

Infrastructure Capacity – Housing and Business Assessment (HBA) Reporting template

Infrastructure Service Provider: Chorus New Zealand Ltd

Services provided: Wholesale supplier of Gigabit Passive Optical Network (GPON) fibre telecommunication services.

High level network description:

Provision of telecommunication service to the end customer is a multi operator undertaking, similar to power lines companies and electricity suppliers. Chorus provides wholesale “network line” connectivity between the end customer and Point of Interconnect (POI). The Retail Service Providers (RSP) hands over their service at the POI and manages the end customer.

Handover to Retail Service Providers (RSP) is provided at 7 Crown agreed locations - 6 locations within Wellington Region and Palmerston North.

The RSP is responsible for the link from the hand over point to their routing/switching equipment, and interconnection between RSPs nationwide.

The Chorus network connectivity comprises cable, duct and cabinet or exchange based electronics, to provide GPON equipment (Gigabit Ethernet Passive Optical Network) and routing equipment, between end customer and POI. Multiple cables emanate from GPON locations to clusters of end users within a geographic area.

From the perspective of meeting district wide growth, the network may be considered as being “distributed”.

In general, fibre based telecommunication infrastructure is compact and high density. A single 16mm diameter cable is capable of serving up to 5000 end customers.

The network is built and operated on the basis of meeting regulations agreed with the Crown. A side effect of the regulations is a network typically comprising a distributed network with numerous cables/nodes.

With the exception of Masterton and Carterton District Council areas, multiple exchanges or cabinets are located within the local body area.

Network coverage:

The GPON network covers over 220,000 address points within Wellington Region. The GPON network extends to some smaller rural communities.

Network coverage is depicted by the “blue” areas in the below map (link <https://www.chorus.co.nz/tools-support/broadband-tools/broadband-map>)



Services

Chorus fibre and GPON services are “regulated products”, which are offered as a wholesale product to Retail Service Providers.

The regulatory framework, service agreement and SLA is managed through MBIE.

Link <https://www.mbie.govt.nz/science-and-technology/it-communications-and-broadband/our-role-in-the-ict-sector/>

Forecasts

Prespecified data source: Sense Partners - [Population forecast 2020 to 2051 \(sensepartners.nz\)](https://www.sensepartners.nz/population-forecast-2020-to-2051), 50 Percentile table.

Of the forecast data, “households_number_quartiles.csv” data is used to assess end point demand.

District level forecast demand for households at 50 Percentile:

percentile	percentile_50th								
Sum of total	Column Labels								
Row Labels		2018	2019	2020	2021	2022	2024	2034	2051
Carterton District		4030	4092	4219	4296	4377	4571	5423	6573
Kapiti Coast District		23871	24378	25054	25395	25886	26959	32010	38441
Lower Hutt City		41368	42065	43095	43538	43897	44895	50571	59350
Masterton District		11102	11391	11797	12023	12273	12798	15212	18228
Porirua City		20110	20534	21034	21377	21666	22286	25333	30090
South Wairarapa District		4800	4875	5063	5189	5306	5520	6517	7794
Upper Hutt City		17527	17823	18103	18357	18605	19073	21625	25353
Wellington City		81305	82182	83963	84600	84950	86724	96608	111447
Wellington Region		204113	207340	212328	214775	216960	222826	253299	297276

Development

The fibre network is continually developed and expanded to meet demand within the existing coverage area and coverage grown in accordance with prudent business management.

Inputs to developing the network include demand trends and published (urban) development plans, and the District Plan.

Constraints

The provided high level forecast at District Council level is too granular to identify specific constraints in a somewhat distributed network topology.

Technology and network build allows expansion of network capacity to meet forecast demand.

Incomplete identification of future growth areas can hamper development, and result in over build of routes through newly completed developments.

If not provided at the time of subdivision, retroactively installing fibre optic cables in newly created roads, footpaths and berms will result in unnecessary and disruptive construction activities as well increased costs to the end user. The most appropriate time for fibre infrastructure to be installed for new developments is at the time of subdivision, alongside other services. Therefore, it is important that the provision of fibre to the boundary of new allotments is included as a requirement in the subdivision standards of the District Plan and in the conditions of resource consents granted for new subdivisions

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The purpose of this template is to help identify the nature and type of infrastructure network and capacity to support well-functioning urban areas and changes to growth in residential and business development over the short medium and long term (3 -10 and 30 years). We would like your assistance in providing a succinct narrative (2-3 pages maximum) to feed into our HBA report. The details of the information we need is overleaf.

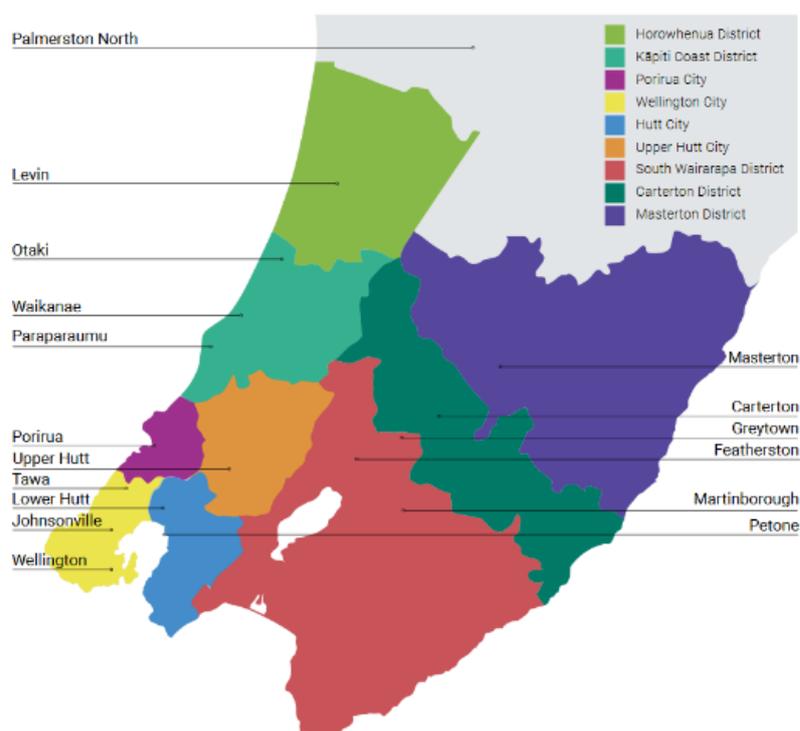
The Wellington Regional Leadership Committee is preparing a Future Development Strategy (FDS) and Housing and Business Development Capacity Assessment (HBA) for the Wellington-Wairarapa-Horowhenua region. These are statutory documents that are required by the National Policy Statement on Urban Development 2020 (NPS-UD). Both a FDS and HBA are required to inform the 2024 Long Term Plan (LTP). In practice this means they need to be complete or near complete by June 2023.

An FDS sets a long-term plan for urban growth, including how to provide for sufficient development capacity to meet expected demand and achieve a ‘well-functioning’ urban environment. The Wairarapa-Wellington-Horowhenua Region has a Growth Framework ([WRGF](#)). The FDS will be an updated version of this.

The HBA is an assessment of whether there is sufficient capacity to meet the demand for housing and business land in urban environments. One of the key inputs of the HBA is understanding infrastructure capacity for our future population. For the purposes of this work, we are using the 50th percentile population projections provided by Sense Partners - [Population forecast 2020 to 2051 \(sensepartners.nz\)](#)

For the FDS we will use this information for our future growth scenarios and then come back to you in the new year to test our thinking based on the information with a workshop.

Map of our region –



Information needs

Name of infrastructure service provider:

- Powerco Gas - visit our website to learn more [Our business \(powerco.co.nz\)](https://www.powerco.co.nz)

Descriptions of services provided:

- Powerco's gas network provides a valuable service to many households and businesses across the North Island of Aotearoa New Zealand, through the distribution of natural gas from the transmission gas gate to the customer. As long-term stewards of the distribution network assets, our aim is to deliver a safe, sustainable, efficient and reliable gas supply for customers. We strive to deliver exceptional service, and this influences our overall attitude, priorities, and day-to-day activities.

Description of the supporting network – including key contextual information of the network and service such as 20 km lines, 2,500 households, 15 pumpstation, 1 wastewater processing plant etc:

- We are one of New Zealand's largest gas distribution utilities with approximately 6000km of pipeline feeding more than 110,000 customers. Our network consists of 35 gas distribution sub-networks over five regions, covering Taranaki, Hutt Valley, Porirua, Wellington, Horowhenua, Manawatū and Hawke's Bay, as shown in Section 3 Figure 3 2022 AMP here [2022-gas-asset-management-plan-update.pdf \(powerco.co.nz\)](#).

Description of any levels of service used to support infrastructure capacity and service provision.

- Refer to Section 3.6 Table 1 (pp18) of the 2022 AMP

Any constraints impacting capacity/levels of service (current and future in light of estimated long-term growth/change)

- Sustainability and managing our green gas future. Refer Section 2.4 (pp10) of 2022 AMP
- Customer gas connections are mainly driven by new residential subdivision growth (Volumes remain at current levels for the next 5 years, in line with consistent customer connection forecasts, and anticipated growth from known new subdivisions). Refer to Section 2.5 (pp11) and Schedule 12b (pp47) of the 2022 AMP - including forecasted projects in the Hutt Valley, Porirua and Manawatu regions
- Regulatory and legislative changes – enabler for the transition to a highly renewable, sustainable and efficient energy system (2050). Refer to Section 2.6 (pp12) of 2022 AMP.

Strategic planning or future investment committed or planned to support network services and manage any current/potential future capacity issues

- Summary of context relating to overall delivery and network capacity to meet current and future growth demand relevant to the service provider area
 - over the short (three years) medium 10 years and long term (30 years) and
 - any key infrastructure and investment as part of future planning and investment that will help provide available capacity to meet needs.
 - A potential table alongside discussion is provided below as an example.

Material Changes to Projects - Powerco Gas 2022 AMP*				
Region	3 Years	10 Years	30 Years	Comments
Wellington	Yes	Yes**	No	<ul style="list-style-type: none"> AMP covers a 10-year planning period from 1 October 2022 to 30 September 2032 Identified projects by region available in the 1–3-year horizon only Trends: <ul style="list-style-type: none"> Some forecasted growth (GRO) projects have been deferred or cancelled until pressure/capacity monitoring shows they are needed Forecasted asset replacement & renewal (ARR) projects remain steady
Hutt Valley Porirua	Yes	Yes*	No	<ul style="list-style-type: none"> Several forecasted growth (GRO) projects have been deferred or cancelled until pressure/capacity monitoring shows they are needed Forecasted ARR projects on track
Hawke's Bay	Yes	Yes*	No	<ul style="list-style-type: none"> One forecasted growth (GRO) project has been deferred or cancelled until pressure/capacity
Manawatu	Yes	Yes*	No	<ul style="list-style-type: none"> One forecasted growth (GRO) project has been deferred or cancelled until pressure/capacity Other projects on track
Taranaki	Yes	Yes*	No	<ul style="list-style-type: none"> On track
Special work programmes by region	Yes	Yes*	No	<ul style="list-style-type: none"> Includes Pressure Isolation upgrades, Pre-85 pipe renewal and Cathodic Protection projects Leaks identified on mains remain a priority for repair / replacement

Notes:

*Refer to Section 2 Powerco Gas 2022 AMP (pp22 to 33), for a detailed list of material projects in the 1-3-year horizon and reasons for specific changes. These are set out in tables by region.

**Budgets available in Schedule 11 for work in the 4-to-10-year period based on 2022 AMP numbers.

Schedule 12b (pp47) of the 2022 AMP outlines forecasted projects in the Hutt Valley, Porirua and Manawatu regions related to residential subdivision growth (GRO).

Friday, January 20, 2023

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Wellington Regional Leadership Committee
Wellington

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Kia ora Parvati

Infrastructure Capacity - Meridian

Meridian is a renewable energy generator and electricity retailer generating electricity from 100% renewable sources – water, wind and solar. The company generates around 30% of New Zealand’s current electricity production. Meridian’s core business is the generation, marketing, trading, and retailing of electricity and the management of associated assets and ancillary structures in New Zealand.

Meridian owns and manages two hydropower schemes in New Zealand: the Waitaki Power Scheme (from Lake Pūkaki down and comprising six power stations) and the Manapōuri Power Scheme.

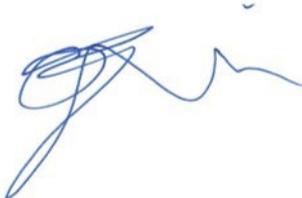
Meridian owns five wind farms in New Zealand: Te Uku (Raglan), Te Āpiti (Manawatu), Mill Creek (Wellington), West Wind (Wellington) and White Hill (Southland). It is currently constructing a new wind farm at Harapaki in Hawkes Bay and a commercial scale battery at Ruakaka, Whangarei District.

Meridian is also committed to consenting and constructing several new wind, solar and battery projects through NZ over the next seven years. The Wellington region is under active consideration.

In relation to constraints for expanding new renewable electricity generation to support future urban growth and development, apart from the consenting issues and construction costs matters, the Transpower distribution lines (110kV) linking Wairarapa with the cities to the south are constrained. The limitation to export additional electricity reduces the likelihood of new electricity generation establishing in the Wairarapa. We have no control over this asset and any future upgrades. This sits with Transpower.

Please contact me if you want to discuss this matter further.

Nga mihi nui,



Andrew Guerin
Environmental Manager
Wellington