

Attachment 12.5

BIS Shrapnel: Outlook for SA Power Networks' Real External Labour Cost Escalation and Customer Connections Expenditure Forecasts to 2019/20

August 2014



OUTLOOK FOR SA POWER NETWORKS' REAL EXTERNAL
LABOUR COST ESCALATION AND CUSTOMER
CONNECTIONS EXPENDITURE FORECASTS TO 2019/20

Prepared by BIS Shrapnel for SA Power Networks

Final Report August 2014

BIS Shrapnel welcomes any feedback concerning the forecasts or methodology used in this report as well as any suggestions for future improvement.

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SUMMARY

- In October 2013, BIS Shrapnel was engaged by SA Power Networks to provide an expert opinion regarding the outlook for external labour cost escalators relevant to electricity networks in South Australia and customer connections expenditure forecasts in South Australia over a seven year period from 2013/14 to 2019/20 (ie from 1 July 2013 to 30 June 2020). The labour cost escalators and customer connect expenditure forecasts were used by SA Power Networks for their internal business modelling and to escalate their input costs to develop their operating and capital expenditure forecasts for inclusion in SA Power Networks next revenue proposal to the Australian Energy Regulator (AER).
- Given utility service providers outsourced labour is mostly supplied by firms in the construction industry, we proxy SA Power Networks' external labour cost escalation by wages growth (as measured by the WPI) in the South Australian construction industry.
- We expect South Australian construction wages will lag the national average over the next three years. However, we expect construction wages to pick up pace from 2017/18, matching Australian average in 2018/19. Our expectation is that construction wages in South Australia will outperform the national average in 2019/20 due to increased wage pressures from the commencement of the Olympic Dam expansion project, timed to start in 2018/19.
- Customer connection expenditure includes all expenditure on the enhancement and development of the distribution network to meet increased loads from customer requests for new or additional supply. SA Power Networks customer connections expenditures are split according to value into three categories: minor customer connections (projects less than \$30,000), medium customer connections (projects between \$30,000 and \$100,000) and major customer connections (projects greater than \$100,000).
- Overall, total customer connect expenditure is forecast to average \$107.8 million over the seven years to 2019/20, compared with \$115.9 million over the five years to 2012/13. In terms of finalising the ultimate cost to SA Power Networks of customer connections, we assumed external cost contributions are constant over time. Applying these constant contributions to our expenditure forecasts, the net capital expenditure cost to SA Power Networks is forecast to average \$34.2 million over the seven years to 2019/20, compared with \$29.6 million over the five years to 2012/13.

Table I: Summary – External Labour Cost Escalation Forecasts
(per cent change, year average, year ended June)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	5 yr Avg (f)
	Actuals				Forecasts	Next Regulatory Period					
NOMINAL PRICE CHANGES											
1. SA Power Networks' External Labour Cost Escalation											
Contractor Labour - Construction WPI South Australia (a)	3.3	3.9	3.2	3.0	3.0	3.2	3.4	3.6	3.9	4.3	3.7
Construction WPI - Australia (b)	4.0	4.1	3.3	2.9	3.1	3.5	3.9	3.8	3.9	4.1	3.9
2. Australian Wages											
All Industries - AWOTE (c)	4.2	4.3	4.6	3.3	3.8	4.3	4.9	4.8	4.5	4.9	4.7
All Industries - WPI (c)	3.8	3.6	3.3	2.7	3.0	3.5	3.8	3.7	3.7	4.0	3.7
Consumer Price Index (headline) (d)	3.1	2.3	2.3	2.7	2.9	2.7	2.5	2.5	2.5	2.5	2.5
REAL PRICE CHANGES (e)											
1. SA Power Networks' External Labour Cost Escalation											
Contractor Labour - Construction WPI South Australia (a)	0.2	1.6	1.0	0.3	0.1	0.5	0.9	1.1	1.4	1.8	1.2
Construction WPI - Australia (b)	0.9	1.7	1.1	0.2	0.2	0.8	1.4	1.3	1.4	1.6	1.3
2. Australian Wages											
All Industries - AWOTE (c)	1.0	2.0	2.4	0.6	0.9	1.6	2.4	2.3	2.0	2.4	2.1
All Industries - WPI (c)	0.7	1.3	1.0	0.0	0.1	0.8	1.3	1.2	1.2	1.5	1.2

Source: BIS Shrapnel, ABS and RBA

- (a) Construction Sector WPI for South Australia. A proxy for contractor labour hired to undertake construction and maintenance related projects.
(b) Australian sector wage forecasts provided for comparison.
(c) Australian All Industries Average Weekly Ordinary Time Earnings (AWOTE) and WPI provided for comparison.
(d) Headline CPI forecasts based on Reserve Bank of Australia forecasts to June quarter 2016 and then Commonwealth Treasury medium term projections.
(e) Real price changes are calculated by deducting the inflation rate from nominal price changes.
(f) Average Annual Growth Rate for 2015/16 to 2019/20 inclusive ie for next regulatory period.

1. INTRODUCTION, OUTLINE OF REPORT & DATA SOURCES

In October 2013, BIS Shrapnel was engaged by SA Power Networks to provide an expert opinion regarding the outlook for external labour cost escalators relevant to electricity networks in South Australia and customer connections expenditure forecasts in South Australia over a seven year period from 2013/14 to 2019/20 (ie from 1 July 2013 to 30 June 2020). The labour cost escalators and customer connect expenditure forecasts were used by SA Power Networks for their internal business modelling and to escalate their input costs to develop their operating and capital expenditure forecasts.

In keeping with my instructions, I confirm that I have undertaken this engagement having regard to the Guidelines for Expert Witnesses in Proceedings in the Federal Court of Australia and the requisite statement to this effect is included in Appendix C. I have been assisted in the preparation of this report by my colleagues including Dr Kishti Sen (Senior Economist), Tim Hibbert (Economist), Catherine Birch (Economic Analyst) and Jehanesan Konesan (Research Assistant). Curriculum vitae of all relevant personnel are attached in Appendix D. Notwithstanding the assistance from the other three economists, the opinions in this report are my own and I take full responsibility for them. A brief description of the material upon which I have relied for the preparation of this report follows.

The Australian Bureau of Statistics (ABS) 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 shown in table 2.1. The most recent wages data is March 2014 quarter and the latest industry employment data is May 2014. The March 2014 quarter was the latest available data for real gross value added (at the Australian level only), investment, detailed engineering construction data (by state and by category) and indeed most of the economic variables in table 2.1. The latest data for Gross State Product (GSP) and real gross value added for state industry sectors was 2012/13 (annual data only is available). Other inflation and interest rates data were sourced from the Reserve Bank of Australia. Other data and information concerning enterprise agreements and skills shortages was obtained from the Department of Education, Employment and Workplace Relations (DEEWR).

Forecasts of the economic variables in this report were mostly sourced from BIS Shrapnel reports, including *Economic Outlook, Long Term Forecasts: 2014 – 2029* report (currently in production), *Engineering Construction: 2013/14 to 2027/28 and Long Term Building Work Done Forecasts*, plus other unpublished forecasts and from BIS Shrapnel internal research.

The structure of this report is as follows:

- The **Summary** section presents an overview of the outlook for the labour cost escalators and a summary table.
- **Section 2** provides an overview of the macroeconomic outlook for Australia and South Australia, including a brief commentary of the logic and key drivers, plus forecasts of key economic variables.
- **Section 3** discusses BIS Shrapnel's model of wage determination and provides forecasts of national ('all industries') wages and CPI inflation, with the Reserve Bank of Australia and Treasury medium-term projections of CPI inflation. The latter is used to deflate the nominal escalators provided in this report.
- **Section 4** provides forecasts of SA Power Networks external or 'out-sourced' labour cost escalation.

- **Section 5** provides forecasts of SA Power Networks customer connections expenditure forecasts differentiated by minor, medium and large connections.
- **Appendices**

2. MACROECONOMIC FORECASTS: AUSTRALIA AND SOUTH AUSTRALIA

2.1 Overview of the Australian economy

Australia has experienced uninterrupted growth over the past 20 years, recently performing better than most advanced economies due to its trade linkages with Asia, particularly China.

That said, recent growth has been uneven, with marked differences between industries and regions. While resources and resources investment-related activities, importers and those with economic power have done well, most Australian businesses are doing it tough both in terms of revenue and profitability. Many haven't recovered from the GFC (global financial crisis). They are in cost-cutting mode, some to increase profits, some to survive.

Notwithstanding the post-GFC fiscal stimulus, Australia's economic growth following the GFC has largely been underwritten by an investment boom in the resources sector. An investment boom made possible by the high commodity prices and strong Chinese and Asian demand for bulk commodities. The escalation in resources investment resulted in a significant reallocation of resources (capital and labour) away from the non-mining industries to the mining and mining-related sectors. Meanwhile, high commodity prices drove the Australian dollar above parity with the US dollar, creating competitive challenges and enormous pressure on other trade-exposed industries including manufacturing, tourism, education and business services. This further exacerbated the structural change brought about by the surge in resources investment, resulting in unbalanced growth.

Resources investment has now peaked and has begun what we think will be an orderly decline, at least for the next few years. We don't expect a collapse. A strong pipeline of work through work in progress will place a floor under construction in the short to medium-term, mainly driven by several large LNG projects in WA, Queensland and the NT and further strength of iron ore. Commodity prices have fallen from peak levels as supply has caught up to demand. However, they remain relatively high historically, enough to support investment decisions for a number of large projects on which decisions will be made over the next few years. Ratification of those projects would support still high levels of activity in the second half of the decade.

Nonetheless, after a long period of positive contributions to economic growth, falls in resources investment will now make negative contributions to growth. Eventually, this process will unwind all the positive stimulus of the investment boom, either gradually or, at some stage, with a sharper correction. The offset is that resources-related investment has substantially increased Australia's capacity to produce and export minerals, contributing to future growth. However, these projects employ a lot more people in the construction phase than in the operational phase. That means that, having tilted the economy to service high levels of resources investment, we now need to rebalance the economy.

Major changes are in progress, affecting both regions and industrial structure.

Meanwhile, falling government investment as the GFC stimulus package unwinds in a tighter fiscal environment together with falling resources investment has led to a soft economy, exacerbating the business focus on cutting costs, preserving cash and deferring investment. The economy is in transition, in a soft patch with underlying growth running around 2.8 per cent compared with 3.1 per cent a year ago, awaiting the switch to a new set of growth drivers.

Thanks to the interest rate reductions by the RBA, the residential property recovery has finally taken root. We welcome this much needed recovery, albeit only in the undersupplied markets (Sydney, Brisbane, Perth and Darwin). It will build into an upswing and make positive contributions to growth. However, Adelaide, Melbourne, Canberra and Hobart will miss this cycle as their markets have an oversupply of housing stock. The upswing in these cities will be deferred until excess stock is absorbed and a deficiency emerges.

But mining production and the housing recovery alone will not be a sufficient offset for declining government expenditure and resources investment.

For the Australian economy to experience growth above 3 per cent, non-mining business investment will need to come through. That, we think is another two years away.

The non-mining-related industries are still suffering from the aftermath of the GFC. The overriding trend has been to cut costs. Some called it 'productivity' enhancement. While this is true to some extent, for many the real story was one of survival. Faced with weak demand and profits and, for some, competitiveness challenges arising from the high dollar, businesses deferred investment and cut costs to improve profits. For many, cost cutting was necessary for survival. For others, mining companies included, it was a means of increasing profits. Nonetheless, by being financially conservative and deleveraging following the GFC, many businesses have rebuilt their balance sheets. But they will not invest until capacity constraints emerge.

Meanwhile, all levels of government are in fiscal repair mode. They will be constrained by the need to bring budget deficits under control. Long-term expenditure commitments are locked in with pressure on government revenue in a soft economy. Because infrastructure spending is easier to cut (through grants to states who do most of the infrastructure spending), the 'productivity enhancing' infrastructure investment scaled back.

The upshot is that the Australian economy is in transition – from mining and government investment-led growth to what will eventually turn into more broadly-based growth.

The stronger March 2014 quarter real GDP growth led some commentators to declare that the transition from mining and public investment-led growth last decade to balanced growth was complete. In other words, the structural shift back towards broad-based growth was under way and long-run average growth was imminent. We think this is a premature call.

The strong growth in the first quarter was driven by exports. The volume of exports grew by 4.8 per cent in the quarter, directly contributing 1.1 percentage points to GDP growth. However, domestic demand was weak in the March quarter. In addition, businesses ran down stocks in the first quarter in response to weak sales. The negative contribution from change in inventories resulted in GNE (gross national expenditure) falling for the first time in about a year.

Yes, elements of domestic demand such as housing investment and private consumption were healthy in the quarter but to achieve balanced growth, non-mining business investment, especially plant and equipment investment has to pick up. The cyclical driver of this growth is capacity constraints.

While there were some encouraging signs in the latest capex survey, most of the optimism expected in equipment investment was driven by 'other' industries, mainly services. But investment in these industries is only just picking up from their cyclical troughs, with only some pockets of growth and deferred spending evident. With the Australian dollar still 'too high' and confidence along with domestic demand fairly weak, capacity constraints are unlikely to emerge for another one to two years, so investment will remain muted.

Looking ahead, the negatives from the decline in mining investment are yet to come through. We are forecasting resources investment to decline by over a third over the next four years. In addition, falls in public investment are likely to continue for another year, while the budget measures will weigh on confidence, impacting heavily on consumer spending. The upshot is that economic growth will step down over the next 12 months and will grow at below long-run average pace.

But there is no risk of recession, just soft growth. Exports while easing will remain strong adding to GDP growth. Meanwhile, the international economy is expected to perform well this year and strengthen next year as headwinds dissipate. Chinese growth at the new normal of 7 to 7.5 per cent is still significant growth for an economy which has expanded rapidly over the last three decades. Meanwhile, residential investment will gather momentum over the next two to three years. Private consumption will suffer from post-budget confidence effects in the near-term but will add modestly to growth over the next two years.

Softness in the economy is keeping employment growth and wage pressures subdued. This, in turn, will put downward pressure on domestic inflation, offsetting some of the second-year inflationary impacts of a lower Australian dollar. Hence, overall inflation pressures are likely to be contained. This means that the Reserve Bank will keep interest rates on hold until the middle of 2015.

We are experiencing a shift in growth drivers and structural change, with substantial differences in performance between industries and regions.

2.2 Outlook for the Australian Economy: Detailed Assumptions and Forecasts

2.2.1 Global Economic outlook

In **China**, economic growth is projected to remain between 7 and 7 1/2 per cent over the next three years. The authorities are expected to encourage a rotation of demand away from investment and toward consumption, while reining in credit growth. There is, however, considerable uncertainty about how this switch-over will unfold. There is a risk that the property market in China could cool faster than anticipated as credit slows. Given the close links among banks, property developers and the shadow banking sector, weakness in the housing sector could cause serious financial system stress and depress real economic activity.

Balancing the upside and downside risks and notwithstanding the fragilities, we expect China's GDP growth to slow slightly to 7.4 per cent in 2014 (just below the government's minimum threshold of 7.5 per cent), and to 7.3 per cent in 2015.

Growth in the United States expected to increase following a weather-related slowdown

Following robust growth in the second half of 2013, the pace of the US economic expansion in early 2014 slowed abruptly. Unseasonably cold weather and severe snowstorms led to temporary supply-chain disruptions, a reduction in construction activity and a delay in some consumer expenditures. Much of this activity is expected to be recovered, as demonstrated by the recent rebound in motor vehicle sales, purchasing managers' indexes and employment. As a result, the US economy is expected to gather momentum, with growth projected to increase from around 2 per cent in 2013 to 2.4 per cent in 2014 and 3.1 per cent in 2015.

The private sector reached a significant milestone in March 2014, with all 8.8 million jobs that were lost during the GFC filled once more. The unemployment rate has steadily crept lower, and currently sits at 6.7 per cent. This has led to the gradual tapering of the easy money policies that have been prevalent over the past few years. Monthly bond purchases by the Federal Reserve have been slowed to \$45 billion per month, down from \$85 billion per month through 2013.

. . . activity will be supported by a continuation of loose monetary policy

Although the US Federal Reserve has reduced the pace of its monthly asset purchases, monetary policy continues to remain highly accommodative. The Federal Open Market Committee recently announced a move away from quantitative to qualitative guidance and suggested that monetary policy will remain accommodative "even after employment and inflation are near mandate-consistent levels".

In this context, private domestic demand is expected to strengthen. Rising household wealth and improving labour market conditions are projected to drive consumer spending. A strong recovery in the housing market is also anticipated to continue although at a slower pace as tight mortgage-lending standards and difficult labour market conditions for younger workers dampen household formation.

We continue to believe that the slow withdrawal of stimulus will ensure that the economic recovery continues, even in the total absence of easy money. The widespread acceptance that easy money settings are about to reach a conclusion means that the effects of impending rising interest rates are largely already priced in by markets. The certainty is likely to avoid shocks which could cause the economy to stall.

Pickup in demand should result in greater business investment

Businesses are also well along the recovery trail. Corporate profits continued to rise through 2013, and have dragged stock markets indices to well above pre-GFC levels. A significant contributor to this, particularly for the manufacturing sector, is the relatively new shale gas industry. The United States has the second-largest shale gas reserves, and has the most developed methods of extracting it. This innovation is fuelling lower energy prices, allowing US manufacturers to compete globally with one third the energy costs of European counterparts. Cheap energy in turn has led to a growing trend of European manufacturing giants to relocate to the United States. Overall, natural gas prices have fallen by 50 per cent over the past decade, significantly improving the competitiveness of the US manufacturing sector.

Overall, the near to medium term outlook will see a self-sustaining growth cycle continue as strong corporate profits, residential construction activity and rising house prices lead to increased employment, wage growth, and wealth effects from residential prices and equity markets.

Japan, historical stimulus measures are working - for now

Towards the middle of last year, Japan announced an unprecedented level of stimulus measures in an attempt to conquer deflation once and for all. One year on and these efforts are bearing fruit, although there are significant risks to the outlook for Japan over the next few years.

These stimulus measures include both fiscal and monetary policy over the two years to 2015. On the fiscal stimulus side, \$107 billion will be spent in areas such as disaster relief and reconstruction, as well as funds directed toward increasing private investment. However, the most significant step towards eliminating deflation is going to come from the \$1.4 trillion pledge to double the monetary base by 2015. To accomplish this feat, Japan's Central Bank is pulling out all the stops; buying everything it can short of purchasing foreign debt.

To date, these measures are beginning to have the desired effect. Annual inflation rose to 1.6 per cent in March 2014 – the highest level in 5 years. However, this remains below the Bank of Japan's explicit target of 2 per cent. Another positive effect of the monetary stimulus has been a significant depreciation of the Japanese yen. This has boosted Japan's international competitiveness, and caused exports to rise significantly, up by 6 per cent in the March 2014 quarter. Overall, GDP rose 1.5 per cent in the March quarter – the strongest result in 2.5 years. The majority of this increase came from private consumption, which rose by 2.1 per cent in the quarter.

However, these apparently positive effects are at risk of unwinding over the near term, due to the increase in the sales tax from 5 per cent to 8 per cent on 1st April. This is likely to have pulled forward a lot of household expenditure into the March quarter, in order to avoid the increased tax. Because private consumption accounts for the majority of Japan's GDP, the risk

of falling expenditure over subsequent months leading to soft GDP results is fairly high. The last time the sales tax was increased (from 3 to 5 per cent in 1997), the economy slipped straight into recession.

The next few months will be vital in determining whether Japan's economy can withstand this tax increase, let alone the further proposed increase to 10 per cent in October 2015. The Bank of Japan will also be hoping that two years of rapid expansion of the monetary base will prove sufficient to change the population's inflationary expectations, and avoid a return to deflation once the stimulus program recedes.

Conditions in euro-zone economies remain challenging

The Euro area contracted slightly in 2013, down 0.4 per cent. This represented the second annual fall in succession, continuing a wretched period for the common-currency region. However, growth actually returned over the final quarters of the year, technically moving the area out of recession.

But there are significant divergences between the winners and the losers within the Euro area. Of the major economies, Germany remained the largest contributor through 2013, although growth reached just 0.5 per cent. Germany has been supported by rising domestic demand, while exports have also rebounded as the remainder of the Euro area slowly recovers. On the other hand, Italy (-1.8 per cent) and Spain (-1.2 per cent) continued to contract. Unemployment remains a key issue in the Euro zone, over 12 per cent in 2013, and expected to remain in the double-digits over the next few years. Spain and Greece remain the worst affected, with unemployment into the mid 20 per cent.

To date, the European Central Bank has made a substantial contribution to propping up the Euro zone. The bank has kept interest rates low, near the zero bound, and is committed to keeping sovereign government yields within sustainable limits. In addition, the provision of a financial backstop (through Outright Monetary Transactions) has greatly reduced the risk of a Euro breakup. But we believe still more could be done.

More quantitative easing, or negative bank penalties for excess reserves, could be introduced. A year ago, there was concern that this would lead to higher inflation. However, inflation is currently well below the ECB's target of 2 per cent, suggesting there is plenty of room to accommodate expansionary policy. Proceeding with the formation of a Euro area banking union will also increase the effective transmission of monetary policy, increase access to credit, and enhance bank risk profiles across Europe. Arrangements to increase fiscal spending would also assist the return to growth. This could be accomplished through a variety of mechanisms, from relaxed fiscal constraints, to direct transfers from wealthier nations (from Germany) or to sovereign fund vehicles. Whatever the mechanism, the focus should be greater government spending to lift domestic activity and increase employment.

Without loosening the fiscal purse strings, Europe is likely to continue on its current track of extremely low growth over the medium-term. However, we are pessimistic toward the likelihood of an attitude shift away from austerity and toward stimulatory measures. In the absence of new stimulus, we maintain our position that Europe will 'muddle through' the next few years, hindered by persistent competitive differences, high unemployment, and slow to evolve policies. Overall, we are forecasting Euro zone growth to be positive this year, at +1.1 per cent picking up slowly next year to 1.6 per cent.

Overall, global economic activity is expected to grow at a rate of 3.6 per cent in 2014, before strengthening to 4.1 per cent in 2015 and 4.3 per cent in 2016. Longer-term, world GDP growth is expected to ease in 2017 and 2018 as global interest rates rise but quickly rebound in 2019 to 4.3 per cent as the US, Chinese, India and other Asian economies regain their growth momentum.

2.2.2 Australian Economic Outlook

The Australian economy is in transition. Most recently, high commodity prices drove an investment boom in the resources sector. The surge in resources investment, in turn, underwrote Australia's strong economic recovery following the global financial crisis. However, the boom in resources investment has now peaked and will shift lower from here, detracting from economic growth.

Meanwhile, high commodity prices and the associated high Australian dollar drove a structural change in the economy with a significant reallocation of labour and capital away from trade-exposed industries towards the mining-related sectors. Essentially, the rise in commodity prices and the associated high dollar tilted the economy 'out of balance' — away from the trade-exposed industries towards the mining-related sectors.

The high dollar also impacted on competitiveness creating enormous pressure on other trade-exposed industries including manufacturing, tourism, education and business services. This, combined with global uncertainty, fiscal consolidation and political uncertainty, contributed to the general pessimistic mood and weak investment growth outside the mining sector. At the same time, dwellings investment and non-mining business investment were flat to falling, and public sector investment has fallen sharply as the post-GFC stimulus wound down. Nonetheless, thanks to the strong exports, Australia's GDP grew by 2.8 per cent over the 12 months to March 2014 quarter.

While Australia's strong increase in activity and low unemployment rate (relative to many advanced economies) is welcome, we still have a long way to go to rebalance the economy and reverse some of the high commodity prices, high dollar-induced structural change and reach what feels like a healthy economy.

Naturally, driven by resources, exports will make larger contributions to growth. The next stage is for residential investment to build momentum. But that alone will not be enough to underpin a rise in GDP growth. We will need non-mining business investment to come through. However, a combination of continuation of the cost-cutting, investment-deferring mentality in a weak demand environment and low capacity utilisation suggest that a recovery in investment is still 18 months to two years away. As a result, the Australian economy currently sits in a soft patch and is likely to remain soft for another 18 months at least.

Accordingly, GDP is forecast to grow at 2.6 per cent in 2014/15 before picking up to long-run average growth of 3.2 per cent in 2015/16. We expect the Australian economy to grow at close to long-run average growth in 2016/17 before easing to just below trend over the following year as higher interest rates over 2017 sends the economy into a controlled slowdown. Falling interest rates and pent up demand for housing drive the next cyclical upturn in activity over 2018/19 and 2019/20. Output will be supported by increased public infrastructure investment as well as higher levels of mining construction.

Consumer Expenditure

Household consumption expenditure growth slowed sharply in the immediate aftermath of the global financial crisis. This reflected a combination of lagged effects of high interest rates leading into the financial crisis, slower income growth, increased concern about high household debt and reduced perceived job security. The decline in household consumption expenditure growth was more marked than the decline in real household disposable income, resulting in a sharp increase in the household saving rate to its highest level since the 1980s. This reversed a long-running downward trend, which culminated last decade in households borrowing against the value of their homes to boost current expenditure.

Over the past two years, households appear to have once again become comfortable with their financial position, such that growth in household consumption expenditure has increased to now be in line with growth in real household disposable income. As a result, the household saving rate has largely tracked sideways albeit at a historically high level of 10 per cent.

Further growth in household consumption expenditure is expected over the next three years, supported by a recovery in dwelling building, rising income growth and improving consumer confidence. We believe households have built up a considerable savings buffer after several years of high savings ratios. Improved financial security will see expenditure continue to pick up. The ongoing growth in household consumption expenditure and a relatively lower dollar is expected to translate into increased retail turnover and activity in Australia over the next few years.

Interest rates are at the bottom of this cycle. But they won't stay low indefinitely. On current timing, increased expenditure (and strength in the broader economy) will see the Reserve Bank begin to increase interest rates in 2016. This will dampen consumer spending, but the lagged effects mean that we will see most of the slowdown come through in 2017/18. Lower consumer confidence in response to weakening economic and income growth will cause an uptick in the household saving ratio in 2017/18, further restraining growth in consumer demand.

Overall, household final consumption expenditure is forecast to average growth of 2.9 per cent per annum over the five years to 2018/19. This will be a significant improvement on the previous five-year period (when growth averaged 2.6 per cent), but is still well below average growth rates of the pre-GFC years.

Over the longer term, population growth is expected to be the primary driver of household expenditure. As such, slowing population growth is expected to see household consumption expenditure growth moderate slightly over the following decade, averaging 3.0 per cent per annum between 2019 and 2024. Although the economy is expected to remain healthy through this period, we do not expect a return to the debt-driven increases in consumption that occurred through the late 1990's and early 2000's when growth rates often approached and exceeded 5 per cent.

Investment Forecasts

Total investment has continued to rise, uninterrupted, for over a decade, driven by the mining investment boom. Recently, growth has also come from a large increase in public investment in response to the GFC. However, both these drivers have begun to unwind. That will continue over the next few years, leading to a weak overall outlook for investment.

Public investment has the weakest outlook over the next two years, but will subsequently rebound strongly. The GFC stimulus package has largely been unwound, driving strong declines in non-dwelling building, firstly in education, and now in the health sectors. In addition, weak revenues are affecting finances at all levels of Government. The Commonwealth is continuing to squeeze the States, who do most of the investing. Unfortunately, investment is one of the first areas to suffer when funding gets cut. This is driving down engineering construction, in key areas such as roads and utilities. However, we expect a pick-up in 2-3 years, particularly on the engineering construction side.

On the **private** side, falling minerals investment will be the primary cause of ongoing weakness in total business investment. Engineering construction will bear the brunt of this as mining and heavy industry construction retreats from its peak, falling for four consecutive years. We expect an orderly decline, rather than collapse. Committed projects will underpin construction levels near term, but the next few years will see decisions about the projects which will underpin activity in the second half of the decade. Our forecast is for private engineering construction to fall by 31 per cent between now and 2018/19.

The outlook for **Dwellings** investment is more positive. After a decade of weakness with building below underlying demand and increasing deficiency of residential stock, a recovery in residential property and building has now begun. This upswing was delayed by weak confidence which affected home improvements. However, low interest rates have triggered the start of a solid increase in dwellings building. But this recovery will not be uniform between regions, with sizeable stock deficiencies set to drive the markets in parts of WA, NSW and Queensland. But oversupply will see Victoria, ACT, SA and Tasmania miss this upswing.

Private non-dwelling building should also experience solid growth over the next few years, although the outlook varies across states and sectors. With some cities building ahead of demand and the likelihood of fluctuations in demand, the outlook for offices is mixed. But growth in accommodation and warehouses, in line with improving economic conditions, will see total activity rise. Given that building has just picked up from the trough, the longer term outlook is positive, as improving demand across non-mining industries will see capacity constraints emerge and prompt the next round of investment in commercial and industrial buildings.

After strong growth over recent years, **machinery and equipment** expenditure is estimated to have declined by 10.6 per cent in 2013/14. Further sharp declines are expected over the near term, driven by mining, but initially in most industries, before improved business and consumer confidence leads a recovery. Average growth is forecast at 3.5 per cent per annum over the next five years.

Table 2.1: Australia – Key Economic Indicators, Financial Years

Year Ended June	2008	2009	2010	2011	2012	2013	2014e	Forecasts					Average
								2015	2016	2017	2018	2019	2019-24
Selected Expenditure Categories													
Private Investment													
– Dwellings	1.8	-1.4	1.2	2.2	-2.2	-0.2	4.7	7.4	3.4	-2.7	-5.4	1.9	1.1
– New Non-Dwelling Construction (+)	6.4	12.1	-10.2	11.4	37.3	15.2	-1.4	-6.0	-5.6	-8.2	-7.3	5.2	0.2
– New Non-Dwelling Building (+)	11.7	-3.9	-14.4	0.5	9.7	9.1	3.6	7.5	2.9	-3.7	-8.2	1.3	1.1
– New Engineering Construction (+)	1.3	29.2	-7.0	19.0	53.6	17.7	-3.4	-11.6	-9.8	-10.7	-6.7	7.6	-0.4
Total New Private Investment (+)	8.3	1.2	-2.2	5.3	14.9	5.2	-1.2	-0.3	0.8	-0.9	-3.1	5.2	2.2
New Public Investment (+)	10.6	8.1	22.6	-2.7	-4.0	-10.4	-2.7	-3.5	1.7	7.3	5.5	3.6	3.2
Gross National Expenditure (GNE)	6.0	0.6	2.2	4.2	5.0	1.7	0.9	1.7	2.8	2.3	1.4	3.7	2.8
GDP	3.7	1.7	2.0	2.2	3.6	2.7	3.1	2.6	3.2	3.2	2.9	3.4	3.1
Inflation and Wages													
CPI (Yr Avg)- RBA/Treasury forecasts (*)	3.4	3.1	2.3	3.1	2.3	2.3	2.7	2.9	2.7	2.5	2.5	2.5	2.5
Wage Price Index (Jun on Jun)**	4.2	3.8	3.1	3.8	3.7	2.9	2.8	3.2	3.7	3.9	3.5	4.0	3.8
Wage Price Index (Yr Avg)**	4.1	4.1	3.1	3.8	3.6	3.3	2.7	3.0	3.5	3.8	3.7	3.7	3.8
Average Weekly Earnings (Yr Avg)	4.9	5.5	5.6	4.2	4.3	4.6	3.3	3.8	4.3	4.9	4.8	4.5	4.8
Employment													
– Employment Growth (Yr Avg)	3.1	1.7	0.9	2.4	1.2	1.2	0.9	1.1	1.9	2.0	0.8	1.3	1.6
– Employment Growth (May on May) (%)	2.7	0.9	1.6	2.2	1.7	0.9	1.1	1.5	2.3	1.5	0.8	2.3	1.3
– Unemployment Rate (May) (%)	4.3	5.8	5.2	5.0	5.2	5.6	5.8	6.2	5.9	5.5	5.9	5.6	5.0
Labour Productivity Growth													
– Total	0.6	0.0	1.0	-0.1	2.4	1.4	2.3	1.4	1.3	1.2	2.1	2.1	1.5
– Non-farm	0.5	-0.3	1.1	-0.2	2.4	1.5	2.2	1.6	1.3	1.3	2.0	2.1	1.5
Exchange Rates													
– US\$ per A\$ (Yr Avg)	0.90	0.75	0.88	0.99	1.03	1.03	0.92	0.89	0.86	0.83	0.77	0.80	0.81

+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 quarter 2016 and then Commonwealth medium term projections.

** Based on Ordinary Time Hourly Rates of Pay

As our forecasts assume steady growth in demand and industry output, we expect emerging capacity constraints will become more of an issue later in the forecast period. As a result, expenditure on total new machinery and equipment is expected to increase to 3.7 per cent per annum over the five years to 2023/24.

The net result is a weak 5 year outlook for total investment. Although the public sector will be responsible for a proportion of the overall decline, the private sector is also set for a soft period as the transition between mining and non-mining industries takes place. Overall, gross investment is forecast to average growth of just 0.7 per cent per annum, through to 2018/19, making it the weakest period of growth on record. But remember that this is coming off an exceptionally high base, so even remaining around these levels is an achievement.

Further ahead, growth in investment is expected to resume, at 3.0 per cent per annum over the decade to 2028/29. Ongoing population growth will require investment, from both the private and public sectors, to meet demands for housing, energy supply, and transport infrastructure. Improved financial positions, again for both sectors, will allow this investment to progress faster than in the current environment.

Government Spending

Public sector expenditure is expected to largely track sideways for the next few years as all levels of government try to restrain spending and improve their fiscal position.

Because it is extremely difficult and politically unpalatable to rein in ongoing (or recurrent) expenditure, we expect public investment to bear the brunt of the fiscal restraint. We fear that this will deny the domestic economy a much-needed source of demand over the next few years, and result in a significant under-investment in infrastructure, hence undermining medium-term economic growth — as occurred during the 1990s.

Public investment will likely pick up in the second half of this decade as mining royalties increase in WA and Qld. However, the other states will be dependent on the Commonwealth Government, who in turn might be forced to find new revenue sources or expand the existing ones.

2.3 Medium Term Issues

Life beyond the minerals boom

Resources investment is currently at a level adding substantially to our capacity to produce and export minerals. Investment could not continue indefinitely at these levels. Eventually, worldwide supply would catch up to demand. That is now happening. Commodity prices have come back from their recent highs. Resources investment has peaked and begun what we expect to be a long and orderly decline. Even so, investment remains substantially above depreciation/depletion levels.

As resources investment declines, much of the boost to the economy from strong mining investment growth will be reversed, impacting on the industries and regions servicing that investment. The offset is stronger production as a result of increased capacity. But the production phase employs far fewer people than the investment phase.

The offset is that rebalancing of the economy will involve a strengthening of those sectors and regions that languished as we 'made room for the minerals boom.' We suspect that some industries lost during the last structural change will not return. The challenge will be to find new activities and to transform to a balanced growth economy, as we had before the minerals boom, with minimal transition cost.

At the end of the process we expect:

- A much lower Australian dollar.
- That means a significant fall in the purchasing power of Australia incomes as import prices rise faster than domestically produced goods and services.
- It also means a boost to the competitiveness of trade-exposed industries.
- Ongoing minerals investment will be significantly lower. The adjustment involves a corresponding negative impact on growth, with much of that impact focusing on the activities and regions currently servicing strong minerals investment.

There are risks

[1] The key uncertainty is the magnitude and timing of the weakness in the commodity cycle as world supply catches up to world demand, and how precipitately it will happen. Our forecast is for an orderly decline in minerals investment. However, the risk is that a fall in commodity prices will precipitate a much sharper decline in investment, leading to a substantial negative shock to the economy (albeit partially offset by lower imports of capital goods). The sharper the fall in commodity prices, and by extension resources investment, the greater the impact on the economy. If sharp enough, it could trigger a recession in Australia.

That would be partially offset by a sharper fall in the Australian dollar, hastening structural change back towards domestic trade-exposed industries. And we should expect fiscal and monetary stimulus to soften the blow.

The choice is between a protracted adjustment or a substantial shock. Our forecast is for a long slow structural change. Some would prefer a quick structural adjustment towards a balanced, more competitive economy.

[2] In the short term, a delay to the recovery in non-mining private investment would have a negative impact, prolonging the weakness in the economy. However, while painful, it would just delay the next upswing since current investment is insufficient to cater for even moderate growth. And we have moderate growth. For non-mining business investment, the emergence of capacity constraints will underwrite the next round of business investment. Again, the question is about timing.

The next structural shift

In any case, the next structural shift will come when the dollar falls. That will again be a painful process involving substantial change at the industry and regional levels, with declining minerals investment offset by a recovery in other parts of the economy. Most likely, the dollar will fall when commodity prices fall. The extent of structural change will depend on the extent to which the dollar falls. That will offset part of the negative impact of the fall in mining investment and partially reverse the structural change we have been going through, with an improvement in the competitiveness of industries currently hit by the high dollar. It means a boost to manufacturing, agriculture, tourism, education, finance and business services. But we are unlikely to go back to where we started. The question is the extent to which industry lost in the current episode is irreversible. Manufacturing may never recover all the ground lost — unless new highly capital intensive technologies change the game. Services are likely to be the major beneficiaries.

2.4 The South Australian Economy: Medium Term Outlook

South Australia will continue to face challenges from multiple directions over the coming years. Employment over the medium term will be undermined by the ongoing deterioration of the state's key manufacturing industry. In 2012/13, manufacturing accounted for 8 per cent of the

state's output and employed more than 70,000 workers. Manufacturing employment has shown surprising strength over the past year. However, this follows a steep decline over the past five years, such that there were almost a quarter fewer manufacturing jobs in 2012–13 than there were during the most recent peak in 2007/08.

We expect manufacturing employment will return to its downward trend. The highly publicised forthcoming closure of Holden's Elizabeth manufacturing plant in 2017 will have a significant negative impact, with spill-over effects into other manufacturing sub-sectors and related industries. The closure of the Ford and Toyota manufacturing plants in Victoria will also have a detrimental effect on metal product and parts manufacturing firms in South Australia. The state's big hope is that the Federal Government will announce new defence-related projects to replace the warships projects which will start to wind down over the next few years.

We expect public investment to continue to be a considerable drag on the state's economic growth, with further heavy falls forecast over the next few years. At its lowest point, it will be well beneath pre-GFC levels. Private investment is looking more positive over the near-term, but it will be bumpy, due to timing differences in growth cycles across residential and non-residential construction, equipment, and intangible fixed assets.

We estimate that South Australia's housing market is modestly oversupplied and is therefore not experiencing the same pressures as the "undersupplied" states (New South Wales, Queensland and Western Australia). Despite this, we are still seeing an improvement in demand, largely as a result of record low interest rates, with residential building expected to post significant gains over 2013/14 and 2014/15 (although it should be noted that this follows an 11 per cent drop in 2012/13). However, the oversupply, low population growth, and comparatively weak price growth will mean that South Australia does not receive the same level of demand from investors as the eastern seaboard capitals, which will limit the duration of the upturn in residential building.

In terms of non-residential building, a lack of new major projects in the pipeline will limit growth in 2013–14. However, we expect growth to accelerate in 2014/15, as the \$180 million Sky City Adelaide casino and \$80 million Integrated Clinic School at the University of Adelaide commence, taking activity back towards pre-GFC levels.

South Australian engineering construction is estimated to have peaked in 2012/13, at a record \$5.8 billion. However, several major projects are now either completed or nearing completion, including the South Road package works, the Southern Expressway duplication, rail re-vitalisation projects, and Adelaide Oval's grandstand. Given the lack of comparable projects coming through, we are forecasting a cumulative fall in activity of almost a third during the four years to 2016/17.

The South Australian economy is expected to continue to lag national growth over the five years to 2017/18. In addition to the factors mentioned above, persistently low population growth, forecast at below 1 per cent over the short-to-medium-term, will continue to stifle growth. The state just seems to be holding on until the long-awaited benefits from the expected further depreciation in the A\$ in the decade come through, as well as the oft-postponed Olympic Dam expansion.

In 2018/19, South Australian economic growth is forecast to overtake national growth for the first time in over a decade. Engineering construction will be a key contributor to the recovery, driven by the massive Olympic Dam expansion (currently scheduled to begin in 2018/19) and the \$2 billion Carrapateena copper-gold project. Annual average engineering construction work done over the five years to 2023–24 is forecast to be around \$1 billion higher than the previous

five-year period. In addition, we anticipate an upswing in dwelling construction over the late-2010s to early-2020s, once the current (and worsening) oversupply dissipates.

Consequently, we expect positive spill-overs for the rest of the economy during the early 2020s. Employment growth is set to be stronger and more sustained, not only for the mining and construction sectors, but across most sectors. The strengthening labour market should translate through to improving confidence and rising consumption across the broader economy. In addition to this, a weaker A\$ will benefit the state's key tradeables sectors, such as manufacturing, tourism, agriculture and education.

Overall, we expect GSP growth to average 2.3 per cent per annum over the next six years. However, GSP growth is expected to improve markedly towards the end of the decade due to the expected commencement of the Olympic Dam expansion project.

Table 2.2: South Australia – Key Economic Indicators, Financial Years

Year Ended June	Annual Percentage Change											
	2009	2010	2011	2012	2013	2014 ^e	2015	2016	2017	2018	2019	2020
SA												
Total Construction Activity ^(a)	18.6	21.9	-0.2	-3.7	3.0	0.7	-7.9	-3.8	-7.5	8.4	5.0	11.0
State Final Demand	2.6	3.7	1.3	2.2	-0.2	0.6	0.3	2.1	1.4	2.5	3.9	5.0
Gross State Product (GSP)	2.3	1.2	2.3	1.8	1.3	2.0	1.2	2.1	1.0	2.5	3.7	3.7
Employment Growth	2.0	0.3	1.5	0.7	0.0	-1.4	0.3	1.1	1.0	0.6	1.7	3.0
AUS												
Total Construction Activity ^(a)	9.2	4.0	7.1	14.6	4.3	1.8	-3.7	-3.2	-4.6	-4.2	3.9	6.2
Australian Domestic Demand	1.3	2.2	3.6	5.1	2.0	1.3	1.4	2.6	2.5	1.4	3.5	4.8
Gross Domestic Product (GDP)	1.7	2.0	2.2	3.6	2.7	3.1	2.6	3.2	3.2	2.9	3.4	4.0
Employment Growth	1.7	0.9	2.4	1.2	1.2	0.9	1.1	1.9	2.0	0.8	1.3	2.4

Source: BIS Shrapnel and ABS

(a) Total Construction work done (constant prices), equals sum of new dwellings, building, alterations and additions activity over \$10 000, non-residential building and engineering construction by private and public sectors.

(e) 2014 is an estimate

3. INFLATION AND WAGES

3.1 Outlook for Australian Inflation

Despite the depreciation in the Australian dollar since early last year, CPI inflation has generally been contained. While tradeables prices lifted in response to higher import prices, the pass-through to final consumer prices was smaller and slow, consistent with historical relationship. The fall in the exchange rate added about 0.2 per cent to underlying inflation over the past year. While the second and third year effects are yet to flow through, we think inflation will remain within (albeit in the top half) of the Reserve Bank's 2 to 3 per cent target range.

Inflation declined in the March quarter

CPI inflation declined in the March 2014 quarter, rising by 0.6 per cent (compared to 0.8 per cent in the December 2013 quarter) bringing the through-the-year rate to 2.9 per cent. Underlying inflation was also subdued increasing by 0.6 per cent in the first quarter to be 2.7 per cent higher than a year ago.

The March quarter result was driven by increase in the price of tobacco (+6.7 per cent), which alone added 0.2 per cent to the overall result, seasonal increases in education and health costs of 5.1 per cent and 2.6 per cent respectively, automotive fuel (+4.0 per cent), rents (+0.7 per cent) and utilities (+1.4 per cent). The rise in tobacco prices was due to increase in federal excise tax from 1 December as well as March 2014 biannual indexation based on the ABS's AWOTE (average weekly ordinary time earnings) rate.

Providing some offsets to the March outcome falls in the prices of furnishing, household equipment and services (-1.5 per cent), which, in turn, was driven by falls in furniture (-4.3 per cent) and personal care products (-1.9 per cent). In addition, clothing and footwear prices fell by 2.1 per cent in the quarter largely due to post Christmas sales. Both domestic and international holiday travel and accommodation prices fell by 2.4 per cent in the March quarter.

Despite stability in the Australian dollar, tradeables inflation eased in the March quarter as prices rose by 0.4 per cent compared to 0.7 per cent in the December 2013 quarter. This may reflect some margin compression by the retailers early in the year. Through-the-year to March 2014 quarter, tradeables inflation picked up to 2.6 per cent reflecting higher import costs due to the depreciation of the Australian dollar since early last year.

On the other hand, annual non-tradeables inflation eased in the March quarter rising by 3.1 per cent (the lowest rate since the GFC) compared to 3.7 per cent in the previous quarter. Non-tradeables inflation particularly for domestic market services is driven by changes in the unit labour costs (ie productivity adjusted wage costs). The decline in domestic services inflation therefore is consistent with weak wages growth in the economy.

Where to from here? Tradeables inflation higher, domestic services inflation lower

Looking ahead, we expect a lower dollar will continue to put upward pressure on CPI inflation via higher tradeables inflation. Although most of the first year effects of higher import prices due to a lower dollar are likely to have already come through, the transmission of higher import prices of consumer goods (which were up 8.0 per cent through-the-year to March 2014 quarter) to final retail prices occurs with a considerable lag. This is due to hedging practices of firms as well as the ability of wholesalers and retailers to absorb the price increases into their margins. In addition, some prices are subject to pre-existing contracts while the inventory behaviour of firms where businesses typically clear older stock acquired at the original exchange rate before repricing also adds to the protracted nature import price effects on final consumer prices.

**Table 3.1: Wages and Prices – Australia
Year Average Growth**

Year Ended June	Average Weekly Ordinary Time Earnings ⁽¹⁾		Wage Price Index All Industries 2011/12=100		CPI Headline Inflation (BIS Shrapnel forecasts) 2011/12=100 %CH		Official Headline CPI ⁽²⁾ 2011/12=100 %CH	
	\$/week	%CH				%CH		%CH
2000	765.4		64.7		69.4		69.4	
2001	804.2	5.1	66.9	3.5	73.6	6.0	73.6	6.0
2002	847.4	5.4	69.1	3.3	75.7	2.9	75.7	2.9
2003	890.0	5.0	71.5	3.5	78.0	3.0	78.0	3.0
2004	931.6	4.7	74.1	3.6	79.9	2.4	79.9	2.4
2005	972.9	4.4	76.9	3.7	81.8	2.4	81.8	2.4
2006	1 017.5	4.6	80.0	4.1	84.4	3.2	84.4	3.2
2007	1 054.1	3.6	83.2	3.9	86.9	3.0	86.9	3.0
2008	1 106.1	4.9	86.6	4.1	89.8	3.4	89.8	3.4
2009	1 166.5	5.5	90.2	4.1	92.6	3.1	92.6	3.1
2010	1 231.3	5.6	92.9	3.1	94.8	2.3	94.8	2.3
2011	1 282.5	4.2	96.5	3.8	97.7	3.1	97.7	3.1
2012	1 338.1	4.3	100.0	3.6	100.0	2.3	100.0	2.3
2013	1 400.3	4.6	103.3	3.3	102.3	2.3	102.3	2.3
2014	1 446.6	3.3	106.1	2.7	105.0	2.7	105.0	2.7
Forecasts								
2015	1 501.1	3.8	109.3	3.0	107.9	2.7	108.1	2.9
2016	1 565.6	4.3	113.1	3.5	110.7	2.5	111.0	2.7
2017	1 641.5	4.9	117.4	3.8	114.0	3.1	113.8	2.5
2018	1 721.0	4.8	121.8	3.7	117.5	3.0	116.6	2.5
2019	1 798.5	4.5	126.3	3.7	120.4	2.5	119.5	2.5
2020	1 886.4	4.9	131.3	4.0	123.6	2.7	122.5	2.5
Compound Annual Growth Rates ⁽³⁾								
1990-2000	3.9				2.1		2.1	
2000-2010	4.9		3.7		3.2		3.2	
2008-2013	4.8		3.6		2.6		2.6	
2013-2020	4.3		3.5		2.7		2.6	
2015-2020	4.7		3.7		2.8		2.5	

Source: BIS Shrapnel, ABS

(1) Earnings per person for full-time adults. Data is year ended May (available only mid month of quarter).

(2) RBA Forecasts to calendar year 2015. Beyond 2015, Commonwealth Treasury's forecasts are used.

(3) e.g. CAGR (Compound Annual Growth Rates) for 2015-2020 is CAGR for 2015/16 to 2019/20 inclusive (ie next regulatory period).

Our research suggests that the depreciation of the Australian dollar since early last year will add just under 0.5 per cent to underlying inflation in 2014/15 and 0.3 per cent in 2015/16 before washing out. This will keep tradeables inflation higher over the next two years. However, we expect annual non-tradeables inflation, which has been surprisingly resilient in recent years but fell in the March quarter, to remain contained around 3 per cent due to slower wages growth.

Slow wages build will put downward pressure on domestic services inflation particularly household services

Non-tradeables inflation reflect domestic services inflation and hence is more influenced by domestic conditions especially labour costs rather than the value of the Australian dollar. However, despite weak wages growth, non-tradeables has been surprisingly resilient over recent years. This suggests that the proportion of labour costs in the final price of services differ for individual components of non-tradeables inflation. For example, inflation in labour intensive services such as components of household and personal services, meals out and takeaway food, and insurance and financial services has been generally subdued consistent with slow wages growth. We expect growth in charges for household services (excluding child care) to remain contained in line with our weak wage inflation forecast.

Although higher regulatory charges will keep inflation for government services elevated

As mentioned, not all components of non-tradeables inflation respond equally to changes in labour costs. Over the past few years, higher charges for services such as utilities, education, health services and equipment, child care, postal services, urban transport fares, and property rates and charges has meant that the final price of these services is less sensitive to wages growth. While we expect some moderation in these prices, the extent of the slowdown will be less than for household services

Labour costs are also not the key determinant for cost of new dwellings where the balance between the demand and supply of dwellings is a more prominent driver of prices. The same applies to rental inflation. The well documented upswing in housing construction including detached houses will put upward pressure on new dwellings prices. Hence housing inflation is likely to be slightly stronger than suggested by wage inflation

. . . keeping overall inflation in the upper half of the Reserve Bank's 2 to 3 per cent target band

We are forecasting CPI inflation to rise to 3.0 per cent through-the-year to June 2014 quarter. We then expect inflation to ease. However, 'one-off' factors such as a substantial rise in tobacco excise (effective September 2014) will conspire to keep overall inflation in the upper half of the Reserve Bank's 2 to 3 per cent target band. The lift in excise is expected to push up tobacco prices by 15 per cent, adding close to 0.4 per cent to the headline rate over the September and December quarters. Overall, we forecast CPI inflation at 2.8 per cent though-the-year to June 2015 and 2.7 per cent to June 2016.

Our forecasts assume a negative impact of -0.2 per cent on headline CPI in 2014/15 from the scrapping of the carbon tax and moving to a 'Direct Action' plan. We have assumed that the repeal of the carbon tax legislation will be passed by the new Senate in July this year with the majority CPI impacts to come through in the December 2014 and March 2015 quarters via lower electricity and gas prices.

Our estimate that the removal of a carbon price will reduce CPI by about 0.3 per cent is in line with the Federal Treasury's estimate of 0.25 per cent. In addition, anecdotal evidence suggests that the decline in utility prices will be much less than the increase in prices that resulted from

**Table 3.2: Wages Growth, All Industries, Australia,
(by Workforce Segmented by Pay Setting Method)**

Year Ended June	Year Average Per Cent Change												Averages	
	2010	2011	2012	2013	2014e	Forecast						2003-13		
Wage Price														
Awards Only	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%	
Collective Agreements	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	41.9%	
Individual Arrangements	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100.0%	100.0%	
AWOTE														
Awards Only	0.7	3.5	3.4	2.9	2.6	3.0	2.8	3.1	3.2	3.0	2.9	2.6	2.9	
Collective Agreements	4.1	4.0	4.0	3.7	3.6	3.5	3.5	3.7	3.9	3.8	4.0	4.0	3.7	
Individual Arrangements (b)	7.2	4.4	4.7	5.5	3.2	4.1	5.0	5.9	5.7	5.1	5.7	5.5	5.0	
AWOTE (Persons)(c)	5.6	4.2	4.3	4.6	3.3	3.8	4.3	4.9	4.8	4.5	4.9	4.7	4.4	
Wage Price Index														
Awards Only	0.7	3.5	3.4	2.9	2.6	3.0	2.8	3.1	3.2	3.0	2.9	2.6	2.9	
Collective Agreements	4.1	4.0	4.0	3.7	3.6	3.5	3.5	3.7	3.9	3.8	4.0	4.0	3.7	
Individual Arrangements (b)	2.6	3.7	3.4	3.0	1.9	2.7	3.5	4.0	3.7	3.8	4.1	3.7	3.4	
Wage Price Index (Ord. Time)	3.1	3.8	3.6	3.3	2.7	3.0	3.5	3.8	3.7	3.7	4.0	3.8	3.5	
Compositional Effects + Bonuses,etc	2.5	0.4	0.7	1.3	0.7	0.8	0.8	1.0	1.1	0.8	0.9	1.0	0.9	

Source: BIS Shrapnel, ABS, DEEWR

(a) Full-time Adult Persons

(b) Indiv Agreements picks up all the compositional effects and bonuses plus all the standard errors of WPI and AWOTE estimates by the ABS

(c) Full-time Adult Persons, excluding overtime

(e) Estimate

**Table 3.3: Methods of Setting Pay, Industry, May 2010
Proportion of Full-Time Adult Employees (%)**

Industry (ANZSIC 2006)	Award Only	Collective Agreements	Individual Arrangements	All Methods of Pay Setting
Mining	1.8%	42.1%	56.1%	100.0%
Manufacturing	9.1%	29.3%	61.6%	100.0%
Electricity, Gas, Water & Waste Services	2.7%	67.7%	29.6%	100.0%
Construction	6.7%	26.3%	67.0%	100.0%
Wholesale trade	7.7%	11.3%	81.0%	100.0%
Retail trade	16.6%	20.7%	62.7%	100.0%
Accommodation and Food Services	31.7%	23.0%	45.3%	100.0%
Transport, Postal and Warehousing	3.9%	55.9%	40.2%	100.0%
Information Media and Telecommunications	3.6%	29.0%	67.4%	100.0%
Finance and Insurance Services	1.5%	39.9%	58.7%	100.0%
Rental, Hiring and Real Estate Services	13.1%	10.4%	76.5%	100.0%
Professional, Scientific and Technical Services	2.2%	11.5%	86.3%	100.0%
Administrative and Support Services	15.9%	30.1%	54.1%	100.0%
Public Administration and Safety	1.2%	92.5%	6.3%	100.0%
Education and Training	2.9%	88.9%	8.1%	100.0%
Health Care and Social Assistance	12.3%	66.6%	21.1%	100.0%
Arts and Recreation Services	10.4%	40.1%	49.4%	100.0%
Other Services	15.7%	11.0%	73.3%	100.0%
All Industries 2010 Survey	8.1%	41.9%	50.0%	100.0%

Source: ABS

the introduction of carbon price. Hence, it is reasonable to assume that the decline in CPI will not be the same as the 0.6 to 0.7 per cent increase in CPI that was attributed to the imposition of a carbon price in the second half of 2012.

We have also analysed the impact of change in fuel excise indexation announced in the Federal Budget on CPI. Our research suggests that the change in indexation interval and rate will increase fuel prices by 0.6 per cent in 2014/15 adding 0.02 percentage points to overall inflation. In 2015/16, we estimate that it will add 0.03 percentage points to inflation.

There will also be impacts from the \$7 Medicare co-payment for GP visits and other medical services (from July 2015), higher upfront pharmaceutical prices and from expected increases in higher education fees. Additional impacts on the CPI may also occur if the states and local councils raise some of their indirect charges to compensate for the reduced funding from the Commonwealth. At this stage, we are still assessing the impacts – some of which may change due to ongoing negotiation in the Senate.

Underlying CPI inflation is forecast to rise to remain at 2.5 per cent through-the-year to June 2015 quarter but rise to 2.7 per cent and 3.0 per cent to June 2016 and 2017 respectively as economic activity strengthens and becomes broad based. We expect CPI inflation to fall back to within the Reserve Bank's 2 to 3 per cent target range in the second half of the decade. But inflation containment will remain a policy challenge beyond the medium term.

3.1.1 Reserve Bank of Australia CPI forecasts

The Reserve Bank and the Federal Treasury provide the 'official' view of CPI forecasts. The RBA's May 2014 'Statement on Monetary Policy' projects the headline CPI rate at 3.0 per cent in the June quarter 2014, before falling to 2¾ in the December 2014 quarter. According to the RBA, headline CPI inflation is then expected to be in the 2½ to 3½ per cent range through to June quarter 2015 and in the 2 to 3 per cent range through-the-year to June 2016 quarter (RBA current forecasts only extend to June 2016).

The Federal Treasury projected CPI inflation at 3¼ per cent in 2013/14 and 2¼ per cent in 2014/15. For the budget forward estimate period (ie from 2015/16 to and 2017/18 inclusive), the Federal Treasury forecast CPI inflation at 2½ per cent.

3.2 Outlook for Australian All Industries Wages

3.2.1 Brief description of BIS Shrapnel's wages model

The key determinants of nominal wages growth are consumer price inflation, productivity and the relative tightness of the labour market (ie the demand for labour compared to the supply of labour). Price inflation, in turn, is primarily determined by unit labour costs. Other factors which influence price inflation include the exchange rate, the stage of the business cycle and the level of competition in markets generally.

BIS Shrapnel's model of wage determination is based on the analysis of past and future (expected) wage movements in three discrete segments of the workforce, based on the three main methods of setting pay and working conditions (see tables 3.1 and 3.2):

- Those dependent on awards rely on pay increases given in the annual National Wage case by Fair Work Australia (formerly by the Fair Pay Commission and Australian Industrial Relations Commission). Most of the wage increases in the National wage case over the past decade have been given as flat, fixed amount (ie dollar value) increases, rather than as a proportional increase although the last two increases were given as a percentage increase. At the all industries level, 8.1 per cent of all full-time employees (data excludes

Chart 3.1: Australia – Wages and Prices

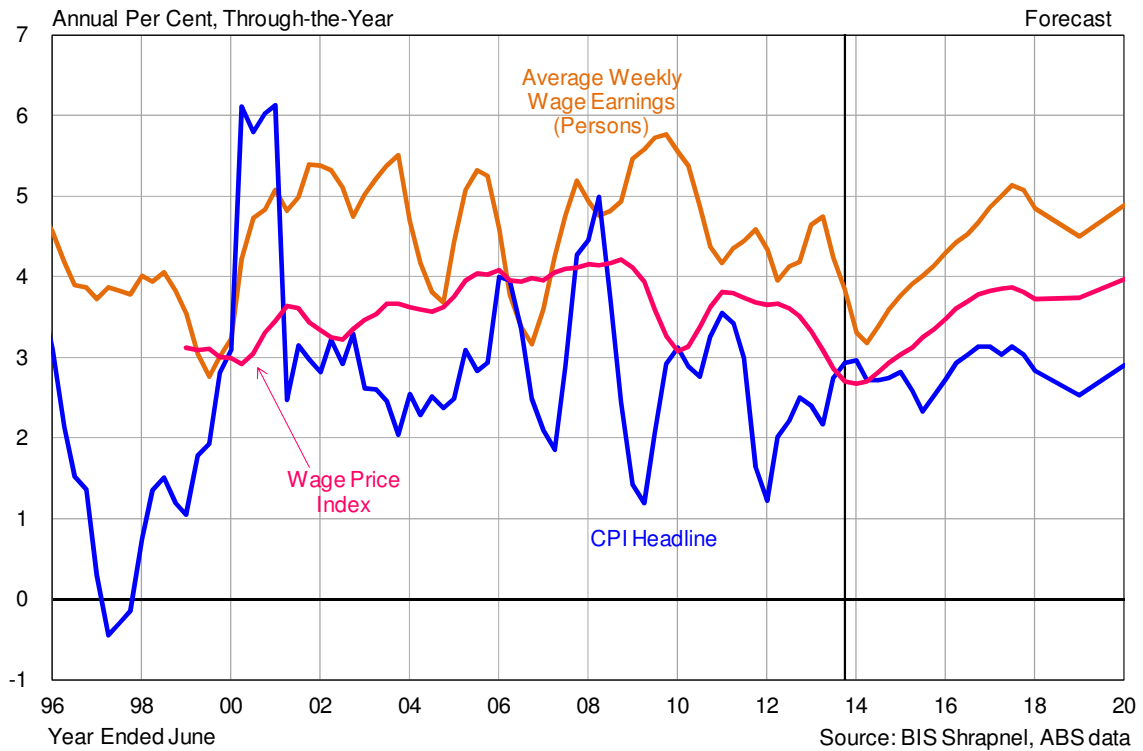
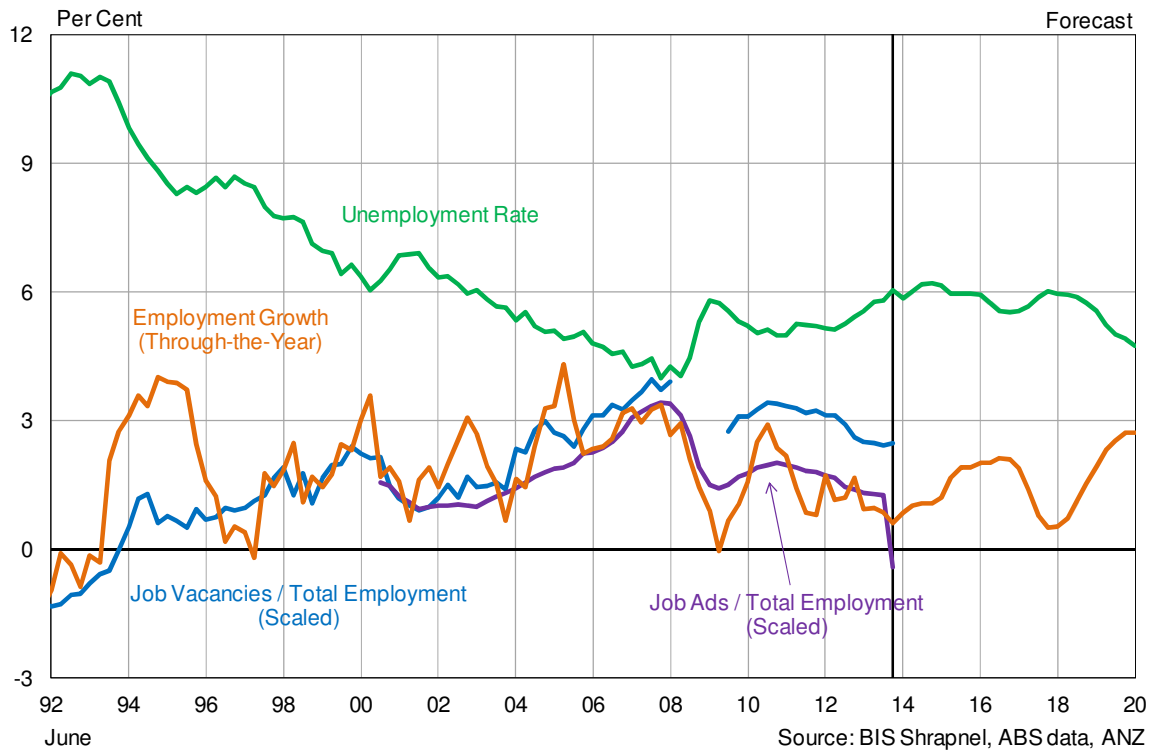


Chart 3.2: Employment and Unemployment



those in agriculture, forestry and fishing) have their pay rises determined by this method. In the electricity, gas, water & waste services sector, only 2.7 per cent of workers have their pay set by this method.

- Collective agreements negotiated under enterprise bargaining account for 41.9 per cent of all employees, but 67.7 per cent of electricity, gas, water and waste services employees' wage increases are determined by this method.
- The remaining 50 per cent of all industries' employees have their pay set by individual arrangements, such as individual contracts or other salary arrangements (including incentive-based schemes), while the proportion for electricity, gas, water and waste services is currently estimated to be around 30 per cent.

The key influences on the different wage determination mechanisms of each discrete segment are described below:

- Fair Work Australia (the body responsible for setting minimum wages in Australia) is responsible for establishing and maintaining a safety net of fair minimum wages for employees' dependent on Awards. This requires maintenance of employees' cost of living. Hence, in setting minimum wages, Fair Work Australia takes into account the performance and competitiveness of the national economy, including productivity, business competitiveness and viability, inflation and employment growth. Accordingly, increases in the Federal Minimum Wage (on which a range of mostly lower paid awards are also based) granted by Fair Work Australia each year are usually set in relation to recent increases in the CPI and with regard to the Fair Work Australia's view of both current and short-term future economic conditions. Fair Work Australia granted a 2.6 per cent (\$15.80) increase in minimum wages, effective July 2013. The \$15.80 per week increase lifted the Federal Minimum Wage to \$622.20 per week.
- Increases in collective agreements under enterprise bargaining are influenced by a combination of recent CPI increases, inflationary expectations, the recent profitability of relevant enterprises, current business conditions and the short-term economic outlook, and by the industrial relations 'strength' of relevant unions. Because the average duration of agreements now runs for two-to-three years, BIS Shrapnel bases its near-term forecasts on the strength of recent agreements, which have been 'formalised' over recent quarters. Thereafter, collective agreements are based on BIS Shrapnel's macroeconomic forecasts.
- Increases in individual agreements 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, current business conditions and the short-term economic outlook.

Note in table 3.2, wage increases under 'individual arrangements' are calculated by deduction. Data from the Department of Employment are used for wage increases under collective agreements.

The limitation of this methodology is that because individual arrangements are calculated as a residual, all of the compositional effects in terms of AWOTE (ie from more or less lower-paid workers being employed in the relevant year) plus all (or most) of the bonuses and incentives from those under award or collective agreements end up in the individual arrangements residual, which distorts the pay increases in this segment. However, the methodology works well for the WPI, particularly at the all industries level, although some compositional problems occur at the sectoral level.

Some Deficiencies in Econometric Models of Wage Determination

We believe that BIS Shrapnel's institution-based wage model better approximates the underlying (actual) data generating process than a straight application of an econometric model. As a result, we strongly believe our model of wage determination is superior to methodology utilising purely econometric regression techniques, in particular linear regression models to forecast wages. This opinion is based on a number of factors, some of which are described below:

- the evolution of the wage determination system from the 1980s and particularly during the 1990s means that econometric equations struggle with the changes in the relative importance of different factors influencing wages growth that have occurred over the past two-to-three decades. As such, we believe that an econometric equation would struggle to properly model the present complexity of the wage determination processes.
- BIS Shrapnel's model of wage determination does take account of the present complexity of the wage determination process, both at the national (all industries) level and at the industry sector level. Our methodology and explanation of the macroeconomic influences are, we believe, clear and transparent. We use small sector mathematical models to derive forecasts for discrete segments, rather than an over-riding, overall macroeconomic model.
- BIS Shrapnel believes the use of univariate or multi-equation time series econometric modelling is not the best method for forecasting wages growth. This is because many regression equations include lagged dependent variables, and econometric models that include lagged dependant variables tend to miss turning points in the cycle, often producing results we know to be spurious. Indeed, the models performed no better (or worse) than a combination of a large range of 'mini' sectoral models and our expertise and knowledge of key influences.

3.3 Outlook for Australian All Industries Wages

Wages growth slowed considerably in calendar year 2013, following a mild easing through 2012. The wage price index (WPI) grew by 2.9 per cent in year average terms in calendar 2013, with through-the-year growth to December 2013 even weaker at 2.5 per cent — the slowest pace since the early 2000s and lower than the post GFC weakening when WPI growth troughed at 2.9 per cent through-the-year to the December 2009 quarter.

The marked slowing in wages growth is partly due to the relatively low outcome for the increase in the minimum wage which came into effect in July 2013. In addition, an increase in spare capacity in the economy as evidenced by the rising unemployment rate also contributed to the moderation in wages growth in calendar year 2013.

We expect the December quarter 2013 result will be the low point in wage growth outcomes, and that wages growth will gradually pick-up through 2014 as employment growth also slowly builds momentum. The WPI grew by 0.7 per cent in the March quarter bringing the through-the-year rate to 2.6 per cent. Although there are some encouraging signs on the employment front (106,400 jobs were added to the economy in the first four months of this year – the highest number since 2008), the decline in mining investment is yet to come through. This, combined with public sector job cuts will keep employment growth below long-run average levels for at least another year ensuring that we have a slow build in the number of people employed.

Nevertheless, wages growth is expected to remain low during 2013/14, with the WPI forecast to average 2.7 per cent. A modest pick-up to 3.0 per cent is forecast for 2014/15, but this growth is still weak by historical standards. Wage demands will be muted by rising unemployment and slow employment growth in the near term. However, we expect the relatively higher increase in

award wages – via the annual National Wage case by Fair Work Australia – to also provide a small boost to wages growth in 2014/15. The Fair Work Australia recently awarded a 3.0 per cent increase (or \$18.70 per week rise for the minimum wage), in order to maintain living standards (ie real wages) for award dependent workers.

We expect a slow build in wage pressures from 2015 as the economy remains soft with the economic recovery only expected to gain traction from late 2015 with a broadening in employment, profits and investment as the next set of economic drivers, in particular non-mining business investment, slowly comes through.

Meanwhile, lower interest rates should help to stimulate wider economic activity, lifting confidence and spending and encouraging businesses to switch out of cost containment mode.

The acceleration in profits, rising price inflation through 2015 and 2016 and widening skills shortages — with the unemployment rate expected to approach 5.5 per cent by late 2016 — will drive up wages growth during 2015/16. Wages growth (in year average terms) is expected to rise further and peak at 4.9 per cent for AWOTE and 3.8 per cent for Wage Price Index (WPI) in 2016/17.

4. EXTERNAL LABOUR COST ESCALATION FORECASTS

This section provides forecasts of SA Power Networks' external or 'out-sourced' labour escalation. Given utility service providers outsourced labour is mostly supplied by firms in the construction industry, we proxy SA Power Networks' external labour cost escalation by wages growth (as measured by the WPI) in the South Australian construction industry

Our forecasts together with a brief rationale are provided below.

4.1 External Construction Labour Costs in South Australia

Our research has shown that construction activity (ie work done in the sector) normally has a strong influence on construction wages. Hence, our wage forecasts are based on BIS Shrapnel's 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.

Much like the other states and territories, wages growth in the South Australian construction sector generally tracks growth in total construction activity, although changes in wages tend to lag construction (in work done terms) by around one to two years.

Construction activity in South Australia is expected to underperform the national average over the next four years.

A sustained level of residential building in the face of slow population growth has led to an oversupply of dwellings in South Australia. This is gradually being unwound, with the level of dwelling investment having declined by more than 10 per cent over the past year. Consistent with the apparent excess supply of dwellings in South Australia, Adelaide house prices are essentially unchanged relative to a year ago, while weighted average for all of the capital cities is growth approaching 8 per cent. Similarly, South Australia's residential vacancy rate has been above 3 per cent since mid-2011, well above the rate in the other capital cities.

In contrast to the weakness in dwelling investment, private non-dwelling building has grown strongly over the past year, reflecting the work associated with the Royal Adelaide Hospital, the Adelaide Oval upgrade and Adelaide Convention centre. However, beyond these big projects, demand for commercial properties remains low, with Adelaide's office vacancy rate approaching 10 per cent – the second highest of all of the States and Territories.

Engineering activity is increased nearly 20 per cent to peak at \$5.7 billion in 2012/13, reflecting higher construction activity in roads, harbours, recreation, electricity and telecommunications. From 2013/14, we expect construction activity to trend downwards to \$3.9 billion in 2015/16 due to declining activity in electricity, water and telecommunications.

Consequently, we expect South Australian construction wages will lag the national average over the next four years. However, we expect construction wages to pick up pace from 2017/18, matching Australian average in 2018/19 (see table 5.1). Our expectation is that construction wages in South Australia will outperform the national average in 2019/20 due to increased wage pressures from the commencement of the Olympic Dam expansion project, timed to start in 2018/19.

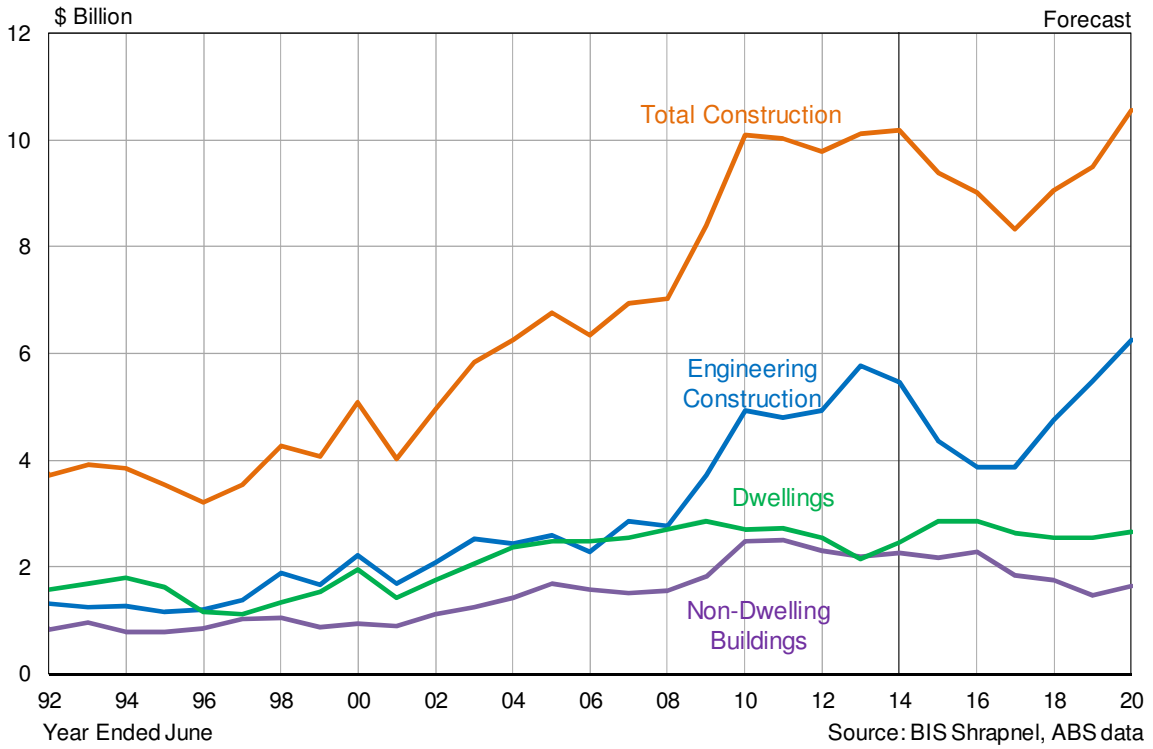
**Table 4.1: Construction Wages Growth – South Australia and Australia
Nominal Wages, Year Average Growth**

Year Ended June	WPI ⁽¹⁾ 2011/12=100			
	South Australia		Australia	
	Index	A% CH	Index	A% CH
2000			61.3	
2001			63.8	4.1
2002			65.9	3.3
2003			68.1	3.3
2004			70.6	3.7
2005			74.3	5.2
2006			77.9	4.9
2007			81.7	4.9
2008			85.5	4.7
2009	90.8		89.5	4.7
2010	93.2	2.6	92.4	3.3
2011	96.3	3.3	96.1	4.0
2012	100.0	3.9	100.0	4.1
2013	103.2	3.2	103.3	3.3
2014	106.4	3.0	106.4	2.9
Forecasts				
2015	109.5	3.0	109.6	3.1
2016	113.1	3.2	113.5	3.5
2017	116.9	3.4	117.9	3.9
2018	121.1	3.6	122.4	3.8
2019	125.9	3.9	127.2	3.9
2020	131.4	4.3	132.5	4.1
Long Term Averages				
2000-2010			4.2	
2008-2013			3.9	
2013-2020	3.5		3.6	
2015-2020	3.7		3.9	

Source: BIS Shrapnel, ABS

(1) Ordinary time hours excluding bonuses.

**Chart 4.1: Total Construction – South Australia
Value of Work Done, Constant 2010/11 Prices**



5. OUTLOOK FOR CUSTOMER CONNECTIONS EXPENDITURE

Customer connection expenditure includes all expenditure on the enhancement and development of the distribution network to meet increased loads from customer requests for new or additional supply. SA Power Networks customer connections expenditures are split according to value into three categories: minor customer connections (projects less than \$30,000), medium customer connections (projects between \$30,000 and \$100,000) and major customer connections (projects greater than \$100,000).

SA Power Networks have provided estimates for customer connect expenditure for 2013/14 (actual data from July 2013 to May 2014, estimate for June 2014), with BIS Shrapnel forecasts used from 2014/15 to 2019/20.

Overall, total customer connect expenditure is forecast to average \$104.9 million over the seven years to 2019/20 (in constant 2011/12 prices), compared with \$116.0 million over the five years to 2012/13 (see table 5.1).

5.1 Forecasting Methodology

Minor Customer Connections (projects less than \$30,000) and Underground Residential Developments (URD's)

Our minor connections expenditure model is predominantly based on new dwellings and alterations and additions activity. Historical data for house commencements and alterations and additions approvals for South Australia were sourced from the ABS (Catalogue No. 8752.0 and 8731.0 respectively). The relationship between house commencements and new dwelling connections, and alterations and additions approvals activity and alterations and additions connections, was estimated. BIS Shrapnel forecasts of house commencements and alterations and additions approvals activity for South Australia out to 2019/20 were then inputted into the model to forecast total number of new dwelling and alterations and additions connections (see table 5.4).

This forecast was then used as a driver for total residential building projects expenditure (see table 5.6). We then allowed for customer connect expenditure on small commercial activity (which tends to account for around 1% of total minor customer connect expenditure), which was driven by the real value of non-residential commencements for buildings with an individual value below \$1 million (historical data sourced from ABS Catalogue No. 8752.0). The sum of these two components then gave us minor customer connections expenditure. Underpinning our forecasts of residential building and non-residential building activity are BIS Shrapnel's forecasts of South Australian population growth (see table 5.2).

Underground Residential Development (URD) expenditure is related to the establishment of the mostly 'greenfields' subdivision infrastructure for the connection of the URD prior to residential houses actually being constructed. Therefore, our URD connections expenditure model is based on total house commencements.

Medium Customer Connections (projects between \$30,000 and \$100,000)

Our medium connections expenditure model is based on the real value of non-residential building commencements for projects below \$20 million and the number of 'other' dwelling commencements (in particular, flats). The historical data for non-residential building commencement expenditure for projects valued at less than \$20 million and for the number of flat commencements for South Australia were sourced from the ABS (Catalogue No. 8752.0). We assumed a weighting for the two key drivers, such that changes in the value of non-residential building commencements had a greater impact on medium customer connections expenditure than did changes in flat commencements. We also assumed that this weighting remained constant over time.

The relationship between the weighted non-residential building commencement expenditure for projects valued at less than \$20 million and number of flat commencements and medium customer connections expenditure was estimated. BIS Shrapnel forecasts of the real value of non-residential building commencements for projects valued at less than \$20 million and flat commencements for South Australia out to 2019/20 were then inputted into the model to forecast medium customer connections expenditure (see table 5.7).

**Table 5.1: Customer Connections Expenditure
(Constant 2011/12 Prices)**

Year Ended June	Minor Customer Connect Expenditure (<\$30k)		URD Customer Connect Expenditure		Medium Customer Connect Expenditure (\$30k-\$100k)		Major Customer Connect Expenditure (>\$100k)		Total Customer Connect Expenditure All Projects	
	(\$'000) ⁽¹⁾	%CH	(\$'000) ⁽¹⁾	%CH	(\$'000) ⁽¹⁾	%CH	(\$'000) ⁽¹⁾	%CH	(\$'000) ⁽¹⁾	%CH
	2009	23,326		9,737		24,200		71,597		128,860
2010	25,568	9.6	6,312	-35.2	32,048	32.4	79,665	11.3	143,592	11.4
2011	27,723	8.4	5,328	-15.6	28,685	-10.5	47,311	-40.6	109,047	-24.1
2012	32,700	17.9	4,343	-18.5	24,652	-14.1	43,339	-8.4	105,034	-3.7
2013	26,221	-19.8	5,132	18.2	20,513	-16.8	41,498	-4.2	93,364	-11.1
Forecasts										
2014	22,940	-12.5	4,421	-13.8	22,505	9.7	46,068	11.0	95,934	2.8
2015	23,812	3.8	4,904	10.9	23,601	4.9	50,715	10.1	103,032	7.4
2016	23,066	-3.1	4,689	-4.4	24,866	5.4	48,778	-3.8	101,399	-1.6
2017	21,663	-6.1	4,234	-9.7	22,463	-9.7	57,791	18.5	106,151	4.7
2018	20,649	-4.7	3,912	-7.6	21,450	-4.5	55,253	-4.4	101,264	-4.6
2019	21,112	2.2	3,966	1.4	22,597	5.3	61,477	11.3	109,152	7.8
2020	22,778	7.9	4,207	6.1	26,720	18.2	63,706	3.6	117,412	7.6
Period Averages & Compound Annual Average Growth Rates										
2008-13	27,108		6,170		26,020		56,682		115,979	
Forecasts										
2013-20	22,289	-2.0	4,333	-2.8	23,457	3.8	54,827	6.3	104,906	3.3
2015-20	21,854	-0.9	4,202	-3.0	23,619	2.5	57,401	4.7	107,075	2.6

⁽¹⁾ 2013/14 is an estimate. Actuals July 2013 - May 2014, estimate June 2014.

Source: SA Power Networks, BIS Shrapnel

Major Customer Connections (projects greater than \$100,000)

Forecasts for major connections expenditure were undertaken as follows:

- 1) BIS Shrapnel compiled a list of major projects in both the infrastructure (engineering construction) and non-residential building sectors, with their values, expected starting date and relevant construction category.
- 2) SA Power Networks also provided us with a list of projects that they expected to commence within the next 7 years and for most of those projects provided the 'appropriate load' (kVA) and the total cost of providing the electricity connection. Where the 'appropriate load' (kVA) and total cost of providing the electricity connection was unknown, BIS Shrapnel made an estimate based on other comparable projects. These estimates were partially derived from the ETSA Utilities (the predecessor to SA Power Networks) approved major project list provided in 2009.
- 3) SA Power Networks then reviewed and updated the combined major project list and provided this finalised version to BIS Shrapnel in late-May 2014.
- 4) Any project below 50% likelihood of proceeding was removed, but the timing, probability and value of removed projects were noted and taken into consideration.

- 5) We then summed the connection cost of each major project, to arrive at a grand total. A residual for unknown and possible projects is also included in the forecasts. This was derived from our forecasts for non-dwelling building commencements (projects above \$20 million) and engineering construction activity (excluding sectors not deemed relevant). The forecast movements in the summation of these two sectors were applied to the estimated total expenditure and residual expenditure for 2013/14 (used as a base year), and extended out to 2019/20. See the end of this section for a list of these major projects.

It should be noted that we have adjusted the ABS's 2012/13 data for non-dwelling building commencements (projects above \$20 million). The commencement of the Westfield West Lakes Redevelopment, worth \$70 million, was left out of the ABS data. We have added it in, to achieve a more accurate result for growth in 2013/14.

**Table 5.2: South Australia
Migration and Natural Increase in Population (Thousands)**

	Natural increase	Migration		Total increase	Population	A%ch
		Net overseas	Net interstate			
2002	5.8	2.8	-1.3	8.1	1,511.6	0.5
2003	5.2	3.9	-1.2	8.8	1,520.4	0.6
2004	5.4	4.3	-2.9	7.8	1,528.2	0.5
2005	5.9	7.0	-3.2	10.6	1,538.8	0.7
2006	5.9	9.8	-2.7	13.7	1,552.5	0.9
2007	7.0	14.6	-3.4	18.1	1,570.6	1.2
2008	7.3	15.3	-4.2	18.0	1,588.7	1.1
2009	7.2	18.0	-4.4	20.2	1,608.9	1.3
2010	7.5	14.5	-2.7	18.4	1,627.3	1.1
2011	7.1	9.2	-2.6	12.3	1,639.6	0.8
2012	7.5	11.4	-2.4	16.4	1,656.0	1.0
2013	7.1	11.5	-4.0	14.8	1,670.8	0.9
2014	7.2	12.7	-3.0	16.9	1,687.7	1.0
2015	7.3	10.7	-3.0	15.0	1,702.7	0.9
2016	7.3	10.2	-3.0	14.5	1,717.2	0.8
2017	7.2	8.8	-3.0	12.9	1,730.1	0.8
2018	7.0	8.5	-3.0	12.5	1,742.6	0.7
2019	6.9	10.2	-3.0	14.0	1,756.7	0.8
2020	6.8	15.8	-1.5	21.0	1,777.7	1.2

note: components may not sum to total increase due to ABS revisions related to 2011 Census

Source: ABS, BIS Shrapnel

5.2 The Outlook for Drivers of Minor Customer Connections Expenditure and URD's

Minor customer connections are made up of alterations to existing supplies and connection of new supplies for predominantly residential customers. Minor customer projects are split between alterations and new connections. The cost of an alteration connection is assumed to be less than that of a new connection, with the actual 2012/13 weighting between the two assumed constant over the forecast horizon.

The major trends and drivers associated with minor customer projects include:

- House commencements.
- Other dwelling commencements (excluding flats commencements).¹
- Alterations and additions approvals.

¹ 'Other Dwellings' are buildings other than houses, which are primarily used for long-term residential purposes and which contain (or have attached to them) more than one dwelling unit (e.g. duplexes, terrace houses, semi-detached houses, villas, maisonettes, townhouses, apartments, flats & home units)

Total dwelling commencements held at a relatively high level of around 12,000 over the three years to 2009/10. Government grants for first home buyers combined with lower borrowing costs and a fall in house prices in 2008/09 saw affordability improve considerably, and this was particularly important for drawing out demand post GFC. The Federal Government's Nation Building Social Housing Initiative helped provide support towards the end of this period in the form of approximately 1,500 new public dwellings.

Activity then fell back considerably in 2010/11 (-10.7%), 2011/12 (-16.8%) and 2012/13 (-4.2%) to 8,764 dwelling starts. This weakness reflects a sharp fall back in underlying demand, as with population growth falling back considerably, so too has the incremental housing requirement.

A modest dwelling oversupply is estimated to have developed (2,200 dwellings as at June 2013), and this is consistent with a higher vacancy rate in Adelaide (2.9% in June quarter 2013). Although residential property price growth in Adelaide (+4.9% according to ABS data) has accelerated over the past two quarters, it still lags all other major capital cities.

Strong growth is estimated to have re-emerged in 2013/14 (+23.8%) and is forecast to continue into 2014/15 (+9.2%). Both houses and other dwellings will participate in the general improvement. First home buyer stimulus for the State Government has been very important in driving new housing demand. Underlying demand has lifted moderately from the 2010/11 low and is supporting residential construction. Borrowing costs are forecast to remain low and the positive impact this has on affordability will be very important for drawing out buyers. Economic conditions are forecast to improve gradually over the next few years, creating an environment to facilitate this.

Rising borrowing costs and prices into 2015/16 and 2016/17 and then subsequently weaker economic conditions into 2017/18 are expected to drag on new housing construction over the longer term. As economic conditions rebalance and the domestic economy moves back into an upturn phase, dwelling investment is forecast to lift moderately off a low base over the following two years to 2019/20.

Overall, total dwelling commencements in the longer term are forecast to average 10,407 annually over the seven years to 2019/20. This compares to an average of 10,676 over the previous five years to 2012/13.

Residential alterations and additions experienced strong growth over the decade to 2007/08 but have since eased back over more recent years, falling 7.8% in 2011/12 and 7.7% in 2012/13. This decline has been somewhat in line with the fall in new dwelling construction, and is largely reflective of lower property turnover volumes and constrained confidence.

Alterations and additions activity tends to track movement in new dwelling construction, although with less amplitude. As such, we expect alterations and additions to hold relatively flat over the forecast horizon. Overall, alterations and additions in the longer term are forecast to average \$338 million over seven years to 2019/20. This compares to an average of \$365 million over the previous five years to 2012/13.

Table 5.3: Underlying demand for dwellings and deficiency of dwellings stock by state (Thousands)

	Estimated dwelling commencements 2013/14	Underlying Demand ('000) 2011/12-2013/14 Annual Average	Underlying Demand ('000) 2014/15-2018/19 Annual Average	Dwelling Stock Deficiency as at June (Thousands)			
				2013	2014	2015	2016
New South Wales	50,500	42.7	41.7	46.5	53.8	55.6	47.6
Victoria	50,500	49.9	42.4	0.9	3.9	1.8	-4.9
Queensland	35,850	34.4	34.6	16.6	19.4	20.6	20.3
South Australia	10,850	9.3	8.2	-2.2	-1.7	-3.7	-6.7
Western Australia	28,500	30.8	18.9	30.0	32.4	27.9	21.2
Tasmania	1,850	1.4	1.7	-4.2	-4.4	-4.7	-5.0
Northern Territory	1,800	1.6	1.5	1.0	0.6	0.3	0.2
A.C.T.	4,500	3.0	2.1	-2.6	-4.7	-7.0	-8.8
Australia	184,350	173.1	151.1	86.0	99.3	90.7	63.8

e = estimate, f = forecast

Source: BIS Shrapnel & ABS

Table 5.4: Minor Customer Connect Expenditure, Number of Connections & URD Expenditure

Year Ended June	Minor Customer Connect Expenditure (<\$30k)		Dwelling Connections		Alterations & Adds Connections		Total Dwelling Connections		URD Customer Connect Expenditure	
	(\$'000) ^(1,2)	%CH	Number ⁽²⁾	%CH	Number ⁽²⁾	%CH	Number ⁽²⁾	%CH	(\$'000) ^(1,2)	%CH
	2009	23,326		14,716		15,480		30,196		9,737
2010	25,568	9.6	13,328	-9.4	17,861	15.4	31,189	3.3	6,312	-35.2
2011	27,723	8.4	13,682	2.7	37,581	110.4	51,263	64.4	5,328	-15.6
2012	32,700	17.9	11,143	-18.6	67,288	79.0	78,431	53.0	4,343	-18.5
2013	26,221	-19.8	9,230	-17.2	39,746	-40.9	48,976	-37.6	5,132	18.2
Forecasts										
2014	22,940	-12.5	10,601	14.9	32,449	-18.4	43,050	-12.1	4,421	-13.8
2015	23,812	3.8	11,757	10.9	32,158	-0.9	43,916	2.0	4,904	10.9
2016	23,066	-3.1	11,243	-4.4	31,417	-2.3	42,660	-2.9	4,689	-4.4
2017	21,663	-6.1	10,151	-9.7	30,305	-3.5	40,456	-5.2	4,234	-9.7
2018	20,649	-4.7	9,380	-7.6	29,471	-2.8	38,851	-4.0	3,912	-7.6
2019	21,112	2.2	9,509	1.4	30,301	2.8	39,810	2.5	3,966	1.4
2020	22,778	7.9	10,087	6.1	33,022	9.0	43,109	8.3	4,207	6.1
Period Averages & Compound Annual Average Growth Rates										
2008-13	27,108		12,420		35,591		48,011		6,170	
Forecasts										
2013-20	22,289	-2.0	10,390	1.3	31,303	-2.6	41,693	-1.8	4,333	-2.8
2015-20	21,854	-0.9	10,074	-3.0	30,903	0.5	40,977	-0.4	4,202	-3.0

⁽¹⁾ Constant 2011/12 Prices

Source: SA Power Networks, BIS Shrapnel

⁽²⁾ 2013/14 is an estimate. Actuals July 2013 - May 2014, estimate June 2014.

Table 5.5: Drivers of Minor Customer Connections Expenditure

Year Ended June	Houses		Other Dwelling		Total SA Dwelling		Total SA Alterations & Adds	
	Commencements		Commencements		Commencements		Approvals > \$10k	
	('000)	%CH	('000)	%CH	('000)	%CH	\$million ⁽¹⁾	%CH
1996	5,071	-38.2	890	-43.9	5,961	-39.1	209	-0.7
1997	5,112	0.8	677	-23.9	5,789	-2.9	212	1.5
1998	5,823	13.9	830	22.6	6,653	14.9	219	3.5
1999	6,296	8.1	1,119	34.8	7,415	11.5	245	11.8
2000	7,857	24.8	1,554	38.9	9,411	26.9	278	13.6
2001	5,247	-33.2	1,161	-25.3	6,408	-31.9	225	-19.2
2002	8,385	59.8	1,743	50.1	10,128	58.1	266	18.2
2003	8,431	0.5	2,108	20.9	10,539	4.1	321	20.7
2004	8,352	-0.9	2,129	1.0	10,481	-0.6	350	9.1
2005	8,640	3.4	2,434	14.3	11,074	5.7	366	4.6
2006	8,182	-5.3	2,547	4.6	10,729	-3.1	355	-3.0
2007	8,752	7.0	2,503	-1.7	11,255	4.9	353	-0.7
2008	9,525	8.8	2,344	-6.4	11,869	5.5	378	7.1
2009	9,332	-2.0	2,810	19.9	12,142	2.3	373	-1.4
2010	9,691	3.8	2,632	-6.3	12,323	1.5	380	2.0
2011	8,266	-14.7	2,736	4.0	11,002	-10.7	386	1.7
2012	6,941	-16.0	2,210	-19.2	9,151	-16.8	356	-7.8
2013	6,406	-7.7	2,358	6.7	8,764	-4.2	329	-7.7
Forecasts								
2014	8,250	28.8	2,600	10.3	10,850	23.8	350	6.5
2015	9,150	10.9	2,700	3.8	11,850	9.2	347	-0.9
2016	8,750	-4.4	2,350	-13.0	11,100	-6.3	339	-2.3
2017	7,900	-9.7	2,100	-10.6	10,000	-9.9	327	-3.5
2018	7,300	-7.6	1,850	-11.9	9,150	-8.5	318	-2.8
2019	7,400	1.4	2,100	13.5	9,500	3.8	327	2.8
2020	7,850	6.1	2,550	21.4	10,400	9.5	356	9.0
Period Averages & Compound Annual Average Growth Rates								
1998-03	7,243	7.7	1,537	20.5	8,780	9.6	267	7.9
2003-08	8,690	2.5	2,391	2.1	11,082	2.4	361	3.3
2008-13	8,127	-7.6	2,549	0.1	10,676	-5.9	365	-2.7
Forecasts								
2013-20	8,086	2.9	2,321	1.1	10,407	2.5	338	1.2
2015-20	7,840	-3.0	2,190	-1.1	10,030	-2.6	333	0.5

⁽¹⁾ Constant 2011/12 Prices

Source: BIS Shrapnel, ABS data

Chart 5.1: Growth in Minor Dwelling Connections

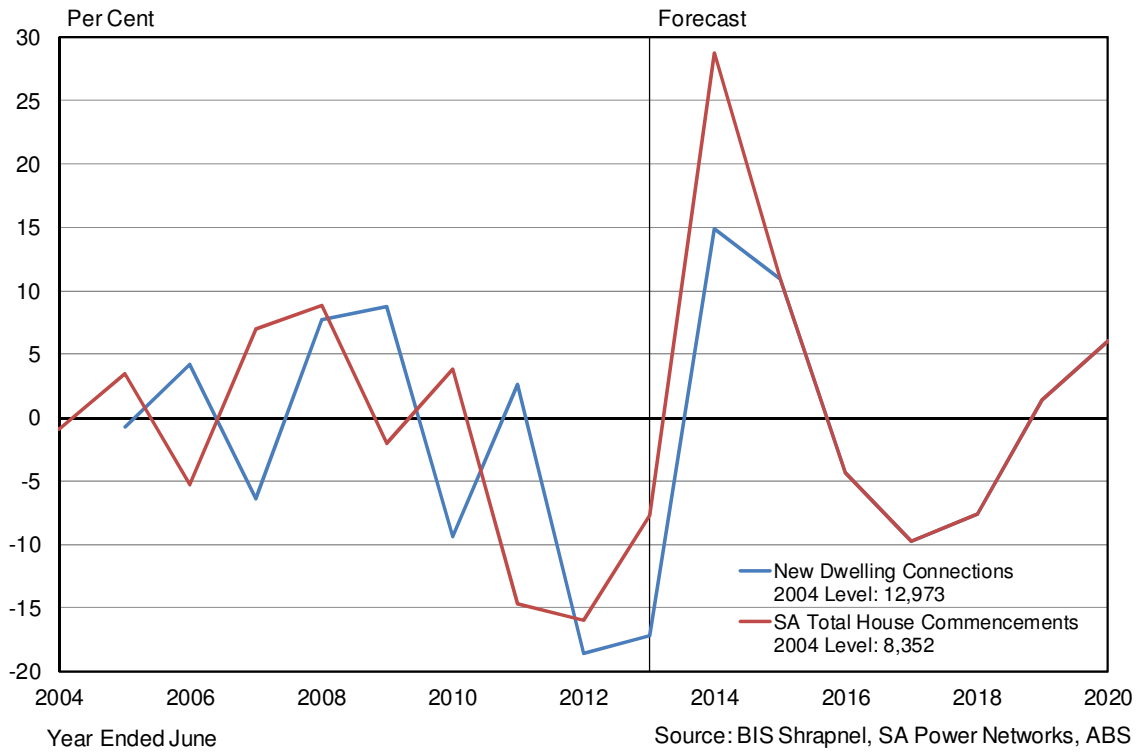
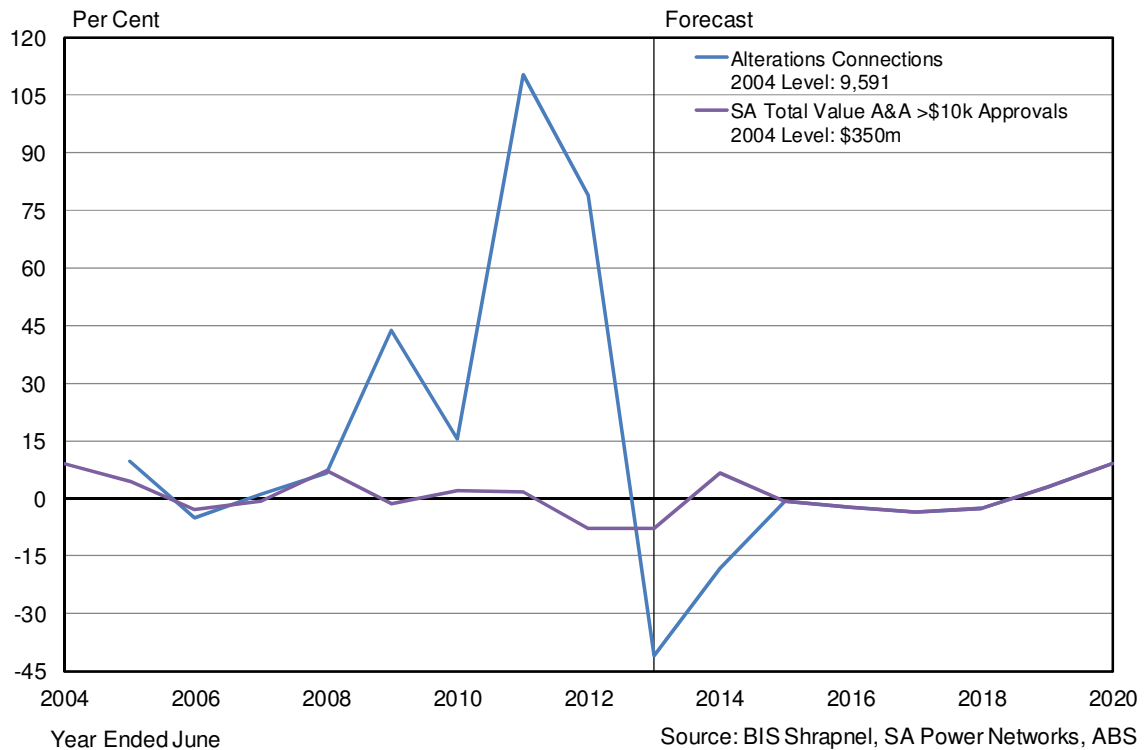


Chart 5.2: Growth in Alterations Connections



5.2.1 Forecasts of Minor Customer Connections Expenditure and URDs

Minor customer connections expenditure is estimated to have fallen by 12.5% in 2013/14 (in constant 2011/12 prices), according to SA Power Networks (see chart 5.3 and table 5.6). This estimate takes into account a change in government policy which will reduce solar PV import/export meter connections. It is therefore out of line with our forecasts of a strong revival in South Australian house commencements (+28.8%), following three years of tumbling numbers, as well as a 6.5% rise in alterations and additions approvals (>\$10k). In 2014/15, a second consecutive year of double-digit growth in commencements is expected to boost connections expenditure by 3.8%.

Over the following three years to 2017/18, house commencements are expected to drop by a cumulative 20.2%, while alterations and additions approvals will follow suit, falling by 8.4%. This will drag down connections expenditure over the same period. Over 2018/19, growth in house commencements and alterations and additions activity is forecast to begin to recover, accelerating into 2019/20, driving minor customer connections expenditure up to \$22.8 million by 2019/20.

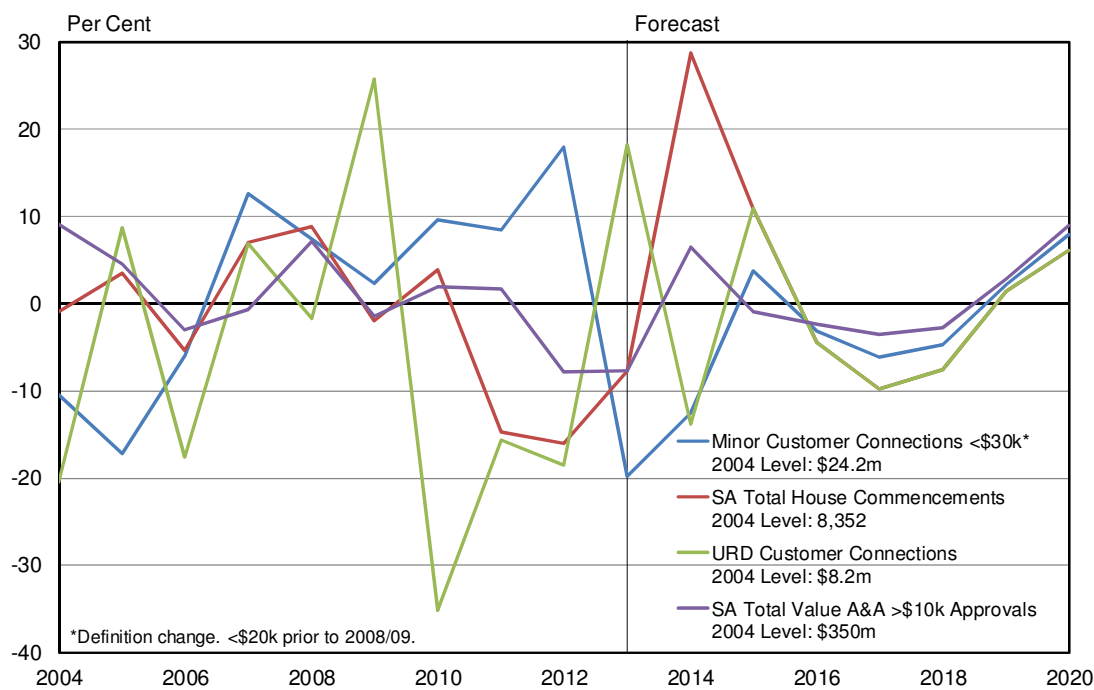
Overall, minor customer connections expenditure is forecast to average \$22.3 million over the seven years to 2019/20, an annual average decline of -2.0%.

**Table 5.6: Minor Customer Connections Expenditure
(Constant 2011/12 Prices)**

Year Ended June	Residential Building Projects (Projects <\$30k)		Non-Residential Building Projects (Projects <\$30k)		Total Minor Customer Connect Expenditure (<\$30k)	
	(\$'000)	%CH	(\$'000)	%CH	(\$'000) ⁽¹⁾	%CH
2009	23,216		110	-38.9	23,326	
2010	25,315	9.0	254	131.3	25,568	9.6
2011	27,540	8.8	183	-27.9	27,723	8.4
2012	32,524	18.1	176	-3.8	32,700	17.9
2013	26,054	-19.9	167	-5.0	26,221	-19.8
Forecasts						
2014	22,785	-12.5	154	-8.0	22,940	-12.5
2015	23,648	3.8	165	6.9	23,812	3.8
2016	22,896	-3.2	170	3.3	23,066	-3.1
2017	21,494	-6.1	169	-0.4	21,663	-6.1
2018	20,483	-4.7	166	-2.1	20,649	-4.7
2019	20,945	2.3	168	1.1	21,112	2.2
2020	22,591	7.9	187	11.8	22,778	7.9
Period Averages & Compound Annual Average Growth Rates						
2008-13	26,930		178 -1.4		27,108	
Forecasts						
2013-20	22,120	-2.0	168	1.6	22,289	-2.0
2015-20	21,682	-0.9	172	2.6	21,854	-0.9

⁽¹⁾ 2013/14 is an estimate. Source: SA Power Networks, BIS Shrapnel Actuals July 2013 - May 2014, estimate June 2014.

Chart 5.3: Minor Customer Connect Expenditure & URD Expenditure



Source: BIS Shrapnel, SA Power Networks, ABS

Table 5.7: Medium Customer Connections Expenditure & Drivers

Year Ended June	Medium Customer Connect Expenditure		Non-Residential Building			
	(\$30k-\$100k)		Commencements (Below \$20 million)		Flats Commencements ⁽²⁾	
	(\$'000) ⁽³⁾	%CH	\$million ⁽¹⁾	%CH	('000)	%CH
2009	24,200		1,176	-1.6	801	27.5
2010	32,048	32.4	1,921	63.4	595	-25.7
2011	28,685	-10.5	1,102	-42.6	736	23.7
2012	24,652	-14.1	1,041	-5.6	607	-17.5
2013	20,513	-16.8	1,183	13.6	1,035	70.5
Forecasts						
2014	22,505	9.7	1,068	-9.7	932	-9.9
2015	23,601	4.9	1,154	8.1	888	-4.8
2016	24,866	5.4	1,215	5.3	937	5.5
2017	22,463	-9.7	1,106	-9.0	827	-11.7
2018	21,450	-4.5	1,089	-1.5	716	-13.4
2019	22,597	5.3	1,111	2.0	826	15.3
2020	26,720	18.2	1,293	16.4	1,023	23.9
Period Averages & Compound Annual Average Growth Rates						
2008-13	26,020		1,284	-0.2	755	10.5
Forecasts						
2013-20	23,457	3.8	1,148	1.3	878	-0.2
2015-20	23,619	2.5	1,163	2.3	866	2.9

⁽¹⁾Constant 2011/12 Prices Source: SA Power Networks, BIS Shrapnel⁽²⁾Flats include units and are a sub-set of Other Dwellings⁽³⁾2013/14 is an estimate. Actuals July 2013 - May 2014, estimate June 2014

URD customer connect expenditure is expected to follow a similar pattern to minor customer connections expenditure, as our forecasts track variations in total housing commencements (see chart 5.3 and table 5.4). Expenditure rose by 18.2% in 2012/13, according to SA Power Networks data, but is estimated to have fallen back by 13.8% in 2013/14. Growth should return to positive territory (+10.9%) in 2014/15, before a subsequent three-year period of decline, in line with contracting house commencements in South Australia. Expenditure growth should recover over the last two years of the forecast horizon, driven by an upswing in commencements.

URD customer connect expenditure is expected to average \$4.3 million over the seven years to 2019/20, which equates to an annual average decline of -2.8%.

5.3 The Outlook for Drivers of Medium Customer Connections Expenditure

Medium customer connections are made up of small to medium commercial and residential connection works.

The major trends and drivers associated with medium customer projects include:

- Non-dwelling building commencements in the small to medium range (that is, projects less than \$20 million). Non-dwelling building includes commercial and industrial building (offices, hotels, shops, factories, warehouses, transport terminals) and social and institutional building (religious buildings, schools, hospitals, entertainment and recreation).
- Flats commencements (which include units and are a sub-set of 'Other Dwellings'). 'Other Dwellings' are buildings other than houses, which are primarily used for long-term residential purposes and which contain (or have attached to them) more than one dwelling unit (eg. duplexes, terrace houses, semi-detached houses, villas, maisonettes, townhouses, apartments, flats & home units).

Chart 5.4: Medium Customer Connect Expenditure

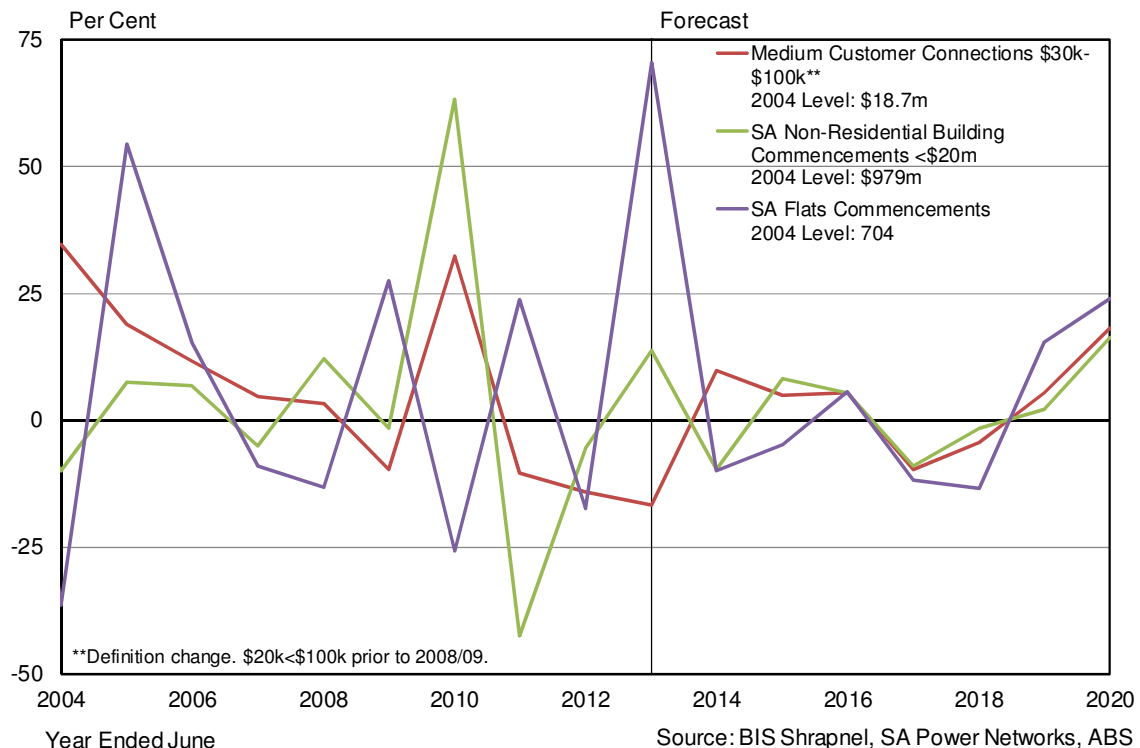


Table 5.8: South Australia – Total Value of Engineering Construction Work Done
(Constant 2011/12 Prices, \$millions)

Year Ended June	Roads, highways and subdivisions	Bridges	Railways	Harbours	Water storage and supply	Sewerage and drainage	Electricity generation, transmission and supply	Pipelines	Recreation	Telecommunications	Total mining and heavy industry	Other	Total
1994	461.9	7.0	17.0	8.8	72.0	99.9	117.7	26.4	47.3	231.1	169.5	2.7	1261.2
1995	349.1	4.6	21.6	6.7	74.3	64.9	106.0	38.6	38.3	277.4	169.5	5.7	1156.8
1996	420.3	13.1	5.1	4.3	56.9	65.9	156.3	37.0	82.8	209.7	123.7	19.6	1194.7
1997	553.7	39.6	11.3	25.3	84.5	45.9	166.3	52.2	99.5	115.5	184.0	1.7	1379.6
1998	592.3	96.0	6.2	56.4	145.1	56.1	309.7	42.6	130.6	96.0	354.8	5.5	1891.2
1999	546.1	67.0	6.3	48.7	136.8	92.5	191.4	25.3	84.3	128.2	333.9	7.5	1688.0
2000	599.0	48.7	35.2	22.8	58.7	83.9	640.0	9.7	157.5	333.9	163.2	55.8	2208.4
2001	530.8	16.3	7.5	8.9	82.3	75.8	200.3	23.0	140.8	295.6	271.9	39.7	1892.8
2002	548.6	7.6	8.0	10.0	74.3	60.3	354.4	7.2	145.1	397.6	442.0	31.3	2086.4
2003	575.5	2.5	1.6	13.9	61.7	75.6	383.3	242.1	121.6	349.3	657.1	36.4	2520.6
2004	515.0	7.7	5.2	40.4	112.0	91.8	370.6	114.6	132.2	212.4	789.8	43.6	2445.2
2005	688.9	14.1	20.0	23.8	70.7	62.4	791.4	23.3	152.4	291.5	436.9	19.4	2585.0
2006	548.3	78.8	46.7	50.9	94.1	66.0	505.2	19.1	128.2	323.8	394.7	35.6	2291.3
2007	586.8	117.2	88.5	41.0	60.7	62.0	698.9	12.1	124.9	294.8	742.5	35.2	2864.6
2008	802.2	47.4	36.0	118.1	126.8	65.8	467.8	34.2	132.4	274.9	634.2	23.8	2763.6
2009	1190.2	26.4	66.6	111.5	447.5	141.3	656.0	93.7	113.5	224.9	591.6	52.2	3717.3
2010	1025.8	40.3	394.8	57.3	1013.8	241.9	1030.6	83.8	285.7	203.5	497.1	52.0	4926.8
2011	1181.4	15.1	308.9	24.2	307.6	269.3	988.4	138.2	323.0	426.3	783.1	47.0	4792.5
2012	1079.2	29.5	498.5	68.3	597.9	218.4	984.2	115.2	256.8	294.1	876.6	32.0	4921.8
2013	1183.7	30.4	626.0	150.1	473.9	264.9	1033.9	73.9	515.9	301.2	976.8	127.8	5758.4
2014	1036.0	46.8	410.8	109.8	411.1	251.3	872.0	91.7	674.0	313.5	1179.9	52.5	5449.4
2015	909.2	99.3	228.7	109.0	243.8	187.4	650.6	87.4	289.9	352.6	1153.2	34.0	4344.3
2016	940.0	56.5	183.9	143.3	234.8	132.4	576.6	66.7	209.6	381.6	874.1	32.0	3881.5
2017	958.7	45.8	109.6	226.4	233.0	137.3	614.9	29.1	175.5	437.5	833.1	59.0	3889.9
2018	1192.3	78.9	138.3	134.4	330.7	158.4	653.6	55.6	219.4	481.6	1231.5	63.0	4737.5
2019	1246.2	87.2	386.8	52.9	333.3	180.4	851.4	70.2	175.5	498.3	1564.8	43.0	5454.0
2020	1226.8	75.9	444.2	150.8	574.2	220.2	852.4	71.1	156.9	482.2	1909.1	27.0	6190.8
ANNUAL PERCENTAGE CHANGE													
2004	-10.5	213.9	282.0	190.5	81.4	21.5	-3.3	-52.7	8.7	-39.2	21.7	19.7	-3.0
2005	33.8	83.3	282.9	-41.0	-36.8	-32.1	113.6	-79.7	15.3	37.3	-45.4	-55.4	6.1
2006	-20.4	457.6	133.6	113.9	33.0	5.8	-36.2	-18.1	-15.9	11.1	-9.7	83.2	-11.7
2007	7.0	48.6	89.5	-19.5	-35.5	-6.1	38.3	-36.7	-2.5	-8.9	88.1	-1.0	25.0
2008	36.7	-59.6	-59.3	187.9	108.9	6.2	-33.1	183.4	6.0	-6.7	-14.6	-32.4	-3.5
2009	48.4	-44.3	90.3	-5.5	252.9	114.6	40.2	174.1	-14.3	-18.2	-6.7	119.3	34.5
2010	-13.8	52.9	475.9	-48.6	126.6	71.2	57.1	-10.6	151.8	-9.5	-16.0	-0.5	32.5
2011	15.2	-62.5	-21.8	-57.8	-69.7	11.3	-4.1	65.0	13.0	109.5	53.5	-9.7	-2.7
2012	-8.7	95.1	61.7	182.5	94.4	-18.9	-13.6	-16.6	-20.5	-31.0	14.9	-31.7	2.7
2013	9.7	3.0	25.3	119.6	-20.7	21.3	21.0	-35.9	100.9	2.4	11.4	299.1	17.0
2014	-12.5	53.9	-34.4	-26.8	-13.2	-5.1	-15.7	24.1	30.6	4.1	20.8	-58.9	-5.4
2015	-12.2	112.2	-44.3	-0.8	-40.7	-25.4	-25.4	-4.6	-57.1	12.5	-2.3	-35.2	-20.3
2016	3.4	-43.1	-19.6	31.5	-3.7	-29.4	-11.4	-23.7	-27.4	8.2	-24.2	-5.9	-11.8
2017	2.0	-19.0	-40.4	58.0	-0.8	3.8	6.6	-56.4	-16.3	14.6	-4.7	84.4	0.7
2018	24.4	72.3	26.1	-40.6	41.9	15.3	6.3	90.7	25.0	10.1	47.8	6.8	22.7
2019	4.5	10.5	179.7	-60.7	0.8	13.9	24.8	26.3	-20.0	3.5	27.1	-31.7	15.1
2020	-1.6	-13.0	14.8	185.3	72.2	22.1	4.5	1.4	-10.6	-3.2	22.0	-37.2	13.5
5 YEAR AVERAGE													
1999-2003	560.0	28.4	11.7	20.9	82.8	77.6	353.9	61.5	129.9	300.9	373.6	34.2	2095.2
2004-2008	628.2	53.0	39.3	54.8	92.9	69.6	566.8	40.6	134.0	279.5	601.6	31.5	2591.9
2009-2013	1132.1	28.4	379.6	82.3	568.1	227.2	912.6	101.0	299.0	290.0	741.1	62.2	4823.4
2014-2020	1072.7	70.0	271.8	132.4	337.3	181.1	719.3	67.4	271.4	421.1	1249.4	44.4	4838.2

Source: BIS Shrapnel, ABS

Non-dwelling building construction has experienced larger, but less frequent, cyclical fluctuations than dwelling construction. This is because of the long gestation period between the planning and construction of non-dwelling building, and uncertainty in estimating demand, rentals and prices, which makes this sector more prone to oversupply (and undersupply).

Non-dwelling building commencements (projects below \$20 million) jumped sharply in 2009/10 (+63.4%) reflecting a surge in 'school hall' type projects with the Building the Education Revolution (BER). Post this stimulus investment, starts subsequently dropped back sharply in 2010/11 (-42.6%) and 2011/12 (-5.6%). A higher result occurred in 2012/13 (+13.6%) again supported by a boost from education.

Although economic conditions are forecast to improve modestly over the next few years, there is enough slack in the Adelaide office and accommodation market at present to prevent any major improvement in commercial building over the next five years. Public investment in new building works is expected to be constrained, as both the federal and state governments tighten capital allocations given their tight fiscal predicaments. These factors should see a relatively flat profile for non-residential building (below \$20 million) over the next five years.

Overall, non-dwelling building commencements (below \$20 million) in the longer term are forecast to average \$1.1 billion over the seven years to 2019/20.

Flats commencements activity is quite volatile with sharp fluctuations from year to year.

Flats commencements lifted sizably in 2012/13, up 70.5% to 1,035, assisted by low interest rates, first home owner grants and off-the-plan stamp duty concessions for new apartment purchases. However, flat commencements are expected to ease off this high base over the coming years, with forecast falls of 9.9% in 2013/14 and 4.8% in 2014/15, as incentives are wound back and interest rates begin to gradually lift into 2016.

Overall, flat building commencements in the longer term are forecast to reach an annual average of 878 over seven years to 2019/20. This compares to an average of 755 over the previous five years.

5.3.1 Forecasts of Medium Customer Connections Expenditure

According to SA Power Networks data, medium customer connections expenditure saw a jump of almost a third in 2009/10, likely due to the spike in demand as a result of the Building the Education Revolution. As most of the work done was on existing schools, this would have been largely made up of alterations connections. Following this, expenditure has decreased over the last three years, albeit from a high base (see chart 5.4). This came in line with a significant cumulative fall in non-residential building commencements (<\$20 million) over 2010/11 and 2011/12.

SA Power Networks estimate that a rise of 9.7% occurred in 2013/14 (in constant 2011/12 prices), due to improved confidence in small-to-medium commercial development. We expect further strong growth of 4.9% in 2014/15 and 5.4% in 2015/16, due to rising non-residential commencements, while positive growth in flats commencements will also support growth in 2015/16. Falling non-residential and flats commencements over 2016/17 and 2017/18 are likely to drag down medium customer connections expenditure over the same period, before an upturn in the non-residential and flat markets over the final two years to 2019/20 pushes expenditure up by a cumulative 24.6% over the same period.

Overall, medium customer connections expenditure is forecast to average \$23.5 million over the seven years to 2019/20, rising at an annual average rate of around 3.8%.

5.4 The Outlook for Drivers of Major Customer Connections Expenditure

Major customer connections are made up of connection works for major non-residential buildings, industrial projects, government and private sector infrastructure projects, large residential land developments and the occasional multi-unit residential or retirement village project. In South Australia, value of major projects tends to be the key driver of activity, rather than changes in project volumes.

The major trends and drivers associated with major customer projects include:

- Major non-dwelling building commencements (projects above \$20 million).
- Major engineering construction commencements. Engineering construction includes infrastructure such as roads, bridges, railways, harbours, water supply, sewerage works, electricity generation and supply works, pipelines, telecommunications and mining and heavy industry construction. We have excluded mines and oil and gas projects, as most of these projects are outside SA Power Networks grid. Water, sewerage and pipelines have been excluded, assuming insignificant electricity use by projects outside of the major projects (included in the major projects list). We have also excluded electricity generation and supply works as they are not 'customers' of SA Power Networks.

Table 5.9: Major Customer Connections Expenditure & Drivers

Year Ended June	Major Customer Connect Expenditure (> \$100k)		Non-Residential Building Commencements (Above \$20 million)		Engineering Construction Commencements (with exclusions) ⁽²⁾	
	(\$'000) ⁽³⁾	%CH	(\$million) ⁽¹⁾	%CH	(\$million) ⁽¹⁾	%CH
	2009	71,597		679	8.6	1,992
2010	79,665	11.3	976	43.6	2,102	5.5
2011	47,311	-40.6	767	-21.4	2,747	30.7
2012	43,339	-8.4	3,177	314.5	2,127	-22.6
2013	41,498	-4.2	319	-90.0	2,653	24.8
Forecasts						
2014	46,068	11.0	434	35.8	2,087	-21.4
2015	50,715	10.1	697	60.8	2,077	-0.5
2016	48,778	-3.8	461	-33.9	2,208	6.3
2017	57,791	18.5	672	45.8	2,490	12.8
2018	55,253	-4.4	483	-28.1	2,540	2.0
2019	61,477	11.3	780	61.4	2,584	1.7
2020	63,706	3.6	974	24.9	2,512	-2.8
Period Averages & Compound Annual Average Growth Rates						
2008-13	56,682		1,184		2,324	
Forecasts						
2013-20	54,827	6.3	643	17.3	2,357	-0.8
2015-20	57,401	4.7	674	6.9	2,467	3.9

⁽¹⁾Constant 2011/12 prices. Source: SA Power Networks, BIS Shrapnel

⁽²⁾Excludes mines, oil & gas as mostly not in network. Excludes water, sewerage and pipelines as insignificant electricity use assumed. Excludes electricity engineering construction because SA Power Networks and most electrical works are not "customers". Forecasts of engineering construction commencements are BIS Shrapnel work done forecasts with a 1 year lead.

⁽³⁾2013/14 is an estimate. Actuals July 2013 - May 2014, estimate June 2014.

Non-dwelling building commencements (above \$20 million) surged to a record level of \$3.2 billion in 2011/12, with activity led by the commencement of the \$1.8 billion New Royal Adelaide Hospital, \$350 million Adelaide Oval Upgrade and \$270 million Adelaide Convention Centre Redevelopment. Off this extremely high base, commencements fell back sharply in 2012/13 (-90.0%) to a relatively low level of \$319 million. Only two projects valued greater than \$50 million started: the \$70 million Westfield West Lakes Redevelopment and \$95 million Flinders University - School of Computer Science, Engineering and Mathematics.

A moderate lift is estimated for 2013/14 (+35.8%) and forecast for 2014/15 (+60.8%) as gradually improving economic conditions and some sizable projects like the \$175 million Skycity Casino Redevelopment provide a boost.

A lack of major new projects will result in a weaker outcome for 2015/16 (-33.9%), before sustained growth re-emerges towards the end of the forecast horizon. An upturn in commercial building (offices especially) underpins much of the rise towards the end of the decade.

South Australian engineering construction more than doubled over the five years to 2012/13 (see table 5.8). The Nation Building Program drove a surge in roads and railways work done. Water sector activity soared on the back of the Adelaide Desalination Plant. Ongoing work on various wind farm projects, as well as large investments by network operators to meet peak demand, boosted electricity sector construction, while work on the Adelaide Oval's Western Grandstand pushed up recreation sector activity.

Overall, South Australian engineering construction activity is forecast to rise by an average of around 1.0% per annum over the seven years to 2019/20. However, our chosen driver of major customer connect expenditure, engineering construction commencements (excluding water, sewerage, pipelines, electricity, and mining and heavy industry) is forecast to fall by an average of 0.8% per annum over the seven years to 2019/20, despite strong growth in 2016/17 and 2017/18.

5.4.1 Forecasts of Major Customer Connections Expenditure

Major customer connections expenditure has weakened over the past three years. Even though engineering construction commencements rose over two of those three years, commencements were centred on a few major projects, rather than several projects. Similarly, the extreme growth in non-residential building commencements (projects above \$20 million) in 2011/12 was predominantly driven by just one project: the Royal Adelaide Hospital.

Major customer connection expenditure is estimated to have bounced back with an 11.0% rise in 2013/14, according to SA Power Networks, with a further 10.1% rise forecast for 2014/15. In 2015/16, we are forecasting a 3.8% decline in expenditure as tumbling non-residential commencements (>\$20 million) more than offset a slight increase in engineering construction commencements. We should then see a strong upward trend over the four years to 2019/20, with high levels of engineering construction expected, but there will be some degree of volatility due to the variable nature of major non-residential commencements in a relatively small state.

The South Road upgrades will continue to drive roads activity over the forecast horizon, and the second round of the Nation Building Program will commence mid-decade, with projects such as the \$1 billion Northern Connector set to lift engineering construction commencements and activity. Several publicly-funded rail electrification and extension projects will boost railways activity. Works relating to the Olympic Dam expansion (which is currently timed to begin in 2018/19) will also boost commencements over this period.

Overall, major customer connections expenditure is forecast to average \$54.8 million over the seven years to 2019/20, rising at an annual average rate of around 6.3%.

Chart 5.5: Major Customer Connect Expenditure

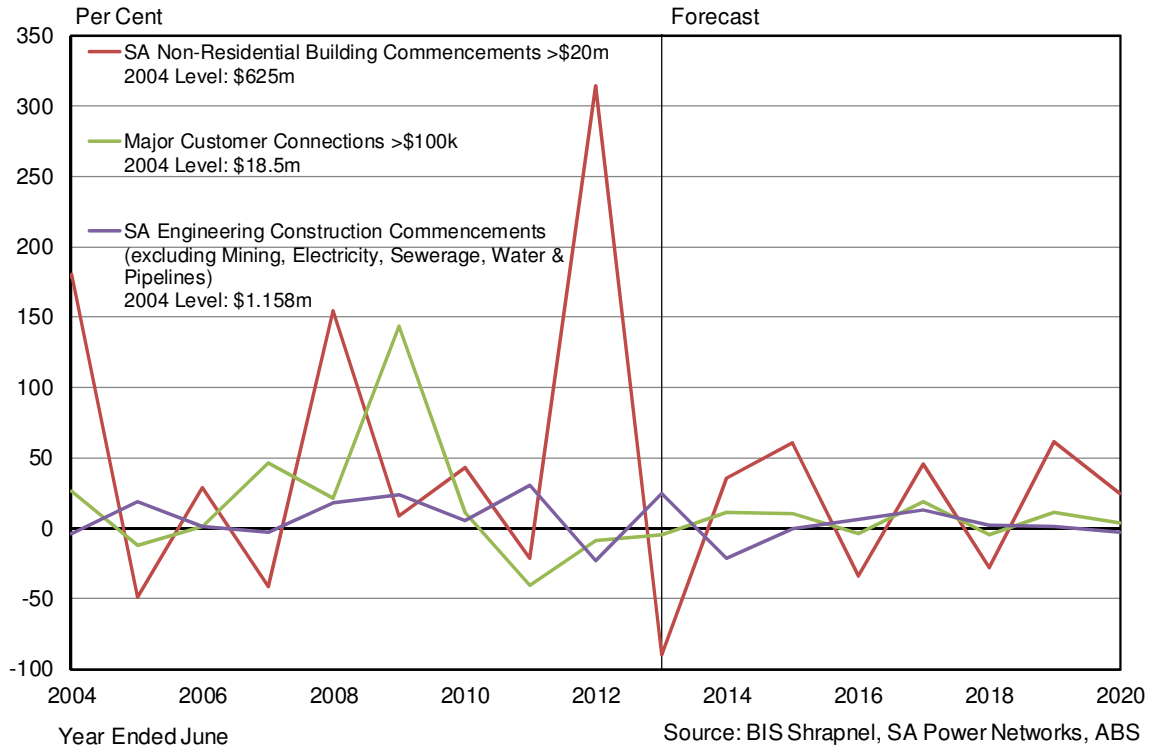
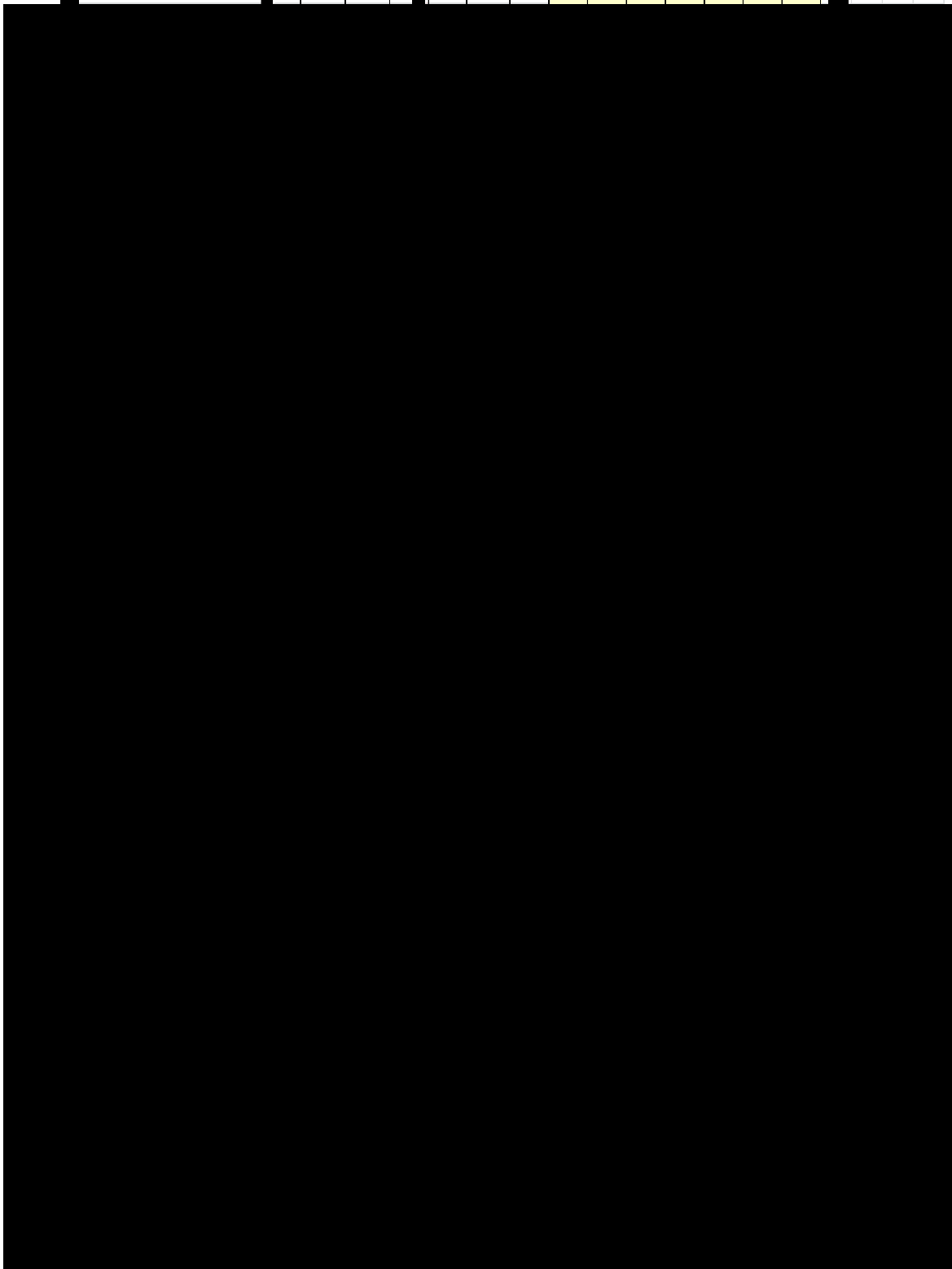
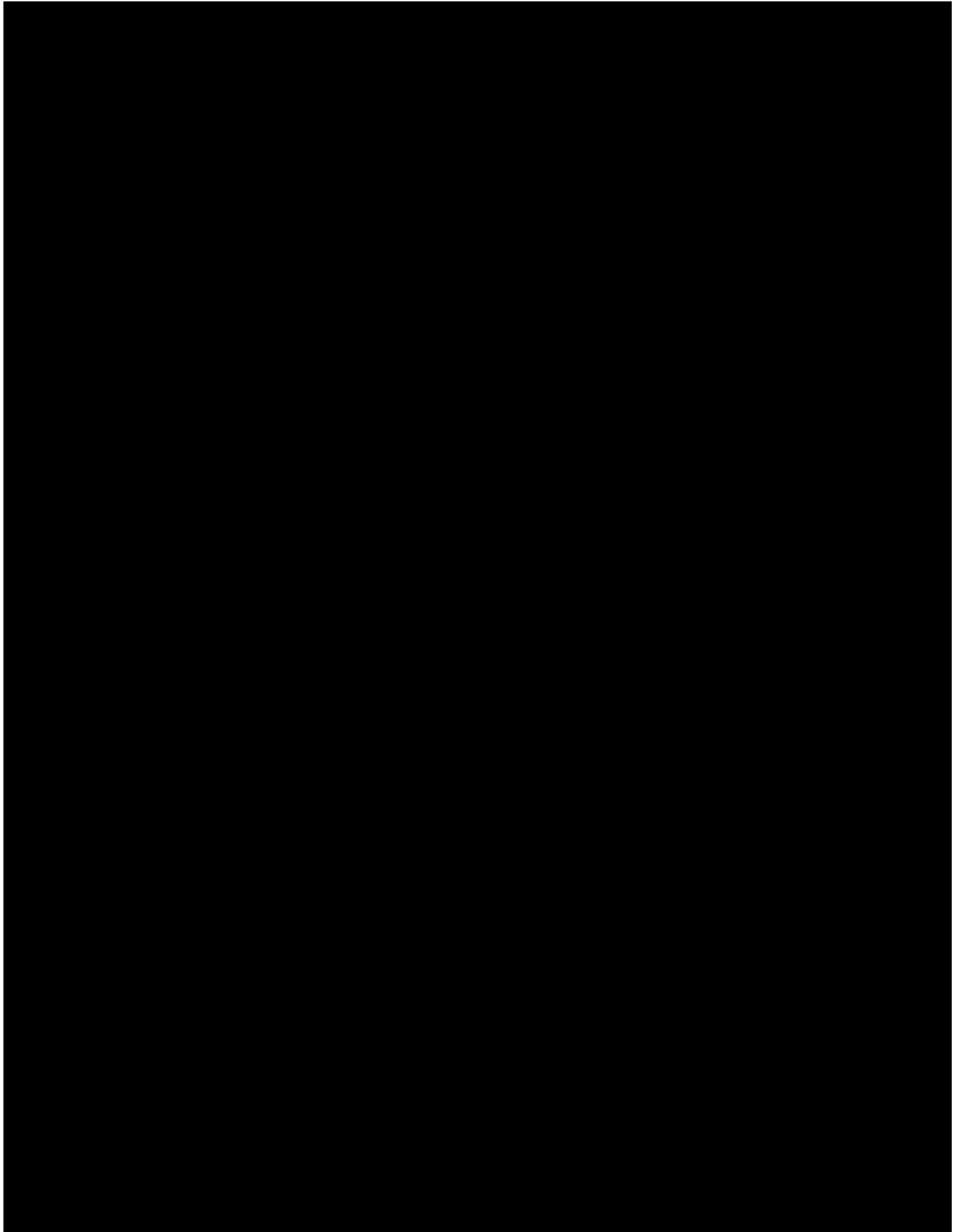
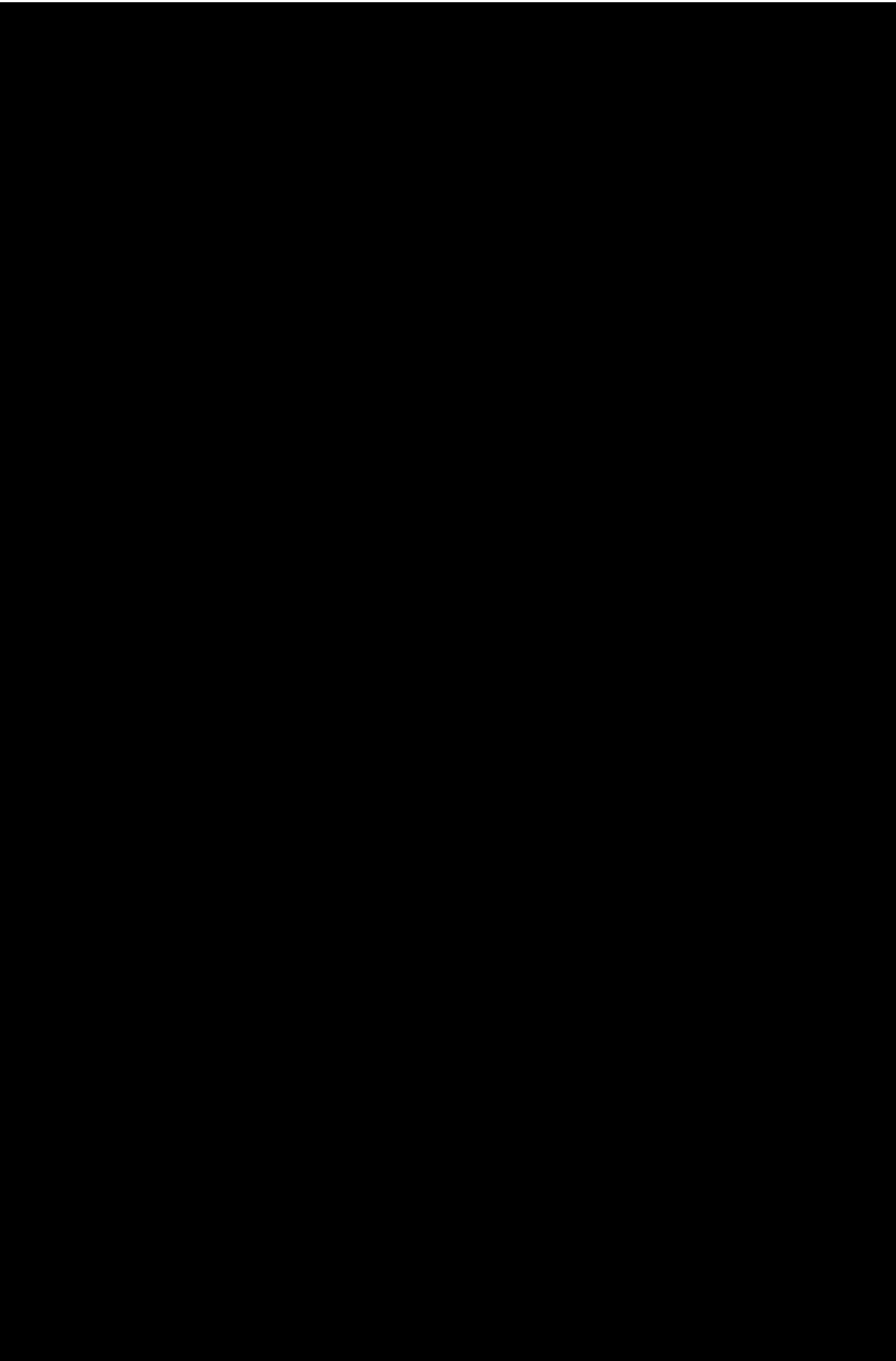


Table 5.10: Major Projects List

Project	Known Project value	Estimated Project value	Customer Connection Value		Start Year	Forecasts						Probabil	NOTES	
			BSS Estimate using kva	ETSA Estimate using kva		12/13	13/14	14/15	15/16	16/17	17/18			18/19
Commencements	(\$'000)	(\$'000)												







APPENDIX A: TERMS OF REFERENCE

To be inserted by SA Power Networks.

APPENDIX B: STATEMENT OF COMPLIANCE WITH EXPERT WITNESS GUIDELINES

I have read the Guidelines for Expert Witnesses in Proceedings of the Federal Court of Australia and confirm that I have made all inquiries that I believe are desirable and appropriate and that no matters of significance that I regard as relevant have, to my knowledge, been withheld from the Court.

APPENDIX C: CURRICULUM VITAE OF KEY PERSONNEL

Richard Robinson, BComm (Hons)
Senior Economist
Associate Director - Economics

Richard Robinson has been employed with BIS Shrapnel since 1986.

Richard is the company's principal economic forecaster, being largely responsible for the short term economic forecasts presented at BIS Shrapnel's half yearly conferences in March and September. He contributes forecasts and analysis to the regular subscription services, *Economic Outlook* and *Long Term Forecasts*.

Richard regularly analyses and forecasts resources investment and civil engineering construction activity, and production of manufactures, consumer goods and commodities. In this work, he has developed considerable industry expertise in the construction, manufacturing, agriculture, services, commodity and resources sectors of the Australian and state economies.

Richard has also been involved in a wide range of consultancy and private client projects including formulating end-use sector demand models for forecasting product demand, project evaluation studies, cost-benefit analysis, assessments of individual property markets and analysing the consistency of escalators in contracts. Some other projects have included analysing and forecasting freight tonnages; a study of the repair and maintenance market; the preparation of economic arguments for the National Wage Case for a private industry group; regular analysis and detailed short and long term forecasts of economic variables in a number of overseas countries; and contributing discussion papers to CEDA (Committee for Economic Development of Australia).

Kishti Sen, BA, MEd (Hons), PhD
Senior Economist

Kishti works across both the Economics and Infrastructure and Mining units at BIS Shrapnel. As a senior economist, Kishti contributes to the formulation of BIS Shrapnel's economic forecasts, at the Australia, State, and industry level. In addition, he is a contributing author for BIS Shrapnel's subscription services including *Economic Outlook*, *Long Term Forecasts* and *Engineering Construction in Australia*.

Kishti also provides clients with detailed projections of wages, prices as well as material costs at the national, state and regional level. In addition, Kishti has prepared economic impact assessments reports, expert witness reports in wage negotiations and skills demand and supply analysis by industry and by occupation. Kishti has also been involved in the design and implementation of econometric methodologies for private economic research projects.

Kishti holds a PhD in Economics from the University of Sydney and Bachelors Degree in Economics and Mathematics from Massey University, New Zealand. Kishti has special interest in labour economics, cost escalation, benefit-cost assessments and econometric modelling.

Timothy Hibbert, BEc (Hons)
Project Manager, Building and Construction

Timothy is a member of BIS Shrapnel's building & construction unit, and has worked with the company since April 2008. He manages and is the prime contact for BIS Shrapnel's non-residential construction forecasts.

Timothy oversees the company's Work Done Forecasts of Building Activity publications and makes regular contributions to multi-client publications such as *Building in Australia*, *Building Industry Prospects* and *Regional Residential Building*. He has also worked on a wide array of

private client projects, focused on construction material demand modelling and regional construction analysis. Prior to joining BIS Shrapnel, Timothy worked as an economic data analyst for the Australian Bureau of Statistics.

Tim graduated with a Bachelor of Economics degree with Honours from Macquarie University.

**Catherine Birch, BEc (Hons)
Economic Analyst**

Catherine joined BIS Shrapnel after graduating from Deakin University with high distinction. She works across both the Economics and the Infrastructure and Mining divisions. Catherine regularly contributes to the monthly Economic Outlook and has also contributed to the Mining and Heavy Industry Construction in Australia, Maintenance in Australia, and Engineering Construction in Australia reports.

**Jehanesan Konesan
Research Assistant**

Jehanesan joined BIS Shrapnel in December 2013, having recently completed his university studies. He graduated with a Bachelor of Actuarial studies and a Bachelor of Economics double degree from Macquarie University in 2011, and then completed his honours in economics degree from the University of New South Wales in 2013. Jehanesan works across both the Economics and the Infrastructure and Mining divisions.