



Australia's Impossible Infrastructure Challenge

*-And the population elephant
nobody wants to acknowledge*



By Leith van Onselen

Why worry about population growth?

- Population growth is the 'everything' issue
- Impacts every aspect of daily life:
 - How long you spend stuck in traffic
 - Whether you can find a seat on public transit
 - Whether you can afford a reasonable sized home a decent commute from work
 - Your ability to gain a wage increase
 - Whether you can water your garden
 - Health of the natural environment

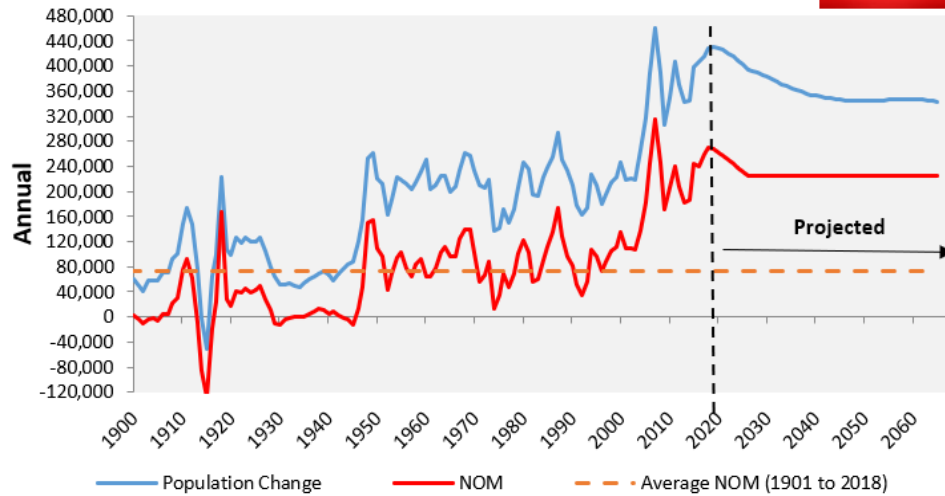


Australia's population growth is extreme

Australian Population Change*

Sources: Australian Bureau of Statistics (2018)

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*ABS Medium (Panel B) Projection for NOM, Fertility and Mortality

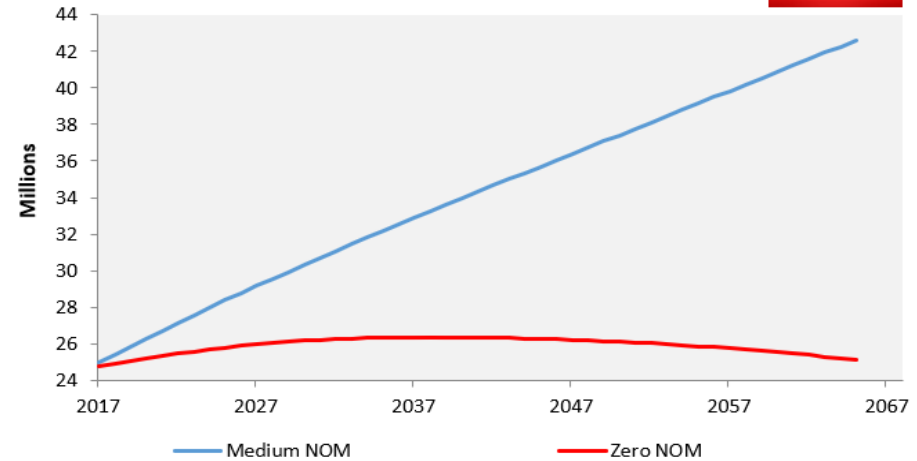
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Australian Population Projections*

Sources: Australian Bureau of Statistics (2018)

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*ABS Medium (Panel B) Projection for Fertility and Mortality

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- Over past 15 years, net overseas migration has run at triple historical average
- Australia's population to grow by 17.5 million in just 48 years
 - All future growth to come via immigration

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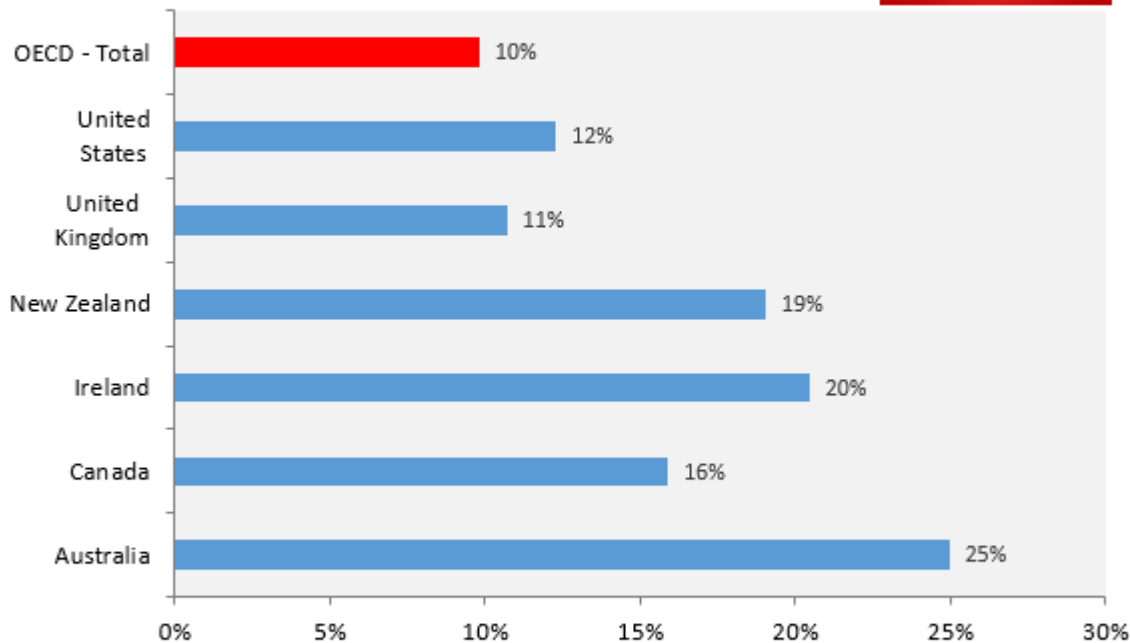


Overview of Australia's population

Population Change (2003 to 2017)

Source: World Bank

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- Since 2003, Australia's population has grown at 2.5 times OECD average.
- Easily fastest growth in Anglosphere.

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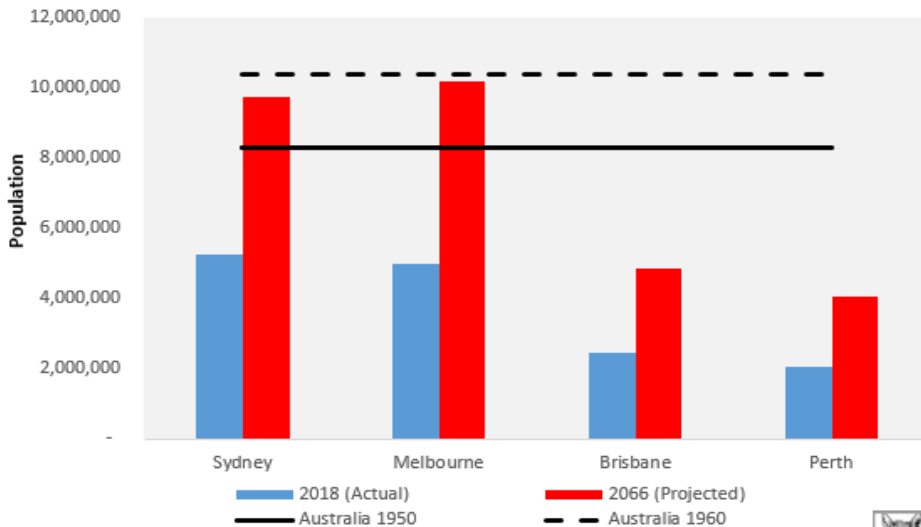


Australia's major cities to double in size

Capital City Population Projections

Source: ABS Series B (Middle) Projection

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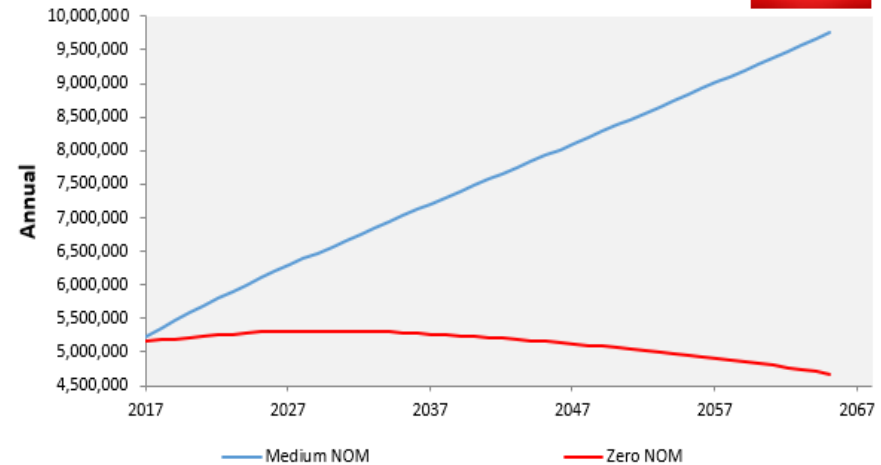
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Sydney Population Projections*

Sources: Australian Bureau of Statistics (2018)

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*ABS Medium (Panel B) Projection for Fertility, Mortality, and Interstate Migration

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- Sydney and Melbourne to become mega-cities of ~10 million people
 - All of Sydney's growth to come from net overseas migration
- Sydney/Melbourne to be similar in size to entire population of Australia in 1960

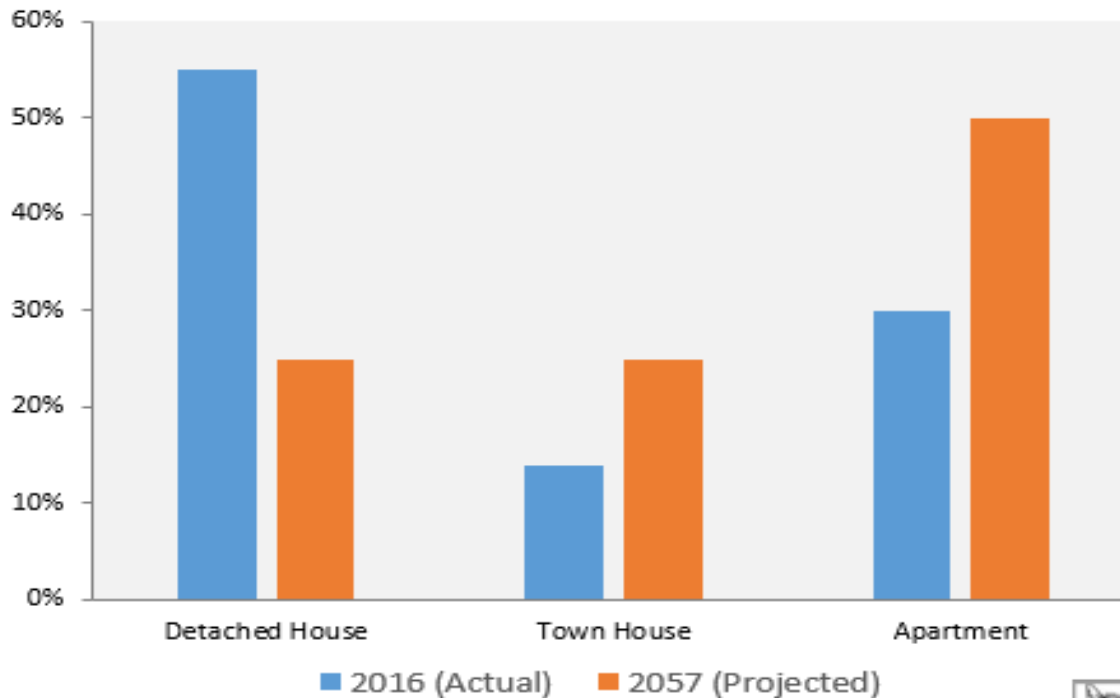
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Future generations stuffed into apartments

Sydney Dwelling Composition

Source: Urban Taskforce



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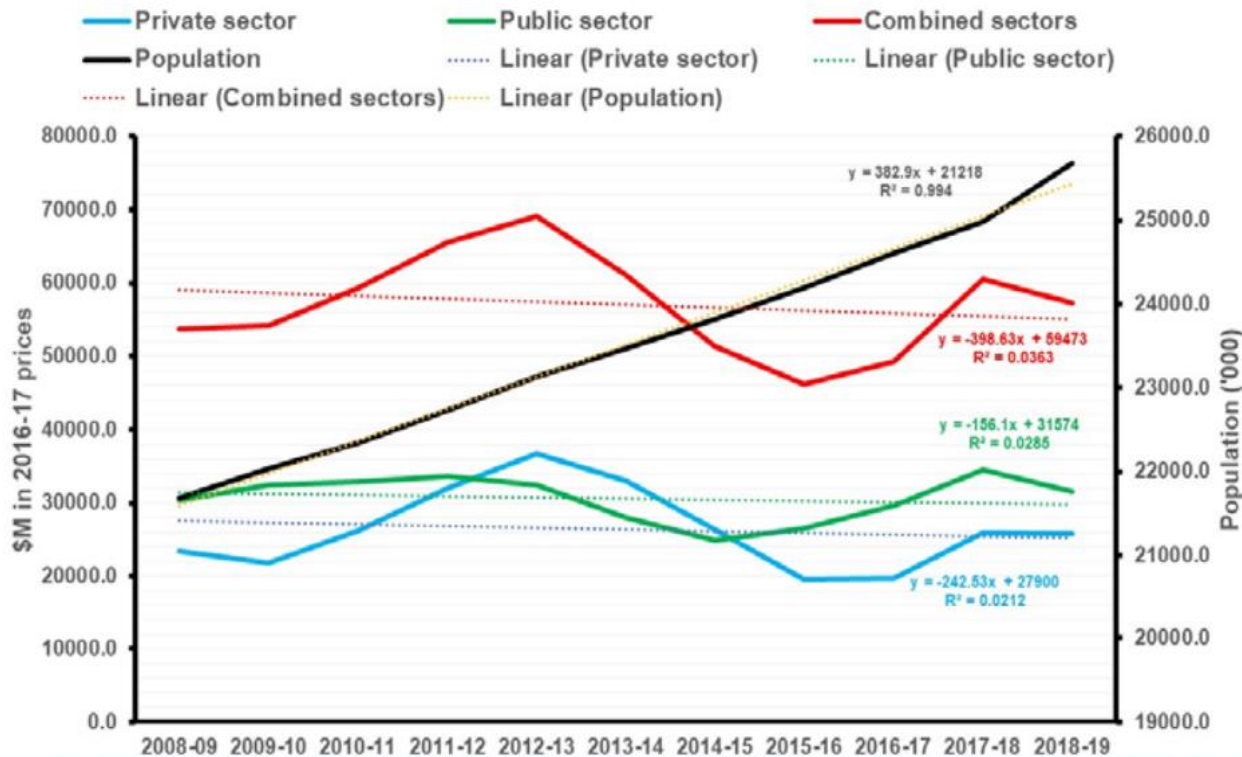


- Only one quarter of Sydney dwellings in 2057 will be houses with backyards (versus 57% currently).
- Apartments to comprise half of housing stock (versus 30% currently).



Infrastructure investment failing to keep pace

Figure 4: Trends in private and public sector engineering construction on infrastructure, 2008-09 to 2018-19



- Engineers Australia (2019): “More people means more cars on the road. It means more requirement for water and sewerage, telecommunications and energy. And yet, at the time that the population has been rising, infrastructure trends are going down”...



Infrastructure Australia's dystopian future

Table 29: Sydney – Summary of key performance indicators (best performance is bolded)

Key statistics	Reference Case (2016)	Expanded Low Density scenario (2046)	Centralised High Density scenario (2046)	Rebalanced Medium Density scenario (2046)
Transport performance				
Road congestion ^(a)	15%	28%	30%	28%
Public transport mode share ^(b)	26%	32%	35%	35%
Access to jobs in 30 minutes^(c)				
Car	13%	9%	9%	9%
Public transport	2%	2%	2%	2%
Access to jobs in 60 minutes^(d)				
Car	43%	35%	36%	36%
Public transport	13%	18%	23%	22%
Access to hospitals^(e)				
Percentage of population with access	80%	71%	76%	74%
Access to schools^(f)				
Percentage of population with access	97%	92%	95%	94%
Access to green space^(g)				
Percentage of population with access	62%	54%	58%	56%

Note: Indicators are rounded to the nearest whole percent. This means some scenarios appear to show the same result even though there are differences in performance. More detail is provided in the relevant sections of this chapter.

Note: Care should be taken when comparing the reference case to the scenarios. This is particularly the case with green space, school and hospital access indicators, where no new infrastructure was added from the reference year.

(a) Measured as the percentage of vehicle kilometres travelled where volume of traffic exceeds road capacity in the AM peak

(b) The percentage of trips by public transport in the AM peak

(c) The percentage of jobs accessible in 30 minutes during the AM peak

(d) The percentage of jobs accessible in 60 minutes during the AM peak

(e) Within a 20-minute drive or 30 minutes by public transport of a major hospital in the AM peak

(f) Within a five-minute drive or 20 minutes by public transport or a 40-minute walk of a primary or secondary school in the AM peak

(g) Within a five-minute walk of any green space.

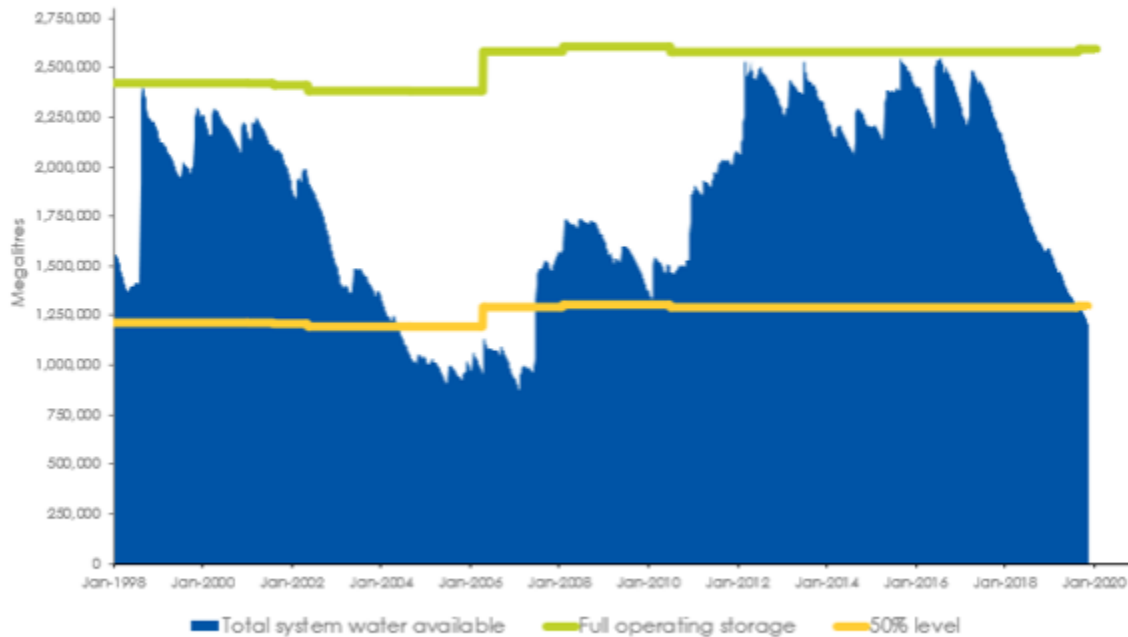
Infrastructure Australia (2018):

- As Sydney's population swells to 7.4m by 2046, Sydney will have:
 - Worse road congestion
 - Longer commute times
 - Reduced access to jobs, schools, hospital and green space.
- Regardless of whether Sydney builds up or out.
- Imagine Sydney at 10m?



Water: the inconvenient truth

Current available storage = 46.1%



- Sydney's water storages falling 50% faster than Millennial Drought.
 - Population 1m (20%) larger today than 2006.
- With Sydney's population to increase by 4.5m over next 48 years, where will water supply come from?
 - Answer: Battery of costly, energy intensive desalination plants will need to be built.



Water: the inconvenient truth

The High Cost of New Water Supplies

Source: Alan Moran (2008)

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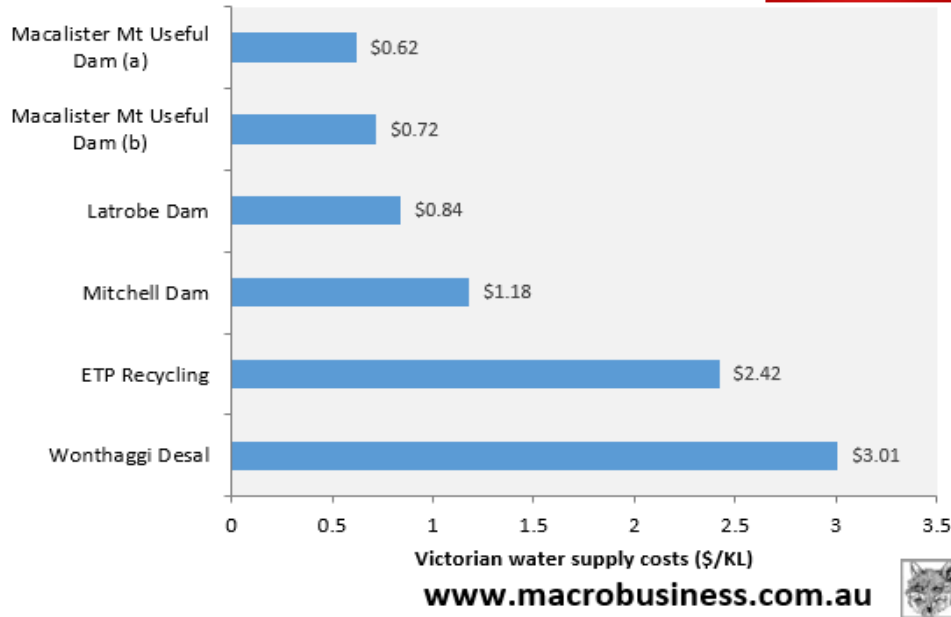
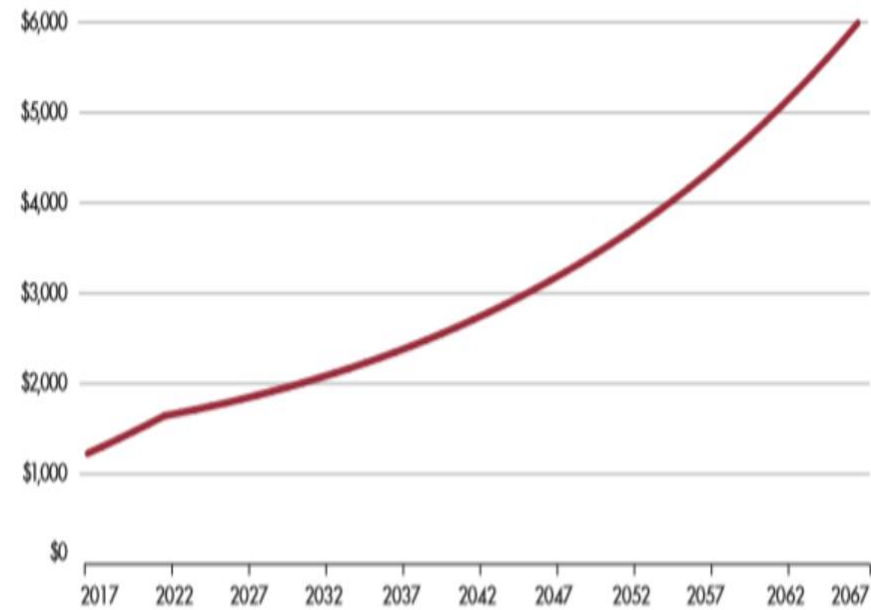


Figure B: Projected average household water and sewerage bills (\$2016)



Source: Aither (2017)¹

- Water desalination costs around four times more than traditional dam water.
- Infrastructure Australia (2017) projected that household water bills would more than quadruple in real terms over 50 years as traditional supplies are replaced by expensive technological solutions like desalination.

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Concluding thought

- It took Sydney 213 years to reach a population of 3.9 million in 2001.
- Yet the official medium projection by the ABS has Sydney ballooning to roughly 2.5 times that number of people (i.e. to 9.7 million) in only 65 years!
- We are only 18 years along this path, and already the lived experience is bleak.
 - Congested roads, trains, schools and hospitals;
 - high-rise slums;
 - Rising cost of living (e.g. tolls and housing).
- A dystopian future awaits future generations unless we slash immigration and control population growth.

