BIS OXFORD ECONOMICS

INPUT COST ESCALATION FORECASTS TO 2027/28

PREPARED BY BIS OXFORD ECONOMICS FOR ICON WATER

FINAL

MARCH 2022

BIS Oxford Economics

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March 2022

The modelling and results presented here are based on information provided by third parties, upon which BIS Oxford Economics has relied in producing its report and forecasts in good faith. Any subsequent revision or update of those data will affect the assessments and projections shown.

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1. EXECUTIVE SUMMARY

BIS Oxford Economics (BISOE) was engaged by Icon Water to provide forecasts and a report on expected wage changes, future electricity prices and forecasts of construction and chemical costs relevant to the water and wastewater business in the Australian Capital Territory for the period to 2027/28. These forecasts will be used by Icon Water to develop their operating and capital expenditure forecasts which, in turn, will be included in Icon Water's next regulatory proposal to the Independent Competition and Regulatory Commission (ICRC), covering the five-year period from 2023/24 to 2027/28 (FY24 to FY28) inclusive.

BIS Oxford Economics expects **real** wage costs for the Australian Electricity, Gas, Water and Waste Services (EGWWS or 'Utilities') sector — as measured in the Wage Price Index — will grow (escalate) by an average of 0.8% per annum over the five years to FY28, 0.2% higher than the national 'All Industries' average over the same five-year period. Over the same 5-year period to 2028, the **ACT EGWWS WPI** is forecast to average 0.65% p.a., 0.14% higher than the ACT all industries WPI average of 0.5% p.a. (all in real terms).

Note that these WPI forecasts include the 'economic incidence' impacts of the proposed increases to Superannuation Guarantee (SG) over the forecast period. We anticipate that both the ACT and Australian EGWWS WPI will be, on average, -0.1% lower each year, than if the SG increases did not proceed. RBA research shows that employees tend to receive lower wages due to the imposition of a SG increase. In effect some of the employees' wage increase (which they would have received in the absence of the SG increase) is replaced with the extra superannuation contribution. This means that although the 'statutory' incidence of the higher superannuation contributions are borne by employers, over time a proportion of these higher SG costs are passed from employers to employees via lower wage growth (i.e. the 'economic incidence').

In terms of **overall wage costs**, the **full 0.5% for the SG increases** each year should be **added to the forecast WPI increases** in each of the years from FY22 to FY26 inclusive, to arrive at the total percentage increase in labour costs. Section 5.3 includes a discussion of SG increases, how they apply to the WPI (and other wage measures) and the assumptions underpinning the impacts of the WPI forecasts in this document. Note that excluding the -0.1% annual impact of the SG increases, the forecast real growth in Australian EGWWS WPI over the 5 years to FY28 would be slightly below the 1.0% p.a. averaged over the past decade.

National and ACT utilities wages are forecast to increase by more than the national and state all industries averages over the forecast period because of the following factors:

- the electricity, gas and water sector is a largely capital intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors.
- strong union presence in the utilities sector will ensure outcomes for collective agreements, which cover 65% of the workforce, remain above the wage increases for the national 'all industry' average. In addition, with the higher proportion of employees on EBAs, compared to the national average (38%), and EBAs wage rises normally higher than individual agreements, this means higher overall wage rises in the EGWWS sector.
- increases in individual agreements (or non-EBA wages) are expected to strengthen from the current weak pace as the labour market tightens and labour productivity growth builds from around FY23.

- demand for skilled labour will pick up and strengthen with the high levels of utilities investment from FY22 to FY26, with investment levels expected to remain elevated over the medium term. This will also be a key driver of wages going forward.
- the overall national average tends to be dragged down by the lower wage and lower skilled sectors such as the Retail Trade, Wholesale Trade, Accommodation, Cafés and Restaurants, and, in some periods, also Manufacturing and Construction. These sectors tend to be highly cyclical, with weaker employment suffered during downturns impacting on wages growth in particular, such as is now occurring in the wake of the COVID-19 impacts. The EGWWS sector is not impacted in the same way due to its obligation to provide essential services and thus retain skilled labour.

As the economy continues to strengthen over FY23 to FY25, we expect to see further improvement in the labour market, with labour demand increasing and the unemployment rate falling below 4% by mid-2022 and remain around 3.8% over FY23 to FY25. Hence, we expect to again witness the re-emergence of skilled labour shortages and competition for scarce labour particularly from the mining and construction sectors, which will push up wage demands in the utilities sector. Mining investment is now picking up and is forecast to see significant increases over the next 3 years to FY24, before easing. Meanwhile, there is similar strong growth coming through in the Construction sector, which, after a short-term set-back due to COVID-19, we expect to see a synchronised upswing across all segments of the overall construction sector (residential construction, non-residential building and civil engineering & infrastructure construction) over FY23 to FY25, leading to strong labour demand in that sector, particularly from 2024 when activity surpasses the 2018 levels.

A key problem is that the TAFE (technical and further education) systems across the country have simply not been training enough workers. BIS Oxford Economics research shows this is being compounded by new graduates in the trades stream in particular not increasing fast enough to replace retiring workers, with some numbers actually falling. Despite government announcements that they are moving to address the TAFE system, it is unlikely that these issues will be addressed within the next 5 years. Added to this is that skilled immigration has been suspended. When it does return, it is likely to be a slow ramp-up, meaning that the skill shortages will persist and won't be easily solved by migration.

With strong competition for similarly skilled labour from the mining and construction industries, firms in the utilities sector will need to raise wages to attract and retain workers. In other words, the mobility of workers between the EGWWS, mining and construction industries means that demand for workers in those industries will influence employment, the unemployment rate and hence spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration in order to attract and retain staff and we expect wages under both individual arrangements and collective agreements to increase markedly over the FY24 to FY26 period.

The ABS does not provide WPI data for the Utilities sector in the ACT, providing state utilities data only for NSW, Victoria and Queensland (the latter since early 2019 only). These three states collectively account for 73% of total Australian utilities employment, with the ACT accounting for less than 2%. Historical data and forecasts of WPI for the EGWWS sector in the ACT is therefore based on national EGWWS WPI forecasts, as well as movements in the 'unknown residual' for the utilities wage price index and recent differences in outcomes in collective bargaining in the ACT compared to the national average for the utilities sector.

ACT EGWWS WPI growth declined sharply over FY21 to 1.9% (in nominal terms), from an estimated 2.7% in FY20, due to the impact of the COVID-19 outbreak on wages. ACT EGWWS WPI growth is forecast to ease to 1.7% in FY22, before increasing sharply to 2.8% in FY23, as a new round of EBAs are negotiated and non-EBA wages pick up due to higher inflation and the tightening labour market in

the ACT and NSW. Thereafter, wages in the ACT utilities sector are expected to move in line with – but remain slightly lower than - the national utilities sector average through most of the forecast and regulatory period (see table 1.1). This is due to relatively weaker utilities construction and overall construction in the ACT, compared to other states. This WPI forecast includes the SG Increase impacts (in terms of the economic incidence) of -0.1% in each of the 5 years from FY22 to FY26 inclusive.

Table 1.1 Summary – Labour & Materials Cost Escalation Forecasts: ACT
(per cent change, year average, year ended June)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Average (h)
NOMINAL CHANGES	Actuals						Forecasts		Next Revenue Determination Period					
Australian Capital Territory Wages: All Industries Wage Price Index (a)	1.7	1.8	2.0	2.1	2.3	1.4	2.5	2.8	3.0	3.1	3.2	3.1	3.0	3.08
Electricity, Gas, Water and Waste Services Wages: Australian Capital Territory - Wage Price Index (b)	2.3	2.3	2.2	2.8	2.7	1.9	1.7	2.8	3.1	3.3	3.3	3.2	3.1	3.22
Electricity Price: ACT - Large Industrial Users (c)	-12.4	17.0	28.4	7.8	-12.8	-0.8	25.3	3.5	2.5	2.2	7.1	4.2	3.6	3.91
Chemical Prices (d)	-5.6	-1.7	7.9	15.2	-3.7	-0.1	8.4	-0.8	-1.4	2.3	3.9	4.3	1.9	2.22
Construction Costs (e)	1.0	0.1	1.3	3.1	2.7	2.2	4.3	1.9	2.8	3.2	3.1	2.8	2.6	2.91
Consumer Price Index (headline) (f)	1.4	1.7	1.9	1.6	1.3	1.6	3.5	3.2	2.6	2.6	2.6	2.6	2.6	2.57
REAL CHANGES (g)														
Australian Capital Territory Wages: All Industries Wage Price Index (a)	0.4	0.1	0.0	0.4	0.9	-0.2	-1.0	-0.4	0.4	0.6	0.7	0.5	0.4	0.51
Electricity, Gas, Water and Waste Services Wages: Australian Capital Territory - Wage Price Index (b)	0.9	0.6	0.2	1.2	1.3	0.2	-1.8	-0.4	0.5	0.8	0.8	0.6	0.6	0.65
Electricity Price: ACT - Large Industrial Users (c)	-13.8	15.3	26.5	6.2	-14.2	-2.4	21.8	0.4	-0.1	-0.4	4.6	1.7	1.0	1.34
Chemical Prices (d)	-7.0	-3.4	5.9	13.5	-5.1	-1.7	4.9	-3.9	-4.0	-0.2	1.3	1.8	-0.6	-0.35
Construction Costs (e)	-0.4	-1.7	-0.6	1.5	1.4	0.5	0.8	-1.3	0.2	0.6	0.6	0.3	0.0	0.34

Source: ABS, RBA, Icon Water, BIS Oxford Economics

(a) Wage price index. Ordinary time hourly rates of pay excluding bonuses.
(b) EGWWS WPI historical data is estimated for Australian capital territory
(c) Icon Water's Electricty price proxied by price for large industrial users
(d) Icon Water's chemical prices proxied by Australian Basic Chemical Manufacturing Producer Price Index (PPI)
(e) Construction costs proxied by Water & Sewerage Construction Implicit Price Deflator for Australia
(f) Inflation forecasts are RBA forecasts to June 2024 from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on a glide-path to the mid-point of RBA inflation target (2.5%) by year 5. The overall forecasts are then calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 5 years or to the end of the regulatory period, with years 3,4 and 5 CPI equal to the calculated 5-year geometric mean. This methodology is the position adopted by the Australian Energy Regulator.
(g) Real price changes are calculated by deducting the inflation rate from nominal price changes.
(h) Average for the next revenue determination period i.e. from 2023/24 to 2027/28 inclusive.

The 'All Industries' WPI for ACT is used to escalate Icon Water's **general labour** (i.e. non-network and non-external professional labour) costs. Growth in total or 'All Industries' wages at the state level usually depends on the relative strength of the state economy and labour markets, compared to the national average. The Australian **All Industries WPI** is forecast to pick up to 2.5% in FY22 and then strengthen further as the labour market tightens and in response to high CPI inflation – with the CPI expected to be over 3% in each of FY22 and FY23, before easing to around 2.6%. Wages will be slower to pick up to the inflation rate, due to lags in the transmission of wage increases, particularly in the enterprise bargaining segment, where the duration of agreements runs for 2-3 years. But as agreements are re-negotiated in an environment of a very tight labour market (with the unemployment rate expected to be below 4%) and high consumer inflation, there will be a commensurate lift in wage increases. The Australian All Industries WPI is forecast to rise to 3.3% in FY25 and FY26, before easing over FY27 and FY28 as the economy cools and CPI inflation eases.

Over the FY22 to FY28 period, we expect the ACT all industries WPI to continue track the movements in the Australian average, but with the ACT average slightly below the national average. The lower wage growth in the ACT vis-à-vis the national average is in line with the growth differentials between

the ACT and Australian economy, although lower wage growth in the ACT public sector will continue to keep overall wages growth relatively muted. In the five years to FY28, we are forecasting the total state (All Industries) WPI in the ACT to average 3.1% in nominal terms, close to the national average. In real (inflation-adjusted) terms, the average annual increase is forecast to be 0.5% (see Summary Table). Note that these wage forecasts for All Industries wages include the impacts of the SG increase. At the national All Industries level, we estimate the impacts will be -0.24% for each year of the SG increase (FY22 to FY26).

At the ACT All Industries level, we expect the impact of the SG to be much lower than the Australian average, due to a much larger proportion of public sector employees in the territory. Government employees are subject to public service wage caps in the state - which do not include changes to the SG - and will largely not have their wages discounted. As at June 2020, ABS data estimated the public sector workforce was around 43% of total ACT employment. We are assuming that all these employees are subject to the wage caps. There will also be other employees (including in the EGWWS sector and construction sectors in particular) whose wages will also not be discounted, with the overall proportion of employees not having their wages discounted close to around half of the ACT workforce. Overall, the impact on the total ACT workforce will be -0.17% for each of the 5 years from FY22 to FY26 inclusive. See section 5.3 for the assumptions underpinning this estimate.

Electricity prices for large industrial users in the ACT are forecast to increase by 0.7% in real terms on average over the 5 years from FY24 to FY28 inclusive. In FY22, real electricity prices are expected to jump more than 20% in real terms (25.3% in nominal terms), due to the significant increase in the ACT Large Feed-in-Tariff (L-FiT) and price volatility in the wholesale market. Electricity prices then basically match inflation for the remaining years (i.e. close to zero real prices), with the exception of FY26 and FY27, with increases by 4.5% and 1.7% respectively (7.1% and 4.2% in nominal terms), due to the closure of Eraring Power Station. The real 1.0% increase in FY28 is due to increase in contracted thermal coal prices as the coal supply contract to Bayswater power station ends, which will see wholesale prices rise.

Chemical prices are forecast to continue their historical volatility over the forecast period, with real prices decreasing by an average of -0.3% over the five years from FY24 to FY28 inclusive. We have used the producer price index (PPI) for Basic Chemical Manufacturing to proxy Icon Water's chemical price changes. The main drivers of prices include: the price of oil, which we understand is used in the manufacturing process for numerous chemicals purchased by Icon Water (noting that this also would capture the use of natural gas used to manufacture chemicals given that the price of oil and gas are related); a manufacturing input price index from the ABS called 'Non-Metallic Mineral Quarrying' – which covers the quarrying of materials such as alum and salt; plus manufacturing wages, the exchange rate, and electricity prices. Strong price increases in FY22 are being driven mainly by the jump in oil prices, further reinforced by the lower exchange rate, which are also driving up quarrying costs via the higher price of diesel. We expect prices to ease over FY23 and FY24 as the oil price falls back. Prices are then expected to rise over FY25 to FY27 as wages and other input prices rise, including oil prices, with an expected fall in the exchange rate in FY27 (mainly due to a cut in interest rates) putting upward pressure on A$ oil prices.

Construction costs – as proxied by the Water & Sewerage Construction implicit price deflator (IPD) – are forecast to increase by an average of 0.3% in real terms over the five years from FY24 to FY28. The key driver of increased costs will be strong growth in construction wages (which comprise 60% of the overall index), due to skilled labour shortages and rising construction activity, with total construction activity set to surpass the previous peak by FY24 and remain at elevated level to FY26. These higher activity levels will also see other related construction input, such as plant and equipment hire, concrete and steel, etc, all rise sharply in the period to FY26, before easing as construction activity falls back.

2. INTRODUCTION, DATA SOURCES & REPORT OUTLINE

BIS Oxford Economics (BISOE) was engaged by Icon Water to provide forecasts and a report on expected wage changes, future electricity prices and forecasts of construction and chemical costs relevant to the water and wastewater business in the Australian Capital Territory for the period to 2027/28. These forecasts will be used by Icon Water to develop their operating and capital expenditure forecasts which, in turn, will be included in Icon Water's next regulatory proposal to the Independent Competition and Regulatory Commission (ICRC). Although Icon Water's next revenue proposal covers the five-year period from 2023/24 to 2027/28 (FY24 to FY28) inclusive, BISOE is providing 7-year forecasts covering financial years FY22 to FY28. Forecasts of both nominal and real cost escalators are provided. The forecasts in this report were finalised on 3rd March 2022.

The Australian Bureau of Statistics is the primary data source for the consumer price index, wages, employment, real gross value added and investment (including engineering construction) data, and for a range of other economic variables. The data used in the projections is the latest available as at early February and includes the December quarter Consumer price Index and Producer Price Indices, and the September quarter 2021 wage price index (WPI) data release. Other inflation and interest rate data were sourced from the Reserve Bank of Australia. Data regarding electricity prices were sourced from the AEMC and Mercari. Icon Water also provided some historical data on chemical prices and electricity prices.

Forecasts of the economic variables in this report were mostly sourced from BIS Oxford Economics reports, including *Australian Macro Service*, *Long Term Forecasts: 2021 – 2036, Engineering Construction in Australia 2021-2036* and *Building in Australia 2021-2036*, along with other unpublished forecasts and from BIS Oxford Economics internal research and modelling.

The previous Summary section presents an overview of the outlook for the relevant labour, electricity, chemical and construction prices, including numerical forecasts presented in a summary table.

Section 3 provides a macroeconomic outlook for Australia and the Australian Capital Territory. This section also has forecasts of key economic variables plus a discussion of the drivers and logic underpinning the projections, to provide context for the labour market outlook, which has a material influence on wages.

Section 4 discusses BIS Oxford Economics' national wage and ACT general wage (All Industries WPI) projections and discusses the use of the Reserve Bank of Australia forecasts of the Consumer Price Index (CPI) for the deflation of nominal prices. Note that most of the references to historical data and forecasts of wages in Sections 4 and 5 are in nominal terms unless specifically stated that the data/forecasts are in real (inflation-adjusted) terms. Section 5 provides the forecasts and rationale of the wage projections for the Electricity, Gas, Water and Waste Services (EGWSS) sector for Australia and ACT, as measured by the Wage Price Index (WPI).

Section 6 presents electricity price forecasts relevant to industrial users in the Australian Capital Territory. Section 7 provides expected price movements of water and sewerage related construction in the Australian Capital Territory. This is proxied by forecast changes in the water and sewerage engineering construction at the Australia level. Section 8 presents forecasts of chemical prices, proxied by the Australian producer price index for basic chemical manufacturing.

3. MACROECONOMIC OUTLOOK

3.1 AUSTRALIA MACROECONOMIC FORECASTS

Australian economy during and post-COVID recession performed better than expected

The Australian economy suffered a steep downturn in the first half of calendar 2020, with the -7.3% cumulative decline in real Gross Domestic Product (GDP) over the March and June quarters producing a small fall in GDP in FY20. However, the bounceback in the September and December quarters was stronger-than-expected, despite extended lockdowns in some states (mainly Victoria) and prolonged border closures. Further healthy growth in the March and June 2021 quarters of 1.9% and 0.7% respectively, saw GDP surpass the pre-pandemic levels in the March quarter 2021. Overall, GDP year-average growth in FY21 was 1.5%.

GDP contracted by 1.9% in Q3 (September quarter 2021), with strict lockdowns in New South Wales, Victoria and the ACT due to the Delta variant causing a sharp decline in consumption. Household consumption fell by 4.8% q/q in Q3, led lower by sharp falls in NSW, Victoria and the ACT - each of these regions spent all or most of Q3 in lockdown. As expected, services consumption led these falls. However, unlike in previous lockdowns, goods consumption also fell in the quarter. This is partially attributable to payback from the remarkable strength in retail in 2020. But there are also signs that supply disruptions have weighed on growth, with consumer goods imports falling sharply, and a steep drawdown of wholesale inventories.

Net exports made a strong contribution to growth in Q3, as mining and energy commodities recovered from weather-related disruption, while global supply disruptions contributed to a fall in imports. Public demand also boosted growth, pushed higher by the accelerated vaccination program. Investment was subdued overall, with locked down regions weighing on positive momentum elsewhere. The Omicron variant poses the greatest risk to the growth outlook at present; our forecasts assume the timing of some travel and household spending is delayed due to virus concerns, but currently we are not forecasting a return to widespread lockdowns. The continued rapid rollout of the vaccine and relatively high vaccination rates has removed some downside risk from the outlook.

The economy bounced back smartly in Q4 2021 from the Delta lockdowns, with retail sales rising to a record level and the labour market absorbing spare capacity. However, this momentum will be short lived as the economy grapples with an explosion in COVID cases from the Omicron variant. We have dialled down our outlook for consumption growth in Q1 2022, with a pickup in public-related spending on vaccination programs providing some offset. We estimate growth was 4.0% in 2021, and now expect a more modest expansion of 3.0% in calendar 2022.

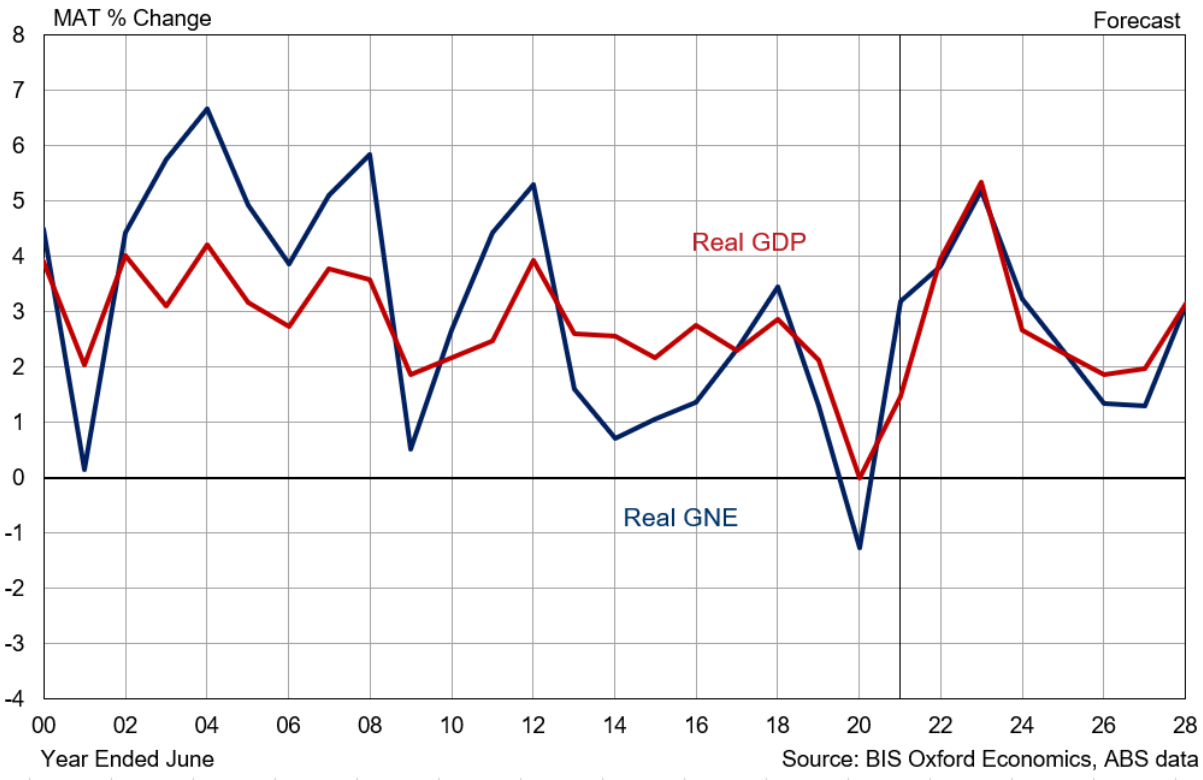
The pipeline of residential construction work to be done remains strong, boosted by the government's HomeBuilder program. Labour and materials shortages will lead to a less acute, but more protracted cycle than was previously anticipated. In terms of business investment, non-residential construction remains subdued overall, although forward-looking indicators suggest an uptick in activity from the second half of 2022. Machinery & equipment investment is on an upswing, supported by fiscal policy measures. Disruption to import flows will make the cycle patchy, but survey measures suggest expenditure will pick back up once these bottlenecks clear. We expect the strength in business investment has further to run, with these incentives in place until June 2023. The mining sector has remained relatively insulated from the pandemic shock, although there were initial deferrals of oil and LNG investments. Mining investment picked over FY21 and will continue to rise and remain strong well into the middle of the decade as some of the deferred investments are started. Commodity prices have rebounded from their lows of 2020 and with prices for a number of commodities to remain at healthy levels over the medium term, we expect further investments to get underway. Overall, new

business investment is expected to grow by around 8% in each of FY22 and FY23. The recovery in business investment will not only drive near term demand but will increase the economy's productive capacity in the long run.

Labour market outcomes improved substantially in late 2021. The participation rate climbed over 2 ppts in both NSW and Victoria as workers re-entered the labour force and found employment. Nationally, employment rose 0.5% q/q in Q4, while the unemployment rate fell to 4.2% in December and January 2022. The recent pickup in frictional unemployment has largely unwound, with large flows of workers from outside the labour force moving into employment attributable to employee-employer linkages that were preserved through lockdowns. The outlook for the labour market is positive, and we this strong momentum to carry over into 2022.

Fiscal policy remains very supportive, and infrastructure spending is set to increase in the near term; projects in planning stages have been brought forward (including accelerating the planning application procedure), and direct grants for individuals to put towards dwelling construction or major alterations and additions (the HomeBuilder program) have spurred activity. Monetary policy settings remain extremely accommodative. The RBA have so far responded with a dovish policy stance to the faster-than-expected progress toward full employment and the inflation target – signalling they will tolerate an inflation overshoot to ensure the wages recovery is well entrenched.

Figure 3.1 Australia Key Indicators



Global Economic Outlook

Although some of the initial worst fears about Omicron have proved unfounded, the unexpectedly large surge in global Covid-19 cases is causing more cautious behaviour by individuals and greater disruption to businesses than envisaged. Global GDP is forecast to increase 4.2% in 2022, down from the 5.8% estimated for 2021. There remain plenty of unknowns regarding the Omicron variant and its health impact. But the evidence from economies such as South Africa, the UK and Denmark suggests

that the Omicron wave is likely to be associated with much smaller rises in hospitalisations than earlier Covid waves. And for now, our initial assessment that there would only be a modest reimposition of mobility restrictions is correct. Nonetheless, the rise in global Covid cases to more than double the previous peak has exceeded expectations of a month ago by a large margin and points to greater economic damage via increased voluntary social distancing and disruption to businesses from staff having to self-isolate.

In response, we have lowered global GDP growth for Q1. As with previous Covid waves, we expect activity to rebound quickly when cases start to fall back, so the downward revision to the outlook in Q1 will be largely offset by a bigger bounce in Q2. Nonetheless, the weak start to the year will dampen overall 2022 growth slightly. Meanwhile, greater disruption in the near term – especially in China where a zero tolerance approach to Covid continues to be pursued – points to slower normalisation of supply-chain pressures and potentially a slower transition of consumer spending from goods back to services. Partly due to this, we have lifted our 2022 global CPI inflation forecast by 0.3pp to 4.5%. Inflationary pressures keep building due to higher commodity prices, supply shortages and weak currencies. But inflation is still expected to fall sharply over the course of year, limiting the need for aggressive monetary policy tightening.

Emerging Markets (EMs) enter 2022 facing a resurgent pandemic, threatening some softening in demand in Q1, alongside continued supply-chain disruption. Apart from China, most governments have not tightened Covid-related curbs to any significant degree so far, but we have turned more cautious in the short term, lowering our 2022 GDP growth forecast for EMs to 4.6% (down 0.1pp from a month ago) before a 4.8% rise in 2023. We still estimate overall EM growth at 6.7% in 2021. China has stuck to its zero-tolerance approach to Covid, which is weighing on consumption and, with headwinds from the real estate sector persisting, we still forecast GDP growth will slow to 5.0% in 2022 from an estimated 8.0% in 2021. Elsewhere, restrictions remain mild, amid expectations that the Omicron health impact is less severe than previous variants. However, disruption associated with staff absences and fading business confidence highlighted in latest PMI surveys point to a muted start to the year. We expect output growth will bounce back in Q2. China's Covid policy has delayed supply-side normalisation. We continue to see a turnaround in EM inflation, with annual rates peaking in H1. Policy rates will be raised in many countries, including in Brazil and Russia, which have front-loaded rate hikes, but also in Asia, albeit remaining below pre-Covid levels.

The spread of the Omicron variant and year-end slump in consumer spending put a chill on the US economy in Q1, with our new forecast seeing GDP essentially flat on the quarter. But as the Omicron wave recedes, we foresee a spring rebound led by buoyant demand for in-person services. Given the weak start to the year, we now forecast that the US economy will grow 3.5% in 2022 and 2.5% in 2023.

The anticipated strong performance of the US economy and rising US interest rates will see a broad-based appreciation of the USD in the near-term. The **Australian dollar** was broadly steady through January before taking a step down to US$0.70 in late January. The very dovish messaging from the RBA will have kept some downward pressure on the currency, especially as rate increase expectations become more entrenched in the US. The AUD has traded below $US 0.72 through February to date. With expectations for tighter monetary policy in the US now well established, our outlook is for the AUD to be broadly steady over 2022, before appreciating gradually alongside monetary tightening in Australia in the medium term, to near US$0.80 by mid-decade, before easing back to the long-term average of US$0.75.

At this stage, we have not fully factored in the impacts of the war in the Ukraine and associated economic sanctions on global growth, apart from some preliminary adjustments to some commodity prices such as oil prices.

Beyond the near-term disruptions, we expect global growth will return to its trend pace of around 3% by 2023, and gradually slow over the long term as resident population growth eases. Australia's trading partner growth (weighted by export proportions) is forecast to grow at a faster pace over the next 5-20 years (between 0.5 to 1% higher), due to the high weights of China, East Asia and India (all of which are expected to outpace the average pace of global growth) in Australia's export mix.

GDP to lift in FY23 and remain buoyant to FY25

Australian domestic demand increased by 2.5% in FY21, with the huge bounce-back in both farm and non-farm stocks pushing the growth in Gross National Expenditure (GNE) to 3.2%. However, with net exports detracting from growth, GDP rose 1.4%. Although the recent lockdowns will detract from domestic demand in the second half of 2021, but we expect a strong bounce-back over the first half of 2022 and into FY23, led by private consumption expenditure as households spend heavily on services, funded by the increased savings accumulated over the past year or so and the 'return to normalisation' due the widespread dissemination of vaccines. Australian GNE is forecast to increase 3.9% in FY22 and 5.2% in FY23, with GDP forecast to increase by 3.6% in FY22 and 5.2% in FY23 as domestic demand strengthens and net exports provide less of a drag (see figure 3.1 and Table 3.1).

Table 3.1 Australia – Key Economic Indicators, Financial Years

Year Ended June							Forecasts						
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Total New Private Investment (+)	-5.4	-2.0	3.7	-2.7	-3.3	1.9	8.4	7.3	4.7	1.9	-2.5	-2.2	4.3
New Public Investment (+)	8.1	8.6	11.2	4.8	0.5	5.6	8.3	8.9	2.4	-1.4	-2.7	-1.8	1.4
Gross National Expenditure (GNE)	1.4	2.3	3.5	1.3	-1.3	3.2	3.9	5.2	3.2	2.3	1.4	1.3	3.1
GDP	**2.7**	**2.3**	**2.9**	**2.1**	**0.0**	**1.5**	**3.6**	**5.2**	**2.8**	**2.4**	**1.9**	**2.1**	**3.2**
Inflation and Wages													
CPI (Yr Avg) - RBA forecasts (*)	1.4	1.7	1.9	1.6	1.3	1.6	3.5	3.2	2.7	2.6	2.6	2.6	2.6
Wage Price Index (Jun on Jun)(**)	2.1	1.9	2.1	2.4	1.7	1.8	2.4	2.9	3.2	3.3	3.4	3.1	2.9
Wage Price Index (Yr Avg)(**)	2.1	2.0	2.1	2.3	2.1	1.5	2.4	2.9	3.2	3.3	3.4	3.1	2.9
Average Weekly Earnings (Yr Avg)(^)	1.9	2.0	2.4	2.7	3.9	2.7	2.2	2.9	3.2	3.5	3.7	3.5	3.3
Employment													
– Employment Growth (Yr Avg)	2.3	1.5	3.0	2.4	0.5	0.6	2.5	2.6	2.1	2.0	1.7	1.0	1.5
– Employment Growth (May on May) (%)	1.9	2.1	2.6	2.8	-5.6	8.3	1.7	2.1	2.1	1.9	1.4	1.0	1.9
– Unemployment Rate (May) (%)	5.7	5.5	5.4	5.2	7.0	5.1	3.8	3.8	3.8	3.8	4.1	4.3	4.1
Labour Productivity Growth													
– Total	0.5	0.8	-0.2	-0.2	-0.5	0.9	1.2	2.5	0.7	0.3	0.2	1.1	1.6
– Non-farm	0.7	0.6	0.0	0.0	-0.3	0.6	1.2	2.8	0.6	0.4	0.2	1.1	1.6
Exchange Rates													
– US$ per A$ (Yr Avg)	0.73	0.75	0.78	0.72	0.67	0.75	0.73	0.73	0.75	0.78	0.79	0.74	0.75

Source: BIS Oxford Economics, ABS and RBA

+Expenditure on new assets (or construction work done). Excludes sales (or purchases) of second hand assets.
*Headline CPI forecasts based on Reserve Bank of Australia's forecasts to June 2024 quarter. Beyond this, we've used the mid-point of the Reserve Bank's 2 to 3 per cent inflation target range, and then applied a geometric mean of the forecast period.
** Based on Ordinary Time Hourly Rates of Pay Excluding Bonuses.
^ Average Weekly Ordinary Time Earnings for Full-Time Adult Persons.

Housing and business investment are expected to ease over FY24 and FY25 as the government incentives finish or are reduced. However, we expect further moderate growth in business investment in FY24 and FY25 as deferred investment is undertaken, although some sectors, such as hotel construction and other tourism-related investment, will take longer to recover. Meanwhile, public investment is expected to peak in FY24, and remain at elevated levels in FY25, as a large pipeline of transport infrastructure and social and institutional buildings projects come through. Meanwhile,

government recurrent expenditure is expected to weaken sharply as the boost from the NDIS and vaccine roll-outs finish and governments attempt budget repair.

With the initial rebound from the pandemic likely to be over by late 2022, the pace of growth will naturally slow. Overall, we are forecasting GNE to ease to 3.2% in FY24 and 2.3% in FY25. GDP is forecast to ease to 2.8% in FY24 and 2.4% in FY25. Net exports will detract from growth over FY23 to FY25, as a sharp lift in imports (particularly service debits – mainly outbound tourism) outpaces solid increases in exports. Over the four years to FY25, domestic demand growth is forecast to average 3.7% per annum, while GDP is forecast to average 3.5% p.a.

Inflation rising, but interest rates to remain low over the next 2 years, before gradually rising

Annual headline inflation jumped to 3.5% (y/y) in the December quarter 2021, while underlying inflation lifted from 2.1% to 2.7%. Transitory components continue to drive headline inflation, including high fuel prices, but with upward price pressure emerging from supply chain disruption, there are signs inflationary pressures are broadening. Overall wage growth remains benign for now, but as the economy reopens, the labour market tightens and spare capacity is absorbed, wage pressures will mount. Our forecast is for this to be a gradual process through 2022, but the upside risks to this outlook have increased. The stronger-than-expected inflation data appears to have accelerated the RBA's timetable for raising rates. Governor Lowe has dropped his guidance that rates will be on hold until 2024, but the Bank is still signalling the expect rates will be on hold well into 2023.

The cash rate forecast to remain at or below 0.25% until the first half of 2023, before rising to 1.5% by late 2025 as wages and CPI inflation rise back toward historical averages, and the unemployment rate falls below 4.0%. Meanwhile, the 1.4% rise in the cash rate in Australia means the benchmark housing variable rate will rise to 5.7% by late 2025, which will be enough to slow consumer spending and impact housing and business investment over FY26 and FY27. With government capital spending falling at that time and recurrent spending still constrained, the end result will see annual GDP growth easing to around 2% over those two years.

Mild slowdown in mid-2020s, before economy moves to trend growth

The tightening of monetary policy will precipitate an overall slowing of economic growth in the mid-2020s. But as consumers and businesses re-adjust to the 'normalcy' of higher interest rates – although at much lower levels than the 2000s and 2010s – investment and consumer spending will return to long term trend (or potential) rates of growth over the second half of the 2020s with an initial rebound in GDP growth to 3.1% in FY28.

Potential growth will slow primarily due to a smaller contribution from labour force growth compared to pre-covid history. Net overseas migration will ease back to a more normal level (after the strong rebound over the next 3 years), and the contribution from natural increase (births minus deaths) will also moderate. The relatively large cohort of Australians aged 65+ moving into retirement will also place downward pressure on the labour force participation rate, although this will continue to be somewhat alleviated by relatively high net immigration.

3.2 AUSTRALIAN CAPITAL TERRITORY ECONOMIC OUTLOOK

The Australian Capital Territory economy experienced strong growth over the 5 years to FY20, with Gross State Product (GSP) averaging 4% per annum and State Final Demand (SFD) averaging 3.2% p.a. The key driver of growth was the reversal of the Commonwealth government's earlier austerity drive. In addition, output (i.e. GSP: gross state product) has also been helped by an apparent increase in the Territory's 'self-sufficiency', as evidenced by the faster growth in GSP output compared to SFD. Home to the vast majority of the Australian Public Service, the Australian Capital Territory's economy is based around service delivery and public administration. Government

expenditure dominates the economy of the ACT, unlike the other states (except the Northern Territory). In FY21, government recurrent spending and public investment constituted 54% of State Final Demand (SFD) – compared to the more usual figure of around 22% for other states. Many other sectors are indirectly tied to the public sector, such as professional services, which has seen large increases in both GVA and employment over recent years, although this may have been linked to the NDIS rollout. The ACT economy is expected to display its usual counter-cyclical behaviour over the next 5 years.

Although the territory hasn't been immune to the economic impact of the coronavirus pandemic, the dramatic increase in government support for the economy and vaccine rollout has resulted in SFD, GSP and employment continuing to increase healthily. Government consumption (recurrent) expenditure (GCE) increased 8%, 7.7% and 4.7% in FY19, FY20 and FY21 respectively. Nevertheless, the pandemic's impact has been felt, particularly in the consumer services and hospitality sectors. Fly-In/Fly-Out traffic has been severely curtailed, which is feeding through to hotels, transport and cafes and restaurants. Offsetting this was lower net international imports which contributed to GSP. Although the ACT's international services exports declined over FY20 and FY21 (mostly education and tourism), this is more than offset by the larger decline in international services imports due to the virtual cessation of travel. In FY20 and FY21, GSP increased 3.7% and 2.8%, while SFD increased 3.1% in both years, with both measures well above the national average, similar to the previous four years.

The ACT labour market also bounced back quickly from the initial COVID-19 shock, with employment exceeding its pre-crisis level and increasing further. But momentum has faded since the June quarter, with employment now slightly below where it was a year ago. The ACT unemployment rate has been somewhat erratic lately but remains very low relative to the rest of the country at 4.8% in December 2021 and 3.2% in January 2022 (both seasonally adjusted). Government spending in response to the health crisis initially supported the local labour market, but as this unwinds and the NDIS rollout boost diminishes, government spending and employment will provide less support for the ACT economy. GCE growth is forecast to slow to 3.9% in FY22 and then decline over the following two years, as governments reverse the COVID-19 measures and attempt to rein in public sector employment and spending.

Conversely, strong growth in public investment is forecast for FY22 to FY24 as another round of public non-dwelling building projects, increased road construction and the second stage of the Light Rail project get underway. Business investment is expected to increase in FY22, boosted by government initiatives, and then rebound over FY23 and FY24, largely driven by a recovery in non-dwelling building and equipment purchases. Very strong growth in dwelling building over FY19 and into FY20 has seen the residential market move into oversupply recently and this, combined with some COVID-19 impacts, has resulted in weaker growth in FY21, with a sharp decline in dwelling investment over anticipated in FY22, some of this due to delays. A strong rebound in dwelling work done is forecast for FY23, as delayed projects come through. We then expect modest declines to occur over FY24 and FY25, due to oversupply, before declining sharply over FY26 and FY27 in the face of higher interest rates. An upturn is then projected from FY28.

Over FY22 to FY24, the scale of the recovery in the ACT economy will be much more subdued than other states (and the national average). This is because, firstly, the ACT economy didn't experience a steep downturn over FY20 and FY21, and secondly, because the key government recurrent expenditure component declines in FY23 and FY24 and only shows weak growth in FY25. Nevertheless, over the four years to FY25, SFD and GSP are forecast to average a respectable 2.3% and 2.5% p.a. respectively.

In FY26 and FY27, SFD, GSP and employment are expected to out-pace the relevant Australian averages, with SFD and GSP forecast to both increase by around 2.6%, defying the national

slowdown. Still healthy business and public investment boosts growth in FY26, but we expect stronger growth in GCE - in response to slower national growth – to bolster overall economic growth in the Territory in those two years. SFD and GSP is projected to increase by around 2.7% in FY28 (see Table 3.2).

Employment growth will continue to be underpinned by population growth and a high participation rate – the second highest of the states and territories after the Northern Territory – and a sustained lower unemployment rate. The desire to reduce the large government budget deficit (due to current stimulus packages to counter the COVID-19 impacts) will also see the Commonwealth government limit its spending increases, which will keep overall growth somewhat restrained.

Table 3.2 ACT Key Indicators

							Forecast						
Year Ended June	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Australian Capital Territory													
Total Construction Activity(*)	1.3	17.5	4.9	5.5	-4.4	-7.0	-1.2	19.7	5.1	-2.7	-5.5	-8.3	-2.1
State Final Demand	2.4	3.2	2.7	4.6	3.1	3.1	2.3	3.3	1.9	1.8	2.4	2.7	2.6
Gross State Product (GSP)	**4.3**	**3.9**	**3.9**	**4.0**	**3.7**	**2.8**	**1.9**	**3.9**	**2.2**	**1.9**	**2.4**	**2.9**	**2.7**
Employment Growth (Year Average)	1.5	2.8	3.4	-0.2	2.5	1.7	-2.2	2.0	1.3	2.3	2.5	1.9	1.5
Australia													
Total Construction Activity(*)	-5.2	-3.3	12.2	-9.2	-3.7	-0.9	4.3	12.1	5.4	-1.3	-5.6	-3.0	3.0
Australian Domestic Demand	1.4	2.3	3.4	1.5	-0.9	2.5	4.2	5.0	3.2	2.3	1.4	1.3	3.1
Gross Domestic Product (GDP)	2.7	2.3	2.9	2.1	0.0	1.5	3.6	5.2	2.8	2.4	1.9	2.1	3.2
Employment Growth (Year Average)	2.3	1.5	3.0	2.4	0.5	0.6	2.5	2.6	2.1	2.0	1.7	1.0	1.5

Source: BIS Oxford Economics and ABS

* Total construction work done in constant (real) prices as per the ABS Building Activity and Engineering Construction Activity
Total construction is the sum of new dwelling building (includes alterations and additions activity greater than $10,000), new non-building activity and new engineering construction.

4. WAGES AND INFLATION OUTLOOK

4.1 RBA CPI FORECASTS ARE USED TO CALCULATE REAL WAGES

To calculate real wage and materials cost increases, we deflate nominal price growth by deducting expected inflation. For the inflation forecast, we understand that the Independent Competition and Regulatory Commission (ICRC) prefers to use a similar methodology to the Australian Energy Regulator (AER). This methodology involves using the official near-term CPI forecasts from the Reserve Bank of Australia (RBA) and a longer-term average based on the 2.5% mid-point of the RBA's inflation target band (i.e. 2 to 3%). The RBA's February 2022 'Statement on Monetary Policy' forecast the headline CPI rate to be 3 ¾ per cent in the June 2022 quarter (giving a year average of 3.5% for FY22). An easing to 3 ¼% is forecast for the December quarter 2022 and then to 2 ¾% in each of the June quarter 2023, December 2023 and June quarters 2024 - giving a year average CPI rate of 3.2% for FY23 and 2.75% for FY24. Beyond the RBA's forecast from the SoMP, we assume the CPI eases back to 2.5% over the medium-to-long term.

The AER has adopted a changed methodology for calculating CPI inflation, according to the AER Final position paper "Regulatory Treatment of Inflation", released in December 2020. The main changes for the expected inflation projection are to reduce the length of the geometric average from 10 to 5 years and have a 'glide-path' from the end-point of the latest RBA forecast to the 2.5% mid-point by year 5 of the forecast period – with this 2.5% projection maintained until FY28. The average then used for the five years from FY24 to FY28 is 2.6%.

4.2 OUTLOOK FOR CPI

Inflationary pressures are rising

Consumer price inflation was subdued for the five years to the March quarter 2020, with annual (through-the-year or y/y) headline CPI inflation ranging between 1.0% and 2.2%; averaging 1.7%. Meanwhile, underlying inflation fell below the Reserve Bank's target 2-3% band in March 2016 and has stayed there.

Over the past 2 years, the headline CPI measure has been quite erratic, with the June quarter 2020 CPI actually declining by -1.9% q/q to be down -0.3% y/y, which was largely of due to the onset of COVID-19. The price falls flowed from a combination of the sharp downturn in consumer demand, the collapse of oil prices in the June quarter, the deferral of rents, the virtual suspension of childcare fees and other education fees, the deferral of health care rises and a range of other measures to 'administrated' prices in response to the COVID-19 'shock'. The reversal of many of these influences over the subsequent five quarters has seen the CPI move back to 3.0% y/y in the September quarter 2021. Significantly, the September quarter saw underlying (or core) inflation – which excludes the extreme price movements, such as the 'usual' petrol price volatility – move back into the RBA's 2-3% target range for the first time since the December quarter 2015. Overall, headline CPI inflation averaged 1.6% in FY21, following the 1.3% recorded in FY20.

Brisk headline inflation in Q4 was driven by several transitory factors that are expected to fade beyond the first half of 2022. Fuel prices increased 6.6% q/q, with higher oil prices boosting travel-related components and adding to freight costs. Inflation for consumer durables (motor vehicles, clothing & footwear, furniture & household items) recorded the strongest quarterly outcome since 2009 (1.5% q/q) due to a combination of supply-chain discounting compared to the previous quarter. We expect fuel prices will increase again in Q1, and it will take some time for supply networks to completely normalise. But these pressures will abate over 2022, and their absence will cool headline inflation materially.

But over the past two quarters, there has been a noticeable broadening of inflationary pressures across components in the CPI. This has contributed to an increase in underlying inflation, which was 1.0% q/q in Q4, lifting the y/y pace to 2.6% y/y – just above the mid-point of the RBA's target range. In annualised terms and by CPI weight, around 57% of the components in the index recorded inflation faster than 3% in Q4, up from just 36% two quarters prior. This pickup has been a direct result of a sharp fall in items with inflation of less than 2%.

Inflation is primarily being driven by transitory factors. Inflation in these components remains strong, boosted by rising fuel prices and supply-chain disruption for imported goods. Supply-chain impacts have also caused a pickup in exchange-rate sensitive inflation. But the most material change over the past two quarters has been the increase in procyclical, or "labour-market sensitive" inflation components. These components include a range of market services, where prices are largely driven by domestic factors including labour costs. With the labour market already at a point of limited spare capacity and expected to tighten even further in 2022, we expect these components will drive the inflation profile in the coming year, mitigating the fallback in inflation that will occur when supply disruptions abate and fuel prices correct.

Another important component of procyclical inflation is the cost of constructing a new dwelling. Cost inflation in the construction sector has been escalating since the start of 2020, with the input cost measure increasing by 11.1% y/y in Q4. This has been due to both the surge in construction work generated by the HomeBuilder subsidy, and materials and labour shortages caused by this additional demand and exacerbated by supply bottlenecks and workplace restrictions. Until the past few quarters, subsidy payments had weighed on out-of-pocket costs for consumers, keeping a lid on CPI inflation. But with these payments tapering off, CPI inflation in the dwelling construction component has started to move more in line with cost pressures, rising to 7.5% y/y in Q4 2021. Our view is that construction cost inflation will slow in the coming quarters, but over the next year it will remain at a fast pace relative to its history.

Price and wage inflation to increase back toward historical averages over the next 2 years

Both underlying and headline inflation are expected to largely remain in the RBA's 2-3% target range over the forecast period. Supply-side pressures have further to run and will continue to drive headline inflation in H1 2022. But the broadening of inflation pressures makes us more confident in demand-driven inflation emerging through the year and filling the gap that will be left when supply-related cost pressures diminish. Moreover, the labour market enters 2022 in a stronger position than anticipated, with the unemployment rate currently at 4.2%. This will contribute to wage pressures.

Some structural factors may also add to inflation, such as a return to higher rental and food inflation. Food accounts for over 10% of CPI basket (excluding meals out and takeaway food). Food inflation had averaged around 2.8% p.a. over the 25 years to 2014 but had been very weak over the five years to FY19 (averaging only 1.1% p.a.), which was a key factor which muted prices over recent years. This was due to intense competition between the major supermarkets and falling or weak global agricultural prices. The supermarkets cannot keep cutting prices (and either their own margins or suppliers' margins), while world agricultural prices will pick up over the medium term as global oversupply dissipates.

BIS Oxford Economics' forecast for headline CPI inflation (in year average terms) is 3.5% in FY22, before easing to 2.7% in FY23, as fuel prices fall and housing costs begin to ease. Underlying inflation is expected to average 2.7% over the next two years.

Underlying and headline CPI inflation are subsequently expected to remain elevated over FY24 to FY26 as economic growth remains bouyant, profits, employment and wage growth strengthen, the unemployment rate declines and inflationary pressures re-build. Wages growth will accelerate as the unemployment rate falls back and stays below 4% over FY23 to FY26. The ongoing recovery in the

global economy will also see global inflationary pressures remain elevated, pushing up manufacturing costs and prices increase over the medium term. The rise in the A$ toward US80 cents in 2025 will provide some offsetting pressures between FY24 and FY26.

Overall, BISOE forecasts headline CPI inflation to be 2.4% in FY24, 2.7% in FY25 and 2.6% in FY26. The expected softening in the economy around mid-decade will see price and wage pressures weaken, with the CPI to ease back to around 2.3% over FY27 and FY28, before again rising to 2.5% over the latter years of the 2020s (see figure 4.1). Our forecasts are similar to current RBA forecasts.

CPI inflation projected to average close to 2.5% over the medium-to-long term

Headline CPI inflation is expected to sit close to the mid-point of the RBA's 2-3% target band in the long run based on the following:

- Tradeables inflation, which currently constitutes around one-third of the CPI basket, is forecast to increase by an average of around 1% to 2% per annum contributing around 0.5% to annual inflation. Limited movements in the A$, steady (but subdued) increases in global manufacturing costs and some commodity price increases underpin this projection.
- Non-tradeables inflation comprises the remaining two-thirds of the basket, but this proportion is increasing due to the move toward services and higher price inflation (than tradeables). It is assumed to increase by around 2.5-3% per annum, contributing around 2% to headline inflation. This is weaker than the 3.7% average achieved from 2001 to 2015 when relatively high wage inflation, lower than average productivity growth to 2009 and also large rises in utilities prices pushed non-tradeables inflation to well outside of the RBA's 2 to 3% target range. We expect higher wages growth in the longer term and lower long-term productivity will also contribute to the maintenance of relatively high non-tradeables inflation.

4.3 NATIONAL WAGES

The key determinants of nominal wages growth are consumer price inflation, productivity, the relative tightness of the labour market (i.e. the demand for labour compared to the supply of labour), and compositional (structural) changes in the labour market following the end of the mining investment boom.

Low wages growth over recent years

Wages growth has been relatively weak over the past 8 years, primarily due to weaker demand for labour, caused by both cyclical and structural factors. Among the underlying structural changes causing this unspectacular wage growth are increasing market flexibility and casualisation of the work force (what is commonly coined the 'gig-economy'), falling union membership, slower productivity growth and the effects of lower inflation expectations. Low wages growth is both a product of and key cause of low underlying inflation. Low wages are keeping business costs down and thus muting upward price pressures, while a significant section of pay deals are being set in line with CPI inflation – especially for employees on awards.

The unemployment rate and underemployment rate are key indicators of the amount of slack in the labour market. The unemployment rate was just above 5% over the two years to the March quarter 2020, before the COVID impacts. Historically this rate was seen as close to the NAIRU, (the Non-Accelerating Inflationary Rate of Unemployment or the `natural rate of unemployment'), but our latest research suggests that the natural rate has lowered in recent years, as a result of falling rates of unionisation and increasing casualisation. In addition, the relatively high underemployment rate suggested spare capacity in the labour market. The high underutilisation rate – the sum of

unemployment and underemployment – reflected considerable slack in the labour market, which limits the bargaining power of workers and reduces pressure on wages.

Wage growth now rebounding, and will lift further as labour market tightens

Wage growth in terms of the wage price index (WPI) and average weekly earnings measures had been showing signs of improvement over the second half of 2018 to the March quarter 2020 at an average of 2.3% in terms of annual increases. However, the impact of COVID-19 pandemic saw employment plummet and dramatically lift the unemployment and underemployment rates over the June quarter 2020. This reversed the nascent improvement in wages that had been building. Widespread wage freezes and very modest wage increases saw WPI growth weaken over FY21, with year average growth of 1.5% in the All Industries WPI.

Contributing to wages growth in FY21 was the increase in the National Minimum Wage (NMW), which was awarded by the Fair Work Commission at its Annual Wage Review in June 2020 – to be paid to workers in different industry sectors on a staggered timetable over 2020/21. Given the prevailing circumstances back then, the FWC only awarded a 1.75% increase – down from the 3.1% to 3.5% increases of the past 3 years, but which the FWC deemed prudent to provide the poorer paid workers with an adequate wage. Although only 13% of full-time workers (a much higher proportion for part-time workers) rely on the annual increase in the minimum wage as their primary wage-payment mechanism, a significant proportion of workers are also indirectly influenced by the NMW increase, as it usually flows onto industry awards. Furthermore, some industries that were less affected by the COVID-19 impacts also received pay rises over FY21.

Fig. 4.1 Australia: Wages and Prices

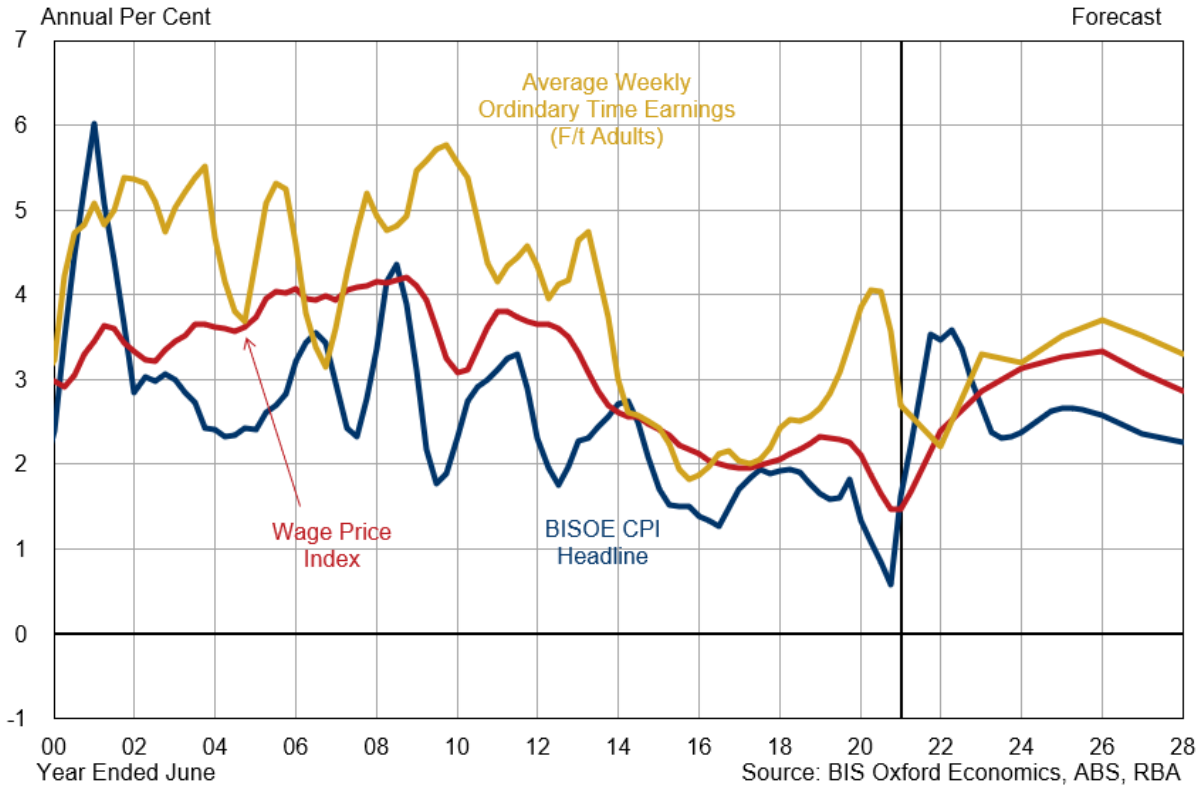
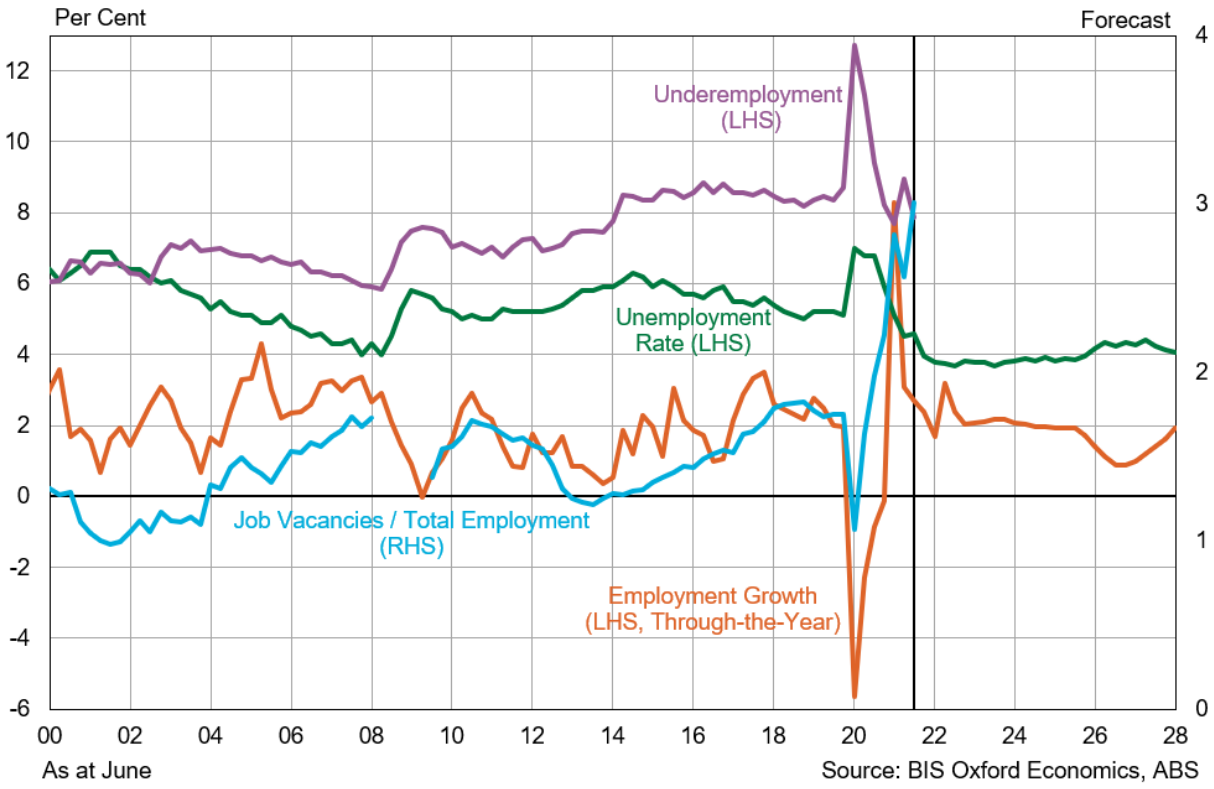


Fig. 4.2 Australia: Employment and Unemployment



As the economy and employment rebounds through FY22, growth in the All Industries WPI is expected to exhibit a modest recovery, rising to 2.4%. Part of the rebound will be driven by deferred pay increases from 2020 and 2021 and the ending of most pay freezes. The higher increase in the NMW – the Fair Work Commission awarded 2.5% effective July 2021 – will also underpin higher increases. Another key element which will add to wage pressures over FY22 and FY23 is the rapid tightening in the labour market that is now apparent. Employment at the beginning of 2022 is now well above pre-COVID levels, with the unemployment rate at 4.2% and labour force participation rates at record levels. The cessation of international migration to Australia since March 2020 has seen population growth plummet to just 0.2% in the year to June 2021, while the growth in the working age population (above 15 years old) has increased by only 45,000 (+0.2%) over the past year, compared to over 330,000 persons in FY19 and in the year to March 2020. Growth in the labour force has been facilitated by a marked increase in the labour force participation rate to record levels. However, there is now little scope to raise the participation rate further, and, with the underemployment rate pushing lower and job vacancies well above pre-COVID levels, wage pressures are building.

As the economy continues to strengthen over FY23 to FY25, we expect to see further improvement in the labour market, with labour demand increasing and the unemployment rate falling below 4% by mid-2022 and remain around 3.8% over FY23 to FY25. We expect to see skill shortages manifest in many areas of the economy. The tightening labour market will see wage pressures increase, and the All industries WPI is forecast to increase to 3.3% in FY25 and FY26, before easing over the subsequent 2 years as the economy cools and the unemployment rate rises back over 4%.

Forecasts for All industries wages are detailed in Table 5.1 and the Summary table in the Executive Summary. Overall, using RBA CPI forecasts, real (inflation-adjusted) WPI growth for the Australian All Industries WPI is forecast to decline in FY22 and FY23 as CPI inflation out-paces WPI growth.

Thereafter, with WPI growth strengthening and CPI inflation easing, there will be positive growth in real wages from FY24 to FY28. Over the five-year period from FY24 to FY28, the real rate of increase is forecast to be 0.6%.

4.4 AUSTRALIAN CAPITAL TERRITORY ALL INDUSTRIES WAGE OUTLOOK

Over the five years to FY19, the ACT All Industries state average WPI growth was much weaker than the national average, averaging -0.3% lower than the national average. This is despite economic growth largely out-pacing growth in the national economy, in terms of state final demand (SFD) and Gross State Product (GSP), for most of those five years; and despite the ACT having a lower unemployment rate than the national average. Lower wage growth in the dominant public sector in the ACT was partly responsible for the relatively lower wage growth, with ACT public sector wages averaging around -0.2% lower than the ACT All Industries average. In June 2020, ABS data estimated the public sector workforce was around 43% of total ACT employment. However, in FY20, the All Industries WPI in the ACT outpaced the national average, increasing to 2.3% compared to the 2.1% for the national average. In FY21, with the ACT All Industries WPI forecast increased by 1.4% compared to the 1.5% for the national average, with widespread pay freezes in the Commonwealth public service pushing wages growth down. In FY22, the ACT All industries WPI is expected to be slightly higher than the national average.

Over the FY23 to FY28 period, we expect the ACT all industries WPI to continue track the movements in the Australian average, but with the ACT average slightly below the national average. The lower wage growth in the ACT vis-à-vis the national average is in line with the growth differentials between the ACT and Australian economy, although lower wage growth in the ACT public sector will continue to keep overall wages growth relatively muted.

In the five years to FY28, we are forecasting the total state (All Industries) WPI in the ACT to average 3.1% in nominal terms, close to the national average. In real (inflation-adjusted) terms, the average annual increase is forecast to be 0.5% (see Summary Table).

5. WAGES OUTLOOK FOR ELECTRICITY, GAS, WATER & WASTE SERVICES

5.1 NATIONAL EGWWS WAGES OUTLOOK

Utilities wage growth is forecast to continue to outpace the national 'all industries' average over the forecast period.

The national (Australia-wide) Electricity, Gas, Water & Waste Services (EGWWS or 'utilities') wage price index growth has consistently been above the national (All Industries) average since the index's inception in 1997 and averaged 0.6% higher over the past two decades (see Table 5.1 and Fig 5.1). Over these two decades, the average growth in the real (inflation adjusted) WPI was 1.3%. Since the collapse in wages growth following the end of the mining boom, the EGWWS WPI has continued to outpace the All Industries average, increasing by an average of 2.5% over the past 6 years to FY20 inclusive, 0.3% higher than the 2.2% national average.

Over the next seven years to FY28 inclusive, the EGWWS WPI at the Australian level is forecast to average 3.1% p.a., 0.1% above the All Industries WPI average. Over the 5-year period from FY24 to FY28 inclusive (Icon Water's next regulatory period) the Australian EGWWS WPI is forecast to average 3.4%, which will be 0.3% above the All Industries average. In real terms, the Australian EGWWS WPI is forecast to average 0.8% p.a. over the five years to FY28. Note that these forecasts include the impact of the SG increase, which is expected to see the EGWWS WPI be -0.1% lower over FY22 to FY26 than if the SG increase did not proceed on the current proposed timetable. Excluding the SG increase impact, the overall real average of 0.8% over FY24 to FY28 is less than the 1.0% p.a. averaged over decade to FY20. In terms of the historical difference vis-à-vis the All Industries WPI average over the past decade, the 0.3% difference over FY24 to FY28 is slightly lower than 0.4% difference of the past decade (see figure 5.1 and Table 5.1).

BIS Oxford Economics regards the WPI to be a measure of the *underlying* wages growth in the utilities sector for total Australia. In terms of total wage costs — expressed in Average Weekly Ordinary Time Earnings (AWOTE) — BIS Oxford Economics expects EGWWS AWOTE to average 3.6% per annum over the five years to FY28, 0.2% higher than the EGWWS WPI(see Table 5.1). Our AWOTE forecasts are higher due to compositional effects. Apprentices, trainees and numbers of new staff have increased markedly over recent years, across the electricity, gas and water sector generally. Given slower growth in employment numbers over the next decade, it is likely that there will be overall up skilling of the existing workforce, which will see a commensurate movement by much of the workforce into higher grades (i.e. on higher pay), resulting in higher earnings per employee.

Wages growth in the EGWWS sector is invariably higher than the total Australian national (all industry) average.

During the COVID-19 crisis, the EGWWS sector fared much better than just about all other sectors, along with the Education, Health & Social Assistance and Finance and Insurance sectors, in terms of wage increases over FY20 and FY21. However, relatively low quarterly increases of 0.1% in each of the March and June quarters 2021 has seen annual growth in the EGWWS WPI slip below the All Industries average for only the second time in the past two decades. Overall, we expect EGWWS WPI growth to be 1.7% in FY22, around 0.7% lower than the All Industries average. We believe this will be

a short-lived aberration and that the EGWWS WPI will rebound strongly over the next year to again outpace the national average.

Table 5.1 Total Australia (All Industries) and Electricity, Gas, Water and Waste Services Average Weekly Ordinary Time Earnings and Wage Price Index (Year Average Growth)

Year Ended June	Average Weekly Ordinary Time Earnings ([1])				Wage Price Index ([2])			
	All Industries		Electricity, Gas, Water and Waste Services		All Industries		Electricity, Gas, Water and Waste Services	
	$	%CH	$	%CH	Index	%CH	Index	%CH
2002	847	5.4	981	6.8	76.7	3.3	73.8	4.2
2003	890	5.0	1,001	2.1	79.3	3.5	76.8	4.1
2004	932	4.7	1,057	5.5	82.2	3.6	79.9	4.1
2005	973	4.4	1,091	3.2	85.3	3.7	83.3	4.3
2006	1 018	4.6	1,111	1.9	88.7	4.1	87.6	5.2
2007	1 054	3.6	1,152	3.7	92.2	3.9	91.8	4.8
2008	1 106	4.9	1,183	2.7	96.1	4.1	95.7	4.2
2009	1 166	5.5	1,255	6.1	100.0	4.1	100.0	4.5
2010	1 231	5.6	1,351	7.6	103.1	3.1	104.4	4.3
2011	1 283	4.2	1,474	9.1	107.0	3.8	108.7	4.2
2012	1 338	4.3	1,510	2.5	110.9	3.6	112.5	3.5
2013	1 400	4.6	1,602	6.1	114.6	3.3	117.3	4.2
2014	1 442	3.0	1,635	2.0	117.6	2.6	121.1	3.2
2015	1 477	2.4	1,646	0.7	120.4	2.4	124.5	2.8
2016	1 505	1.9	1,704	3.5	123.0	2.1	127.5	2.4
2017	1 536	2.0	1,777	4.3	125.4	2.0	130.3	2.2
2018	1 573	2.4	1,818	2.3	127.9	2.1	132.9	2.0
2019	1 615	2.7	1,842	1.3	130.9	2.3	136.6	2.8
2020	1 677	3.9	1,896	2.9	133.7	2.1	140.2	2.7
2021	1 722	2.7	1,927	1.6	135.6	1.5	142.7	1.8
Forecasts								
2022	1 760	2.2	1,970	2.3	138.9	2.4	145.2	1.7
2023	1 818	3.3	2,037	3.4	142.9	2.9	149.6	3.0
2024	1 877	3.2	2,109	3.5	147.5	3.2	154.5	3.3
2025	1 944	3.5	2,188	3.8	152.4	3.3	160.1	3.6
2026	2 016	3.7	2 271	3.8	157.6	3.4	165.9	3.6
2027	2 087	3.5	2 352	3.6	162.6	3.1	171.6	3.4
2028	2 155	3.3	2 430	3.3	167.3	2.9	177.0	3.2
Compound Annual Growth Rates (3)								
2000-2010	4.9		4.5		3.7		4.3	
2010-2020	3.1		3.4		2.6		3.0	
2021-2028	3.3		3.4		3.0		3.1	
2023-2028	3.5		3.6		3.2		3.4	

Source: BIS Oxford Economics, ABS

(1) Earnings per person for full-time adults. Data is year ended May (data ony available at November and May)

(2) Ordinary time hours excluding bonuses.

(3) CAGR (Compound Annual Growth Rates) for 2023-2028 represents theaverage growth for 2023/24 to 2027/28 inclusive (ie next Revenue Determination period).

To a large extent, higher relative wages growth been underpinned by strong capital works program in the utilities sector over the past two decades (and particularly up to 2013 - resulting in robust employment growth over the same period), strong competition from the mining and construction workers for similarly skilled labour and the powerful influence of unions in the utilities sector.

In addition, the electricity, gas and water sector is a largely capital intensive industry whose employees have higher skill, productivity and commensurately higher wage levels than most other sectors. Further, the overall national average tends to be dragged down by the lower wage and lower

skilled sectors such as the Retail Trade, Wholesale Trade, Accommodation, Cafés and Restaurants, and, in some periods, also Manufacturing and Construction. These sectors tend to be highly cyclical, with weaker employment suffered during downturns (such as the recent COVID-19 inspired downturn) impacting on wages growth in particular. The EGWWS sector is not impacted in the same way due to its obligation to provide essential services and the need to retain skilled labour.

Strong Union presence in the utilities industry and higher collective agreements outcomes pushes utilities wages above the All Industries average.

Trade unions are typically able to negotiate higher-than-average wage outcomes for their members through collective bargaining, resulting in stronger wage growth than the all-industry average. Across the EGWWS sector, there are a number of utilities unions such as the Communications, Electrical and Plumbing Union (CEPU) and Australian Services Union (ASU), which have a history of achieving high wage outcomes for the sector. Other unions active in the sector include the Australian Workers Union (AWU).

As at May 2018, 64.6% of full-time non-managerial employees in the EGWWS industry have their wages set by collective agreements, considerably higher than the national average of 38.4%. Over the past 10 years, a higher proportion of workers on collective agreements is associated with higher wage growth, with a correlation coefficient of +0.6 (see Figure 5.2). As we expect that the EGWWS industry will continue to have higher levels of unionisation than the national average, we expect that unions in the EGWWS industry will continue to negotiate higher wages for a substantial proportion of EGWWS employees, resulting in EGWWS wages growing faster than the national average.

Collective bargaining dominates the pay setting arrangements in the utilities sector, while the relative absence of workers relying on (often) low-increase awards (set in the National Wage Case) means the overall average level of total utilities wages (in A$ terms) will generally be higher than the All Industries average. Over the outlook period, we expect collective agreements in the EGWWs sector to achieve average increases of 3.4%, compared to 3.2% for All Industries.

Figure 5.1 Wage Price Index - Australia All Industries, Electricity, Gas, Water & Waste Services, and Construction

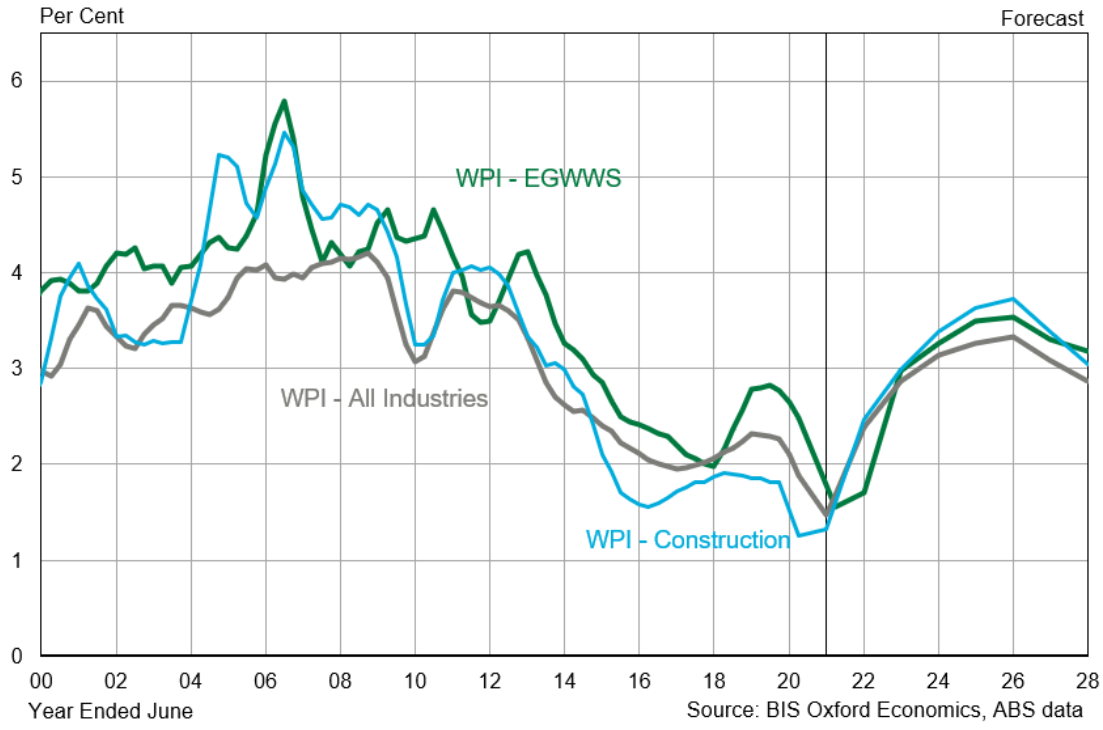
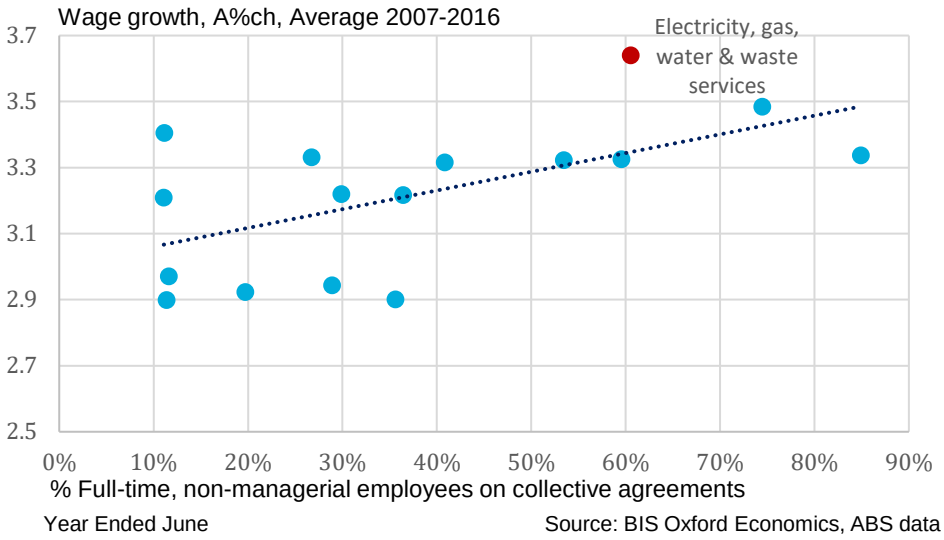


Figure 5.2 Average wage growth and unionisation rates by industry, 2007-2016



Year Ended June

Source: BIS Oxford Economics, ABS data

BIS Oxford Economics analysis shows collective agreements in the EGWWS sector were on average around 1.5% higher than CPI inflation over the 15 years to FY2014 (excluding the effects of GST introduction in 2000/01). In the six years to FY20, collective agreements were on average 1.4% above the CPI. Given the strength of unions in the sector and strong demand for skilled labour, collective agreements are forecast to remain around 0.8% above the 'official' CPI over the forecast period, which is lower than previous periods.

As well as increases in CPI, increases in collective agreements under enterprise bargaining are also influenced by a combination of inflationary expectations, the recent profitability of relevant enterprises, current business conditions and the short-term economic outlook, and, as mentioned, by the industrial relations 'strength' of relevant unions. Because the average duration of agreements runs for two-to-three years, BIS Oxford Economics bases its near-term forecasts of Enterprise Bargaining Agreement (EBA) wages on the strength of recent agreements, which have been formalised or lodged (i.e. an agreement has been reached or approved) over recent quarters.

However, EBA outcomes were weaker over FY21 and are expected to remain subdued in FY22, compared to the 5 years to FY20, when EBAs averaged around 2.9%. EBAs in the EGWWS industry have been dragged down by an extremely low agreement in Western Australia in the June 2021 quarter and a relatively low agreement in NSW in the September quarter, which will have a short-term impact as both sets of agreements run for less than 2 years. We expect the next rounds of EBAs negotiated in the sector to rise strongly over the next two years, due to a number of factors: CPI inflation will remain over 3%; the demand for skilled labour remains strong; and the recent high enterprise agreement outcomes in the construction sector will influence negotiations in the EGWWS sector, as some skills can be transferable.

We believe investment in the sector, particularly engineering construction, has been the key driver of employment growth in the sector over the past two decades. Figures 5.5 and 5.6 illustrate this relationship, and shows employment has a much stronger relationship with utilities engineering construction rather than utilities output.

Wage increases under Individual agreements and EBAs will strengthen from FY24 due to tight supply and stronger demand for skilled labour from the Mining and Construction sectors.

Increases in individual agreements (or non-EBA wages) are primarily influenced by the strength of the labour market (especially the demand-supply balance of skilled labour), inflationary expectations, the recent profitability of relevant enterprises (which influences bonuses and incentives, etc.), current business conditions and the short-term economic outlook.

The overall labour market is expected remain tight over the next year, with the unemployment rate to fall back under 4% due to an acceleration of employment growth through calendar 2022 and FY23 and FY24, which will outpace population and labour force growth and see the unemployment rate remain under 4% over the next few years. Hence, we expect to see the emergence of critical skilled labour shortages and competition for scarce labour, particularly from the mining and construction sectors, which will push up wage demands in the utilities sector. Mining investment is now picking up and is forecast to see significant increases over the next 3 years to FY24 and remain at elevated levels to the end of the decade (see figure 5.3). Meanwhile, there is similar strong growth coming through in in the Construction sector, with solid increases across all segments of the overall construction sector (residential construction, non-residential building and civil engineering & infrastructure construction) over FY22 to FY25, leading to strong labour demand in that sector, particularly from 2024 when activity surpasses the 2018 levels (see figure 5.4).

Employers are already reporting an increasing shortage of technicians and trade workers, and employees with STEM skills. These are essential workers in the utilities sector. A key problem is that the TAFE (technical and further education) systems across the country have simply not been training enough workers. BIS Oxford Economics research shows this is compounded by new graduates in the trades stream, in particular, not increasing fast enough to replace retiring workers, with some numbers actually falling. Despite government announcements that they are moving to address the TAFE system, it is unlikely that these issues will be addressed within the next 5 years. Added to this is that skilled immigration has been suspended. When it does return, it is likely to be a slow ramp-up, meaning that the skill shortages will persist and won't be easily or quickly solved by migration.

Figure 5.3 Australia – Mining Investment

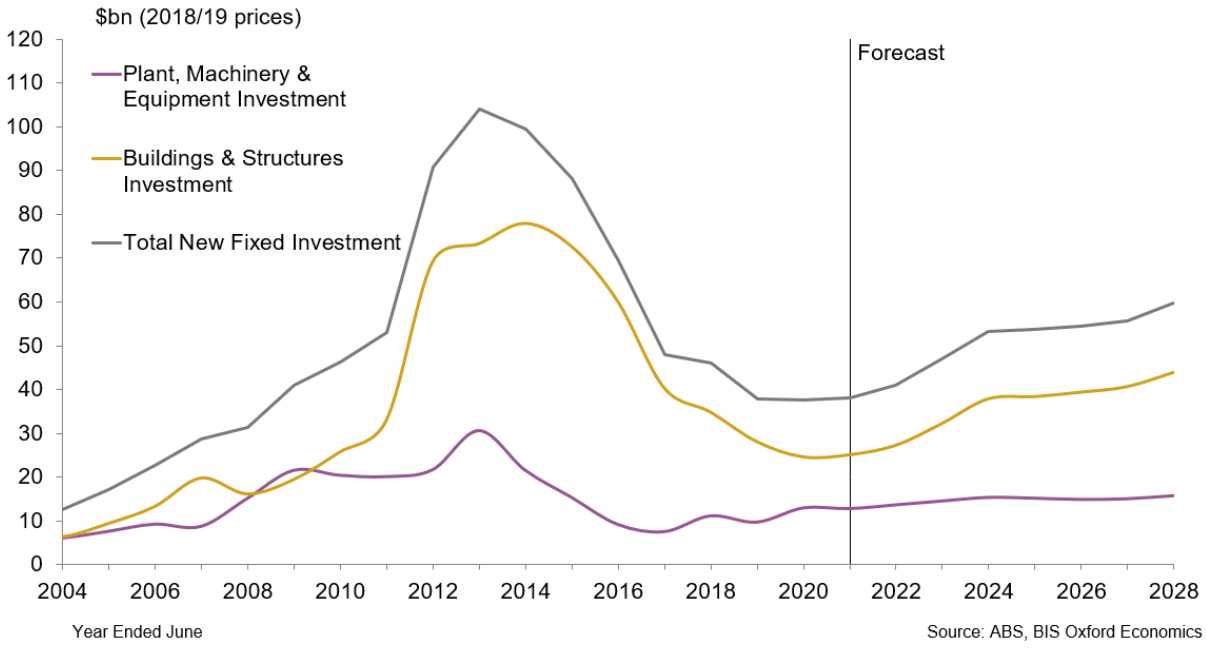
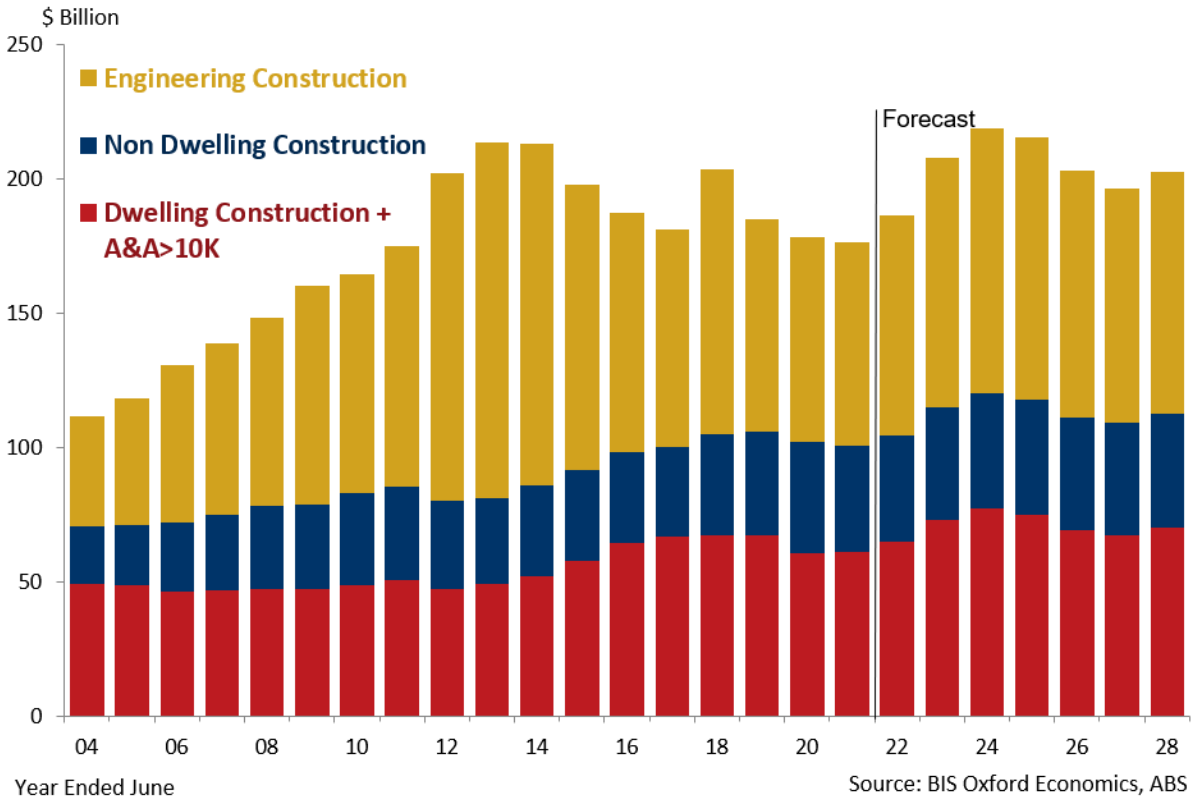


Figure 5.4 Australia – Construction Activity (real work done)



With strong competition for similarly skilled labour from the mining and construction industries, firms in the utilities sector will need to raise wages to attract and retain workers. In other words, the mobility of workers between the EGWWS, mining and construction industries means that demand for workers in those industries will influence employment, the unemployment rate and hence spare capacity in the EGWWS labour market. Businesses will find they must 'meet the market' on remuneration in order to attract and retain staff and we expect wages under both individual arrangements and collective agreements to increase markedly over the FY23 to FY26 period.

EGWWS sector has high levels of productivity, compared to the national average, which underpins higher wages.

The EGWWS sector has one of the highest levels of sectoral productivity – as measured by real Gross Value Added (GVA) per employed person – among the 18 industry sectors, with only Mining and Finance & Insurance Services having higher productivity. Utilities' productivity is more than double the national average according to ABS data for Australia and well above the average for New South Wales (see figure 5.7). High productivity levels and commensurate skill levels are the key reasons why wage levels are much higher in the utilities sector than most other industries (in terms of average weekly earnings measures – see table 5.1).

However, over the past 18 years, the growth in productivity in the sector has not been a driver of higher wages growth in the utilities sector. Productivity declined over 2001 to 2014 due to a combination of strong employment growth (mainly due to rising investment, as previously discussed) and weak growth in GVA, both in Australia and the ACT (see figure 5.5 and 5.6). Meanwhile, utilities wages growth was relatively strong over this same period. In effect, there is no clear relationship

between wages growth and the traditional productivity measures (i.e. GVA/Employment) in the utilities sector. Low productivity is set to continue in part because GVA (output) growth is expected to remain low, with low output a function of low demand caused both by high prices and energy-saving (and water-saving) measures. However, employment levels are expected to remain relatively stable due to the need to maintain a skilled workforce to ensure reliability and undertake capital works to cater for population and economic growth and for capital replacement.

5.2 OUTLOOK FOR UTILITIES WAGES GROWTH IN THE AUSTRALAIN CAPITAL TERRITORY

The ABS does not provide WPI data for the Utilities sector in ACT, providing state utilities data only for NSW, Victoria and Queensland (the latter since early 2019). These three states collectively account for 73% of total Australian utilities employment, with South Australia accounting for 8% (and Western Australia 14%). Historical data and forecasts of WPI for the EGWWS sector in the ACT is therefore based on national EGWWS WPI forecasts, as well as movements in the 'unknown residual' for the utilities WPI and differences in outcomes in collective bargaining in the ACT compared to the national average for the utilities sector.

ACT EGWWS WPI growth is estimated to have declined sharply over FY21 to 1.9% (in nominal terms), from an estimated 2.7% in FY20, due to the impact of the COVID-19 outbreak on wages. ACT EGWWS WPI growth is forecast to ease to 1.7% in FY22, before increasing sharply to 2.8% in FY23, as a new round of EBAs are negotiated and non-EBA wages pick up due to higher inflation and the tightening labour market in the ACT and NSW. Thereafter, wages in the ACT utilities sector are expected to move in line with – but remain slightly lower than - the national utilities sector average through most of the forecast and regulatory period (see table 1.1). This is due to relatively weaker utilities construction and overall construction in the ACT, compared to other states.

Figure 5.5 Australia – Utilities Employment, Output, Investment & Productivity

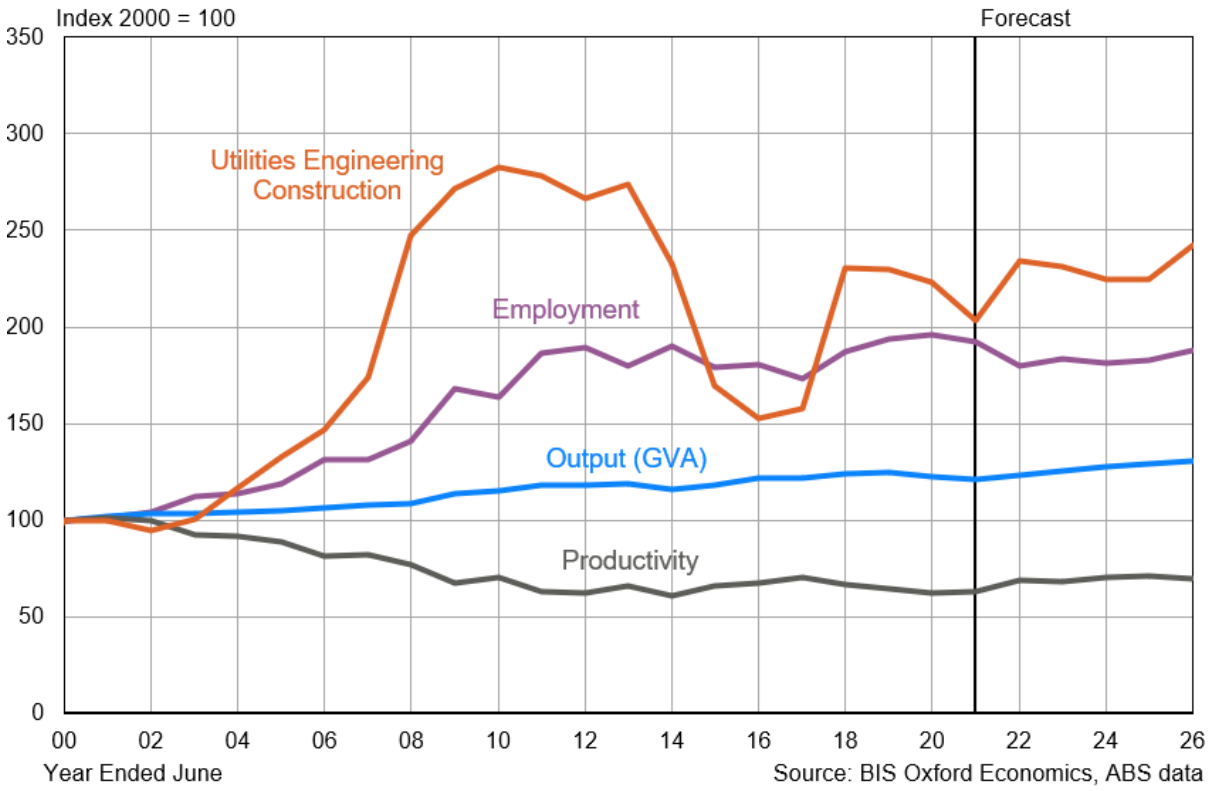


Figure 5.6 Australian Capital Territory – Utilities Employment, Output, Investment & Productivity

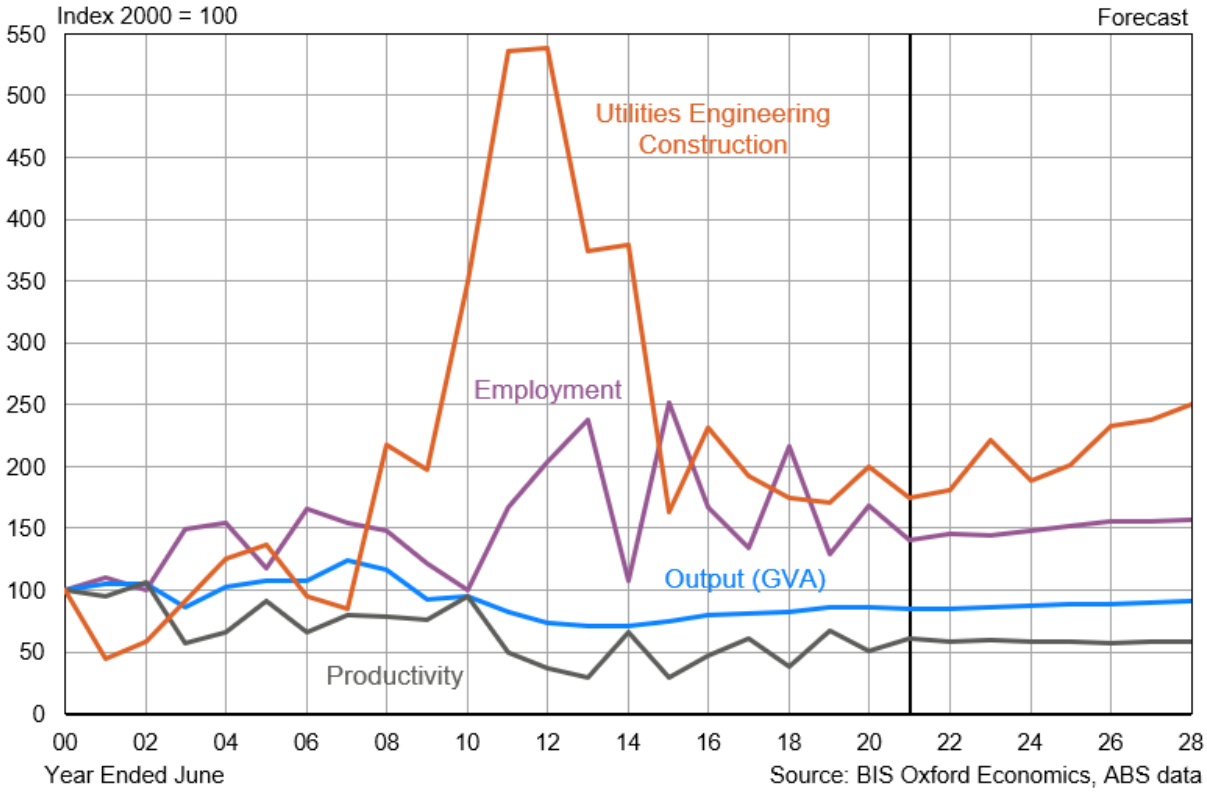
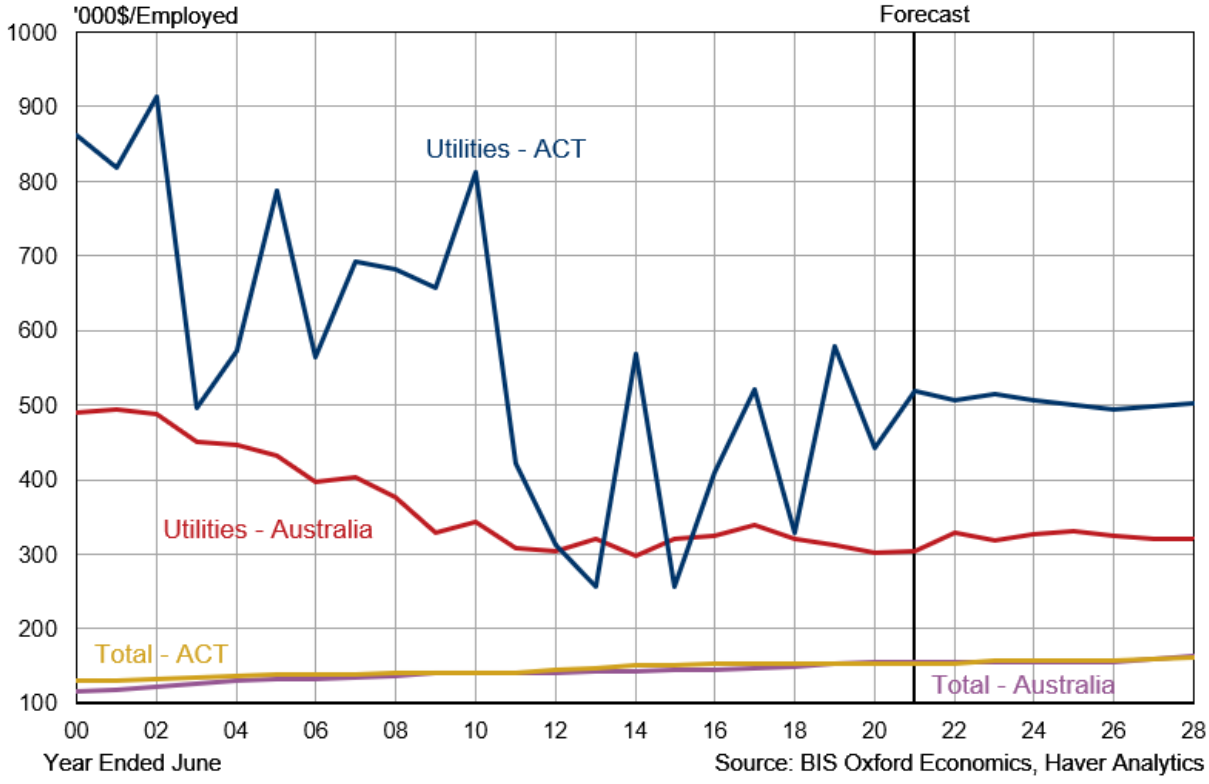


Figure 5.7 Utilities Productivity in Australia and the Australian Capital Territory



ACT EGWWS WPI growth is forecast to average 3.2% per annum in nominal terms over the five years to FY28 inclusive (i.e. over Icon Water's next regulatory period) – or 0.7% in real (inflation adjusted) terms (see Table 1.1). This WPI forecast includes the SG Increase impacts of -0.1% in each of the 5 years from FY22 to FY26 inclusive.

5.3 SUPERANNUATION GUARANTEE INCREASES & THEIR IMPACT ON LABOUR COSTS

In light of the proposed increases to the Superannuation Guarantee, BIS Oxford Economics researched the treatment of superannuation contributions in regard to how the ABS measures labour costs. The Superannuation Guarantee is proposed to increase from the current 9.5% in the early-to-mid 2020s, rising 0.5% in July each year from July 2021 to 12% in July 2025.

To summarise, the Superannuation Guarantee Charge (SGC) is **not** included in the regular wage measure preferred by the Australian Energy Regulator – the Wage Price Index (WPI). The SGC is in effect **a labour 'on-cost'**. In terms of escalating wage costs over the regulatory period, the SGC therefore needs to be **added** to the forecast increases in the WPI. The exception to this rule would be where an employer already pays a superannuation amount higher than the legislated minimum (currently 9.5%), *and* chooses *not* to increase the super % until that proportion reaches the legislated minimum.

The basic WPI measures "ordinary time payments", with the broader measure – total hourly rates of pay - including only overtime payments in addition to ordinary hourly rates of pay. The ABS description of the Wage Price Index categorically states that:

"The following are specifically excluded from ordinary time payments:

- Employer contributions to superannuation funds"[1]

Six other types of irregular payments are also listed as being excluded from ordinary time earnings, such as severance, termination and redundancy payments; leave loading; etc.

In discerning the relationship between superannuation contributions and measures of wages and earnings we must first make some distinctions in the way the ABS considers superannuation contributions. Firstly, we note that the ABS recognises three distinct categories of labour costs in-line with the International Labour Organisation (ILO) International Standard Classification of Labour Costs, and most of these components are measured by the Major Labour Cost survey (cat. 6348.0):

1. Employee earnings – made up of wages and salaries, fringe benefits and termination payments.

2. Items of a social security nature that provides a future or contingent benefit to employees – made up of superannuation contributions and worker' compensation.

3. Taxes associated with employment – includes payroll tax and fringe benefits tax.

Secondly, the ABS recognises the concept of employer "on-costs", or equivalently "non-wage labour costs". These are considered additional costs employers incur beyond direct payments for work done by employees.

Employer on-costs are generally considered as involuntary outlays as they are primarily imposed by statutory requirements or under collective bargaining agreements. Employers have the obligation to pay the minimum amount of Superannuation Guarantee (SG) to employees. The Superannuation

[1] ABS catalogue #6351.0.55.001 'Wage Price Index – Concepts, Sources and Methods, 2012', page 24.

Guarantee Charge (SGC) was introduced from 1 July 1992 and increased both the coverage and minimum contribution levels.

In the September quarter 2004, the ABS expanded the scope of its Wage Cost Index (WCI), which was a predecessor of the Wage Price Index (WPI). Prior to the expanded scope, the WCI focussed exclusively on wage and salary rates. The series was renamed to the Labour Price Index (LPI), to reflect the inclusion of four separate non-wage indexes being recorded:

1. Employer contributions to superannuation
2. Workers' compensation
3. Annual leave and Public holidays
4. Payroll tax

The ABS discontinued the non-wage and labour price indexes in the September quarter 2012 and this resulted in what we now know as the WPI.

Therefore, we can categorically conclude that WPI in its current form, does not measure employer contributions to superannuation, and therefore will not be directly influenced by any changes to the Superannuation Guarantee.

As for **Average Weekly Earnings** (AWE), earnings in this context are "broadly defined as current and regular payments in cash to employees for work done" (ABS 2018). Through to 2007, AWE excluded amounts salary sacrificed and this is now considered as a form of wages and salaries in cash. In this context we can conclude, similarly with WPI, that AWE does not include superannuation contributions and will not measure any changes to the Superannuation Guarantee.

Assumptions regarding Superannuation Guarantee Increases & Their Impact on Forecasts Wage Increases and Labour Costs

The superannuation guarantee (SG) as it is currently legislated, has the contributions from employers increasing from the current 9.5% by 0.5% on 1st July each year from 2021 to 1st July 2025. This means that it will increase in each of the first 3 years of the next regulatory period of Icon Water (i.e. over FY24 to FY26).

As discussed above, the SG increases are not included in the wage price index, but will impact the quantum of the WPI increases in each year from FY22 to FY26 (i.e. 2021/22 to 2025/26). This is based on the notion that a proportion of the costs associated with SG increases will be ultimately borne by employees, via lower wage growth than would be the case if there was no SG increase. The Reserve Bank of Australia has estimated that up to 80% of the increase in non-cash benefits, such as superannuation, are passed on to employees in the form of lower wage increases. This is referred to as the 'economic incidence' of the SG increase, whereas the 'statutory incidence' of the whole 0.5% annual SG increase falls on the employers. However, the proportion of the cost borne by employees would differ according to the form of pay-setting method and other intrinsic factors. Those employees who have their pay rises set under collective bargaining **and** who belong to a strong union with considerable industrial power are expected to ultimately receive a much higher proportion of their pay increase than those who receive their pay increase via the annual minimum wage increase (set by the Fair Work Commission) and those employees on 'individual arrangements'.

In terms of overall wage costs, the full 0.5% for the SG increases each year should be added to the forecast WPI increases in each of the years from FY22 to FY26 inclusive, to arrive at the total percentage increase in labour costs. This is in line with advice from Deloitte Access Economics (DAE) to the Australian Energy Regulator in their Superannuation Guarantee paper, that "…taking into account the uncertainty regarding how individual NSPs will respond to changes in the minimum

superannuation guarantee, it is recommended that the full 0.5 percentage point annual increase to the superannuation guarantee be added to forecast WPI growth" (page 5 of DAE impact of *Changes to the Superannuation Guarantee on Forecast Labour Price Growth,* July 2020).

In deriving the WPI forecasts, we have made the following assumptions when applying a 'discount' to the WPI in the All Industries and specific industry WPI forecasts:

1. The key underlying assumption assumes that around 49% of the economic incidence of the Superannuation Guarantee (SG) increases are passed on to employees, with employers only paying for the remaining 51% of the cost of the SG increases. This applies to the All Industries wages. This is in line with RBA research, but with adjustments for certain industries, with the incidence much lower for employees in government-dominated industries and in sectors with stronger unions. The incidence is also assumed to be somewhat lower than previous episodes of SG increases, because of the much tighter labour market than in earlier SG increases. This means that All Industries WPI growth is equivalent to 49% less than it would be in the 'alternative' case, where no SG increase occurred. In the context of a 0.5% increase each year, the impact on All Industries WPI is -0.24%.
2. The impact on employees is assumed to be evenly spread in each year, rather than unevenly spread over time. This implies wages are negotiated prior to the SG increase and spread evenly over the whole year - i.e. the impact is the same on the two half-year periods. We acknowledge this is a simplified assumption, given that often the economic incidence is not spread evenly across years, with the ultimate impacts going beyond the period of SG increases.
3. The incidence of the SG increase differs across the three different segments of pay methods. Those 13.1% of employees (full-time adults) who receive their annual pay rise via the Minimum wage case by the Fair Work Commission are assumed to receive 70% less, with those who receive payments via individual arrangements receiving 55% less. At the All Industries level, it assumed that the average of the 38.4% of employees who rely on collective bargaining receive 34% less. However, this percentage for those on collective bargains or EBAs will markedly differ across industry sectors.
4. For employees in the EGWWS sector, the base assumption is that those 64.6% of employees on EBAs will receive 5% less, with employers paying the other 95%. This assumption is based on the strength of the unions covering the EGWWS sector, plus the fact that many on EBAs in the sector have a higher superannuation rate than the base 9.5%, providing added scope to not increase the superannuation rate but pay full wage increases. Overall, the impact on the whole EGWWS WPI will be -0.1% for each of the 5 years from FY22 to FY26 inclusive.
5. At the ACT All Industries level, we expect the impact of the SG to be much lower than the Australian average, due to a much larger proportion of public sector employees in the territory. Government employees are subject to public service wage caps in the state - which do not include changes to the SG - and will largely not have their wages discounted. As at June 2020, ABS data estimated the public sector workforce was around 43% of total ACT employment. We are assuming that all these employees are subject to the wage caps. There will also be other employees (including in the EGWWS sector and construction sectors in particular) whose wages will also not be discounted, with the overall proportion of employees not having their wages discounted close to around half of the ACT workforce. Overall, the impact on the total ACT workforce will be -0.17% for each of the 5 years from FY22 to FY26 inclusive.

6. ELECTRICITY PRICE FORECASTS

Icon Water provided us with a time series of their recent nominal costs of electricity in $/MWh. We estimate that future growth in Icon Water's electricity prices will be equal to the growth in our forecast electricity price series. The forecast series breaks down an industrial user's (such as Icon Water) electricity prices into its key components (i.e. wholesale electricity prices, network prices including transmission and distribution, the cost of green schemes, and other costs). Forecasts of each of these four components were derived individually (in $/MWh) and then summed to arrive at a total electricity price series. While forecasting, we used relatively conservative assumptions deferring to official government forecasts where possible. Where no official forecast is available, we have applied our proprietary models based on conservative assumptions. Our methodology is provided in more detail below.

Wholesale electricity price forecasts

Our forecast of wholesale electricity prices has a baseline growth in line with CPI, but also considers official forecasts of marginal cost of producing electricity within the National Electricity Market (NEM), and official market announcements of generators exiting and/or entering the market – particularly in NSW. For the forecast period, the factors that have a material impact on the wholesale price forecast include the:

- Decommissioning of Liddell power station by 2022/23
- Decommissioning of Eraring power station by 2024/25
- Planned commissioning of wind and gas generators throughout the forecast period
- Coal supply contract of Bayswater power station concluding by 2027/28

Network price growth profile

We used current AER determinations for Evoenergy in the Australian Capital Territory (ACT) to track the likely path of electricity transmission and distribution prices for the current pricing period (up to 2023/24). For the following pricing period we assumed that distribution and transmission charges will approximately be equal to consumer price inflation plus population growth in the ACT.

The ACT Feed in Tariff[2] (FiT) costs have increased considerably in the current financial year for all consumers of electricity. FiT costs here refer to the small/medium and large Feed in Tariffs. For the short term (up to 2022/23), FiT costs were taken from the AEMC's Residential Electricity Price Trends report[3]. This report states the forecast growth in costs were provided directly from the ACT government. Beyond this period, we have assumed the FiT costs will increase in line with consumer price inflation.

[2] The ACT Feed in Tariff considered within the network cost component are those associated with the ACT legislation: *Electricity Feed-in (Large-scale Renewable Energy Generation) Act 2011*

[3] The AEMC Residential Electricity Price Trends:

https://www.aemc.gov.au/market-reviews-advice/residential-electricity-price-trends-2021

Costs of green schemes

The green scheme costs consist of the national schemes, including:

- Large-scale renewable energy target (LRET),
- Small-scale Renewable Energy Scheme (SRES), and
- ACT's Energy Efficiency Improvement Scheme (EEIS).

Our LRET and SRES forecasts are based on current and forward trading prices of certificates (LGC and STC, respectively)[4]. Electricity consumers pay a percentage of the certificate price per MWh of electricity consumed. These percentages are provided by the Clean Energy Regulator. We have assumed the present year percentages for the duration of the forecast.

The current cost for the EEIS was provided to us by Icon Water. We have assumed this cost will increase in line with consumer price inflation.

Other costs

Other costs consist of metering costs, NEM fees and other ACT scheme costs. They contribute a small proportion of the total electricity price. Current costs were provided by Icon Water or sourced from the ICRC. We have assumed these costs will increase in line with consumer price inflation.

Table 6.1 Electricity Price Forecasts
(per cent change, year average, year-ended June)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Average (c)
	Actuals						Forecasts		Next Revenue Determination Period					
NOMINAL ELECTRICITY PRICE CHANGES FOR INDUSTRIAL USERS														
Australian Capital Territory - Large Industrial Users	-12.4	17.0	28.4	7.8	-12.8	-0.8	25.3	3.5	2.5	2.2	7.1	4.2	3.6	3.9
Consumer Price Index - Headline (a)	1.4	1.7	1.9	1.6	1.3	1.6	3.5	3.2	2.6	2.6	2.6	2.6	2.6	2.6
REAL ELECTRICITY PRICE CHANGES FOR INDUSTRIAL USERS (b)														
Australian Capital Territory - Large Industrial Users	-13.8	15.3	26.5	6.2	-14.2	-2.4	21.8	0.4	-0.1	-0.4	4.6	1.7	1.0	1.3

Source: BIS Oxford Economics, Icon Water

(a) Inflation forecasts are RBA forecasts to June 2024 from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on a glide-path to the mid-point of RBA inflation target (2.5%) by year 5. The overall forecasts are then calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 5 years or to the end of the regulatory period, with years 3,4 and 5 CPI equal to the calculated 5-year geometric mean. This methodology is the position adopted by the Australian Energy Regulator.

(b) Real price changes are calculated by deducting the inflation rate from nominal price changes.

(c) Average for the next revenue determination period i.e. from 2023/24 to 2027/28 inclusive.

[4] Publicly traded certificate prices reported by Mercari:

https://www.mercari.com.au/environmental/

Figure 6.1 Industrial User Electricity Price Forecasts

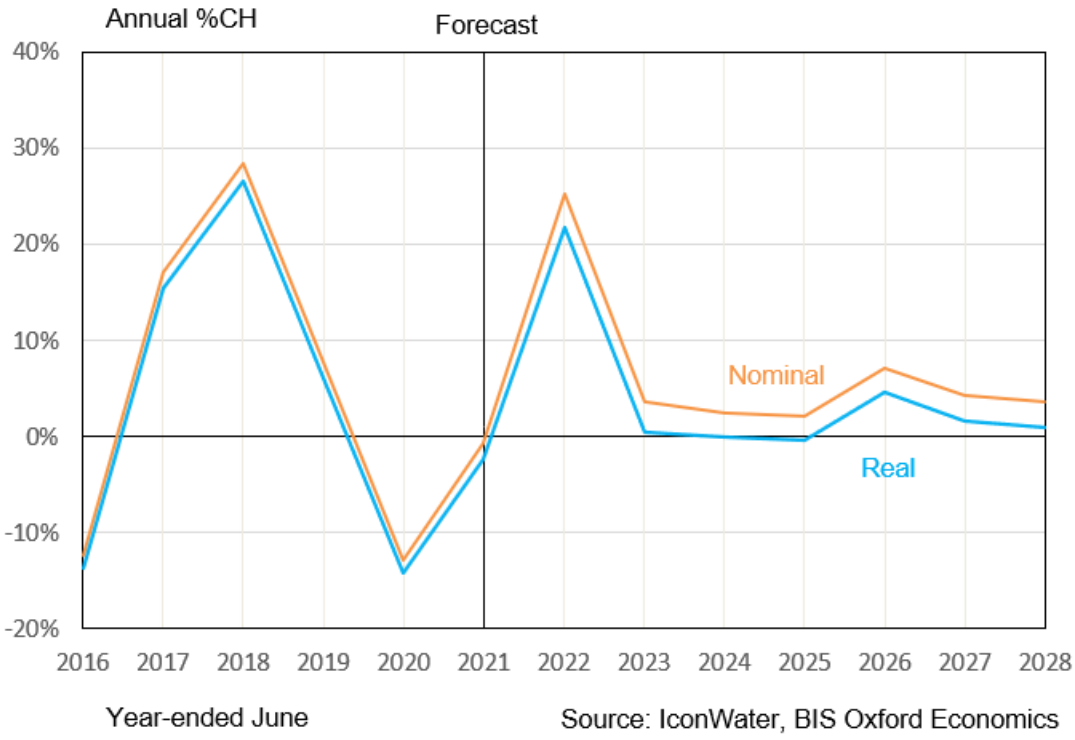
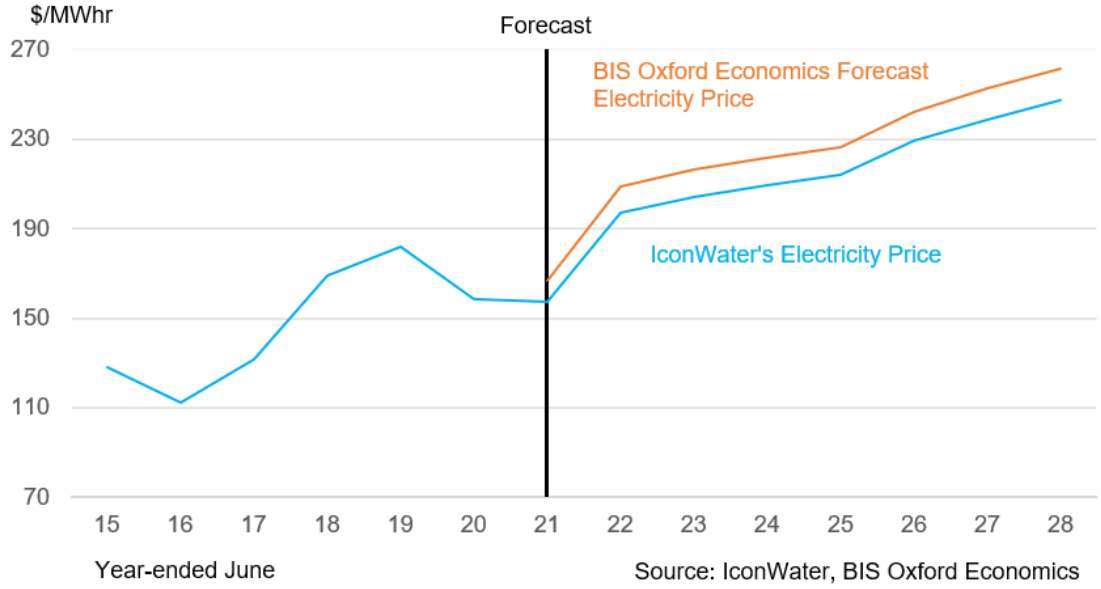


Figure 6.2 Electricity Prices – Icon Water v BISOE Re-constituted



7. WATER & SEWERAGE CONSTRUCTION IPD

The water supply and sewerage construction IPD (implicit price deflator) tracks movements in water supply and sewerage construction costs. The water supply and sewerage IPD is an input-based index, and so does not include contractor margins. For this project, we performed additional research into the construction of the IPD to find the inputs which provide the best fit to historical cost movements in the index. See Table 5.1 below for a summary of the input weightings used to forecast the IPD.

Table 5.1 Water and Sewerage IPD Input Weightings

Weights for ABS Water and Sewerage Pipe Index	
Component	**Approx Weight (%)**
Wages	60
Plant Hire & Equipment	15
Non-ferrous Pipe and Products	10
Steel	5
Concrete Slurry and Products	5
Motor Vehicle Operating Costs (incl. Diesel)	5
Total	100

Source: BIS Oxford Economics, ABS

7.1 CONSTRUCTION WAGES

Our research has shown that construction activity (ie work done in the sector) normally has a strong influence on construction wages, although changes in wages tend to lag construction (in work done terms) by around one year. Hence, our wage forecasts are based on BIS Oxford Economics forecasts of construction activity by state (which includes residential and non-residential building, plus engineering construction) as well as predicted movements in the construction wages at the national level.

Construction wages at the national level have weakened dramatically since 2011/12 and are well below the robust increases during the construction boom. While collective agreements in the sector have maintained their relative high increases over the past 4 years – between 3% and 5% – wages growth in the individual agreements segment have been very weak. Construction employees in the individual agreements segment account for around 61% of construction employees, dominating the method of pay-setting within the sector. Wage growth slowly improved from their lows of 2016, despite weaker engineering construction activity (at the Australian level).

The improvement in construction wages growth was effectively reversed in FY20 as the decline in overall construction activity and related-COVID uncertainty saw a sharp weakening in wages growth, with the Australian Construction WPI actually declining -0.5% (q/q) in the June quarter 2020 (the first decline since the WPI's inception in 1997). It then rebounded over the subsequent four quarters (over FY21), with the Australian Construction WPI growth in FY21 (in year average terms) recording 1.3%. Construction wages are forecast to rapidly improve from FY22 as construction activity recovers (see figure 5.1).

Australian construction wages are expected to strengthen appreciably over FY24 to FY26, particularly as construction activity levels surpass the previous highs of FY18 and FY13 (in 2024 - see figure 5.4)

and serious skills shortages begin to manifest. The increases in construction activity from FY22 will be driven by the recovery in residential building activity which is expected to rise out of its trough from FY23, while higher levels of non-dwelling building and rising engineering construction will also underpin higher wages due to strong labour demand and expected widespread skill shortages in the construction industry. Engineering construction will be driven by a new wave of mining investment and a plethora of publicly funded transport infrastructure projects (particularly in the eastern states of the nation).

7.2 COST MOVEMENTS IN THE IPD

The water and sewerage construction IPD remained elevated through the 2000's on the back of strong demand pressures in the construction industry due to the first phase of the mining boom. These tightened market conditions saw the index rise at an average rate of 4.5% between FY03 and FY09, building to a peak of 6.3% growth in FY09 on the back of substantial volatility in underlying commodity markets (in particular, global steel prices). The emergence of the GFC saw cost growth fall back, but renewed construction investment across both public and private sectors in the following years drove positive real price growth (i.e., above inflation rates, as measured by the CPI) – averaging 2.8% nominal growth per annum between FY11 and FY14.

After the peak in construction activity in FY14, price pressures across the industry began to subside alongside the decline in overall activity. Growth in the IPD averaged 1.1% per annum between FY15 and FY18, alongside weakened growth in wages, cement, concrete, plant and equipment hire. Recent years have seen price pressures re-emerge, the IPD rising by 3.1% in FY19 and then moving up by an average of 2.4% over FY20 and FY21. This coincides with strong price growth in steel, fuel and imported products (due to a weakening of the exchange rate).

Looking forward, we anticipate that FY22 will see the IPD move up by 4.3%, the highest rate since pre-GFC. This is a common trend among the overall construction industry. Underlying commodity markets such as oil, copper, and iron ore have driven more extreme price growth in construction inputs such as diesel, steel and electrical equipment. With respect to oil markets, numerous factors, including the loosening of movement restrictions around the world, has driven steep rises in the demand for energy commodities (oil, thermal coil, and gas) in the past quarter. Indeed, benchmark brent oil prices have continued to rise, hitting a peak of USD$93/bbl in February 2022, this period of growth flowing through to significant price rises in diesel (noting that average national diesel prices rose 10.8% in the most recent December quarter).

We expect the heightened costs to be further magnified by an influx of demand among domestic construction markets in coming years, leading to a tightening of input markets for relevant materials such as concrete and wages. A further consideration is the rising levels of inflation in the economy, wherein the recent December quarter saw a 1.3% rise in the CPI, contributing to a forecast growth rate of 3.5% in FY22. This would be the highest annual growth in inflation since pre-GFC, indeed this growth highlights the cost pressures which are already directly affecting the construction industry – the record high prices of oil (and thus fuel), and the pressure of disrupted supply chains from the prolonged impact of COVID-19. However, there are other indirect effects that will further impact the industry going forward, including strengthening pressures on wage growth due to rising inflation (which is captured in the primary drivers of the water and sewerage IPD, with the construction WPI rising by 2.5% in FY22 and then building to a peak growth rate of 3.7% in FY26).

We anticipate that FY23 will see the IPD ease to 1.9%, driven by mostly international factors – expected declines in steel prices and in oil prices will loosen price pressures over the same year. This is based on the assumption that the crisis in Ukraine is resolved, allowing a fall back in oil prices, notwithstanding lingering trade sanctions on Russian oil exports. Following this, we forecast the IPD to enter a new period of growth as construction activity across the nation moves towards a new

historical peak in construction in FY24 and FY25 (see figure 5.4). We anticipate that as the nation moves past previous peaks in construction activity (driven by the substantial program of publicly funded infrastructure and renewed investment in mining construction), the presence of capacity risks and supply constraints will begin to emerge, leading to the tightening of domestic markets as seen during the previous mining booms. Given that wages are the main influence on the IPD, rising wages will drive most of this growth, although concrete and local plant hire are expected to further support the index. Overall, we forecast the IPD to move up by 2.8% in FY24 before building to a peak of 3.2% in FY25 and then 3.1% in FY26, before dropping back in later years (in total, an average growth rate of 2.9% between FY24-28).

Fig. 7.1 Water and Sewerage IPD – Price Drivers

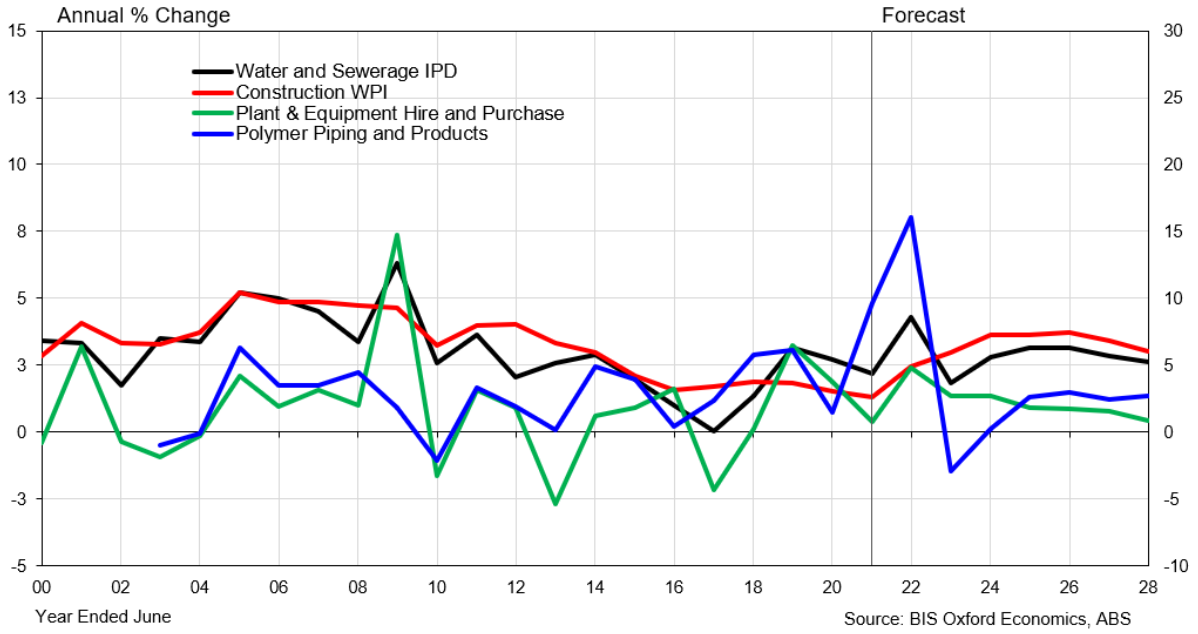


Table 7.2 Water and Sewerage IPD Forecasts
(per cent change, year average, year-ended June)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Average (c)
	Actuals						Forecasts		Next Revenue Determination Period					
NOMINAL CONSTRUCTION PRICE CHANGES														
Water and Sewerage Construction Implicit Price Deflator (IPD)	1.0	0.1	1.3	3.1	2.7	2.2	4.3	1.9	2.8	3.2	3.1	2.8	2.6	2.9
Consumer Price Index - headline (a)	1.4	1.7	1.9	1.6	1.3	1.6	3.5	3.2	2.6	2.6	2.6	2.6	2.6	2.6
REAL CONSTRUCTION PRICE CHANGES (b)														
Water and Sewerage Construction Implicit Price Deflator (IPD)	-0.4	-1.7	-0.6	1.5	1.4	0.5	0.8	-1.3	0.2	0.6	0.6	0.3	0.0	0.3

Source: ABS, BIS Oxford Economics

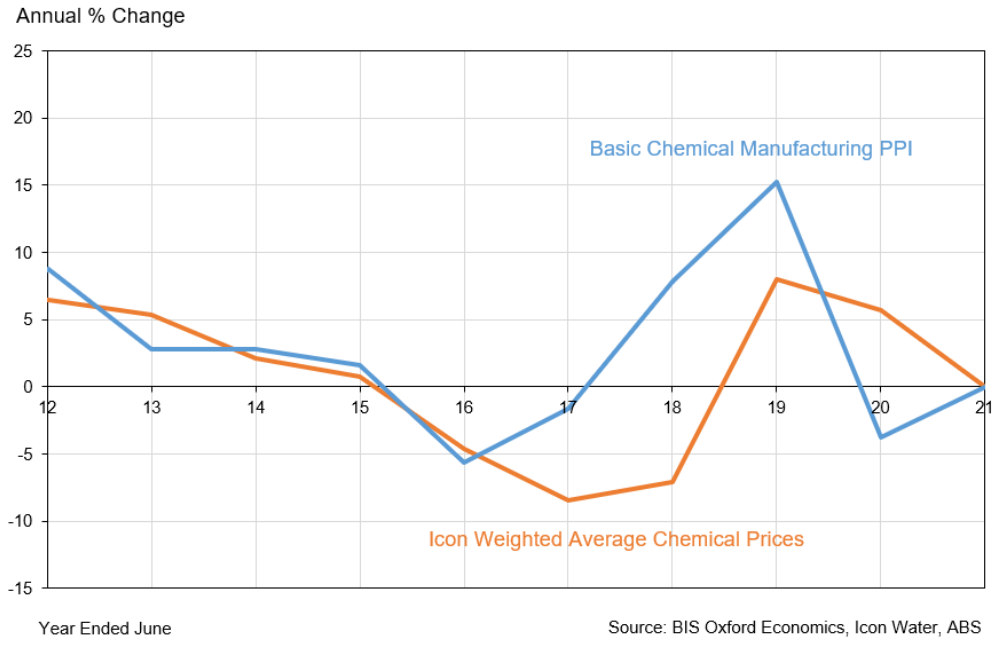
(a) Inflation forecasts are RBA forecasts to June 2024 from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on a glide-path to the mid-point of RBA inflation target (2.5%) by year 5. The overall forecasts are then calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 5 years or to the end of the regulatory period, with years 3,4 and 5 CPI equal to the calculated 5-year geometric mean. This methodology is the position adopted by the Australian Energy Regulator.
(b) Real price changes are calculated by deducting the inflation rate from nominal price changes.
(c) Average for the next revenue determination period i.e. from 2023/24 to 2027/28 inclusive.

8. CHEMICAL PRICES

We have chosen the producer price index, 'Basic Chemical Manufacturing' to best represent the chemical price movements faced by Icon Water. The producer price index includes industrial gas manufacturing – a subindustry consisting of units engaged in manufacturing industrial organic and inorganic gas in compressed liquid or solid forms, such as chlorine and carbon dioxide – and basic organic & inorganic chemical manufacturing – including products such as methanol, aluminium hydroxide, fluoride, salt, sulphur compounds and calcium chloride (lime).

We chose to represent price movements with the index for a number of reasons – firstly, the index allows for a more detailed view of historical prices than the series provided by Icon Water. Furthermore, for any pricing submissions to regulatory agencies, there is often a focus on official price series such as the ABS producer price indices (or wage price indices, or consumer price index). Finally, we find a strong correlation between the ABS index and the weighted average of the prices provided by Icon Water. This is illustrated in Figure 8.1, with a comparison between FY12-21 (the most recent date that is available from the Icon Water data).

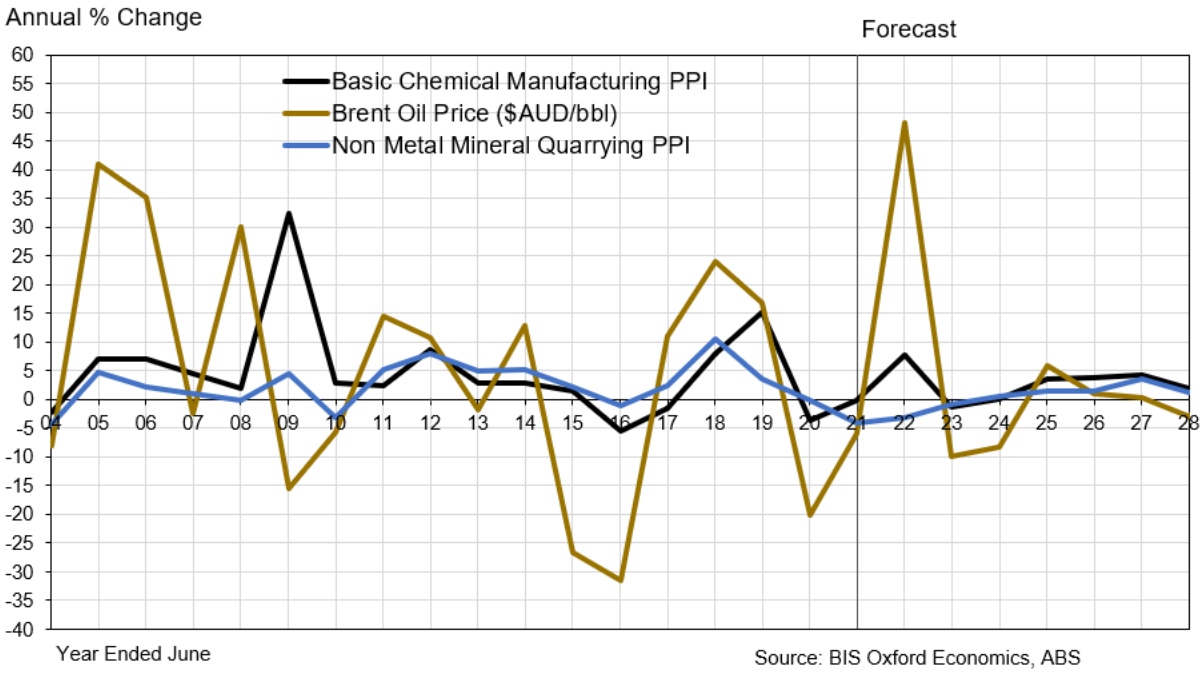
Fig. 8.1 Weighted Average of Icon Water Chemical Prices and ABS Producer Price Index



We have found numerous historical drivers of price movements in the index – the main drivers include the price of oil, which we understand is used in the manufacturing process for numerous chemicals purchased by Icon Water (noting that this also would capture the use of natural gas used to manufacture chemicals given that the price of oil and gas are related, due to the export price of LNG contracts to Japan being related to oil prices). Another driver with a strong historical relationship with chemical prices is a manufacturing input price index from the ABS called 'Non-Metallic Mineral Quarrying' – which covers the quarrying of materials such as alum and salt (excluding materials quarried for use in the construction industry). We have illustrated the historical relationship between these three series in Figure 8.2 below.

In addition, we also find relationships between the chemical price index and numerous other economic factors, which allow us to further enhance the model. This includes manufacturing wages, the exchange rate, and electricity prices.

Fig. 8.2 Basic Chemical Manufacturing – Price Drivers



The basic chemical manufacturing PPI has historically seen significant volatility in price movements, with real price declines of near -5% over FY03 and FY04, followed by 11 years of positive growth in the index (an average annual increase of 6.7% between FY05-15). Over this period, this average increase in price represents an annual real price increase of 4.7% in the index (CPI, average annual rise 2.7% between FY05-15). These average growth figures mask the pockets of volatility over this same period, with annual cost rises reaching local peaks of 7.1% in FY06, 32.3% in FY09, and 8.8% in FY12. We note that the steep spike in the index in FY09 seems to be heavily influenced by the exchange rate, which saw a -16.9% depreciation in the same year (see Figure 8.3 for a comparison).

Following this prolonged period of price rises, the basic chemical manufacturing PPI began to soften from FY15 onwards, leading to declines over FY16 and FY17. Recent years have seen the index return to positive growth, moving up by 7.9% in FY18 and a further 15.2% in FY19 – ultimately driven by the steep climb in oil and electricity prices and rising quarry costs (as depicted in Figure 6.2, noting at the time that brent prices were climbing to record highs just above USD$85/bbl). The two most recent years of data have seen prices decline by an average annual rate of -1.9% - these movements highly linked to the outbreak of COVID-19. Weakened inflationary pressures (and thus wage growth across most sectors, including manufacturing), collapsing global oil markets and substantial drops in electricity prices all contributed to the decline.

Looking forward, we expect strong price growth of 8.4% in chemical prices over FY22, driven mostly by the rebound in oil prices over the past 12 months. The current crisis in the Ukraine has seen Brent benchmark prices average US$98 per barrel in February 2022 and push well over US$100/bbl in March. We are assuming prices will ease back in coming months, but the present assumption is that Brent oil prices will average US$85/bbl in FY22 - an average annual increase of 58% over FY21. Of course, there is considerable uncertainty around oil prices (and commodity prices in general), given the emerging situation and economic sanctions. Strong price growth in the basic chemicals manufacturing PPI in FY22 is further supported by the return-to-form of wage growth since the

COVID-related slump that began in FY20, and the shipping cost crisis brought about by supply chain disruptions.

Fig. 8.3 Basic Chemical Manufacturing – Price Drivers (Exchange Rate)

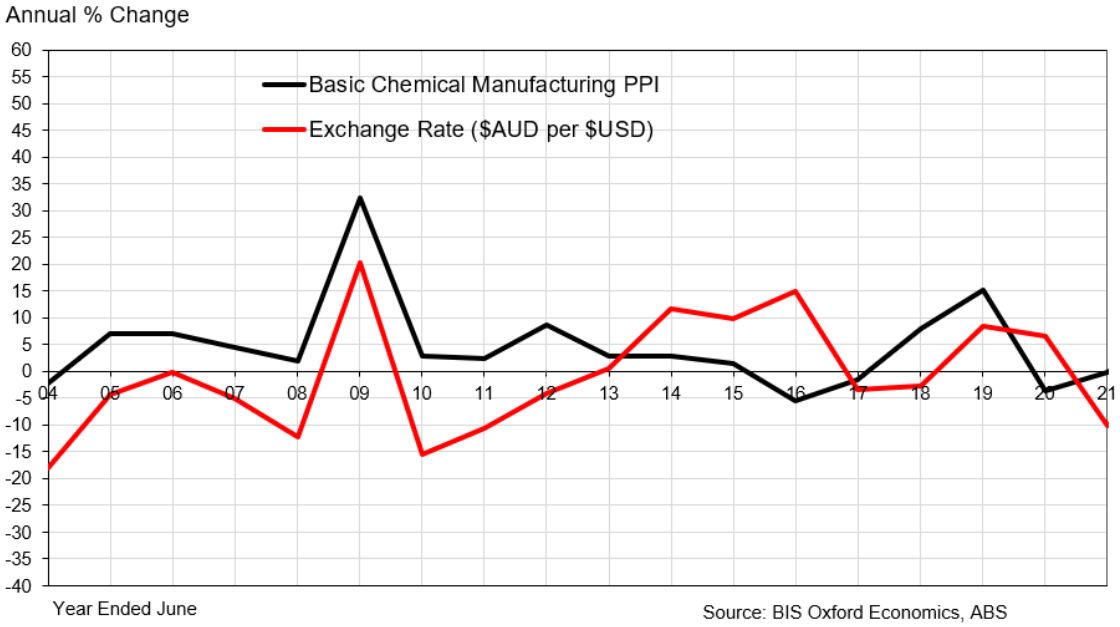


Fig. 8.4 Basic Chemical Manufacturing PPI Forecasts
(per cent change, year average, year-ended June)

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Average (c)
	Actuals						Forecasts		Next Revenue Determination Period					
NOMINAL CHEMICAL PRICE CHANGES														
Basic Chemical Manufacturing Producer Price Index (PPI)	-5.6	-1.7	7.9	15.2	-3.7	-0.1	8.4	-0.8	-1.4	2.3	3.9	4.3	1.9	2.2
Consumer Price Index - headline (a)	1.4	1.7	1.9	1.6	1.3	1.6	3.5	3.2	2.6	2.6	2.6	2.6	2.6	2.6
REAL CHEMICAL PRICE CHANGES (b)														
Basic Chemical Manufacturing Producer Price Index (PPI)	-7.0	-3.4	5.9	13.5	-5.1	-1.7	4.9	-3.9	-4.0	-0.2	1.3	1.8	-0.6	-0.3

Source: ABS, BIS Oxford Economics

(a) Inflation forecasts are RBA forecasts to June 2024 from latest 'Statement of Monetary Policy'. Beyond that, inflation forecasts are based on a glide-path to the mid-point of RBA inflation target (2.5%) by year 5. The overall forecasts are then calculated as a geometric mean of the 'official' RBA inflation forecasts over the next 5 years or to the end of the regulatory period, with years 3,4 and 5 CPI equal to the calculated 5-year geometric mean. This methodology is the position adopted by the Australian Energy Regulator.
(b) Real price changes are calculated by deducting the inflation rate from nominal price changes.
(c) Average for the next revenue determination period i.e. from 2023/24 to 2027/28 inclusive.

We anticipate a reversion in the following year (FY23, -1.4%), the easing of oil prices will play a role, and other cost drivers such as quarrying will see weak price growth alongside the reduced costs in transport and freight. Later years of the outlook will see the index return to positive growth in FY24 before rising to a peak of 4.3% in FY27 (average annual growth rate of 3.4% between FY25-28). Typical manufacturing inputs will drive this push up in prices, including the steady rise in manufacturing wage growth to above 3% in FY24-26, and a similar rise in electricity prices.

We have not factored in the recent changes to the *Security of Critical Infrastructure Act (2018)*, which received royal assent in December 2021, and some further expected changes under the *Security*

Legislation Amendment to Critical Infrastructure bill (2022). The Australian Government *Department of Home Affairs submission into the Review of the Security Legislation Amendment (Critical Infrastructure Protection) Bill 2022* (February 2022) noted that the Regulatory Impact Statement found that the average one-off cost per entity for critical water assets is $14.3 million and the average annual ongoing cost is $6.0 million[5]. The additional security of supply measures may add the cost of chemicals, and other materials, as critical infrastructure providers strengthen supply chain resilience.

[5] Australian Government Department of Home Affairs, Department of Home Affairs submission into the Review of the Security Legislation Amendment (Critical Infrastructure Protection) Bill 2022, February 2022

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