

GROWING REGION, CHANGING CLIMATE

OUR DILEMMA

We are legally obliged to provide water and sewerage services to the major towns and cities in our region at the time of subdivision. We must continue delivering these services to new and existing customers as our region grows and our climate changes.

Capital investment occurs in highs and lows



- Over the next 50 years, our region's population is set to double but our traditional water supplies will reduce by up to 50%
- Every asset we own and operate (such as pipes, pump stations, treatment plants) has limited capacity. This means there is an upper limit on the amount of water or sewage we can deliver or treat through our existing infrastructure.
- Growth (upgrading and/or installing new assets to keep up with demand for our services) will account for 35% of our total capex over the next five years. We propose \$181M of capex for growth during 2023-28, up \$59M from our \$122M investment during 2018-23.
- Because most of our assets are large-scale and long-term, we build them with enough capacity to service the demand we have now and some spare capacity to service the demand we expect in future years.
- Our capital investment varies, depending on how much spare capacity there is within our assets:
 - » Low investment stage – Once we have built an asset, it will service demand comfortably if demand increases as expected, so there is little need for additional capital investment for some time.
 - » High investment stage – Once demand increases to the point that all spare capacity within the asset is “used up”, we need to make additional capital investment to continue to deliver our services.
- We are in a “high investment stage” – meaning we need a higher level of capital investment than in previous years to ensure we have capacity within our assets to keep delivering our services.

No-one knows what the future will hold



- Our assumptions about how much our region will grow, and how climate change will affect delivery of our services, affects our estimates of both capex and opex.
- No-one has a crystal ball when it comes to population growth and unforeseen events like COVID-19 can change forecasts. For example, we assumed that our region would grow by 1.6% per annum over the last five years, but actual growth averaged 2.5% per annum – up to a peak of 3% in 2020-21 and down again to 2.2% in 2021-22.
- Climate change will affect both the availability of our traditional water supplies (hotter, drier climate will mean less water available from rivers and groundwater) and the day-to-day performance of our infrastructure (floods, bushfires, extreme heat days, extreme rainfall events can all damage our assets).
- We propose to assume average growth of 2.2% per annum for the next five years and median climate conditions, so that our opex estimates are reasonable but not excessive.
- However, our capex estimates are based on high growth rates and high climate change scenarios, to ensure we have enough capacity and resilience across our infrastructure to deal with an uncertain future should a drought occur.

CAPEX

Capital Expenditures (Capex) are our major long-term expenses that are typically related to our fixed assets. *Usually lump sum, one-off expenses.*

OPEX

Operational Expenditures (Opex) are the day-to-day expenses that we incur to keep our business operational. *Usually ongoing, annual expenses.*

Too cautious

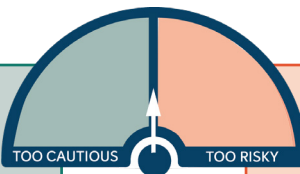
OUR TRADE OFFS

Too risky

Cautious & conservative investment

Invest heavily and early to build traditional assets “just in case”, for example:

- Minimal staging** – Build assets early to provide services across entire projected growth areas well in advance and with minimal staging would mean high costs.
- Entirely climate resilient** – Adopting a very conservative risk appetite and future-proofing all our infrastructure to all possible impacts of climate change, and doing so quickly, would mean very significant up-front costs.



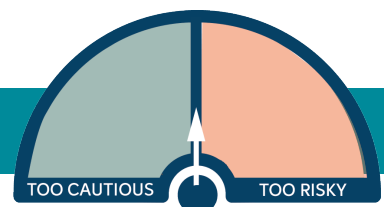
BARWON WATER
SELF-
ASSESSMENT

Risky & reckless investment

Wait until we are struggling to deliver services and then respond, causing:

- Declining level of service** – Waiting until there is not enough capacity in our assets would mean customers get poor quality services (such as greater frequency and severity of water restrictions).
- Less agility** – Waiting until our assets are operating at full capacity means less ability to quickly respond to new development opportunities in our region (e.g. unable to support new industries).
- Higher costs overall** – Costs may be deferred initially but are greater when they are incurred, and passed on to future generations (such as cost of building a new treatment plant under time pressure will be higher than if planned and delivered in advance).

EXAMPLE



BARWON WATER
SELF-
ASSESSMENT

Example - Water supplies

Here's how we propose to find the balance between “cautious & conservative” investment and “risky & reckless” investment in our water supplies over the next five years.

Innovative approach to servicing urban growth

We propose to **stage our capital investment in growth** (\$30.9M) by adopting a localised, integrated approach to servicing new growth areas, so that we make the best use of spare capacity in our existing assets.



This will help minimise the growth in demand for drinking water by implementing fit for purpose use of recycled water and stormwater where this results in a long term net community benefit.

For example:

- The Northern and Western Geelong Growth Area will be developed to be responsive with a whole-of-water-cycle, place-based approach that will sustainably cater for up to 100,000 new residents.
- We will install dual pipe recycled water to reduce demand for new drinking water and maximise use of Class A recycled water from the nearby Northern Water Plant whilst there is spare capacity at this plant, and transition to a new, localised recycled water plant in future.

Risk-based approach to delivering growth assets

We critically analysed which assets are needed over the next five years, and which can be safely deferred for five years, to ensure we are **only charging customers for what is necessary**.



We also challenged ourselves to consider how we can deliver our assets differently and more innovatively in the future. For example:

- \$51M investment in upgrading the capacity of the Wurdee Boluc water treatment plant has been deferred by better utilising balancing storage capacity available in our existing water service basins.
- Spare capacity at the Northern Water Plant is being used to supply recycled water to the initial stages of the Northern Western Geelong Growth Area.
- Spare capacity in our existing water entitlements in Melbourne are being maximised through additional investment in the Melbourne-Geelong Pipeline to service more of the region. This pushes out the timing of a large scale water supply system upgrade.
- Investment in sludge de-watering at the Colac water reclamation plant has been avoided due to investment in the Colac Renewable Organics Network, which takes high-strength organic trade waste from food processing companies and turns it into renewable electricity.

Investing to increase our resilience to climate change

We propose to **continue investing in climate resilience** in a way that optimises use of our existing infrastructure, allowing us to plan our major investments when we know more about the impacts of climate change on our systems and infrastructure.



For example:

- Additional \$21M investment in the Melbourne-Geelong Pipeline to help us access more water from the water grid, when we need it.
- \$7.8M investment in digital meters at Apollo Bay, Lorne and parts of Geelong to help reduce costs and save water across high-water loss, high-risk areas of our network and in homes and businesses.
- \$35.9M investment to increase productive use of recycled water and work with customers to understand demand and requirements.
- Investment to ensure we are prepared for extreme and unpredictable weather events, for example:
 - » Back-up generators to maintain supply to critical assets (for example some assets had electricity outages for more than 30 hours following severe storms last year)
 - » Upgrades to water treatment plants to improve bushfire resilience at Gellibrand and Apollo Bay
 - » Ongoing maintenance and improvements to our pipe networks to protect damage in the event of ground movement on extreme heat days.

89%
of customers surveyed
so far are comfortable
with our proposed actions
to ensure we cater for
growth and climate
change through the safe,
secure, sustainable water
outcome

