scmh	1,757	1,757	1,757	1,757	1,757	1,757	Pressures measured through our monitoring programme are better than previously modelled. We will continue to actively monitor this network.
							kPa	63	63	63	63	63	63	
Wellington	Tawa A	Wellington 25 kPa	25	12.5	10392.45	34.25	scmh	10,387	10,433	11,349	12,838	12,838	12,838	The Wellington CBD pressure upgrade project will increase the performance of this system. Development in the suburb of Island Bay might lower pressures locally. We will continue to actively monitor pressures in these areas.
							kPa	13	13	13	9	9	9	
Wellington	Tawa A	Wellington CBD	10	5	2210	113	scmh	2,284	2,284	1,377	-	-	-	The Wellington CBD upgrade project will connect this network to the Wellington 25kPa. The Wellington CBD (LP) pressure system will then cease to exist in RY22.
							kPa	4	4	5	NA	NA	NA	
Wellington	Tawa A	Wellington LIP	1200	600	25905	257.7	scmh	26,107	26,324	26,520	26,821	26,976	26,997	The low point on this system is Karori. The Minimum Operating Pressure has been reviewed and set to 300kPa. We will continue to monitor through SCADA.
							kPa	414	404	399	380	375	374	
Wellington	Tawa A	Wellington North	185	92.5	4948.3	92.3	scmh	4,976	5,123	5,288	5,467	5,622	5,643	Subdivision activity in the region will increase demand. We expect constraints in Grenada North, Woodridge and Churton Park over the planning period. We will reinforce with several overlays described in the Network Plans. This system is being continuously monitored.
							kPa	41	41	42	33	32	32	

** Current year utilisation figures may be estimates. Year 1–5 figures show the utilisation forecast to occur given the expected system configuration for each year, including the effect of any new investment in the pressure system.*

Disclaimer for supply enquiries

The information in this table contains modelled estimates of utilisation and capacity. Any interested party seeking to invest in supply from Powerco's distribution networks should contact Powerco or their retailer and confirm availability of capacity.

Notes and assumptions

Growth patterns used are outlined in the 2018 Gas AMP, reflecting our knowledge at the time of writing.
If the growth was expected to spread over multiple years, it was uniformly spread over life.
The number of lots identified in the 2018 Gas AMP was multiplied by 0.6scm/h to calculate a diversified load per connection. This was summed and placed at a single point in the model where the load is expected to occur.
If the growth specified in the 2018 Gas AMP was inferior to our other supply forecasts, we would reconcile these by adding the load at one extremity of the network.

Company Name	Powerco
AMP Planning Period	1 October 2019 - 30 September 2029

SCHEDULE 12c: REPORT ON FORECAST 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 GDB	*Current year CY 2019*	*CY+1 2020*	*CY+2 2021*	*CY+3 2022*	*CY+4 2023*	*CY+5 2024*
Residential	2,120	1,799	1,824	1,844	1,858	1,873
Commercial / Industrial	100	103	103	104	104	104
Total	2,220	1,901	1,927	1,947	1,962	1,977

12c(ii): Gas Delivered

	Current year CY 2019	*CY+1 2020*	*CY+2 2021*	*CY+3 2022*	*CY+4 2023*	*CY+5 2024*
Number of ICPs at year end (at year end)	110,244	111,706	113,094	114,451	115,774	117,062
Maximum daily load (GJ per day)	43,231	43,524	43,428	43,331	43,235	43,138
Maximum monthly load (GJ per month)	982,671	989,336	987,141	984,946	982,751	980,556
Number of directly billed ICPs (at year end)	-	-	-	-	-	-
Total gas conveyed (GJ per annum)	8,614,579	8,612,706	8,648,490	8,684,274	8,720,058	8,755,842
Average daily delivery (GJ per day)	23,602	23,532	23,694	23,793	23,891	23,923
Load factor	73.05%	72.55%	73.01%	73.48%	73.94%	74.41%

Schedule 14a: Mandatory Explanatory Notes on Forecast Information

1. This Schedule requires GDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.

2. This Schedule is mandatory—GDBs 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 disclosure year and the 10 year planning period, as disclosed in Schedule 11a.

Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts
The index used to translate nominal $ forecasts into constant $ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from June 2017. For example, the index used for the year ending 30 September 2018 is based on the annual average movement using CPI predictions (actuals where available) as follows: (Q1 RY19 + Q2 RY19 + Q3 RY19 + Q4 RY19)/(Q1 RY18 + Q2 RY18 + Q3 RY18 + Q4 RY18).

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 disclosure year, as disclosed in Schedule 11b.

Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts
The index used to translate nominal $ forecasts into constant $ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from June 2017. For example, the index used for the year ending 30 September 2018 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY19 + Q2 RY19 + Q3 RY19 + Q4 RY19)/(Q1 RY18 + Q2 RY18 + Q3 RY18 + Q4 RY18).

CERTIFICATE FOR YEAR-BEGINNING DISCLOSURES

Pursuant to clause 2.9.1 of Section 2.9

John Loughlin
Director

We, Michael Gamman and _____, being directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

a) the following attached information of Powerco Limited prepared for the purposes of clauses 2.6.3, 2.6.6 and 2.7.2 of the Gas 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 and 12c are based on objective and reasonable assumptions which both align with Powerco Limited's corporate vision and strategy and are documented in retained records.

Director

22/8/19
Date

Director

22/8/19
Date